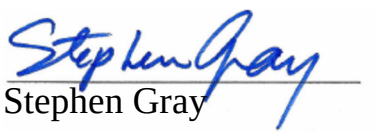
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the *Inter Partes* Review of U.S. Patent No. 11,226,793
Trial No.: IPR2022-01143
Issued: January 18, 2022
Filed: November 30, 2017
Inventors: Wayne Baratta and Quentin Olson
Assignee: CloudOfChange LLC
Title: Web-Based Point of Sale Builder
Petitioner: Lightspeed Commerce Inc.

DECLARATION OF STEPHEN GRAY

I declare that all statements made herein on my own knowledge are true and that all statements made on information and belief are believed to be true, and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

By:



Stephen Gray

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Appendix A Curriculum Vitae of Stephen Gray.

LIST OF EXHIBITS

1001	Baratta et al., U.S. Patent No. 11,226,793 ("the '793 patent")
1002	Expert Declaration of Stephen Gray
1003	Prosecution History File Wrapper of the '793 patent
1004	U.S. Patent Publication No. 2007/0265935 ("*Woycik*")
1005	U.S. Patent Publication No. 2005/0049921 ("*Tengler*")
1006	U.S. Patent Publication No. 2008/0208696 ("*Olson*")
1007	U.S. Patent Publication No. 2004/0181454 ("*Manno*")
1008	U.S. Patent Publication No. 2006/0235755 ("*Mueller*")
1009	U.S. Patent Publication No. 2004/0128199 ("*Cusack*")
1010	United Kingdom Patent Application GB2369201 ("*Tomlinson*")
1011	U.S. Pat. No. 5,818,428 ("*Eisenbrandt*")
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1013	WO 02/39226 A2 ("*Thompson*")
1014	Plaintiff's Motion in *Limine*, *CloudofChange, LLC v. NCR Corporation*, 6-19-cv-00513 (W.D. Tex.)
1015	U.S. Patent Publication No. 2004/0103037 ("*Wetmore*")
1016	RESERVED
1017	Plaintiff's First Amended Preliminary Infringement Contentions Exhibit A3, *CloudofChange, LLC v. Lightspeed POS Inc.*, 6-21-cv-01102 (W.D. Tex.)

1018	First Amended Scheduling Order, *CloudofChange, LLC v. Lightspeed POS Inc.*, 6-21-cv-01102, D.I. 31 (W.D. Tex.)
1019	U.S. Patent Publication No. 2002/0194074 ("*Jacobs*")
1020	U.S. Patent No. 7,051,091 ("*Cohen*")
1021	U.S. Patent No. 6,384,850 ("*McNally*")
1022	U.S. Patent No. 6,002,395 ("*Wagner*")
1023	RESERVED
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1026	U.S. Patent No. 6,247,032 ("*Bernardo*")

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I. INTRODUCTION

6. My name is Stephen Gray.

7. I am making this declaration at the request of LightSpeed Commerce Inc. ("Petitioner") in the matter of the *Inter Partes* Review of U.S. Patent No. 11,226,793 ("the '793 patent").

8. I am being compensated for my work in this matter at an hourly rate for consulting services. My compensation in no way depends on the outcome of this proceeding.

9. In preparing this declaration, I considered all materials cited in the body of this declaration, which includes but is not limited to the documents identified in the Petition's List of Exhibits. I have relied on information and evidence identified in this declaration, including the '793 patent, its prosecution history, prior art references, and other materials discussed in this declaration.

10. This declaration is based on the information currently available to me. To the extent additional information becomes available, I reserve the right to continue my investigation and study, which may include a review of documents and information that may be produced, testimony from depositions not yet taken, and claim constructions yet to be posed.

II. PROFESSIONAL BACKGROUND

11. After graduating with a Bachelor of Science in Economics, I went to work as a software and systems professional and I remain in that industry after 40 years. Details of my qualifications and professional experience are described in my Curriculum Vitae, a copy of which can be found in Appendix A. The following is a brief summary of my relevant qualifications and professional experience.

12. Throughout my career, I have designed, developed, and deployed computing systems and products related to distributed computing systems. As such, I have acquired expertise and am an expert in the areas of distributed computing architecture and design, distributed data management, web-based commerce, mobile payment techniques, and various programming languages used in the development of those systems and products.

13. I have several relevant professional experiences that demonstrate my expertise with systems developed to operate in World Wide Web computing environments deployed over the Internet. For example, in the 1998 to 2000 time period, I served as the CTO for Sicommnet: an e-Commerce Internet start-up. The firm developed a product that specialized in procurement for public agencies over the Internet. For another example, in the 2001-2002 time period, I was the Chief Technology Officer of Networld Exchange Inc. In both assignments, I was responsible for the design, development and deployment of a suite of products that

delivered e-Commerce functions. These functions were provided over the Internet and included product catalog information display, purchase and/or purchase order creation, order delivery to fulfillment systems, order status reporting, and interoperability with third party inventory and pricing systems. The products that I had responsibility for utilized protocols and technologies common for web-based systems.

14. Additionally, as my curriculum vitae shows, I have performed a detailed analysis of the competitive environment for retail point-of-sale hardware and software systems. This analysis included technology, marketing, compensation, and back-office interface issues. I have been responsible for the design, development and deployment of point-of-transaction systems including procurement systems and ecommerce product sales systems. I also led the design of an image-assisted remittance processing system using IBM system components and Sybase relational database in a client/server architecture for TRW. Additionally, I designed an object-oriented front end to the database so that the UNIX platform could execute Sybase applications.

15. In addition, I have served as an expert witness where distributed computing point-of-transaction protocols and technology analysis were required to render an opinion. These matters include *Ameranth v. Dominoes*, *HyVee v. Inmar Inc.* and *RFCyber v. Google*.

16. My practical experience regarding mobile device computing software includes development at NTN Communication of a multiplayer game system operating over mobile phones where issues of data synchronization, event handling, and centralized control of distributed devices was required. I have been retained in several matters relating to mobile computing software. For example, I have been retained in patent and copyright matters involving touch screen user interface operations on mobile phones, Internet protocol implementation on mobile phones, and data synchronization between centralized servers and distributed computing devices.

17. In addition, on several occasions, I have served as an expert witness where web and Internet protocols and technology analysis were required to render an opinion. These matters include *HyVee v. Inmar Inc.*, *Diet Goal Innovations v. Chipotle, et al.*, *Enfish, LLC v. Microsoft Corp., et al.*, *Optimize Technology Solutions, LLC v. Staples, Inc., et al.*, and others.

18. In summary, I have extensive familiarity with the field of point-of-transaction techniques, and, as I have worked in this field throughout my career, I am familiar with what the state of this field was at the relevant time of the ’793 patent and before.

III. RELEVANT LEGAL STANDARDS

19. I have been asked to provide my opinion as to whether the claims of the ’793 patent would have been obvious to a person of ordinary skill in the art at the time of the alleged invention, in view of the prior art.

20. I have been an engineer in the computer industry for over 40 years. The opinions I am expressing in this declaration involve the application of my engineering knowledge and experience to the evaluation of certain prior art with respect to the ’793 patent. Aside from my experience in litigation support, my knowledge of patent law is no different than that of any lay person. Therefore, I have requested that the attorneys from Slayden Grubert Beard PLLC, who represent Petitioner, provide me with guidance as to the applicable patent law in this matter. The paragraphs below express my understanding of how I must apply current principles related to patentability.

A. Claim Construction

21. It is my understanding that in determining whether a patent claim is rendered obvious in view of the prior art in an *inter partes* review (IPR) proceeding, the Patent Trial and Appeal Board (PTAB) gives claims their ordinary and customary meaning, or the meaning that the term would have to a person of ordinary skill in the art at the time of the invention. I understand that the claim language, specification, and prosecution history are relevant to determine the meaning of a

claim term. I understand that the prosecution history of a patent provides the record of the examination of a patent application before the U.S. Patent and Trademark Office (PTO). The prosecution history provides evidence of how the patent examiner and the inventors understood the patent application and the claims, and can therefore be instructive on how to interpret the claims. My understanding is that extrinsic evidence may also be used in understanding the meaning of a claim term. Extrinsic evidence includes dictionaries, treatises, expert testimony, and prior art. But it is my understanding that one should first look to the intrinsic evidence in construing claims.

22. My understanding is that there are at least two circumstances where the words in a patent claim may differ from and not be given their plain and ordinary meaning. One circumstance is when the applicants act as their own lexicographer by clearly setting forth a definition of a claim term that may differ from the plain and ordinary meaning it would otherwise possess. Another circumstance is when the applicant includes or provides an intentional disclaimer, or disavowal, of claim scope. My understanding is that an applicant may act as their own lexicographer, or disclaim or disavow claim scope, in either the specification or the prosecution history of the patent. My understanding is also that the applicant may act as a lexicographer, or disclaim or disavow claim scope, by making amendments to the

claims during prosecution, or by making assertions to the PTO about the differences between the claimed inventions and the prior art.

B. Obviousness

23. It is my understanding that a claim is unpatentable under 35 U.S.C. § 103 if the claimed subject matter as a whole would have been obvious to a person of ordinary skill in the art at the time of the alleged invention. I also understand that an obviousness analysis takes into account the scope and content of the prior art, the differences between the claimed subject matter and the prior art, the level of ordinary skill in the art at the time of the invention, and the extent of any objective indicia of non-obviousness. I am unaware of any contentions by Patent Owner regarding objective indicia of non-obviousness, but reserve the right to address any such contentions if raised in this proceeding or otherwise.

24. In determining the scope and content of the prior art, it is my understanding that a reference is considered appropriate prior art if it falls within the field of the inventor's endeavor. In addition, a reference is prior art if it is reasonably pertinent to the particular problem with which the inventor was involved. A reference is reasonably pertinent if it logically would have commended itself to an inventor's attention in considering his problem. If a reference relates to the same problem as the claimed invention, that supports use of the reference as prior art in an obviousness analysis.

25. It is my understanding that prior art reference may teach or disclose a claim element either expressly or inherently. In order to disclose an element inherently, one of ordinary skill must recognize from what is expressly disclosed that the inherent element is necessarily present.

26. To assess the differences between prior art and the claimed subject matter, it is my understanding that 35 U.S.C. § 103 requires that the claimed invention be considered as a whole. I also understand that a finding of obviousness requires more than merely demonstrating that each claim element was known in the prior art. Obviousness requires showing that a person of ordinary skill in the art would have been motivated to combine the teachings of the prior art to achieve the claimed invention and would have had a reasonable expectation of success in doing so.

27. It is my understanding that the Supreme Court has recognized several rationales for combining references or modifying a reference to show the obviousness of claimed subject matter. Some of these rationales include: combining prior art elements according to known methods to yield predictable results; simple substitution of one known element for another to obtain predictable results; a predictable use of prior art elements according to their established functions; applying a known technique to a known device (method or product) ready for improvement to yield predictable results; choosing from a finite number of

identified, predictable solutions, with a reasonable expectation of success; and some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

28. It is also my understanding that a claim may be deemed obvious in light of a single prior art reference, without the need to combine references, if the elements of the claim that are not disclosed in the reference are suggested by the reference or are within the knowledge or common sense of one of ordinary skill in the relevant art. Put another way, a patent can be obvious in light of a single prior art reference if it would have been obvious to modify that reference to arrive at the patented invention.

IV. LEVEL OF SKILL IN THE ART

29. It is my understanding that when interpreting the claims of the ’793 patent, I must do so based on the perspective of one of ordinary skill in the art at the relevant priority date. I understand that the earliest priority date for the ’793 patent is February 5, 2008 (“the Critical Date”). For the purpose of this proceeding, I will consider the Critical Date to be the relevant date to ascertain the perspective of one of ordinary skill in the art.

30. In my opinion, a person of ordinary skill in the art at the Critical Date would have been someone with a working knowledge of designing, developing and deploying web-based software and systems. A person of ordinary skill in the art would have a Bachelor of Science in computer science or a related field, and approximately two years of professional experience or equivalent study in the design and development of web-based software and systems, including web-based POS systems. Additional graduate education could substitute for professional experience, or significant experience in the field could substitute for formal education.

V. TECHNOLOGY BACKGROUND

31. Web-based POS systems were known in the art. For example, *Manno* discloses a "web-based point of sale (WPOS) system." EX1007, Abstract. *Woycik* discloses a web-based administrative tool for building and editing user interfaces of self-service POS kiosks. EX1004, Abstract. *Olson* discloses a web-based back-office system for managing POS terminal devices. EX1006, Abstract. *Cusack* discloses "System and method for facilitating real-time, web based point of Sale operations." EX1009, Abstract. *Tomlinson* discloses retail store tills coupled to a remote transaction server over the internet. EX1010, 4. *McNally* discloses a method that "facilitates database equilibrium and synchronization with wired, wireless and Web-based systems, user-friendly and efficient generation of computerized menus and reservations for restaurants and other applications . . . information management and communication with host computer, digital input device or remote pager via standard hardwired connection, the internet, a wireless link or the like." EX1021, Abstract. *Mueller* discloses a "Web server," POS server 105, that communicates with terminal devices via the Internet. EX1008, [0033], [0036], [0057]. *Tengler* discloses "restaurant management software" that allows "a manager to access a management database of a quick-serve restaurant location remotely through a web interface." EX1005, [0022], [0049].

32. POS builder software was also known in the art. For example, *Manno* discloses the WPOS system allows a manager to "create or alter web pages on the store web sites . . . or to view any other commercial data for either store location in real time." EX1007, [0051]. *Woycik* discloses an "administrative tool" that provides "a menu editor that enables the administrator to create and edit the interactive menu screens provided by the self-order application at the self-service client terminals." EX1004, [0013]. *Cohen* discloses a "configuration builder suitable for use in configuring point of sale systems." EX1020, 1:34-36. *McNally* discloses an "application that enables the rapid creation and building of a menu and provides a means to instantly download the menu configuration onto, e.g., a handheld device or Web page and to seamlessly interface with standard point of sale ('POS') systems." EX1021, 3:16-21. *Wagner* discloses a "builder, tester, and runtime integration system and method for a graphical touch user interface, such as a point-of-sale (POS) touch screen interface system." EX1022, Abstract. *Tengler* discloses "user interface designer 614" that "allows management to edit the user interface of the register and self-service applications and also saves the specifications in the database 602" on main server 464. EX1005, [0103]. I also understand that Patent Owner stated during a prior litigation that it "does not dispute that the prior art discloses POS builder software." EX1012.11 n.3.

33. The background of the ’793 patent references prior art *Eisenbrandt*, which discloses a user configurable interface that permits users to configure display screens either at a POS location or at home with, e.g., a personal computer. EX1001, 1:57-61 (citing *Eisenbrandt*). The ’793 patent also references prior art Cohen, which discloses a configuration builder for configuring POS systems. *Id.*, 1:66-2:3 (citing *Cohen*).

34. Web-based access to POS builder systems was also known in the art. For example, *Manno* discloses “[a]t a management location 54, which can be anywhere where there is access to the Internet 18 (or to a LAN at either store location or at the headquarters location), an authorized management employee or officer can access the WPOS system using a standard Internet or web-enabled device such as laptop computer 56, PDA or cell phone 58, or desktop computer 60.” EX1007, [0051]. *Woycik* discloses the Internet “can also be used by the administrators to access the administrative tools remotely using a standard web browser.” EX1004, [0121]. *Mueller* discloses a “Web server,” POS server 105, “that may be accessed via the Web and allows communication with the POS server 105 in a manner known in the art.” EX1008, [0036]. *Tengler* discloses that “[m]anagers access information about the restaurant 2 using the web server 620 and interfaces 192 and 196,” and that managers can “modify menus and change prices using interfaces 192 and 196.” EX1005, [0073], [0109]. Likewise, POS builder interfaces allowing programmatic

creation and editing of user interfaces, including POS screens and web pages, were also known. For example, *Woycik* discloses POS builder screens and their operation in Figs. 11-13, 20-22 and related discussions in the specification. EX1004, Figs. 11-13, 20-22. *Tengler* discloses POS builder screens and describes their operation in related discussions in the specification. *E.g.*, EX1005, Fig. 7A. *Bernardo* discloses more generalized builder screens that could be used to build POS screens and describes the same. *E.g.*, EX1026, Figs. 7-11.

35. Using the Internet for communications between a POS server and POS terminals was known. *Id.* (citing *Woycik, Mueller, Manno, Wetmore, Thompson, Olson*). For example, *Woycik* discloses that "central server 22" is configured to communicate with kiosks 16, 30, and/or 36 over a network comprising "Internet 18." EX1004, [0071]. *Woycik* also discloses the Internet can "be used by the administrators to access the administrative tools remotely using a standard web browser." EX1005, [0121]. *Mueller* discloses "[c]ommunication between … [POS terminals] 120 and the POS server 105 may be … over the Internet through a Web site maintained by POS server 105 on a remote server." EX1008, [0034]. *Manno* discloses "[a] network or web-based point of sale (WPOS) system employs a store server and point-of-sale client computers that are connected over … the Internet to the server." EX1004, abstract. *Wetmore* discloses "Typically, the system 100 includes … one or more product information servers 104, and one or more point-of-

sale terminals 106" that "communicate with each other via … the Internet or some other wide area network." EX1015, [0011]. *Thompson* discloses POS terminals connecting to a server over the Internet. EX1013, Fig. 10. And *Olson* discloses the "The POS terminals and web servers communicate via commonly used, standardized internet protocols." EX1006, [0012]. Configuring POS terminals with information from a POS builder interface such that the terminals display a series of screens during a transaction based on information about a current or previous transaction and/or based on customer-specific information (e.g., past orders, customer ID, customer picture, loyalty program information) was also known in the art, as explained in detail below. For example, *Woycik* discloses storing previous orders so "that returning customers can quickly order [and further customize] items ordered in the past without having to rebuild the order each time they use a kiosk. For this purpose, the system tracks customer orders and stores them on the server." EX1004, [0089], [0140]. *Tengler* discloses capturing a picture of the customer "at the kiosk when the order is placed" and displaying "the contents of the order … with the electronic image" of that customer. EX1005, [0018]-[0019].

VI. THE ’793 PATENT

A. Overview of the ’793 patent

36. The ’793 patent is titled “Web-Based Point of Sale Builder,” and generally relates to POS systems:

> This invention relates to a system and a method for building a point of sale (POS) system to manage business operations. The business operations range from a single branch to a large chain of stores or branches.
>
> More particularly this invention relates to an online, web-based point of sale builder method, which can assist non expert business operators in assembling a point of sale system to manage their businesses.

EX1001, 1:22-29.

37. The background of the ’793 patent describes the “[c]urrent practice in the field of assembling point of sale systems includes manually coding front-of-screen information” with the help of a business expert and programmer or data expert. *Id.*,1:33-35. The manual process required specially trained people, was prone to mistakes, and was time-consuming. *Id.*, 1:47-53.

38. The ’793 patent purports to improve the process of creating or modifying POS screens displayed on POS terminals by using a POS builder interface communicating with a networked server over the Internet. *Id.*, 2:16-33, 5:43-6:11, Claim 1.

B. Prosecution History of the ’793 patent

39. I have reviewed the prosecution history of the ’793 patent. The following is a brief summary of events. I reserve the right to consider the full prosecution history and cited prior art references should Patent Owner raise a claim construction argument or otherwise rely on them in response to the petition.

40. The application for the ’793 patent was filed November 30, 2017 claiming priority to a February 5, 2008 application (and two other applications) and sharing the same specification as those earlier applications. EX1001, [22], [63] (continuation of earlier applications). The ’793 patent application included claims 3–42. The claims generally covered software to run on a server connected to POS terminals wherein the server received information over a network from a POS builder interface, created or modified POS screens based on that information, and configured the POS terminals over the network with the created/modified POS screens. *See* EX1003.589–595. Applicant also filed a preliminary amendment refocusing the claims on a server (not software to run on the server). *See, e.g.*, *id.*, p. 516.

41. The examiner originally rejected all claims for non-statutory double patenting explaining that at least one of the claims “is not patentably distinct from the reference claim(s) because the examined application is either anticipated by, or would have been obvious over, the reference claim(s).” EX1003.495–497. In

response, the applicant filed a terminal disclaimer and another terminal disclaimer to address a defect in the first. *Id.*, pp. 488–490, 464–474. I have been told a terminal disclaimer in this context is an agreement that the claims will only be enforceable while they are commonly assigned (*e.g.*, commonly owned) with the reference claim(s) during the first-issued patent's term. This prevents separate lawsuits by separate patent owners over very similar patent claims and limits the term of the later-issued patent.

42. The examiner relied on the following named references in subsequent rejections.

- *Wagner* in view of *Sullivan* and *McCue* (*McCue* is listed but not cited in a rejection). *Id.*, pp. 403-10 (07-09-2020 Action).
    - In response, Applicant initiated an examiner interview to discuss claim amendments, but no agreement was reached. *Id.*, pp. 400. Applicant amended pending claims to add essentially what are now limitations 1[d] and 1[f]. *Id.*, pp. 380-82 (10-06-2020 Response).
    - A Notice of Allowance issued in November 2020 with those limitations identified in the Reasons for Allowance. *Id.*, pp. 363-70.
    - Applicant submitted a pre-issuance Request for Continued Examination (RCE) including litigation claim charts for *Woycik* and *Tengler* for the '640 and '012 patents. *Id.*, pp. 155-61.

43. The examiner twice rejected most claims as anticipated by *Mueller*, and rejected what are now claims 5-6 and 29-30 related to capturing videos as obvious over *Mueller* and *Tengler*. *Id.*, pp.134-45 (10-15-2021 Action),[1] 93-103 (07-22-2021 Final). I understand that this petition does not challenge claims 5-6 or 29-30, thus *Tengler* was not discussed relative to, or applied against, any challenged claim.

44. In response, Applicant amended the pending claims to add the "further information"-related limitations. *Id.*, pp. 109-27 (04-07-2021 Response). Applicant argued that *Mueller* did not disclose "receipt of 'POS transaction'" information from POS terminals." *Id.*, pp. 124. Applicant later argued that *Mueller* does not disclose "sending of POS transaction data [from the POS terminal to the server] that comprises any of 'employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information" as recited by the amended claims. *Id.*, pp. 85 (10-15-2021 Response/CPA). After Applicant filed a supplemental response focusing on the "further information"-related limitations (*id.*, pp. 38-57), the examiner allowed the

[1] The examiner erroneously identified *Woycik* as a reference cited at EX1003, p. 145, but *Woycik* was never discussed in any Office Action or used in a rejection of any claim.

claims, identifying limitations 1[e]-1[g] in the Reasons for Allowance. *Id.*, pp.19-27.

45. As explained below, PO relied on limitations regarding configuring POS screens based on "further information" during prosecution. The corresponding disclosure in the specification appears to relate only to showing "secondary screens" based on the selections made on prior screens (information about items/options selected), i.e., using "touch keys for pretzels 11 and for drinks 12" on a first screen "would typically bring up secondary screens displaying specific product keys for ordering different types of pretzels and drinks." EX1001, 2:53-58. The discussion of "loyalty points," "promotions," and "discounts" treats them as interrelated and does not appear to disclose creating/modifying a POS screen based on such information. *Id.*, 4:48-54.

46. The '793 patent issued January 18, 2022. EX1001, [45].

VII. LISTING OF THE CLAIMS

1	1 [pre] A web-based point of sale (POS) builder system comprising: 1[a] at least one server configured to: 1[b] communicate with one or more POS terminals over a network comprising the Internet, wherein the one or more POS terminals are configured to display one or more POS screens; 1[c] receive, over the network from a POS builder interface, information used for creating or modifying the one or more POS screens including creating or modifying one or more display interfaces for display on the one or more POS screens, the one or more display interfaces being associated with one or more items; 1[d] receive, from at least one of the one or more POS terminals over the network, further information regarding one or more POS transactions corresponding to the one or more items; 1[e] configure the one or more POS terminals with the information over the network to create or modify based on the further information regarding one or more POS transactions the one or more POS screens displayed on the one or more POS terminals; and 1[f] wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information; 1[g] wherein said further information regarding the one or more POS transactions relate to one or more transactions by corresponding customers respectively associated with at least one of said one or more POS terminals.
2	The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is configured to run on a computing device.

3	The web-based point of sale (POS) builder system of claim 1, wherein the one or more POS terminals comprise a plurality of POS terminals in a plurality of locations.
4	The web-based point of sale (POS) builder system of claim 1, wherein the one or more items comprise at least one of: one or more items for sale, one or more promotions, or one or more loyalty points programs.
7	The web-based point of sale (POS) builder system of claim 1, wherein the information regarding one or more POS transactions comprises one or more of the employee clock information, the customer add/update information, the item add/update information, or the promotion information.
8	The web-based point of sale (POS) builder system of claim 1, wherein the information regarding one or more POS transactions are viewable via the POS builder interface.
9	The web-based point of sale (POS) builder system of claim 1, wherein the one or more display interfaces comprise one or more buttons or keys.
10	The web-based point of sale (POS) builder system of claim 1, wherein the received information comprises information indicative of at least one of a number, shape, or arrangement of the one or more display interfaces.
11	The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is accessible via a web browser.
12	The web-based point of sale (POS) builder system of claim 1, wherein the one or more display interfaces are accessible on the POS builder interface.
13	The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to: receive, over the network from the POS builder interface, second information regarding a modification to at least one of the one or more POS screens; and update the at least one of the one or more POS screens on the one or more POS terminals based on the second information.

14	The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to store information regarding the one or more POS screens.
15	The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is located remotely from the one or more POS terminals.
16	The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to receive the information for creating or modifying the one or more POS screens and create or modify the one or more POS screens in real time while the one or more POS terminals are in use performing one or more POS transactions.
17	The web-based point of sale (POS) builder system of claim 1, wherein the one or more POS terminals use the one or more POS screens after completing a pending POS transaction.
18	The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to maintain information regarding POS screens for separate sets of POS terminals separately.
19	The web-based point of sale (POS) builder system of claim 1, wherein instructions to the POS builder interface for programmatic creation and modification of the POS terminals are not formatted in programming code.
20	The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to maintain information regarding the one or more POS screens.
21	The web-based point of sale (POS) builder system of claim 1, wherein the received information comprises one or more attributes of the one or more items.
22	The web-based point of sale (POS) builder system of claim 1, wherein the POS terminals are configured to perform transactions independently of a connection with the network.
23	The web-based point of sale (POS) builder system of claim 1, wherein the input interface element comprises a data interface for inputting at least some of said further information.
24	The web-based point of sale (POS) builder system of claim 1, wherein to configure the one or more POS terminals comprises dynamically

	configuring the one or more POS terminals specific for the corresponding customer based on the one or more transactions by the corresponding customer.
25	The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is configured to create or modify at least one of: a position or operation of a first display interface of the one or more display interfaces, wherein the first display interface comprises an input interface element.
26	The web-based point of sale (POS) builder system of claim 25, wherein the input interface element comprises a touch screen input interface element.
27	27[pre] A web-based point of sale (POS) builder system comprising: 27[a] at least one POS terminal configured to: display one or more POS screens; 27[b] communicate with at least one server over a network comprising the Internet; 27[c] receive, over the network from the at least one server, information used for creating or modifying the one or more POS screens including creating or modifying one or more display interfaces for display on the one or more POS screens, the one or more display interfaces being associated with one or more items; 27[d] perform one or more transactions with respect to the one or more items; and 27[e] transmit, from at least one of the one or more POS terminals over the network, further information regarding one or more POS transactions corresponding to the one or more items; and 27[f] create or modify based on the received information or further information the one or more POS screens; 27[g] wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point

	information, discount information, taxation information, item cost information, or inventory information; and 27[h] wherein said one or more POS transactions relate to one or more transactions by corresponding customers respectively associated with at least one of said one or more POS terminals.
28	The web-based point of sale (POS) builder system of claim 27, wherein the at least one POS terminal comprises a plurality of POS terminals in a plurality of locations.
31	The web-based point of sale (POS) builder system of claim 27, wherein the one or more display interfaces comprise one or more buttons or keys.
32	The web-based point of sale (POS) builder system of claim 27, wherein the received information comprises information indicative of at least one of a number, shape, or arrangement of the one or more display interfaces.
33	The web-based point of sale (POS) builder system of claim 27, wherein the at least one server is located remotely from the at least one POS terminal.
34	The web-based point of sale (POS) builder system of claim 27, wherein the at least one POS terminal is further configured to perform the one or more transactions in real time while the one or more POS screens are created or modified.
35	The web-based point of sale (POS) builder system of claim 34, wherein the at least one POS terminal uses the created or modified one or more POS screens after completing a pending POS transaction.
36	The web-based point of sale (POS) builder system of claim 27, wherein the received information comprises one or more attributes of the one or more items.
37	The web-based point of sale (POS) builder system of claim 27, wherein the one or more items comprise at least one of: one or more items for sale, one or more promotions, or one or more loyalty points programs.
38	The web-based point of sale (POS) builder system of claim 27, wherein the at least one POS terminal is further configured to perform the one or more transactions without a connection to the web server and transmit the information regarding the one or more transactions to the at least one web server after performing the one or more transactions and when the connection to the web server is established.
39	The web-based point of sale (POS) builder system of claim 38, wherein the at least one POS terminal is further configured to store locally the information regarding the one or more transactions.

40	The web-based point of sale (POS) builder system of claim 27, wherein a position or operation of a first display interface of the one or more display interfaces is created or modified, wherein the first display interface comprises an input interface element.
41	The web-based point of sale (POS) builder system of claim 40, wherein the input interface element comprises a touch screen input interface element.
42	42[pre] A method of implementing a web-based point of sale (POS) builder system, the method comprising: 42[a] communicating with one or more POS terminals over a network comprising the Internet, wherein the one or more POS terminals are configured to display one or more POS screens; 42[b] receiving, over the network from a POS builder interface, information used for creating or modifying the one or more POS screens including creating or modifying one or more display interfaces for display on the one or more POS screens, the one or more display interfaces being associated with one or more items; 42[c] receiving, from at least one of the one or more POS terminals over the network, further information regarding one or more POS transactions corresponding to the one or more items; and 42[d] provisioning the one or more POS terminals with the information over the network to create, or modify based on the further information the one or more POS screens displayed on the one or more POS terminals; 42[e] wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information; and 42[f] wherein said further information regarding the one or more POS transactions relate to one or more transactions by corresponding

	customers respectively associated with at least one of said one or more POS terminals.
43	43[pre] A method of implementing a web-based point of sale (POS) builder system, the method comprising: 43[a] displaying one or more POS screens; 43[b] communicating with at least one server over a network comprising the Internet; 43[c] receiving, over the network from the at least one server, information used for creating or modifying the one or more POS screens including creating or modifying one or more display interfaces for display on the one or more POS screens, the one or more display interfaces being associated with one or more items; 43[d] performing one or more transactions with respect to the one or more items; 43[e] transmitting, to the at least one server, over the network, further information regarding one or more transactions corresponding to the one or more items; and 43[f] creating or modifying based on the received information the one or more POS screens; 43[g] wherein the further information regarding the one or more transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information; and 43[h] wherein said further information regarding the one or more POS transactions relate to one or more transactions by corresponding customers respectively associated with at least one of said one or more POS terminals.
44	44[pre] A web-based point of sale (POS) builder system comprising:

	44[a] at least one server configured to: 44[b] communicate with one or more POS terminals over a network comprising the Internet, wherein the one or more POS terminals are configured to display one or more POS screens; 44[c] receive, over the network from a POS builder interface, information for creating or modifying functionality of the one or more POS terminals; 44[d] receive, from at least one of the one or more POS terminals over the network, further information regarding one or more POS transactions corresponding to the one or more items; and 44[e] configure the one or more POS terminals with the information over the network to create, or modify based on the further information the functionality of the one or more POS terminals; 44[f] wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information; and 44[g] wherein said further information regarding the one or more POS transactions relate to one or more transactions by corresponding customers respectively associated with at least one of said one or more POS terminals.

VIII. CLAIM CONSTRUCTION

47. It is my understanding that the claims of the ’793 patent should be given their ordinary and customary meaning for the purposes of this proceeding, and that claim terms should be given the meaning that the terms would have to a person of ordinary skill in the art at the time of the invention. This is the meaning that I have applied to the claims in my analysis.

48. I also understand that several terms of the patents to which the ’793 claims priority were previously construed by a district court in a prior lawsuit filed by Patent Owner. EX1024, EX1025. Most terms were given their plain and ordinary meaning. I have reviewed the Final Claim Construction Order and Supplemental Claim Construction Order in that lawsuit, but these orders do not impact my analysis in this declaration.

A. “wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of…” (all claims)[2]

49. This term recites two lists of alternatives and is met if any of “the information,” “the further information,” **or** “a combination thereof” includes at least one of the enumerated information types. This is a natural reading of this language

[2] Claim 43 replaces “POS transactions” with “transactions” but will be treated the same here.

in the context of a software-based system. A POSITA would understand that "a combination" of "the information" and "the further information" includes a combination of all or some of each category of information (e.g., if information from each category is used to create/modify a POS screen).

B. "display interfaces" (all claims)

50. A "display interface" is an area of a POS screen, e.g., for displaying content and/or inputting information. In the context of POS systems, display interfaces would at least include buttons or keys for display on POS screens and for receiving user selection input on those POS screens. EX1001, Cl. 9.

C. "the input interface element" (claim 23)

51. The term "input interface element" appears in claims 23, 25, and 26, however claim 23 recites "the input interface element" without antecedent basis. For purposes of this proceeding, I assume claim 23 includes "the display interface comprises an input interface element" limitation of claim 25, and address claim 23 under that reading.

D. "the web server"/"the at least one web server" (claim 38)

52. Claim 38 depends from claim 27 and recites "the web server" and "the at least one web server," neither of which has antecedent basis. I assume here these terms refer to "at least one server" recited in claim 27.

E. "creating or modifying functionality of the one or POS terminals" (claim 44)

53. System claim 44 recites similar limitations to system claim 1, but more broadly claims "creating or modifying *functionality of the one or POS terminals*" (44[c]) rather than "creating or modifying *the one or more POS screens*" (1[c]). A POSITA would understand the latter is a subset of POS terminal functionality because modifying POS screens (e.g., modifying which buttons appear on the screen, their layout, and which items are associated with them) modifies how the POS terminal functions (e.g., which screens are displayed and which items/options are added to the cart when particular buttons/keys are selected). Limitation 44[f] in view of 44[c] supports this understanding by reciting, "***information*** for creating or modifying ***functionality of***" POS terminals (44[c]) followed by "***the information*** used for creating or modifying ***the one or more POS screens***" (44[f])—the latter of which lacks antecedent basis in claim 44 and suggests creating/modifying functionality includes at least creating/modifying POS screens. *Id.*

54. I reserve the right to respond to constructions offered by Patent Owner or adopted by the Board.

IX. OVERVIEW OF THE PRIOR ART

A. Overview of *Woycik* (EX1004)

55. Woycik et al., U.S. Patent App. Pub. 2007/0265935 ("*Woycik*") was filed May 1, 2007, and published November 15, 2007, both prior to the '793 patent's priority date of February 5, 2008. EX1005, [22]. *Woycik* is prior art under at least §§102(a), (e).

56. *Woycik* discloses a web-based administrative tool for building and editing user interfaces displayed on POS screens of self-service POS kiosks. EX1004, Abstract, [0071]-[0073], Fig. 1. The administrative tool is installed on a central server and accessible by "web access." *Id.*, [0075]. The administrative tool and its user interfaces enable administrators "to perform various administrative functions such as configuring kiosks [and] creating and editing menus and available food items." *Id.*, [0073]. Kiosks are configured with information from the administrative tool's user interface to create and modify POS screens with touchscreen buttons/keys displayed during a transaction based on a manager's menu/item/design/layout instructions and based on further information about POS transactions received by kiosks and transmitted to the central server (including order histories, items added/updated, and other customer- and order-specific information), e.g., to display a series of hierarchical/sequential screens based on customer additions/updates/selections and to allow returning customers to "quickly order

items ordered in the past without having to rebuild the order each time they use a kiosk." [0089], [0091], [0140]-[0142], Fig. 40.

B. Overview of *Tengler* (EX1005)

57. Tengler et al., U.S. Patent App. Pub. 2005/0049921 ("*Tengler*") published March 3, 2005, more than one year before the '793 patent's priority date of February 5, 2008. EX1005, [43]. *Tengler* is prior art under at least §102(b).

58. *Tengler* discloses an "order processing system" for merchants. EX1005, [0003]. Restaurant Management Software is installed on a web server, and POS terminal devices run register and self-service applications and display POS screens with touchscreen buttons/keys. *Id*., [0095]. *Tengler's* system allows "a manager to access a management database of a quick-serve restaurant location remotely through a web interface." *Id.*, [0022]. The manager's web interface provides access to a "user interface designer" that allows managers to "edit the user interface of the register and self-service applications" running on POS terminals. *Id.*, [0103]. POS terminals/kiosks are configured with information from the manager's web interface to create and modify hierarchical/sequential POS screens displayed based on a manager's menu/item/design selections and based on further information about POS transactions at terminals/kiosks that is transmitted to the web server (including items added/updated, price and tax, loyalty/promotion information, and images of the customer). *Id.*, [0017]-[0018], [0076], Figs. 9-10.

X. THE PRIOR ART GROUNDS RELIED UPON HEREIN ARE DISTINCT FROM THOSE CONSIDERED DURING EXAMINATION

59. I have been asked to review the prosecution history of the ’793 patent, and to compare the prior art grounds presented herein to those considered by the examiner during the examination of the ’793 patent. While *Woycik* and *Tengler* are listed on the face of the ’793 patent, *Woycik* was not discussed during prosecution or used in a rejection. The reference at EX1003.145 appears to be an error because the Examiner never discussed *Woycik* in an office action rejection.

60. Also, the Examiner only used *Tengler* in a very limited fashion. The Examiner only cited *Tengler* against video-related dependent claims (claims 5-6 and 29-30). *E.g.*, EX1003.101 (addressing claims 8-9 and 28-29, which resulted in issued claims 5-6 and 29-30). Thus, *Tengler* was never discussed by the Examiner with regard to the claims challenged in this declaration.

61. Accordingly, it is my opinion that the grounds of invalidity considered herein are distinct from those considered by the examiner during examination.

XI. RESERVED

XII. GROUND 1: *WOYCIK* IN VIEW OF THE KNOWLEDGE OF A POSITA RENDERS OBVIOUS CLAIMS 1-4, 7-28, AND 31-44

A. Claim 1

1. 1[pre][3] ("A web-based point of sale (POS) builder system comprising")

62. *Woycik* discloses a computer-based POS system "for ordering goods and services [that] includes a plurality of self-service client terminals and a server." EX1004, Abstract; *see also* [0006]-[0009], [0129]. The system includes an "administrative tool" (POS builder) providing "a menu editor that enables the administrator to create and edit the interactive menu screens" displayed on self-service terminals/kiosks. *Id.* Abstract, [0011]-[0012], [0016]-[0017], [0041], [0050]-[0051], [0079], [0081], [0097]-[0099], [0112] (item editor). The administrative tool is available via "web access" to a central server "using a simplified user interface … from any Internet-connected computer." *Id.*, [0075], [0080].

63. Accordingly, it is my opinion that *Woycik* discloses each limitation of 1[pre].

[3] I understand PO contends the preamble is not limiting. EX1017, p.5. To the extent any preamble is limiting, it is disclosed in each ground.

2. 1[a] ("at least one server configured to") and 1[b] ("communicate with one or more POS terminals over a network comprising the Internet, wherein the one or more POS terminals are configured to display one or more POS screens")

64. *Woycik* discloses a computer-based "point of sale system for ordering an item" that "includes a plurality of self-service client terminals and a server." EX1004, Abstract, [0129]; *see also* [0004]-[0008]. "[C]entral server 22" is configured to communicate with kiosks 16, 30, and/or 36 over a network comprising "Internet 18." EX1004, [0071], Fig. 1:[4]

[4] Annotations/alterations to figures and text added.

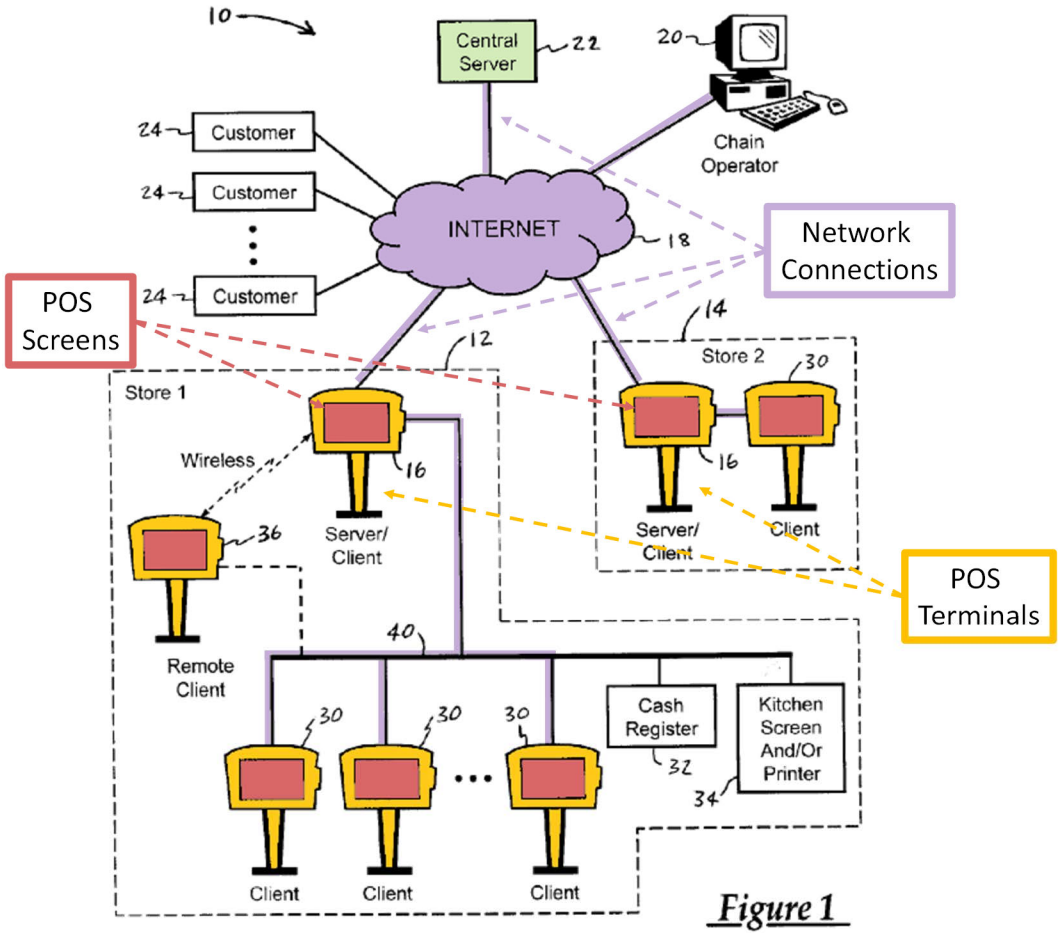


Figure 1

When discussing software, *Woycik* refers to central server 22 as "central server 84" and kiosk 16 as "client/server kiosk 82." *Id.*, [0078], Fig. 3:

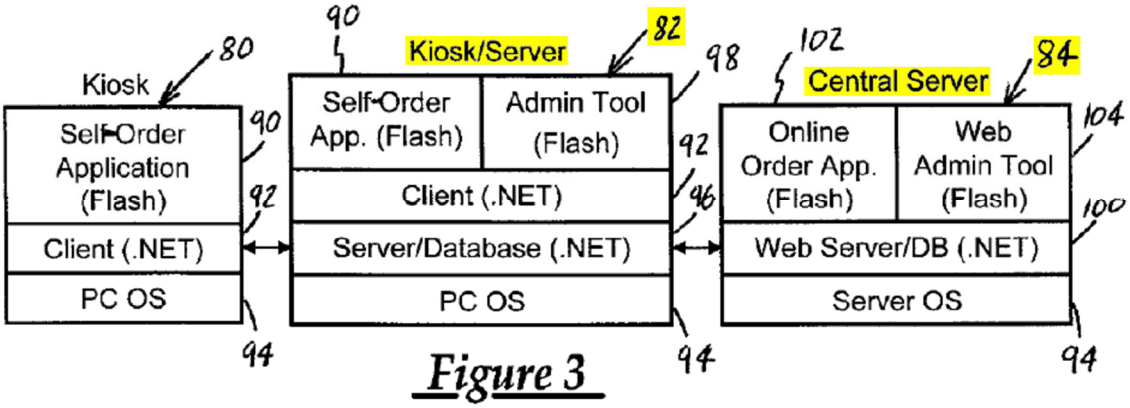


Figure 3

Woycik thus discloses kiosks 16/82 communicate with the central server over the Internet (thus disclosing 1[a] and 1[b]), while kiosks 30/36 communicate with the central server over a network comprising the Internet and network 40 (additionally disclosing 1[a] and 1[b]). *Id.*, [0074] (any "device on the network 40 can be connected to … the Internet 18"); *see also* [0124], Fig. 27. A POSITA would understand that these open-ended comprising claims contemplate a network that includes the Internet and other network nodes/elements, e.g., devices interconnected via a local area network connected to the Internet via a local server.

65. Kiosks operate as "self-service terminals" (POS terminals) that display "interactive menu screens having buttons" (POS screens). EX1004, Abstract, [0014]-[0016], [0077], [0082], [0100], Figs. 4-9:

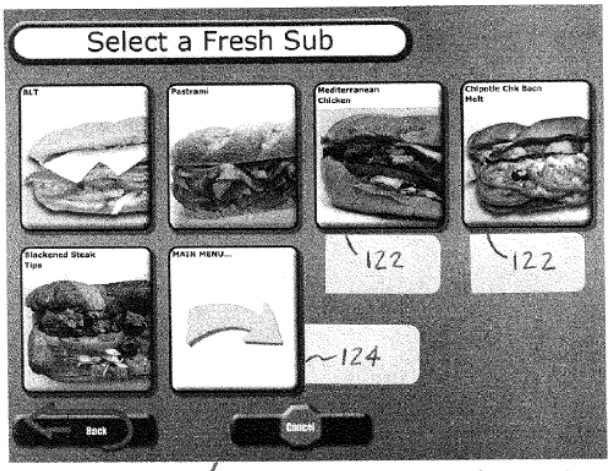


Figure 4

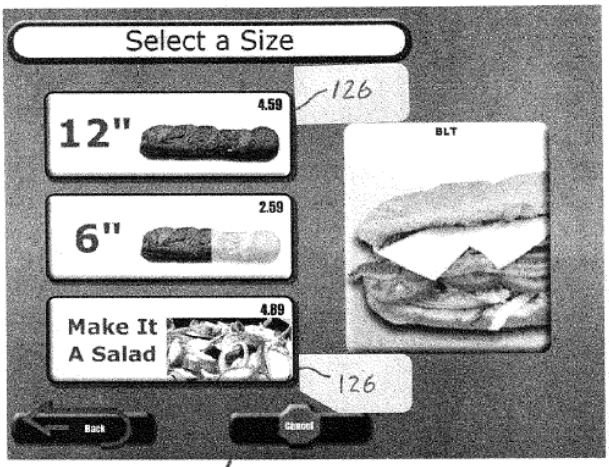


Figure 5

Specifically, kiosks/terminals display "a set of interactive screens that guide the customer through the process of placing an order." *Id.*, [0073], [0082], Fig. 3.

66. In sum, *Woycik* discloses at least one server (central server 22/84) configured to communicate with one or more POS terminals (kiosks 16/82 and/or kiosks 30/36) over a network comprising the Internet (Internet 18 alone or in combination with network 40), wherein the one or more POS terminals are configured to display one or more POS screens (interactive menu screens depicting buttons/keys, e.g., Figs. 4-9). Accordingly, it is my opinion that *Woycik* discloses each limitation of 1[a] and 1[b].

3. 1[c] ("receive, over the network from a POS builder interface, information used for creating or modifying the one or more POS screens including creating or modifying one or more display interfaces for display on the one or more POS screens, the one or more display interfaces being associated with one or more items")

67. *Woycik* discloses "[u]sing a standard web browser" and Internet 18, chain operator 20 has web access to an "administrative tool loaded on the central server" 22/84. EX1004, [0075]; *see also* [0017], [0071], [0080]-[0081], [0121]-[0122], Figs. 1, 3. The "administrative tool" includes a "**user interface application** [POS builder] that can be accessed by the administrator to perform various administrative functions such as configuring kiosks, creating and editing menus and available food items, and specifying tax and payment features of the system." *Id.*, [0073], [0079]. "Thus, the store owner or chain operator can carry out administration of the system **using a simplified user interface**" (POS builder interface) "from any Internet-connected computer." *Id.*, [0080], [0121].

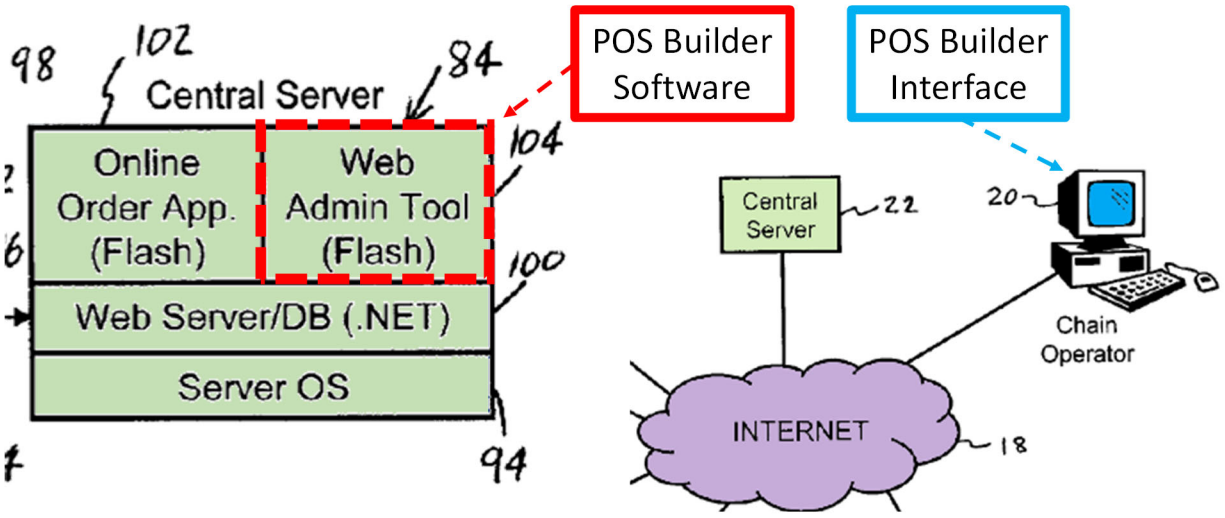
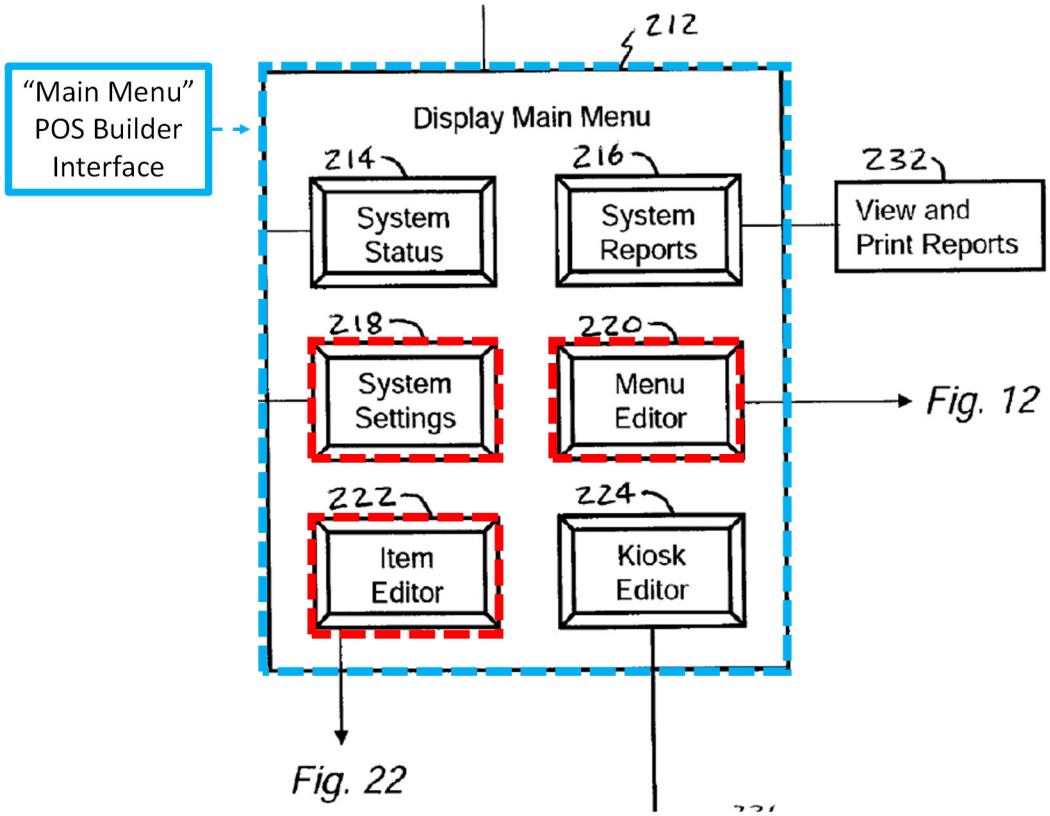


Fig. 3 (excerpted) **Fig. 1 (excerpted)**

68. The main menu interface to the web-based "administrative tool" displays options including "system settings 218, menu editor 220, [and] item editor 222." EX1004, [0096]-[0097], Fig. 10 (excerpted):



See also, [0132], Fig. 34:

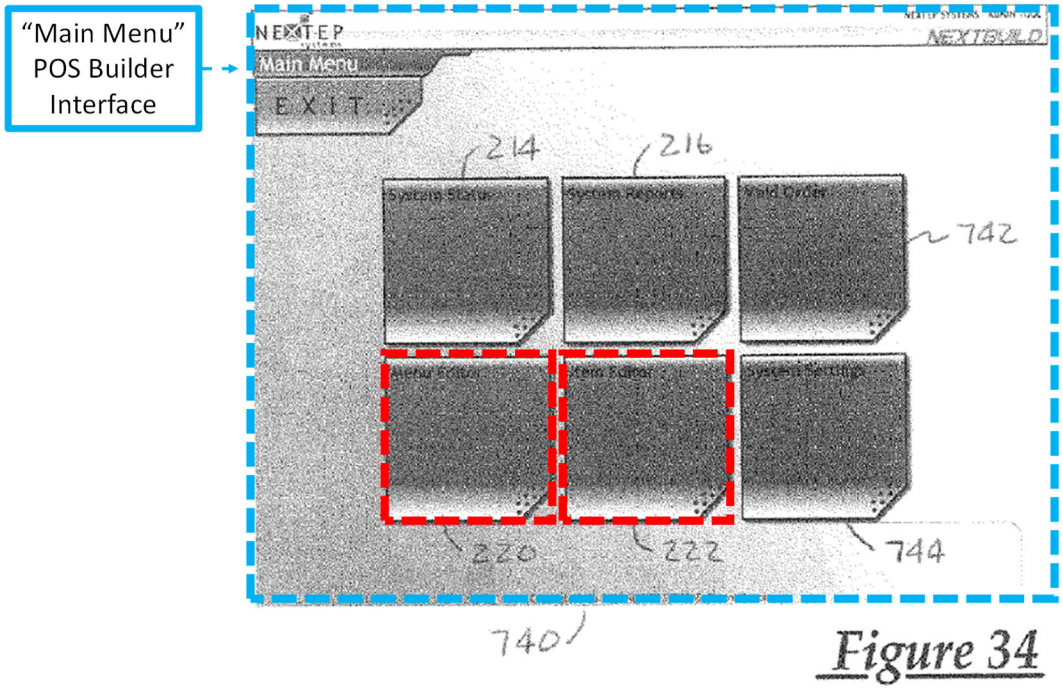


Figure 34

"System settings 218 enable the administrator to … enter sales tax percentages [and] enter customer ids." *Id.*, [0097], Fig. 10. The "menu editor [220]" "enables the administrator to create and edit the interactive menu screens provided by the self-order application at the self-service client terminals" in stores, including the "hierarchy of menus to guide the customers through the order process." *Id.*, [0013], [0109]; *see also* [0016], [0019]-[0020], [0073], [0079], [0098]-[0099], Figs. 11-13:

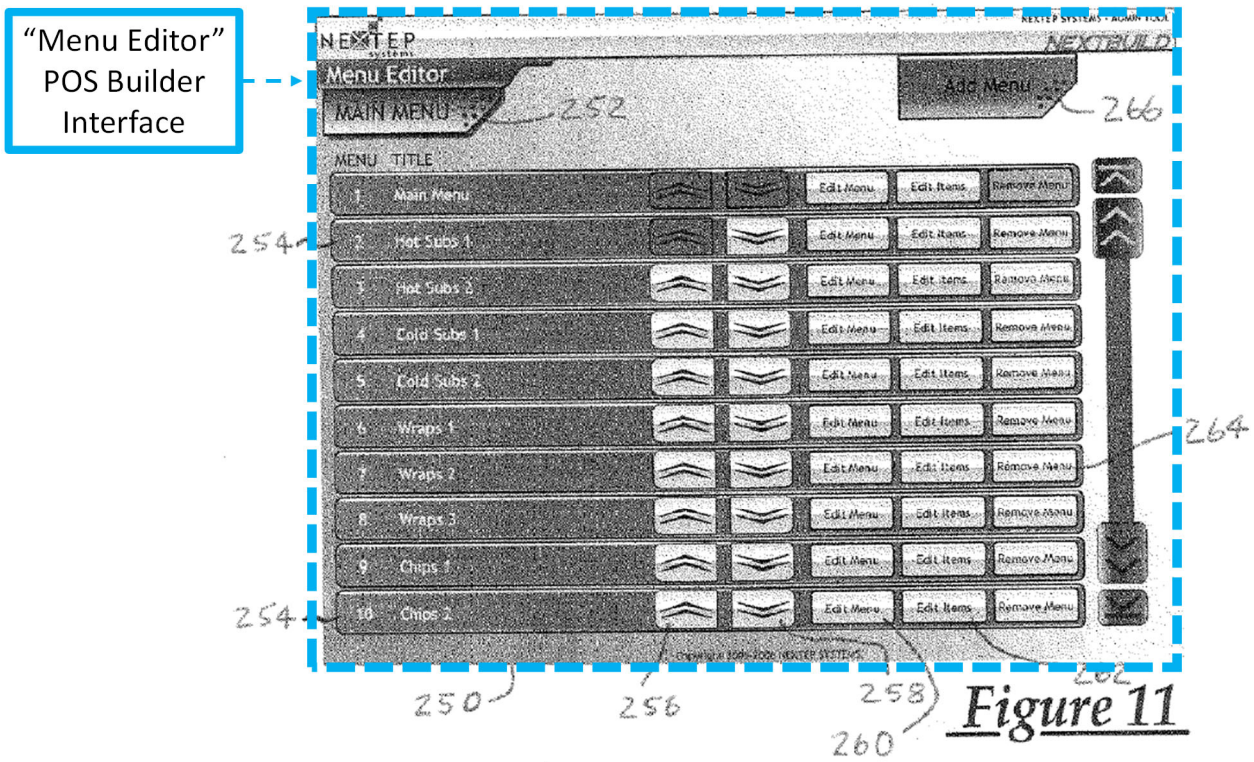


Figure 11

"The individual items or products available for sale are edited in the item editor" where the administrator can "configure the various food items and options." *Id.*, [0112]; *see also*, [0110]-[0113], Figs. 20-22:

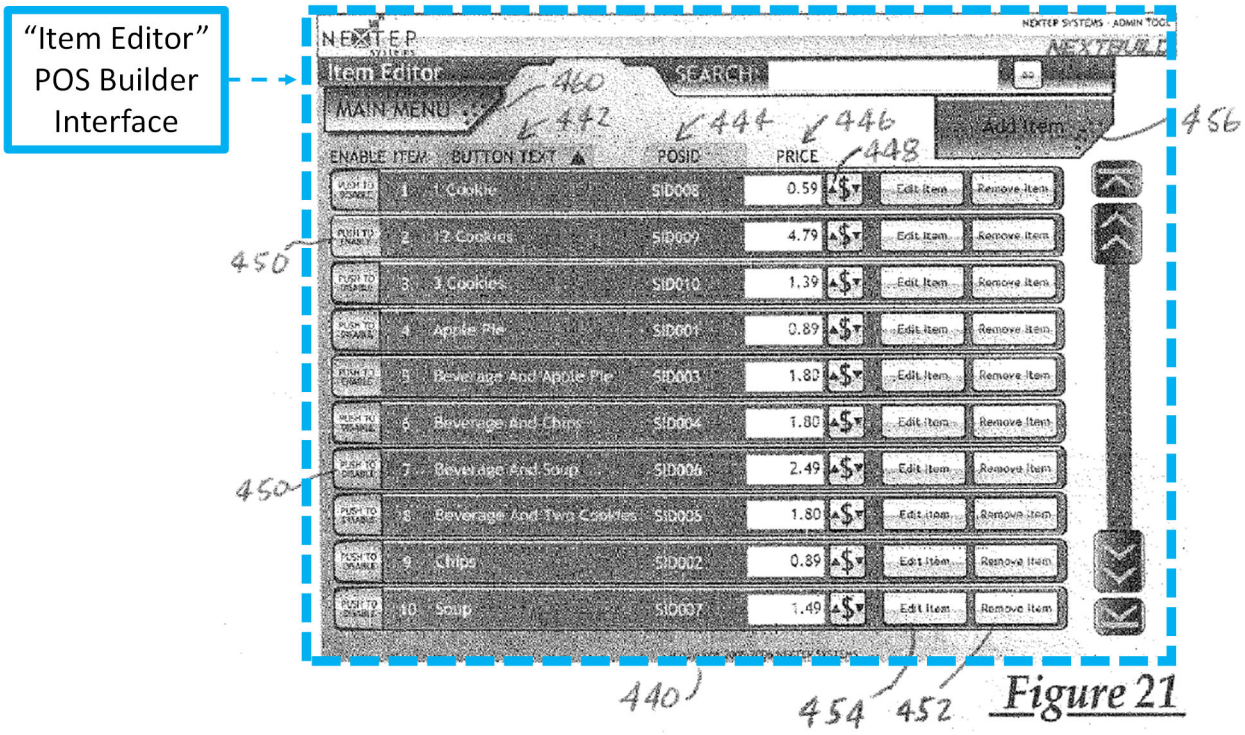


Figure 21

69. "The primary components of each menu screen are **buttons** that allow the customer to make selections among available items and options." *Id.*, [0100]. Buttons appearing on *Woycik*'s POS screens are display interfaces. *See supra* §VIII.B (construing "display interfaces". The administrative tool and its interface allows the manager/administrator to define the layout (number, shape, and arrangement) of buttons on POS screens, either individually or using a template. *Id.*, [0098], [0100], [0112]; *see also* [0019]-[0020],[0079], [0082], [0101]-[0107], Figs. 4-9:

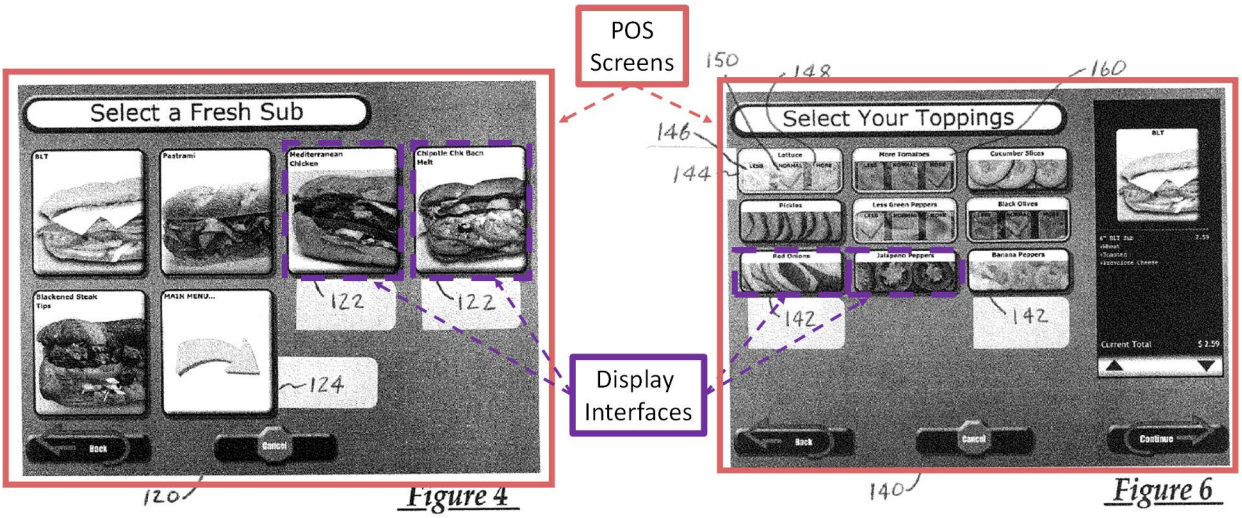


Figure 4 Figure 6

The manager/administrator can "edit the individual buttons and **associate them with food items and options** and associated button text, graphics, voiceovers, and button behaviors." *Id.*, [0108], Fig. 12:

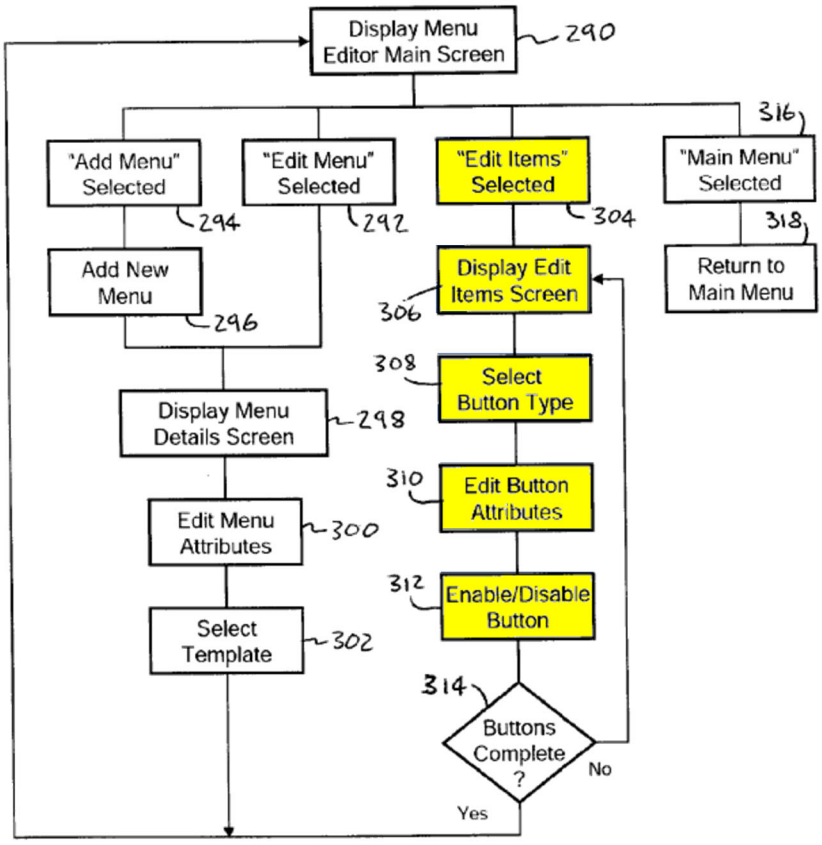


Figure 12

The server stores configuration changes received from the administrative tool user interface and can automatically send configuration updates to in-store kiosks 16/82. EX1004, [0115], [0121]-[0122].

70. In sum, *Woycik* discloses information received by central server 22/84 from the administrative tool user interface (POS builder interface) over the network including Internet 18 is used for creating/modifying interactive menu screens (POS screens) displayed on POS terminals, including information used for creating/modifying buttons/keys (display interfaces) associated with items on said screens. Accordingly, it is my opinion that *Woycik* discloses each limitation of 1[c].

4. 1[d] ("receive, from at least one of the one or more POS terminals over the network, further information regarding one or more POS transactions corresponding to the one or more items;"), 1[g] ("wherein said further information regarding the one or more POS transactions relate to one or more transactions by corresponding customers respectively associated with at least one of said one or more POS terminals")

71. *Woycik* discloses central server 22/84 receives further information over the network (including Internet 18) regarding POS transactions by corresponding customers ordering items in the transaction from kiosks 16/82 (POS terminals), e.g., customer information, order and item details, payment (including tax information), and loyalty/discount/promotion information. EX1004, [0028], [0030], [0089]-[0092].

72. Central server 22/84 retains information regarding "previous orders by the customer" received from kiosks 16/82, e.g., items the customer added/updated in those orders. *Id.*, [0089], [0091]. "Customer orders or other information that is to be retained to enhance the customer experience" is received from the POS terminals/kiosks 16/82 and "stored at the central server," e.g., in a "table or database," and can be provided "to the central server in real-time throughout the day." *Id*., [0030], [0089]; *see also* [0128], [0141].

73. *Woycik* discloses and suggests the further information relates to POS transactions by corresponding customers respectively associated with kiosks 16/82 because customers use respective POS terminals to place orders, and the database at

the central server stores information about customers and their respective orders to facilitate customer recognition and provide an "enhanced customer experience." *Id.*, [0028]-[0030], Figs. 39-40.

74. Accordingly, it is my opinion that *Woycik* discloses and suggests each limitation of 1[d] and 1[g].

5. 1[e] ("configure the one or more POS terminals with the information over the network to create or modify based on the further information regarding one or more POS transactions the one or more POS screens displayed on the one or more POS terminals")

75. As explained for limitation 1[c], *Woycik's* central server receives information (input by the manager/administrator) over Internet 18 from the administrative tool's user interface (POS builder interface) used to create or modify interactive menus (POS screens) displayed on kiosks 16/82 (POS terminals). EX1004, [0071], [0073], [0075]. Central server 22/84 "automatically" transmits configuration information and updates (e.g., menus/items and edits/additions) to kiosk 16/82 over Internet 18, and kiosks 16/82 display POS screens using the new or updated configuration information. *Id.*, [0122]; see also [0115], [0076]. Kiosks use such information and "graphical user interface application 90" to display "a set of interactive screens that guide the customer through the process of placing an order." *Id.*, [0073], [0082], Fig. 3.

76. When selecting items/options, "pricing information is updated live on the display … as items are added to or removed from the order." EX1004, [0090].

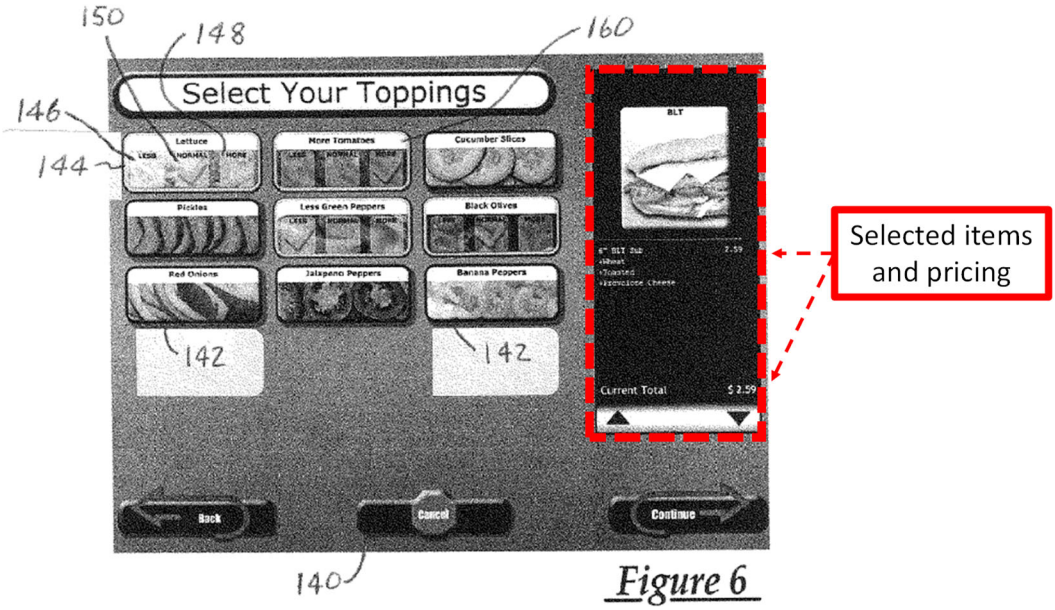


Figure 6

Customers can change toppings and amounts using buttons, e.g., to "eliminate the cheese and add tomatoes … in which case the changes are registered by the system, the American Cheese overlay buttons are eliminated, and new overlay buttons are displayed on the tomato button" with different text displayed on the buttons and updated price information. *Id.*, [0088], Figs. 7-9:

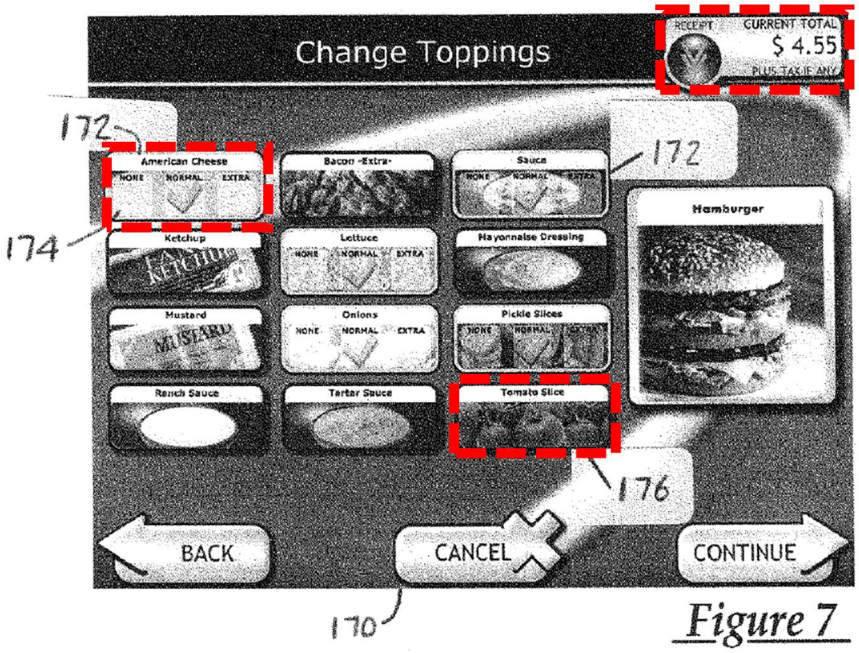


Figure 7

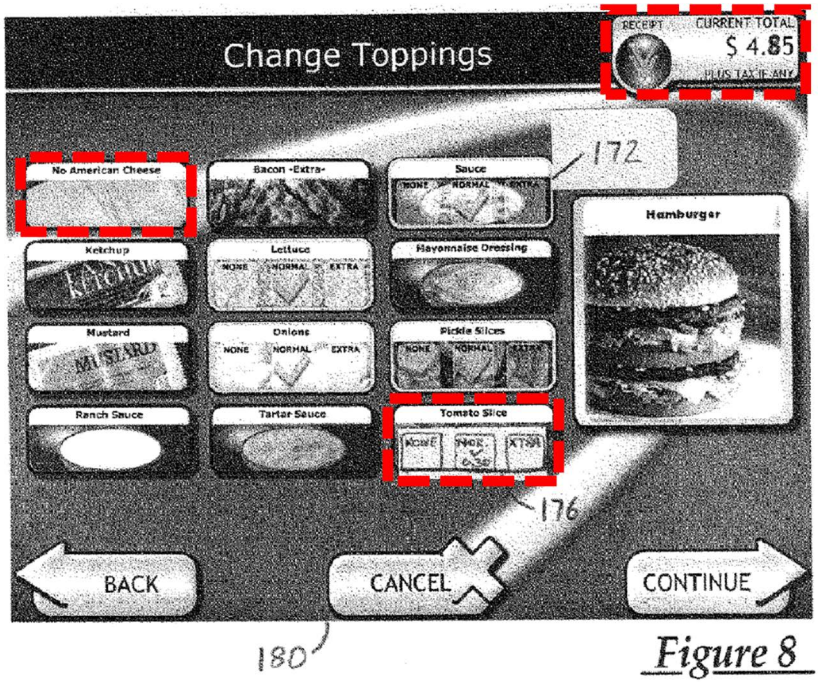


Figure 8

Woycik thus discloses and suggests managers may specify a POS screen with menu categories and subsequent POS screens for items/options within such categories for display based on a customer's category and item selections. *Id.*, Figs. 4-6 (illustrating successive POS screens based on user selections). Information from the POS builder

interface is thus used to configure kiosks 16/82 (POS terminals) to display new or modified POS screens based on items and options added/updated to an order ("further information," which is also stored by server 22/84 as explained for 1[d]).

77. *Woycik* also discloses examples of configuring kiosks with information received from the POS builder interface to create/modify POS screens based on "further information" regarding specific customers. Such further information is transmitted from the POS terminal and received and stored at the central server. EX1004, [0028], [0030], [0089]-[0092]. The system may recognize returning customers using "a customer loyalty card" or "credit card" and, using information from the central server relating to the customer's previous transactions, modify the POS screens displayed based on such further information. *Id.*, [0028], [0089], [0091], [0140]-[0142]. "Customer recognition has many advantages" and "allows the system to provide an enhanced customer experience." *Id.*, [0089], [0140].

78. One advantage "is that returning customers can quickly order [and further customize] items ordered in the past without having to rebuild the order each time they use a kiosk. For this purpose, the system tracks customer orders and stores them on the server." *Id.* "FIG. 40 illustrates a customer recognition screen 860 displayed by the self-order application when a returning customer is recognized." *Id.*, [0142], Fig. 40:

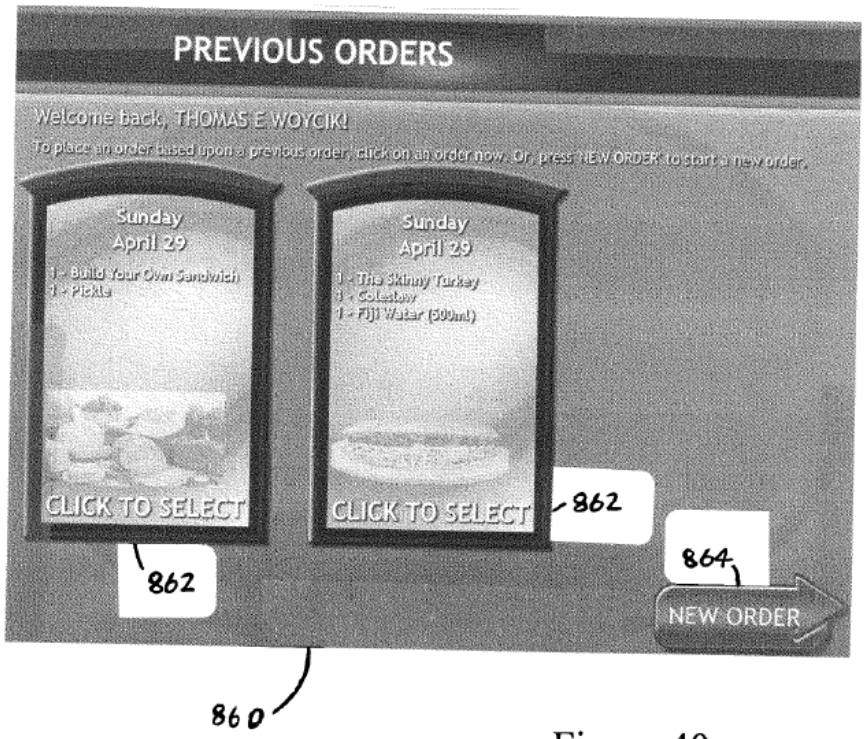


Figure 40

"The customer may choose to duplicate an entire previous order or individual items from that order," e.g., he "can simply select an item to customize (if desired) and add to his current order." *Id.*, [0089].

79. *Woycik* thus discloses and suggests that the central server configures kiosks with information from the POS builder interface to create or modify POS screens based on information stored at the central server concerning previous orders ("further information"). For example, a recognized customer may see the POS screen of Fig. 40. *Woycik* suggests if a customer selects a displayed previous order, the customer would be taken to the item customization screen, like that shown in Fig. 7, "to modify the contents of the item selected … by touching one of the contents

on the touch screen" in the same manner disclosed for new orders but with the customer's prior selections pre-selected. *Id.*, [0089]; *see also* [0088], Fig. 7:

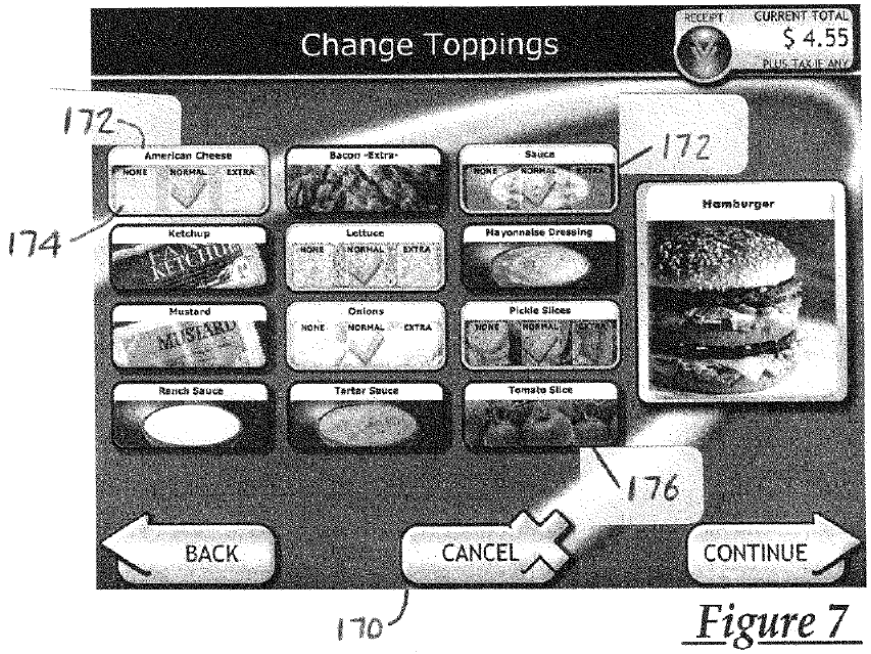


Figure 7

80. A POSITA would understand the default toppings here would be based on the customer's prior order that was selected when starting the current order as this would be the user's expectation when adding an item from a prior order. *Woycik* describes this process as: "Previous orders 862 are displayed so that the customer, if desired, may quickly order one of the customer's previous orders without having to rebuilding the order." EX1004, [0142]. A user adding item(s) from a prior order would expect those item(s) to be identically configured as in the prior order to avoid having to reenter customizations.

81. A POSITA would understand, and it would be obvious, that the layout and functionality of "customer recognition screen 860" is configured based on

information received from the administrator. In other words, the administrator designed the layout and functionality of customer recognition screen 860. But customer recognition screen 860 is also configured based on information about and the past order history of a particular customer. In particular, the display of a customer name "Thomas E Woycik" at the top of customer recognition screen 860 indicates that the customer has been recognized—*e.g.*, based on having previoiusly entered his name or credit card or other information upon which the system could have identified the customer and his name. Other examples might include a phone number or loyalty card number. A POSITA would understand this information and the past order history would have originated from the POS terminals and be stored a the central server.

82. Another advantage enables the system "to determine the frequency of customer visits and track customer habits and tastes. Using this information, the system can then recommend new or additional products to the customer or can provide the customer with a customer loyalty discount or award." EX1004, [0089], [0091]. The "upsell feature" suggests items based on "the order history of recognized customers" and "shows the customer a cost savings for combining the extra item with those already selected." *Id.*, [0091]. This suggests a modified POS screen displays specific items based on historical customer/order data. A POSITA would

understand the "upsell feature" would only be useful if it modified some aspect of the POS screen to visibly suggest an additional item or item upgrade.

83. *Woycik* thus uses manager-defined screen layouts/functionalities to create/modify POS screens to display based on customer- and order-specific information received before and during a transaction. Because the web-based administrative tool is used to "edit the screen displays that the customers see" (EX1004, [0095], [0041]), a POSITA would understand *Woycik* discloses and suggests information from the administrative tool user interface (POS builder interface) over the network (1[c]) is used to create/modify POS screens (creating/modifying buttons, items, options, layouts, categories, etc.), including creating/modifying POS screens based on further information regarding POS transactions (e.g., customer and order information, such as a customer's identity, items added/updated in an order, customer's prior orders and selections, and loyalty/discount/promotion information) stored at central server 22/84.

84. Accordingly, it is my opinion that *Woycik* discloses and suggests each limitation of 1[e].

6. 1[f] ("wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information")

85. *Woycik* discloses information received from the administrative tool's user interface (POS builder interface) used to create/modify interactive menus (POS screens) displayed on kiosks (POS terminals) includes item add/update, customer add/update, tax, and cost information—each of which independently satisfies this limitation (*supra* VIII.A).

86. The "administrative tool" provides "a menu editor" to create/modify POS screens. *Id.*, [0013], [0016]-[0017], [0041], [0050], [0108], [0112], Figs. 11-13, 20. It further provides "an item/product editor screen," which "enables the editing of the individual items/products for sale." *Id.*, [0051], Fig. 21:

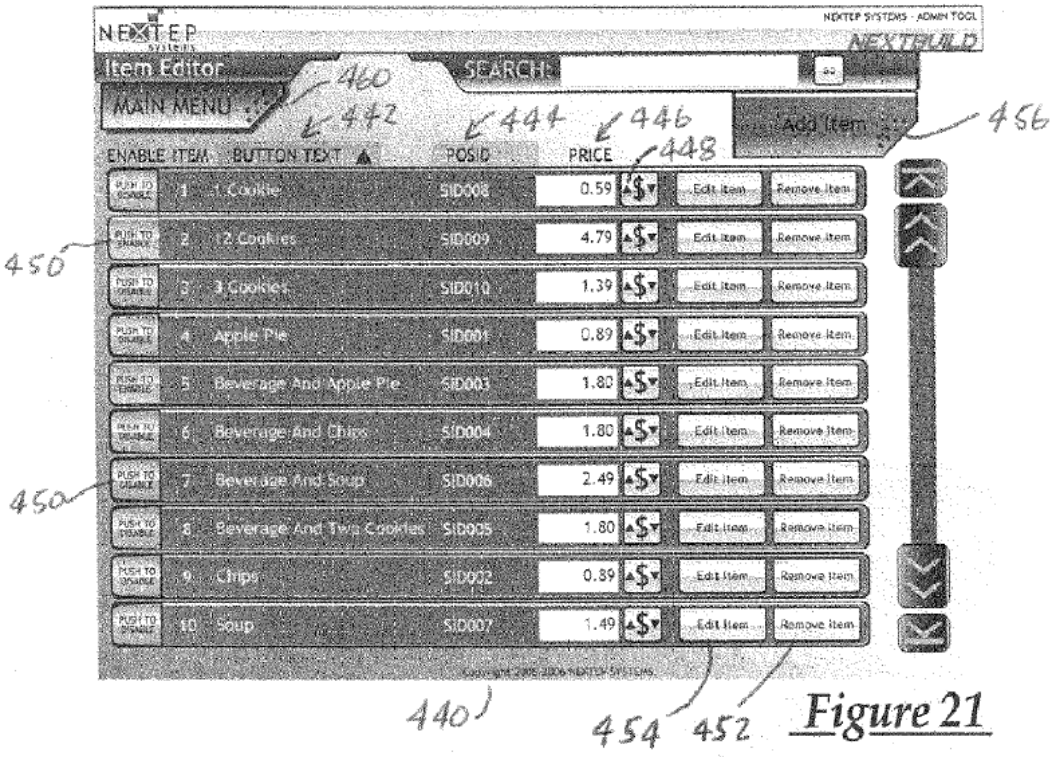


Figure 21

See also [0112], Fig. 22:

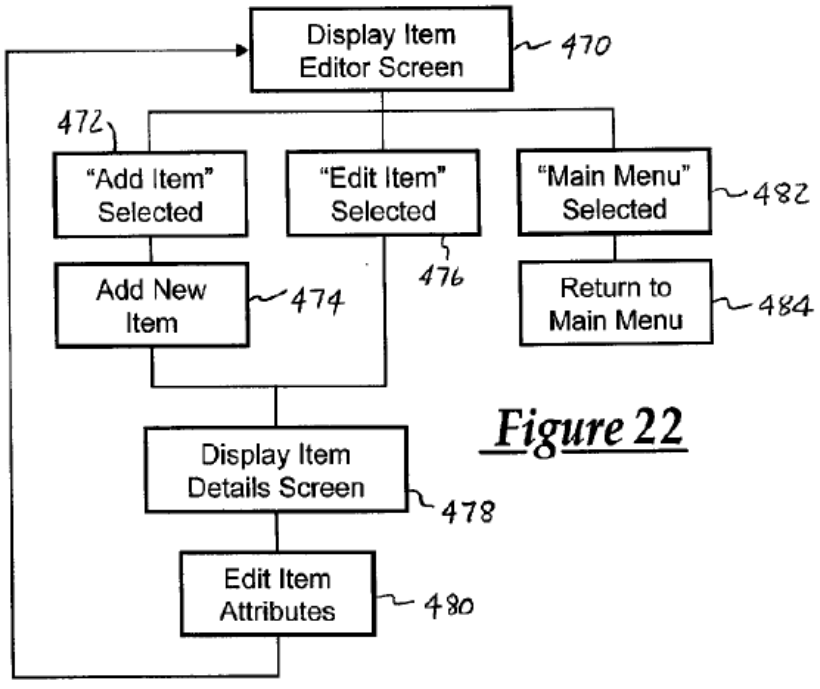


Figure 22

Thus, information from the POS builder interface is used for creating/modifying POS screens, including item add/update information. As explained below, customers also add/update items during the ordering process.

87. In addition to "creating and editing menus and available food items," the administrator can "specify[] tax and payment features of the system," including "sales tax percentages" (taxation information). *Id.*, [0073], [0079], [0097]. And "enter customer ids" (customer add/update information). *Id.*, [0097]. And "pricing information related to the cost" of additional items (item cost information). *Id.*, [0088].

88. As explained for 1[e] regarding further information, *Woycik* discloses customers provide item add/update information by "selecting items, modifying ingredients, adding side items, etc," using the interactive menus (POS screens) displayed on the self-service kiosks (POS terminals) to place orders (POS transactions). EX1004, [0089]. Further, returning customers "may choose to duplicate an entire previous order or individual items from that order," e.g., they "can simply select an item to customize (if desired) and add to [the] current order." *Id.*, [0089]. As explained for 1[d], 1[g], order and other information retained to enhance the customer experience is transmitted from the POS terminals to central server 22/84, e.g., "in real-time throughout the day." *Id.*, [0030], [0089]; *see also* [0128], [0141].

89. Additionally, *Woycik* discloses returning customers are recognized by "swiping a customer loyalty card" and the system "can provide the customer with a customer loyalty discount or award." EX1004, [0089]. Thus, further information regarding POS transactions, alone and/or in combination with information used to create/modify screens, includes promotion, discount, and loyalty program information in addition to item add/update information. Based on the teachings of *Woycik*, a POSITA would understand and be motivated to display promotions/discounts as buttons/options on the kiosk's POS screens for selection by a customer (that are configurable like other buttons/options), and information about redemption of a promotion/discount would be communicated to the central server as part of the order information. A POSITA would understand that promotions and discounts are only effective (*i.e.*, they influence a user's behavior) if the user is aware of the promotions and discounts. A POSITA would understand the benefit of displaying the promotions and discounts at the point of sale and would have been motivated to incorporate those marketing tools into the POS screen to inform and motivate the user to act, and to track/store utilization/redemption information. An alternative would be to advertise promotions and discounts external to the POS terminal, but that would lead to confusion if the user did not see the promotions and discounts reflected in the POS screens. If the promotions and discounts were not reflected in the POS screens, a user might believe the external advertisements were

expired or inapplicable for some reason and would be unlikely to act on the promotions and discounts.

90. Accordingly, it is my opinion that *Woycik* discloses, suggests, and renders obvious limitation 1[f].

B. Claims 2 ("The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is configured to run on a computing device") and 11 ("The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is accessible via a web browser")

91. As explained for 1[c], "the store owner or chain operator can carry out administration of the system using a simplified user interface" to the administrative tool (POS builder interface) "from any Internet-connected computer (such as a home office computer)" (computing device). EX1004, [0080]-[0081], [0121], Figs. 11, 13-21. Fig. 1:

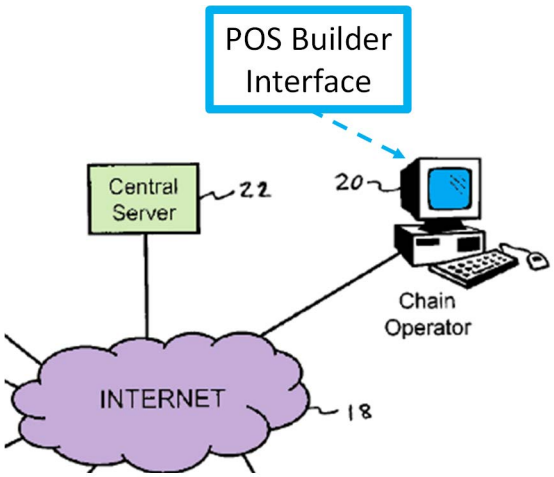


Fig. 1 (excerpted)

The administrative tool, which provides the administrative tool user interfaces, is installed on central server 22/84 (also a computing device). *Id.*, Figs. 1 & 3. The POS builder interface thus "runs on a computing device," which seemingly refers to the device accessing the POS builder interface, e.g., a manager using a computer's browser, but would also disclose this element to the extent it requires the POS builder to be installed/running on the central server. Regarding claim 11, administrators can "access the administrative tools remotely using a standard web browser." *Id.*, [0121].

92. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claims 2 and 11.

C. Claim 3 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more POS terminals comprise a plurality of POS terminals in a plurality of locations")

93. As explained for 1[b], *Woycik* discloses a plurality of kiosks 16/82 (POS terminals) in a plurality of locations—e.g., one in "Store 1" and one in "Store 2." EX1004, [0071], [0074], Fig. 1:

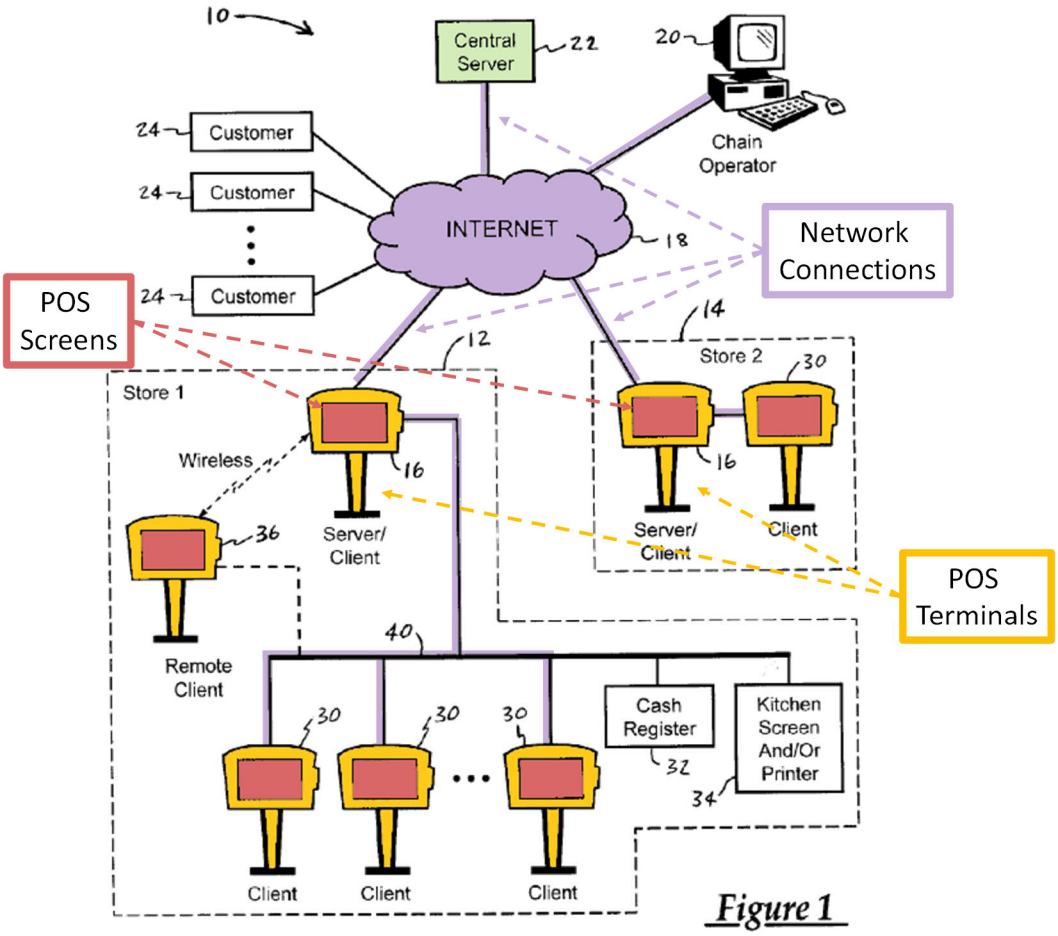


Figure 1

94. *Woycik* also discloses and suggests a plurality of POS terminals in *each* of a plurality of locations in two ways. First, as discussed for 1[b], *Woycik* discloses additional kiosks 30 and 36 in/around each store connected to central server 22/84 over Internet 18 via kiosks 16/82 and "network 40." *Id.*, [0071]-[0072], [0074], Fig. 1. Central server 22/84 thus communicates with kiosks 30/36 over the network comprising the Internet. A plurality of POS terminals in each store location would thus be connected to the central server over the network including the Internet, including indirectly via a local area network connection to kiosks 16/82 and/or

directly by using the "web installation service" provided by the central server. *Id*., [0124], Fig. 27;

95. Second, *Woycik* discloses "a single store location will include *at least one* local server [kiosk] 16." EX1004, [0071]. That suggests a single location may have more than one (a plurality) of kiosks 16/82, which are directly connected to central server 22/84 over Internet 18.

96. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 3.

D. Claims 4 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more items comprise at least one of: one or more items for sale, one or more promotions, or one or more loyalty points programs") and 9 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more display interfaces comprise one or more buttons or keys")

97. As explained for 1[c], *Woycik* discloses and suggests items associated with buttons/keys (display interfaces) on POS screens that are created/edited via the POS builder interface include items for sale, e.g., "food items" in a restaurant, and customer loyalty discounts/awards (promotions and loyalty points programs). EX1004, [0079], [0082], [0089], [0098], [0100], Figs. 4-9, 11, 20-21:

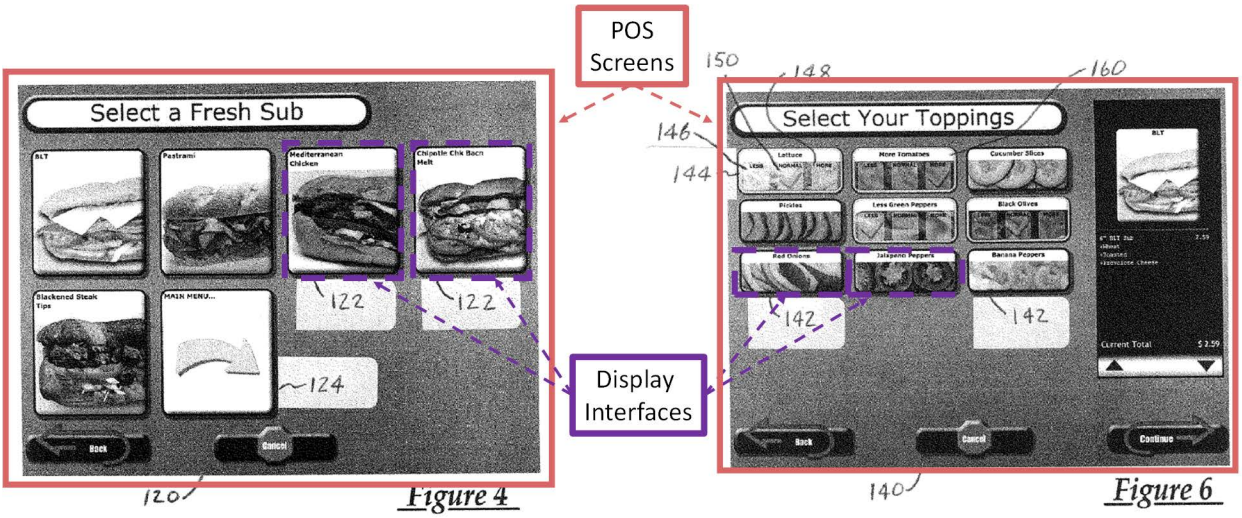


Figure 4 Figure 6

98. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claims 4 and 9.

E. Claim 7[5] ("The web-based point of sale (POS) builder system of claim 1, wherein the information regarding one or more POS transactions comprises one or more of the employee clock information, the customer add/update information, the item add/update information, or the promotion information")

99. As explained for 1[e]-1[f], *Woycik* discloses central server 22/84 receiving further information from kiosks (POS terminals) regarding orders (POS

[5] Claims 7 and 8 recite "the information regarding one or more POS transactions," which refer to "**further** information regarding one or more POS transactions" of 1[d] and not "the information used for creating or modifying the one or more POS screens" of 1[c] because "further information" is the claimed information "regarding one or more POS transactions."

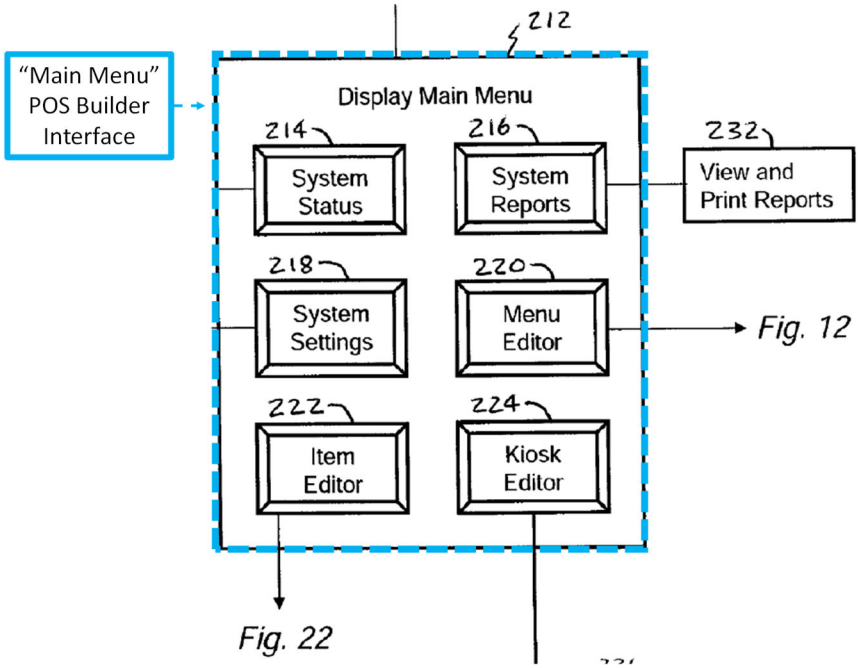
transactions) that includes item add/update information based on new and/or returning customers adding or updating items in an order. EX1004, [0028], [0089], [0091], [0140]-[0142]; Additionally, *Woycik* discloses returning customers are recognized by "swiping a customer loyalty card," whereby the system "can provide the customer with a customer loyalty discount or award." EX1004, [0089]. A POSITA would understand such discount/award would be displayed on a POS screen for selection by the customer, would be based on previous customer/order information stored at central server 22/84, and the POS terminal would transmit "further information" (e.g., information regarding redemption of the discount/award) to central server 22/84, which would update customer information. Thus, the (further) information regarding POS transactions also includes promotion information related to a loyalty program and customer update information.

100. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 7.

F. Claim 8 ("The web-based point of sale (POS) builder system of claim 1, wherein the information regarding one or more POS transactions are viewable via the POS builder interface")

101. As explained for 1[c], *Woycik's* web-based "administrative tool" user interface (POS builder interface) allows "the administrator to perform various administrative functions." EX1004, [0073], [0075]-[0076]. The administrator can use it to "run reports, check the system status, add or remove kiosks from the system,

or edit the screen displays that the customers see." *Id.*, [0095]-[0097], [0128], Fig. 10 (excerpted):



102. As explained for 1[d], the further information includes details regarding customer orders (POS transactions), which is stored by central server 22/84 for later use. EX1004, [0028], [0030], [0089], [0091], [0128]. Using the administrative tool interface, the administrator can also "view and print sales reports" for "any individual kiosk" and "time period." *Id.*, [0097]. "Administrators request data or a report from the remote server that then supplies the data or report requested (blocks 598, 600)." *Id.*, [0128], Fig. 28:

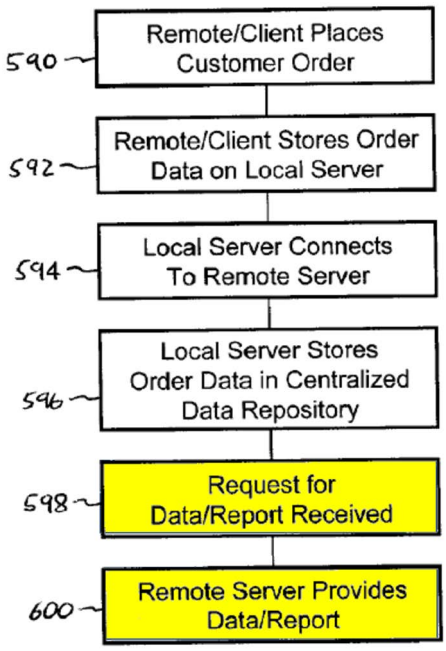


Figure 28

Woycik thus discloses and suggests reports displayed on the administrative tool user interface for a specific kiosk/terminal would include information regarding one or more POS transactions performed at that kiosk/terminal.

103. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 8.

G. Claim 10 ("The web-based point of sale (POS) builder system of claim 1, wherein the received information comprises information indicative of at least one of a number, shape, or arrangement of the one or more display interfaces")

104. As explained for limitation 1[c], *Woycik's* administrative tool allows the manager/administrator to define the layout (number, shape, and arrangement) of buttons (display interfaces) on POS screens. EX1004, [0100]. "Buttons can be

directly added one at a time by the administrator from an available collection of different buttons when building the screens." *Id.* "Alternatively … templates containing predefined groupings of buttons are used to develop the menu screens," and "define the overall layout of the menu such as the number and types of buttons, and placement of buttons." *Id.*; *see also*, [0101]-[0107], Figs. 14-19:

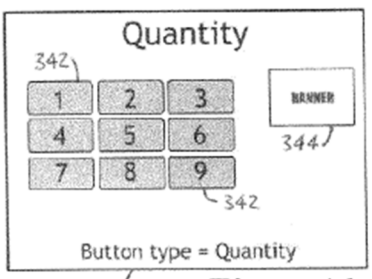


Figure 14

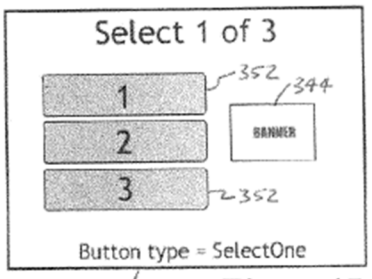


Figure 15

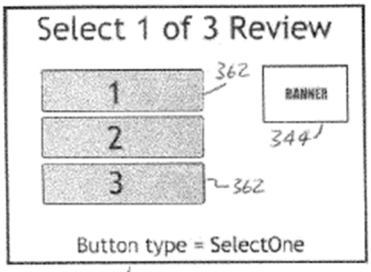


Figure 16

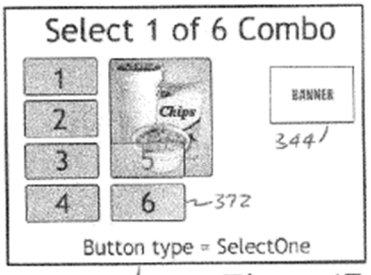


Figure 17

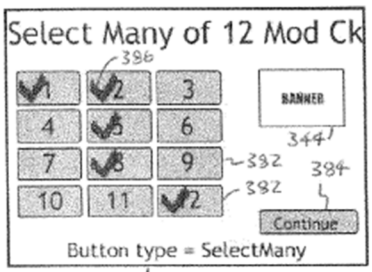


Figure 18

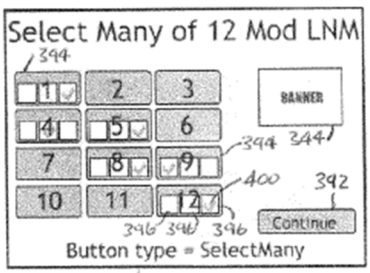


Figure 19

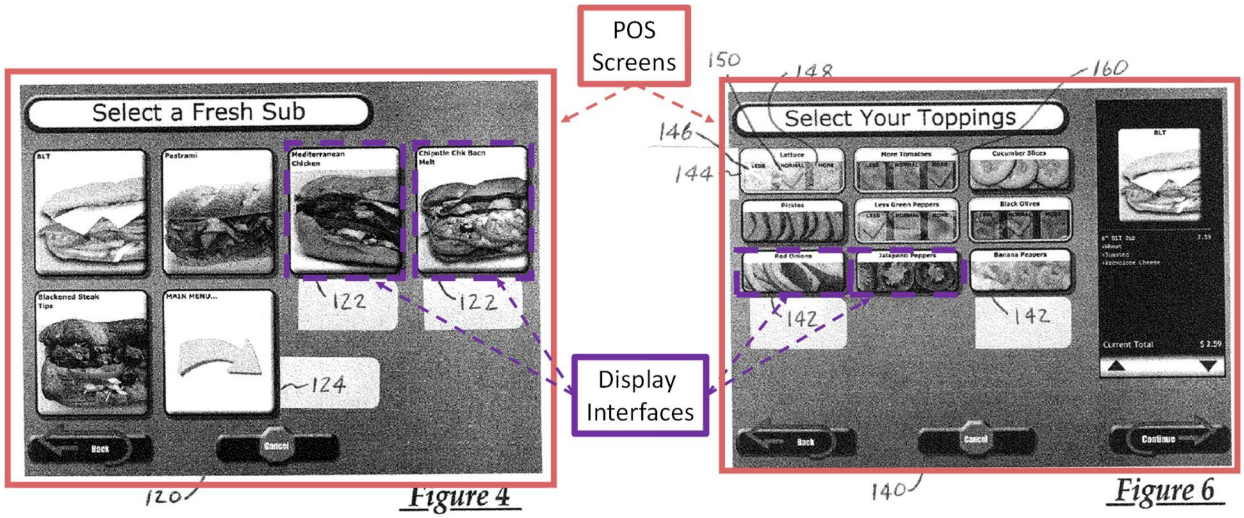
The server receives information from the POS builder interface regarding the "number of buttons a customer sees on the menu, what happens when a customer

selects a button …, and the overall appearance of the menu" (number, shape, and arrangement of buttons/keys and other display interfaces). *Id.*

105. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 10.

H. Claim 12 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more display interfaces are accessible on the POS builder interface")

106. As explained for claims 1[c] and 9-10, *Woycik* discloses buttons/keys on the POS screens (display interfaces). EX1004, [0079], [0082], [0098], [0100], Figs. 4-9:



Those buttons are added/edited using the administrative tool user interface (POS builder interface). *Id.*, [0098], [0100], [0108], [0112], Fig. 12. For example, the buttons may be created individually or from a template. [0100]-[0107], Figs. 14-19:

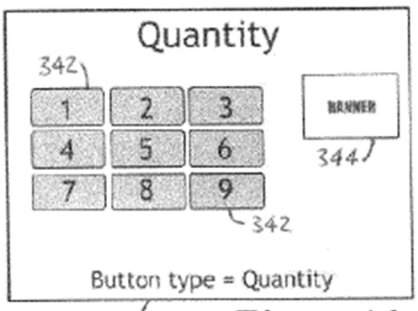


Figure 14

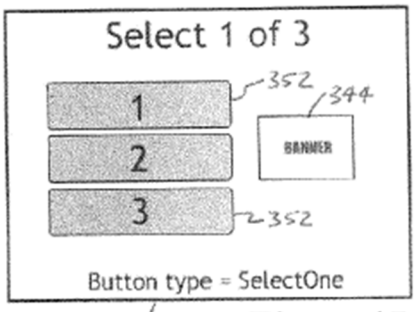


Figure 15

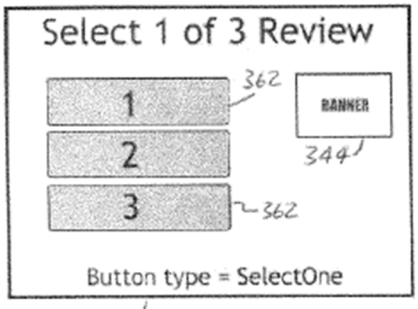


Figure 16

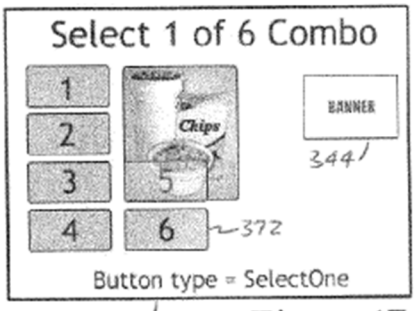


Figure 17

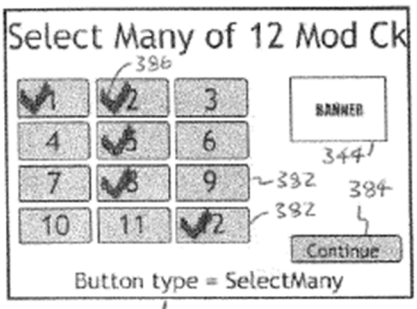


Figure 18

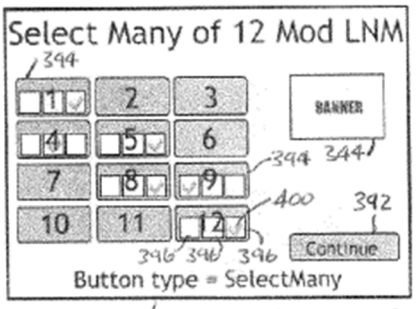


Figure 19

Woycik thus discloses and suggests the buttons (display interfaces) are accessible on the POS builder interface.

107. Further, *Woycik* suggests administrators can preview POS screens to accept or reject changes. EX1004, [0112]. A POSITA would have been motivated to allow administrators to access POS screens and buttons (display interfaces) to preview modified screens/buttons before transmitting changes to POS terminals to

ensure accuracy and to test functionality of the updated POS screens. Specifically, a POSITA would have understood the benefit of previewing POS screens by building confidence in a non-technical user that his/her edits resulted in the expected POS screen changes. In addition, the administrative user would be able to immediately observe and correct any errors, for example, typographical or formatting errors. Users in the 2008 timeframe were used to preview (*e.g.*, print preview) and WYSIWYG (what you see is what you get) and would have expected a real-time preview from a modern POS system. A POSITA would have known how to implement the preview process by incorporating the POS screens into the POS builder interface (likely in a portion of the POS builder interface). And a POSITA would have been motivated to incorporate this functionality to achieve these benefits with the modest development effort required to support this functionality.

108. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 12.

I. Claim 13 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to: receive, over the network from the POS builder interface, second information regarding a modification to at least one of the one or more POS screens; and update the at least one of the one or more POS screens on the one or more POS terminals based on the second information")

109. As explained for 1[c], *Woycik's* web-based administrative tool interface (POS builder interface) allows administrators to "edit the screen displays that the

customers see." EX1004, [0095], [0073]. "The individual items or products available for sale are edited in the item editor" where the administrator can "configure the various food items and options" including modifying pricing information, button text, and enabling/disabling buttons. *Id.*, [0112]; *see also*, [0110]-[0113], Figs. 20-22:

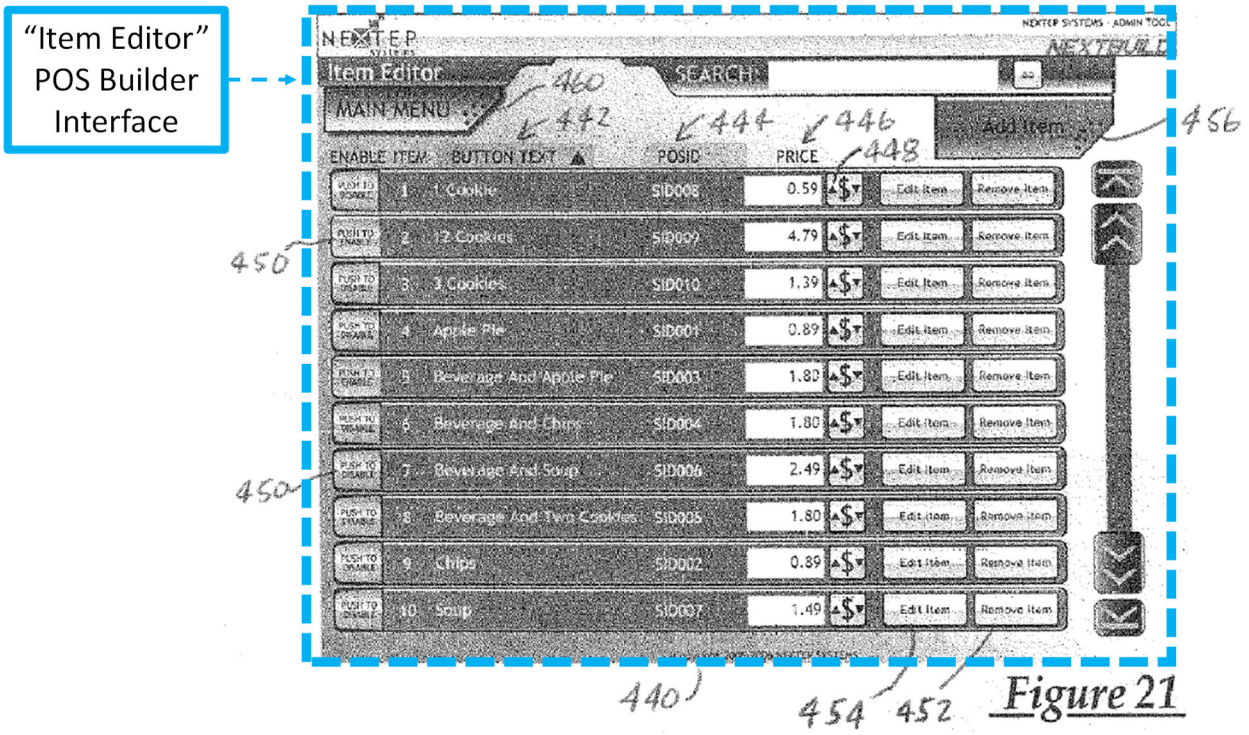


Figure 21

When "editing an existing item, the administrative tool launches a separate items detail screen with multiple tabs to edit various item attributes." *Id.*, [0112]-[0113]; *see also* [0108], Figs. 12, 22:

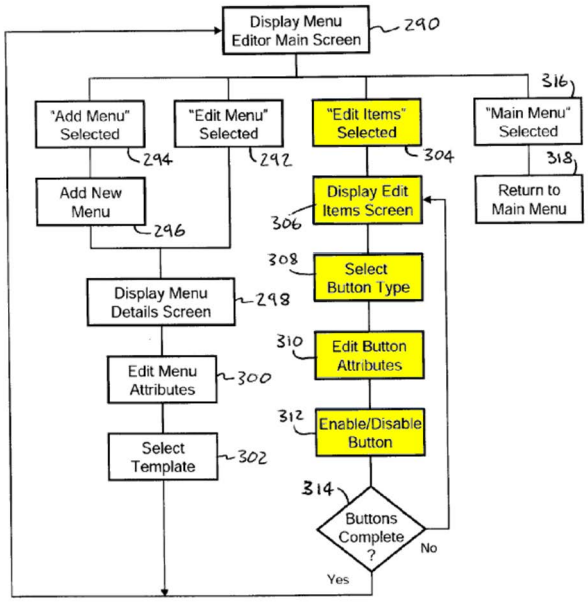


Figure 12

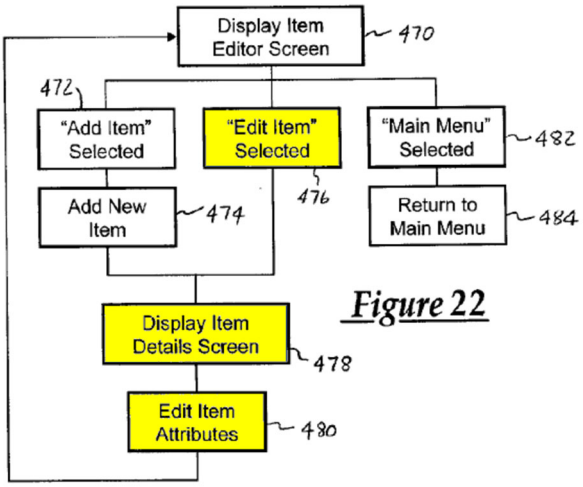


Figure 22

Information received by central server 22/84 from the administrative tool interface to modify the attributes of *existing* items/buttons is "second information" regarding a modification to a POS screen that is different than the information used to create the items/buttons originally. The server can create/modify POS screens iteratively, and would receive second, third, fourth…nth information regarding POS screen modifications used to update screens on POS terminals.

110. "The administrative tool saves all changes to the server after the administrator has made all desired changes to the customer interface using the administrative tool." EX1004, [0115]. Those modified "menu configurations" are then sent to the POS terminals/kiosks to update POS screens based on the second information regarding POS screen modification. *Id.*, [0120]-[0122]; *see also* [0071], [0075]-[0076], [0095], [0117].

111. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 13.

J. Claim 14 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to store information regarding the one or more POS screens")

112. As explained for claim 13, *Woycik's* "administrative tool saves all changes to the server after the administrator has made all desired changes to the customer interface using the administrative tool." EX1004, [0115]. That server can be central server 22/84. [0121]-[0122]; *see also* [0071], [0075]-[0076], [0095].

113. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 14.

K. Claim 15 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is located remotely from the one or more POS terminals")

114. As explained for 1[a]-1[b], central server 22/84 is remote from the POS terminals/kiosks. EX1004, [0071], [0075]-[0076], Fig. 1:

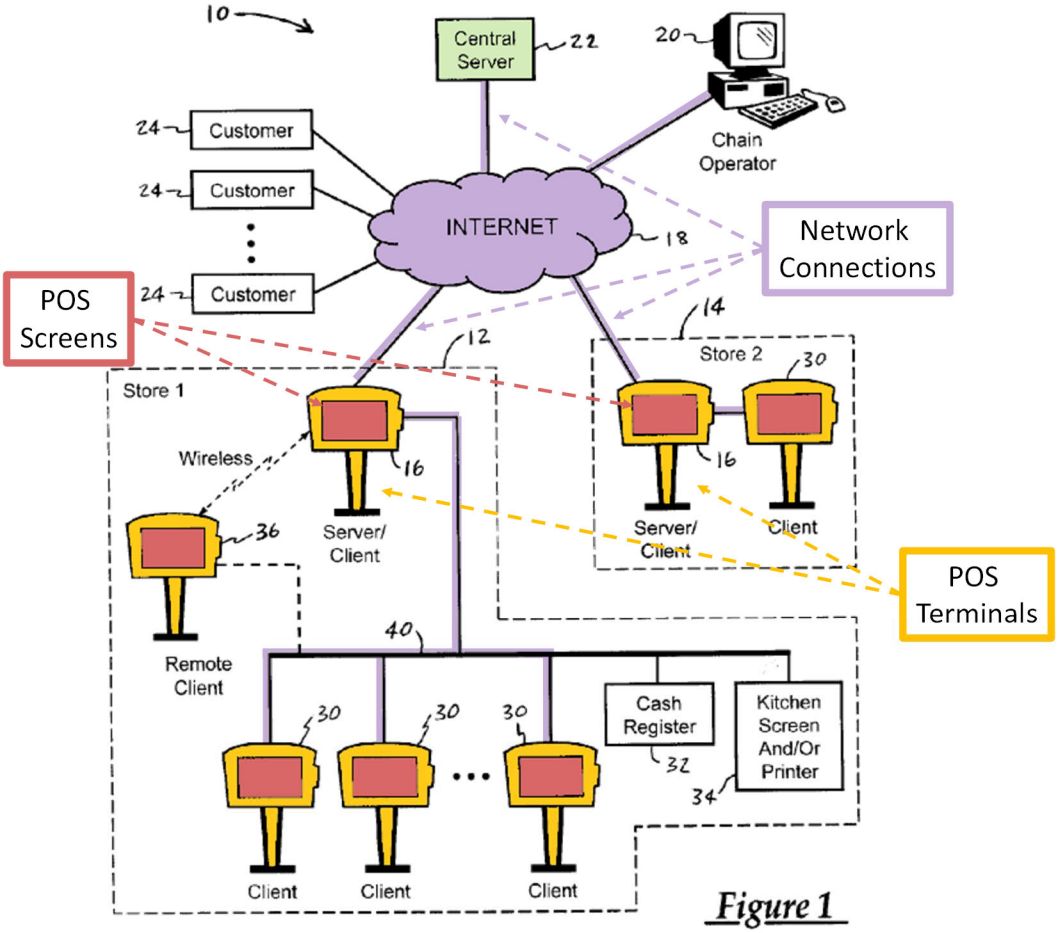


Figure 1

115. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 15.

L. Claim 16 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to receive the information for creating or modifying the one or more POS screens and create or modify the one or more POS screens in real time while the one or more POS terminals are in use performing one or more POS transactions")

116. As explained for 1[c], *Woycik's* central server receives from a POS builder interface information for creating/modifying interactive menu screens (POS screens). EX1004, [0013], [0016], [0019]-[0020], [0073], [0075], [0079], [0098]-

[0099], [0109]-[0110], Figs. 11-13. Configuration changes (e.g., menu/item changes) made over the Internet with the administrative tool at central server 22/84 are saved to the central server, then pushed to kiosks at local stores. *Id.*, [0115], [0076], [0122]. Changes are saved to the central server when the administrator enters them and clicks the "OK button" at "block 314 … when button editing is completed to return to the menu editor main screen." *Id.*, [0108], [0111], Figs. 12, 13, 20:

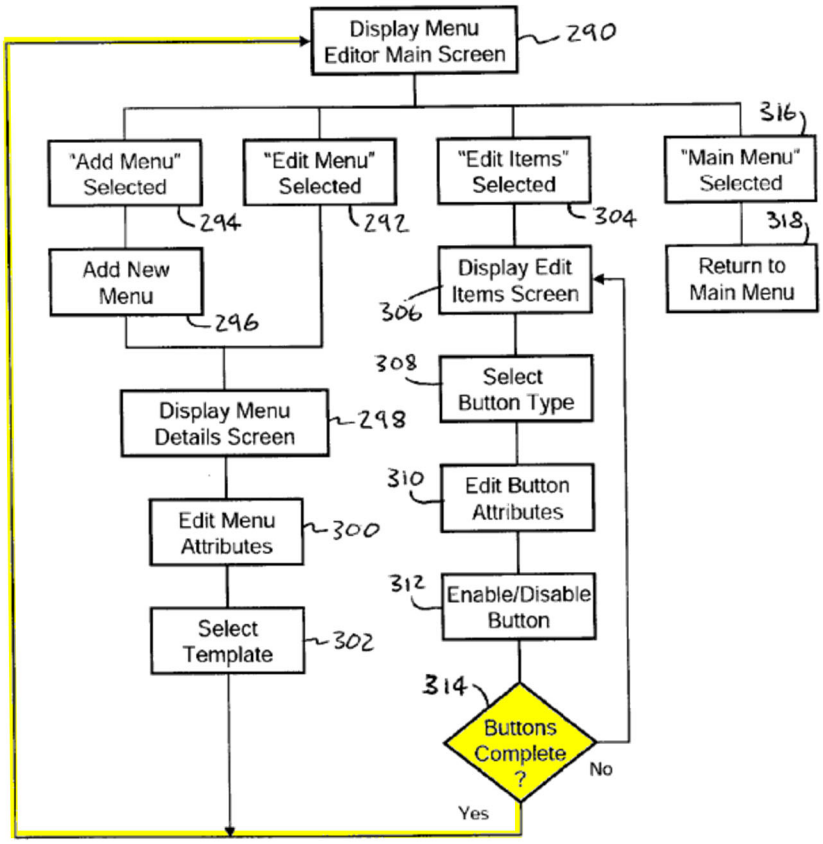


Figure 12

The central server can "automatically send the changes to the local server" kiosk 16/82 via Internet 18. *Id.*; *see also* [0071], [0072], [0115]. *Woycik* teaches central server 22/84 communicates with in-store kiosks/terminals 16/82 "in real-time

throughout the day." *Id.*, [0030]. *Woycik* thus discloses and suggests receiving information for and creating/modifying POS screens stored on the central server in real time. *Woycik* further discloses "the kiosk's status (idle, in use, etc.)" is determined by the system, and that changes made and saved on the server can be pushed down to the kiosks when they are idle. EX1004, [0097], [0015]. That suggests, and it would be obvious, that information can be received in real time, and changes to POS screens can be made and saved at central server 22/84 in real time, while kiosks (POS terminals) are in use by customers placing orders.

117. Additionally, as explained for claim 12, *Woycik* suggests administrators can preview POS screens and accept or reject changes. EX1004, [0112]. This suggests POS screens are also created/modified at the server in real time while in-store POS terminals are in use, e.g., to facilitate the preview functionality.

118. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 16.

M. Claim 17 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more POS terminals use the one or more POS screens after completing a pending POS transaction")

119. *Woycik* discloses that a "kiosk's status (idle, in use, etc.)" may be determined by the system. EX1004, [0097]. Further, updates to the POS screens may be made "during idle time when the kiosk is not in use." *Id.*, [0115], [0117]. *Woycik* thus discloses and suggests waiting until after a POS terminal's pending

transaction is complete to update POS screens during idle time. This suggests and renders obvious a POS terminal's continued use of existing POS screens for a pending transaction before updating screens during subsequent idle time—after which the kiosk uses the updated screens. Additionally, a POSITA would understand the kiosks reuse POS screens for each new transaction after a prior transaction is complete, thus using/re-using updated POS screens after completing each transaction. *Id.*

120. Accordingly, it is my opinion that *Woycik* discloses, suggests, and renders obvious the limitations of claim 17.

N. Claims 18 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to maintain information regarding POS screens for separate sets of POS terminals separately") and 20 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to maintain information regarding the one or more POS screens")

121. As explained for claim 16, configuration changes (e.g., menu and item changes) made over the Internet with the administrative tool at central server 22/84 are saved to (thus maintained by) the central server, then pushed to kiosks at local stores. *Id.*, [0115], [0076], [0122]. *Woycik* teaches that, in some situations, "not all store locations are intended to use the same menus or pricing," and the "changes can be sent to less than all stores." *Id.*, [0122]. In that scenario, a POSITA would understand, and be motivated to ensure, that the central server separately

stores/maintains different sets of interactive menus (POS screens) used by POS terminals at those different store locations to ensure communication of correct menus/pricing. For example, a store location in an airport terminal or a sports venue often has higher prices and fewer menu items than a regular store location. A POSITA would understand that a user would be confused to see a mix of pricing and menu items that did not match his/her current location. Thus, a POSITA would have been motivated to segregate and separately maintain data for different locations/POS terminals.

122. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 18.

O. Claim 19 ("The web-based point of sale (POS) builder system of claim 1, wherein instructions to the POS builder interface for programmatic creation and modification of the POS terminals are not formatted in programming code")

123. The administrative tool provides "a simplified user interface that requires little if any training or experience with computers." EX1004, [0080]. It "provides a graphical representation of menu options, button selections, images, text fields, etc. on the kiosk." *Id.*, [0095]. "An advantage of this approach is that it enables administrators and store owners to make changes to the store offerings and customer interface without requiring any knowledge of the underlying code." *Id.* Further, it "eliminates the need for administrators to write their own code to develop the layout and behavior of the menus." *Id.*, [0100]. *Woycik* thus discloses and suggests

instructions to the administrative tool GUI (POS builder interface) for the creation/modification of POS screens (and thus creation/modification of POS terminals), are not formatted in programming code.

124. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 19.

P. Claim 21 ("The web-based point of sale (POS) builder system of claim 1, wherein the received information comprises one or more attributes of the one or more items")

125. As discussed for 1[c], *Woycik* discloses the central server receives information for creating/modifying buttons associated with items (including food items) and their attributes. *Woycik's* administrative tool includes "the same functions typically used to add, delete, and configure kiosks in the system, to make global settings (e.g., set time, sales tax percentage, receipt header and footer text), to create display screens (e.g., food ordering menus), to create a list of food items that are used on the different menu screens, and to **edit the various attributes of the food items (e.g., name, associated graphic, price)**." EX1004, [0079]. "The individual items or products available for sale are edited in the item editor" where the administrator can "configure the various food items and options." *Id.*, [0112]; *see also*, [0110]-[0113], Figs. 20-22:

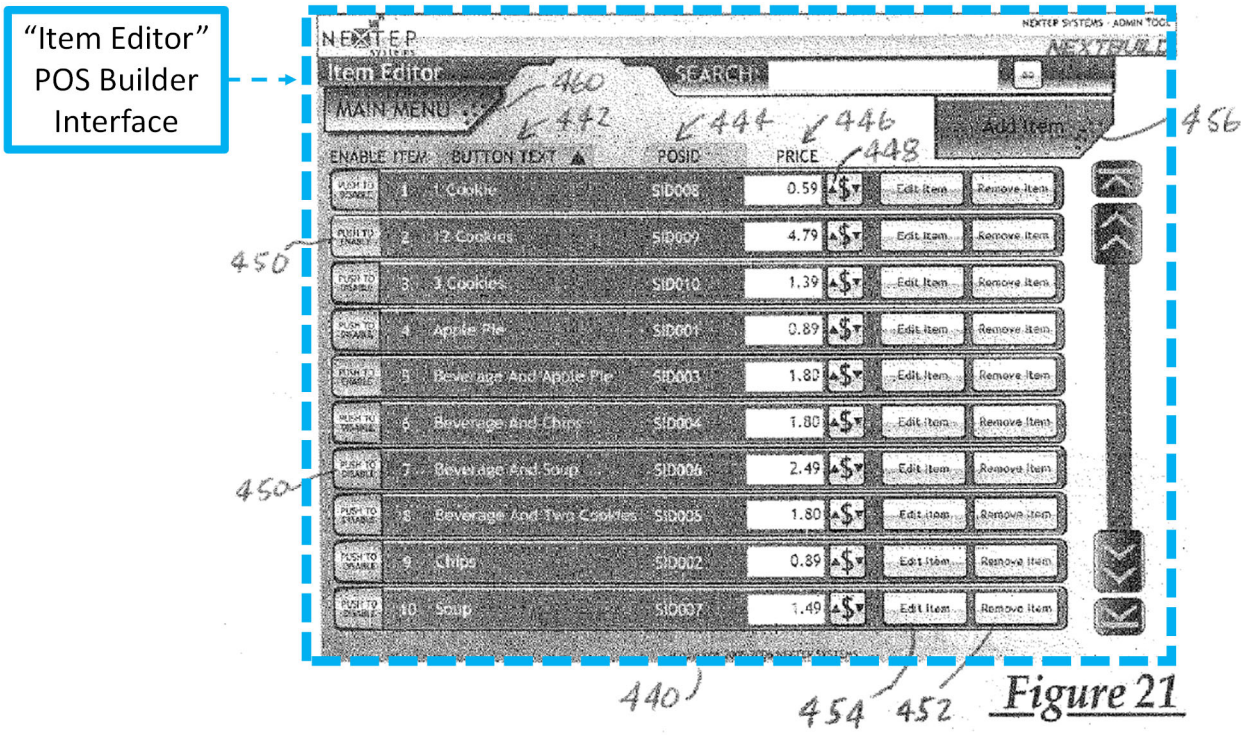


Figure 21

126. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 21.

Q. Claim 22 ("The web-based point of sale (POS) builder system of claim 1, wherein the POS terminals are configured to perform transactions independently of a connection with the network")

127. *Woycik* discloses that generally "a single store location will include at least one" local server kiosk 16/82 (POS terminal), and that some store locations "can have a simple one" kiosk setup and thus would have one network connection between kiosk 16/82 and central server 22/84. EX1004, [0071], [0074]. *Woycik* teaches "local server [kiosk 16/82] connects to the remote server [central server 22/84] periodically and stores the customer and order data in the centralized data repository." *Id.*, [0128]. That suggests, and it would be obvious, that some of the

time a store with a single POS terminal (kiosk 16/82) operates without an Internet 18 connection to the central server but is configured to perform transactions independently of that connection, store customer/order data locally, and then later reconnect to transmit the data to the central server. Further, it suggests that stores may have multiple local server kiosks 16/82 that would operate the same way. *Id.*

128. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 22.

R. Claim 23 ("The web-based point of sale (POS) builder system of claim 1, wherein the input interface element comprises a data interface for inputting at least some of said further information")

129. In *Woycik*, "[t]he primary components of each menu screen are **buttons** that allow the customer to make selections among available items and options." EX1004, [0100]. As explained in 1[c], those buttons are display interfaces associated with items. *Id.*, [0098], [0100], [0112], Figs. 4-9:

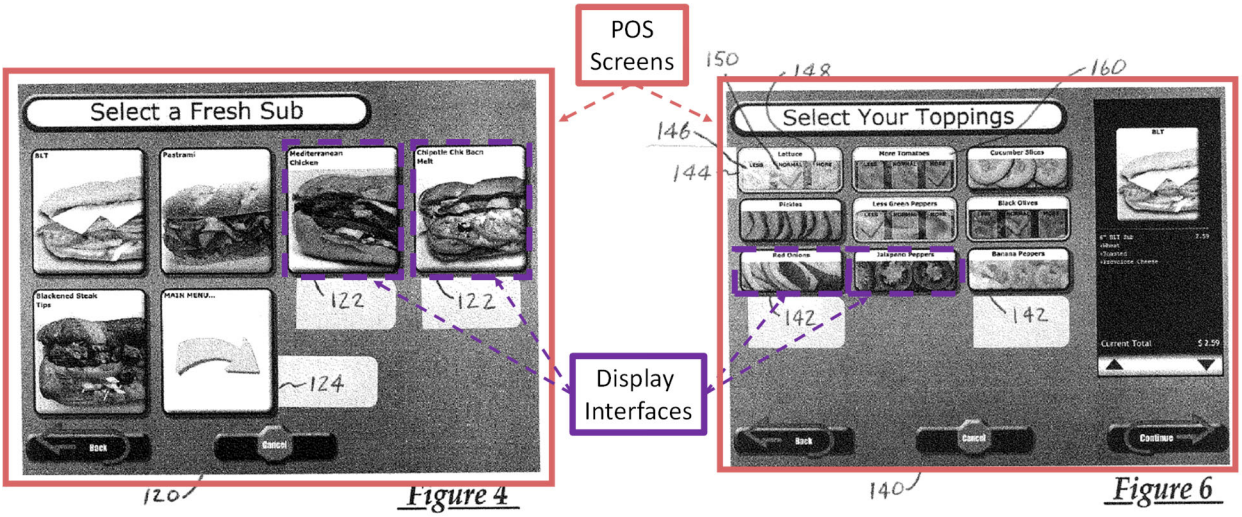


Figure 4 Figure 6

130. As explained in 1[d] and 1[g], the further information includes information regarding items ordered by a customer. Customers input that information using buttons (display interfaces) on the interactive menu (POS screen) at the POS terminal "to select and customize the desired food items, specify quantity, options, etc." *Id.*, [0073]. *Woycik* discloses multiple types of buttons, including "quantity buttons (Quantity), less/normal/more buttons (LNM), and none/normal/extra buttons (NNE)." *Id.*, [0083]-[0088], Figs. 6-9:

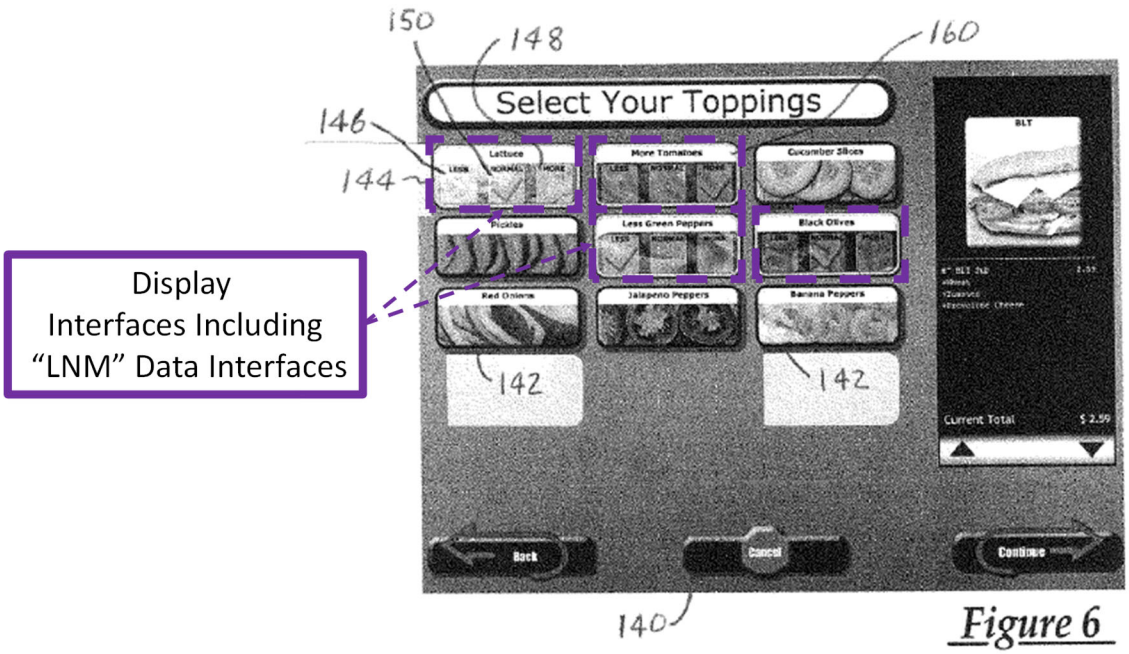


Figure 6

131. Such buttons thus are or include a data interface for inputting at least some of the further information (data) regarding an order/transaction, e.g., items and options selected (item add/update information). An additional use case in the fast-food context is whether to make a sandwich into a meal by adding a drink and a side. In the retail electronics context a common use case is to offer an extended warranty,

compatible accessories, or upgrades. Additionally, a POSITA would be motivated to include a display interface for text entry, e.g., to allow a customer to make special requests for further item customization. Users often have special requests that can easily be accommodated by the store but may not be anticipated by the POS administrator. Further, some special requests may be infrequently used, thus a POS administrator would not want to build these infrequent selections into a menu and instead would be motivated to simplify the screen design and include a text entry.

132. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 23.

S. Claim 24 ("The web-based point of sale (POS) builder system of claim 1, wherein to configure the one or more POS terminals comprises dynamically configuring the one or more POS terminals specific for the corresponding customer based on the one or more transactions by the corresponding customer")

133. As explained for 1[c], *Woycik* discloses several examples of dynamically configuring kiosks to display POS screens specific to individual customers based on "further information" received from the kiosks regarding POS transactions by the customer. The system may recognize returning customers using "a customer loyalty card" or "credit card" and create/modify the POS screens displayed based on such further information. *Id.*, [0028], [0089], [0091], [0140]-[0142]. For example, "FIG. 40 illustrates a customer recognition screen 860

displayed by the self-order application when a returning customer is recognized." *Id.*, [0142]:

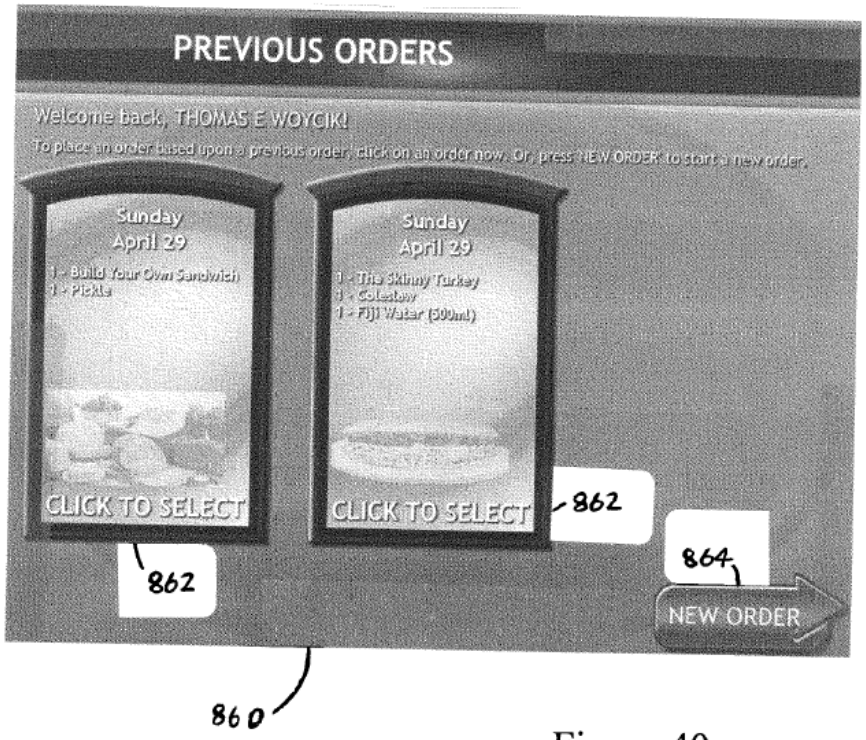


Figure 40

"The customer may choose to duplicate an entire previous order or individual items from that order," e.g., he "can simply select an item to customize (if desired) and add to his current order." *Id.*, [0089]. Further, "the system includes some button types … that have dynamically generated content based on the customer's order." *Id.*, [0103].

134. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 24.

T. Claims 25 ("The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is configured to create or modify at least one of: a position or operation of a first display interface of the one or more display interfaces, wherein the first display interface comprises an input interface element") and 26 ("The web-based point of sale (POS) builder system of claim 25, wherein the input interface element comprises a touch screen input interface element")

135. As explained in 1[c] and claim 10, *Woycik* discloses the administrative tool GUI (POS builder interface) is configured to create/modify the layout of the POS screens, including the position and operation of buttons (display interfaces). Buttons can be added individually or from a template that defines "the overall layout of the menu such as the number and types of buttons, and **placement of buttons**." EX1004, [0100]; *see also*, [0101]-[0107], Figs. 14-19:

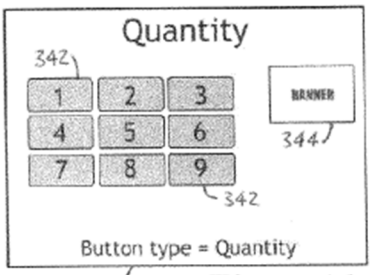


Figure 14

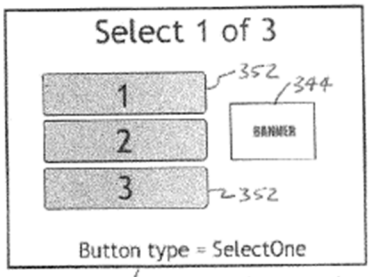


Figure 15

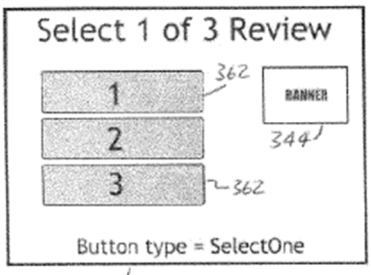


Figure 16

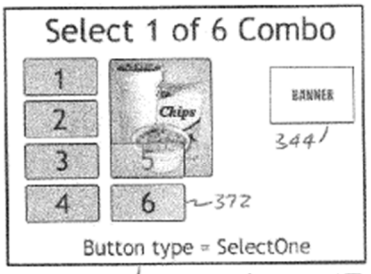


Figure 17

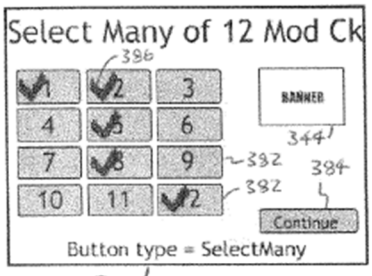


Figure 18

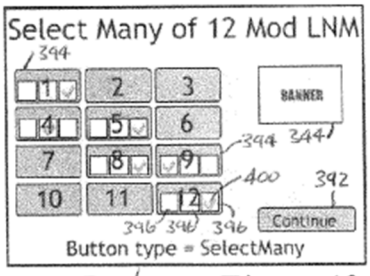


Figure 19

Further, the button operation or "behavior (e.g., how the system responds to the button being pressed)" can be configured. *Id.*, [0102], [0100], [0108].

136. As explained for claim 23, *Woycik* discloses buttons (display interfaces) that are themselves and/or include input interface elements such as "LNM" data interfaces. *Id.*, [0073], [0083]-[0088], Figs. 6-9:

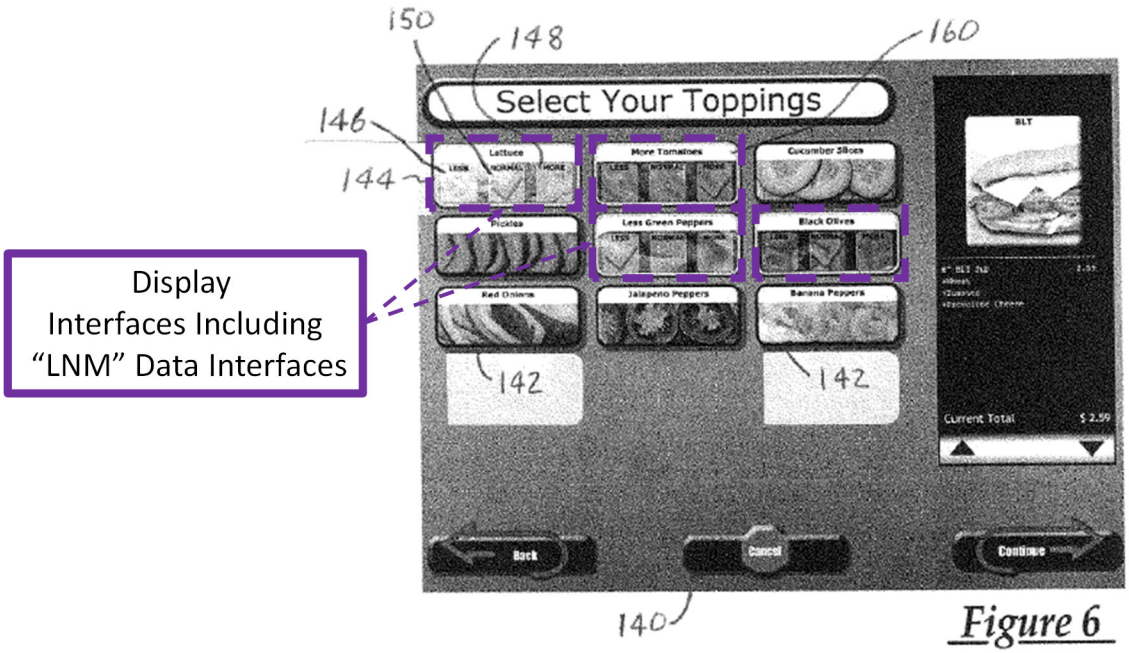


Figure 6

Woycik's POS terminals include "a display screen having a touch screen for accepting user input." *Id.*, [0014], *see also*, [0077]-[0078], [0089]. The buttons thus include touch screen input interface elements.

137. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 26.

U. Claim 27

138. Claim 27 is similar to claim 1, but drafted from the perspective of a POS terminal rather than a server. Similar elements are obvious for the same reasons as in claim 1 and as explained below.

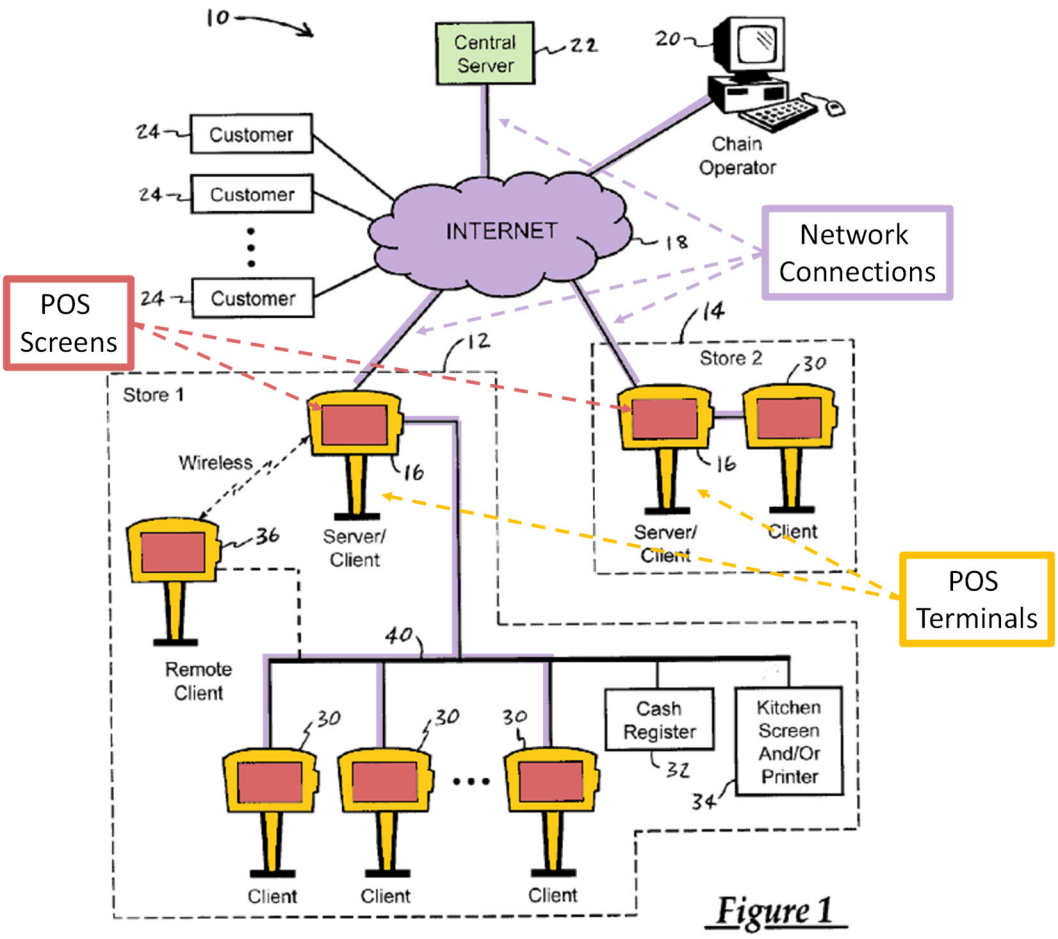
1. 27[pre] ("A web-based point of sale (POS) builder system comprising")

139. *See* 1[pre], XII.A.1.

140. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 27[pre].

2. 27[a] ("at least one POS terminal configured to: display one or more POS screens") and 27[b] ("communicate with at least one server over a network comprising the Internet")

141. *See* 1[a]-1[b], XII.A.2. *See also*, EX1004, [0071], Fig. 1:

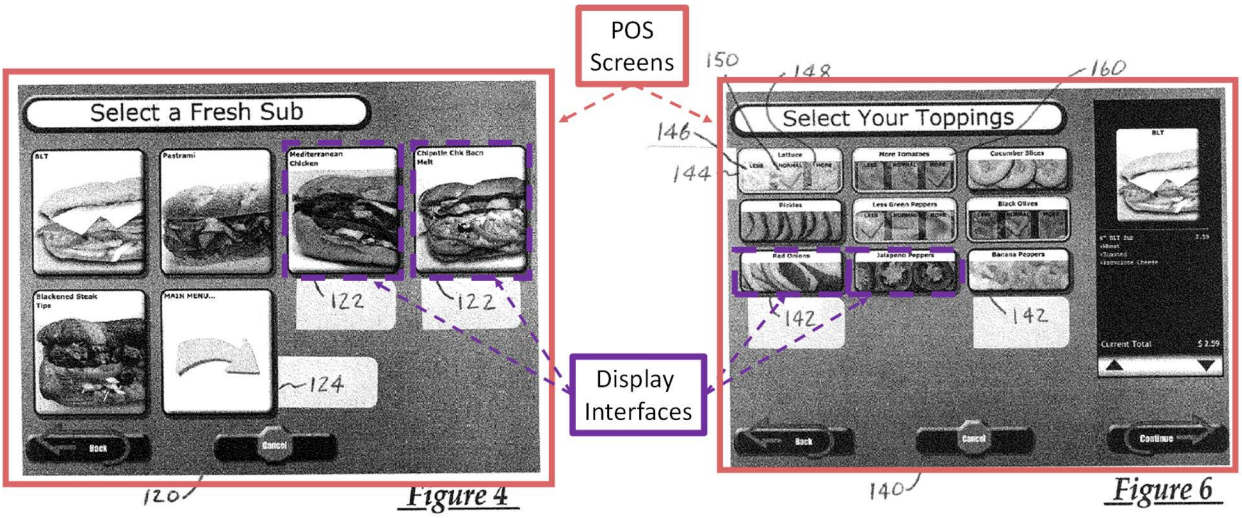


142. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 27[a] and 27[b].

3. 27[c] ("receive, over the network from the at least one server, information used for creating or modifying the one or more POS screens including creating or modifying one or more display interfaces for display on the one or more POS screens, the one or more display interfaces being associated with one or more items")

143. This limitation is similar to 1[c], but recites a POS terminal receiving information from the server rather than a server receiving information from a POS builder interface. That difference is addressed below. The remaining limitations of 27[c] are obvious for the same reasons explained for 1[c].

144. As explained in 1[c], central server 22/84 receives from the POS builder interface information used for creating/modifying interactive menus (POS screens), including creating/modifying buttons (display interfaces) on POS screens associated with food items. EX1004, Abstract, [0013], [0016]-[0017], [0073], [0079], [0100]-[0107], Figs. 4-9:



145. As explained for claim 16, *Woycik's* configuration changes (e.g., menu/item changes) made over the Internet with the administrative tool at central server 22/84 are saved to the central server, then pushed to POS terminals at local stores. *Id.*, [0115], [0076], [0122]. Kiosks 16/82 (POS terminals) thus receive that information from central server 22/84 over the network comprising the Internet.

146. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 27[c].

4. 27[d] ("perform one or more transactions with respect to the one or more items")

147. *Woycik* discloses POS terminals are "used directly by the customer to order goods" and complete "the transaction (order, payment, etc.)." EX1004, [0006]-[0007]; *see also*, [0074], [0089]-[0092]. "Once an order is placed, regardless if at a kiosk or through a web client, the system generates a kitchen build for each item in the order." *Id.*, [0094]; *see* 1[d], 1[g], XII.A.4.

148. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 27[d].

5. 27[e] ("transmit, from at least one of the one or more POS terminals over the network, further information regarding one or more POS transactions corresponding to the one or more items") and 27[h] ("wherein said one or more POS transactions relate to one or more transactions by corresponding customers respectively associated with at least one of said one or more POS terminals")

149. *See* 1[d], 1[g], XII.A.4.

150. As explained in 1[d], the POS transactions and the further information regarding POS transactions relate to transactions by corresponding customers using respective POS terminals to order items, and the further information is transmitted from the POS terminal and received and stored at the central server. EX1004, [0028], [0030], [0089]-[0092].

151. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 27[e] and 27[h].

6. 27[f] ("create or modify based on the received information or further information the one or more POS screens")

152. *See* 1[e], XII.A.5.

153. Additionally, 27[f] allows a POS terminal to create or modify POS screens "based on the received information ***or*** further information." As explained for 1[e], *Woycik* discloses POS terminals configured to create and modify POS screens based on information provided by a manager using the administrative tool ***and*** based on further information about POS transactions transmitted from POS terminals to the central server.

154. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 27[f].

7. 27[g] ("wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information")

155. *See* 1[f], XII.A.6.

156. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 27[g].

V. Claims 28, 31-38, 40-41

157. These claims recite similar limitations to those depending from claim 1 and are obvious for the same reasons. The following chart identifies the corresponding claims with additional argument/support to address differences.

Claim 28	Claim 3, XII.A.C
Claim 31	Claim 9, XII.A.D
Claim 32	Claim 10, XII.A.G
Claim 33	Claim 15, XII.A.K
Claim 34	Claim 16, XII.A.L Claim 34 is like claim 16 but from the perspective of the POS terminal rather than the server. As explained for claim 16, *Woycik's* administrative tool can be used to create/modify POS screens on the server in real time while the POS terminal/kiosk is in use by a customer, then the server pushes the changes down to reconfigure the terminal/kiosk to display new/modified POS screens after the transaction is complete.

Claim 35	Claim 17, XII.A.M
Claim 36	Claim 21, XII.A.P
Claim 37	Claim 4, XII.A.D
Claim 38	Claim 22, XII.A.Q Claim 38 is like claim 22 but adds additional limitations regarding transmitting the information regarding POS transaction to the server after the transaction is complete and the POS terminal establishes a connection to the server. *Woycik's* central server is also a web server. EX1004, [0076], [0081], [0093]. As explained for claim 22, *Woycik's* POS terminals/kiosks can perform transactions, store information locally, and then later establish a connection to central server 22 and upload the transaction data periodically. *Id.*, [0128]. That suggests and renders obvious performing the transactions without a connection to the server, e.g., for a store with a single POS terminal.
Claims 40-41	Claim 25-26, XII.A.T

158. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claims 28, 31-38, 40-41.

W. Claim 39 ("The web-based point of sale (POS) builder system of claim 38, wherein the at least one POS terminal is further configured to store locally the information regarding the one or more transactions")

159. As explained for claims 22 and 38, *Woycik's* kiosks 16/82 can perform transactions, store transaction data locally, and then periodically establish a connection to central server 22 and upload the transaction data. EX1004, [0128], see also, [0093].

160. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 39.

X. Claim 42

161. Claim 42's method steps are similar to the functions of claim 1's system, but omits the server limitation (hence numbering discrepancy) and is obvious for the same reasons.

42[pre]	1[pre], XII.A.1.
42[a]	1[a]-1[b], XII.A.2.
42[b]	1[c], XII.A.3.
42[c], 42[f]	1[d], 1[g], XII.A.4.
42[d][6]	1[e], XII.A.5.
42[e]	1[f], XII.A.6.

162. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 42.

Y. Claim 43

163. Claim 43's method steps are nearly identical to the functions of claim 27's system. The following chart identifies the corresponding limitations of claim

[6] Limitation 42[d] replaces "configure" with "provisioning," a broad term without meaningful distinction here.

27, which in turn reference claim 1 for several limitations (parallel references to claim 1 are provide for convenience).

43[pre]	27[pre], XII.U.1 (1[pre], XII.A.1)
43[a]-43[b]	27[a]-27[b], XII.U.2 (1[a]-1[b], XII.A.2)
43[c]	27[c], XII.U.3 (1[c], XII.A.3)
43[d]	27[d], XII.U.4
43[e], 43[h]	27[e], 27[h], XII.U.5 (1[d], 1[g], XII.A.4)
43[f]	27[f], XII.U.6 (1[e], XII.A.5) As explained for 1[e] and 27[f], *Woycik* discloses POS terminals configured to create and modify POS screens based on information provided by a manager using the administrative tool ("received information" of 43[f]) ***and*** based on further information about POS transactions transmitted from POS terminals to the central server ("transmitted information" of 43[e]).
43[g]	27[g], XII.U.7 (1[f], XII.A.6)

164. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 43.

Z. Claim 44

165. Claim 44 recites similar limitations to claim 1, but more broadly claims "creating or modifying *functionality of the one or POS terminals*" (44[c]). *Woycik's* disclosure regarding creating and modifying a series of interactive POS screens and buttons displayed on POS terminals/kiosks (including button behavior/functionality) renders obvious the broader limitations regarding functionality for the same reasons

as explained for claim 1. Additionally, *Woycik's* button functionality or "behavior (e.g., how the system responds to the button being pressed)" can be configured. EX1004, [0102], [0100], [0108]. The following chart identifies the corresponding limitations.

44[pre]	1[pre], XII.A.1.
44[a]-44[b]	1[a]-1[b], XII.A.2.
44[c]	1[c], XII.A.3.
44[d], 44[g]	1[d], 1[g], XII.A.4.
44[e]	1[e], XII.A.5.
44[f]	1[f], XII.A.6.

166. Accordingly, it is my opinion that *Woycik* discloses and suggests the limitations of claim 44.

XIII. GROUND 2: *TENGLER* IN VIEW OF THE KNOWLEDGE OF A POSITA RENDERS OBVIOUS CLAIMS 1-4, 7-28, AND 31-44

A. Claim 1

1. 1[pre] ("A web-based point of sale (POS) builder system comprising")

167. *Tengler* discloses an order processing/management system for use in restaurants/stores. EX1005, [0002]-[0006], [0024], [0026]. It includes a server and point-of-sale "stations enabling users to enter orders" and "a network interconnecting the stations," which may be "a Transmission Control Protocol/Internet Protocol (TCP/IP) network" (e.g., the Internet). *Id.*, [0011], [0014], [0078]. Cashiers may use "order terminals 52 to enter orders" and customers may use "self-service kiosks 74." *Id.*, [0062], [0074], [0075]; Fig. 2:

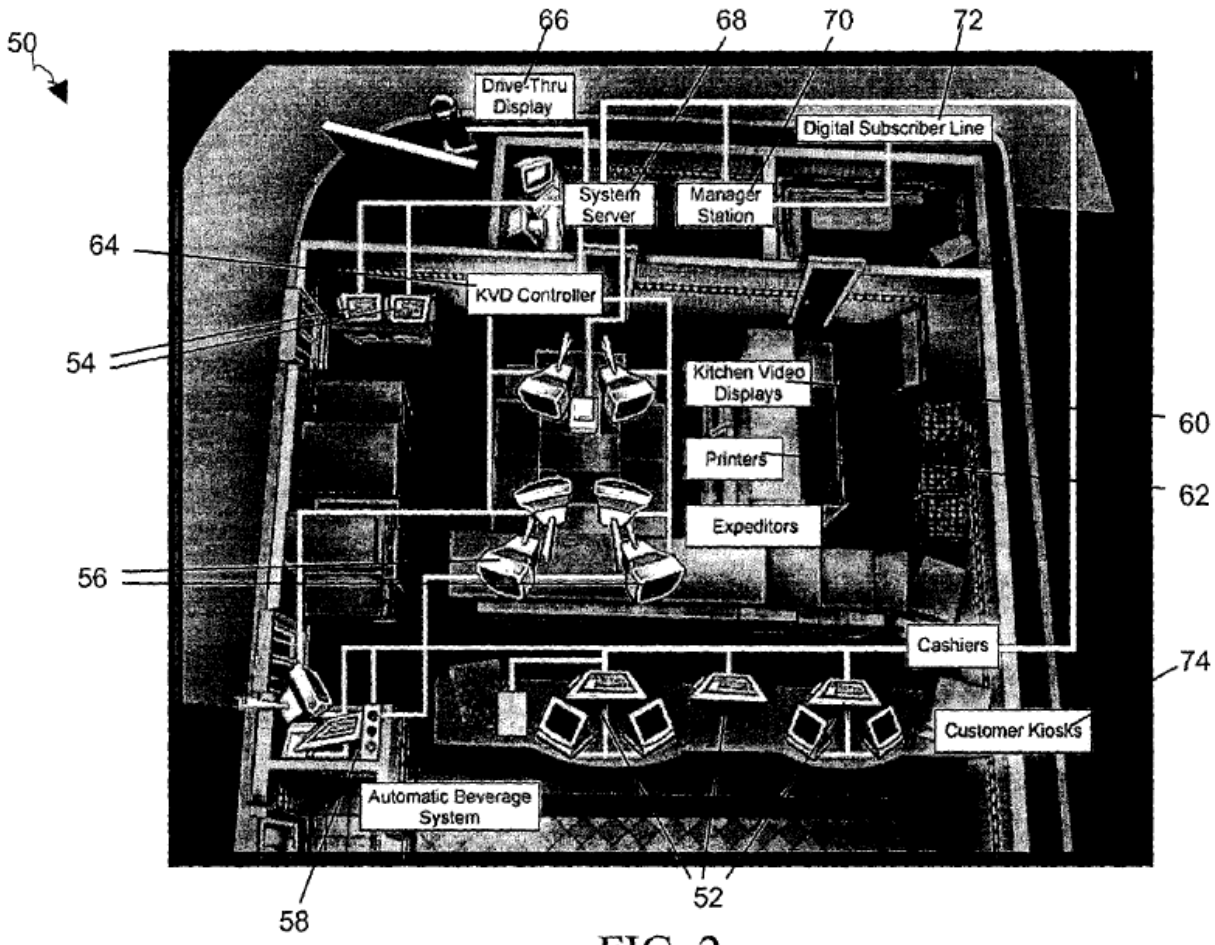


FIG. 2

168. *Tengler's* system is web-based because it allows "a manager to access a management database of a quick-serve restaurant location remotely through a web interface" "over the Internet." *Id.*, [0022], [0073], Cl. 42, Figs. 7, 7A, 7B. As explained further for 1[c], *Tengler* discloses a POS builder system because it includes "user interface designer 614 [that] allows management to edit the user interface of the register and self-service applications and also saves the specifications in the database 602. In this manner, the user interface designer 614 enables the restaurant management software to be configured for different stores and

different brands without having to do a complete redesign." *Id.*, [0103], [0107]; *see also* [0121]. "Graphical User Interface (GUI) design objects 756 implement the logic for the user interface designer 614." *Id.*, [0121].

169. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of 1[pre].

2. 1[a] ("at least one server configured to") and 1[b] ("communicate with one or more POS terminals over a network comprising the Internet, wherein the one or more POS terminals are configured to display one or more POS screens")

170. *Tengler* discloses the "restaurant management software run[s] on server 464," which communicates with other in-store devices "using network 462" and is accessible "over the Internet." EX1005, [0073], [0078], [0109]-[0111]. Server 464 "runs the system server software 604, the database 602, the store-resident web server software 620, the production display service 609, and the drive-through display service 610." *Id.*, [0115]-[0116], Fig. 15:

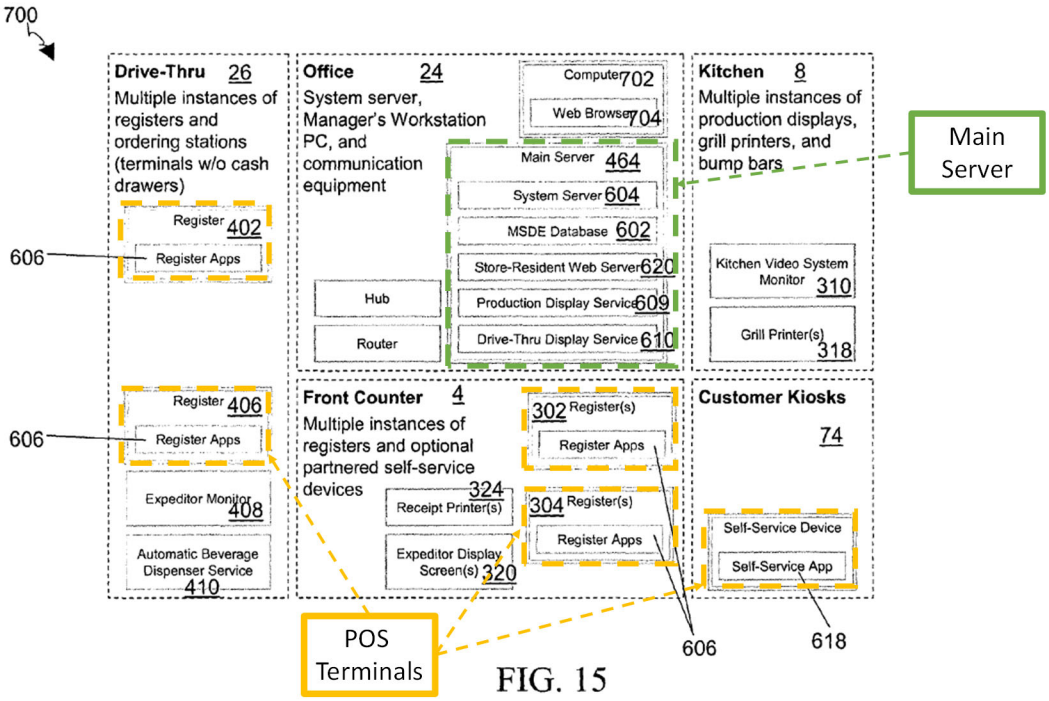


FIG. 15

171. As explained for 1[pre], *Tengler* discloses "stations enabling users to enter orders" (POS terminals) and "a network interconnecting the stations." *Id.*, [0011], [0014]; *see also* Fig. 2 (order terminals 52). POS terminals/stations (e.g., "cashier stations 302, 304, 382, 402 [sic, 404], order entry stations 370, 372, 374," and "customer self-service kiosks 74") "are linked together using a network 462 (shown in FIG. 12)," which may be "a Transmission Control Protocol/Internet Protocol (TCP/IP) network" (e.g., the Internet). *Id.*, [0077]-[0078]; *See* also, Figs. 11-12:

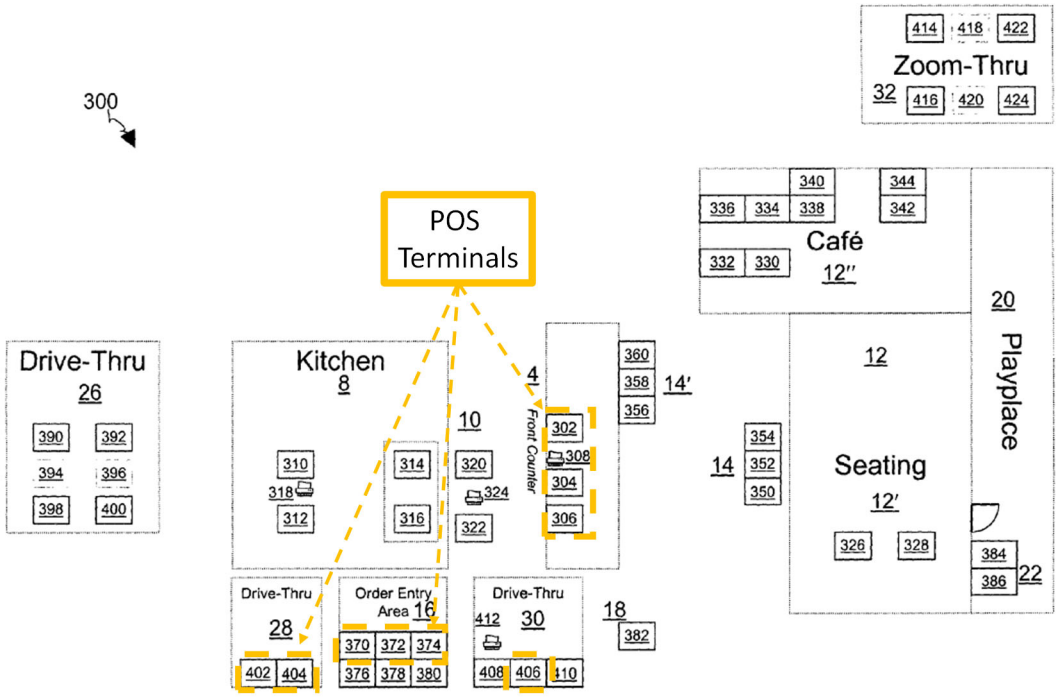


FIG. 11

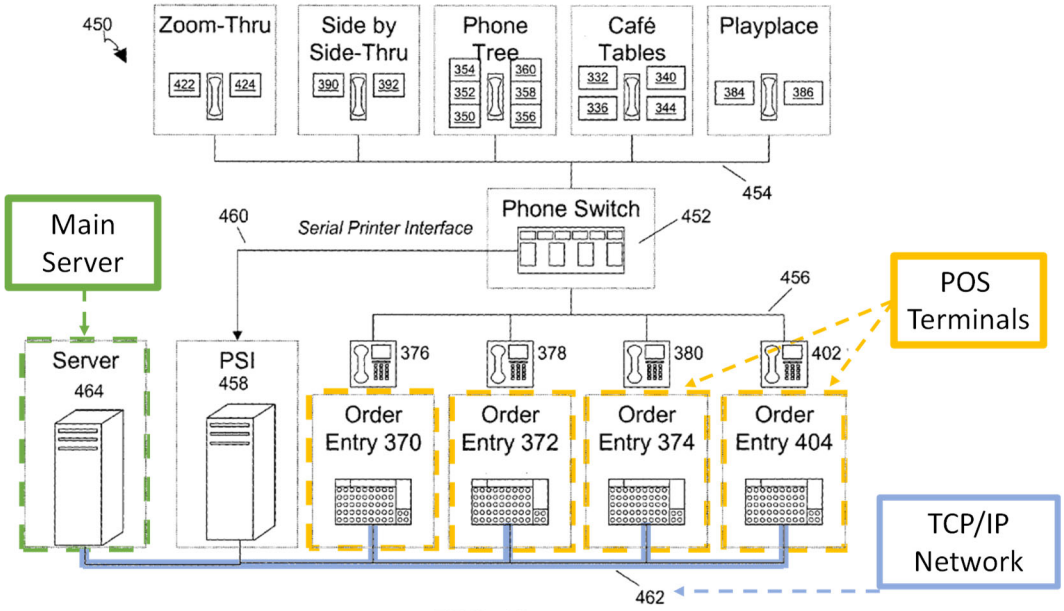


FIG. 12

Tengler further teaches that POS terminals in a remote call center communicate with server 464 via a remote proxy session (*id.*, [0060], [0114]) and managers can access server 464 "over the Internet" (*id.*, [0073], [0109]-[0111]). *Tengler* thus discloses

and suggests that the network interconnecting *Tengler*'s devices (manager computers, main server 464, and POS terminals) includes the Internet between at least some of its nodes (it is a network comprising the Internet).

172. Additionally, *Tengler* discloses that a central server may be used for "enterprise management of multiple restaurants," including by "provid[ing] features to manage a set of restaurants 2." EX1005, [0108]. By 2008, a POSITA would know the Internet was a well-understood and routine way to implement a TCP/IP connection between nodes of a network, including between a shared central server and its clients. A POSITA would be motivated to use the Internet to connect the central (web) server to in-store POS terminals (e.g., via server 464) to provide a simple, ubiquitous, and inexpensive network connection to stores in different locations managed from the central server. Internet connections would have been understood as a commodity or utility offering in the 2008 timeframe and would have been far easier to setup and configure than alternative long distance networking technologies, such as a proprietary WAN. The Internet was the most logical and economical option from among a finite number of predictable network options. A POSITA would be motivated to locate software and functionality common to multiple restaurants at the central server to facilitate *Tengler's* suggested "centralized point of control for enterprise management of multiple restaurants." EX1005, [0108]. For example, locating the POS builder and database functionality

at the central server would enable a manager to update menus at multiple locations quickly and efficiently, and centralizing database functionality at the central server would provide accounting and reporting functionality for multiple restaurants from a single database. Installing *Tengler's* POS builder on an Internet-connected central server would also eliminate the need for redundant POS builder software at restaurants with multiple locations (e.g., a franchisee with multiple locations and common menus). In such an arrangement, the central server would communicate with POS terminals (e.g., to update POS screens and to receive order/customer data) over a network comprising the Internet and network 462. This simplified arrangement would have been easier to maintain from an information technology perspective and would have made it easier for an administrative user to maintain multiple locations, for example to roll out price or menu changes across a single franchisee's multiple locations.

173. *Tengler's* POS terminals/stations/kiosks display POS screens. *Tengler* discloses employees/cashiers "use a graphical user interface 100 displayed on the order terminals 52, to enter orders" and "graphical user interface 125 displayed on the order terminals 52 to enter payment." EX1005, [0062]; *see also* [0026], [0032]-[0033]; Figs. 3-4:

FIG. 3

FIG. 4

"Telephone order takers at the call center use the same interface 100 as order takers in restaurant 2 to enter customer orders." *Id.*, [0114]. Similarly, "[c]ustomer self-service kiosks 74 enable customers to enter orders" themselves, e.g., via "an interface 200 on a touch screen" and "interface 220 enables the customer to add different food items to the order." *Id.*, [0074]-[0076]; Figs. 8-9:

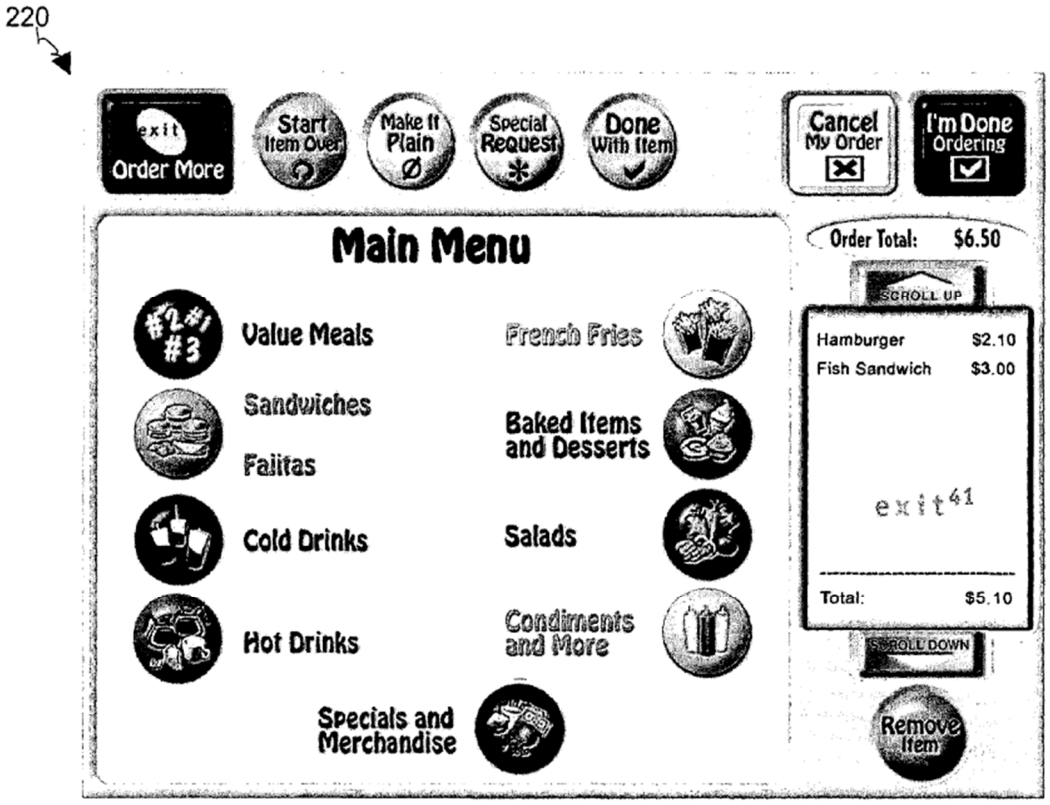


FIG. 9

Customers may also pay "by swiping a credit card at the customer self-service kiosk." *Id.*, [0055].

174. Accordingly, it is my opinion that *Tengler* discloses and suggests limitations 1[a]-1[b], and further renders them obvious in view of the knowledge of a POSITA.

3. 1[c] ("receive, over the network from a POS builder interface, information used for creating or modifying the one or more POS screens including creating or modifying one or more display interfaces for display on the one or more POS screens, the one or more display interfaces being associated with one or more items")

175. *Tengler* discloses a POS builder as "user interface designer 614"[7] remotely accessible via web server 620. EX1005, [0103], [0107], [0121]. Managers access the POS builder through manager graphical user interfaces such as 190, 192, and 196 (POS builder interface), which are accessible via Internet communication with server 464 (over the network including the Internet). EX1005, [0073], [0103], [0107], [0109]; Figs. 7, 7A-7B.

176. As explained for limitations 1[a]-1[b], main server 464 includes web server software 620 and database 602. *Id.*, [0115]-[0116], Fig. 15. "The store resident web server 620 also allows managers to edit the user interface of the register [606] and self-service applications [618] and also saves the specifications in the database 602." *Id.*, [0103], [0107]; *see also* [0073]. The server thus receives information over the network from the POS builder interface used to create/edit user interfaces of register and self-service applications (POS screens). Server 464 then configures POS terminals running register application 606 and self-service

[7] References herein to "user interface designer" include related software and system objects. *See* EX1005, Fig. 16, [0121].

application 618 to display the new/modified POS screens. *Id.*, [0103], [0107], Fig. 15:

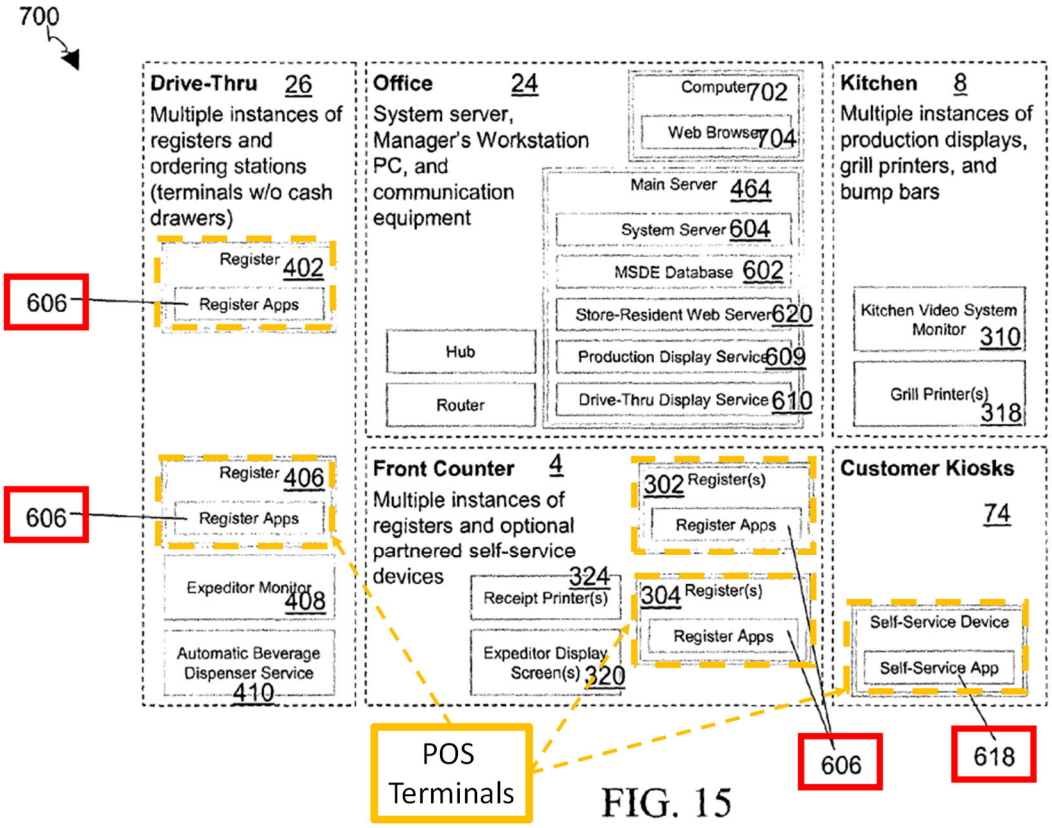


FIG. 15

177. For example, managers can "modify menus and change prices using interfaces 192 and 196." *Id.*, [0073]. The "product editor" screen of interface 192 lists various categories that can be modified/edited (including recipe, item type, product info, and pricing) and options for adding new products and copying existing products. *Id.*, [0073]; Fig. 7A:

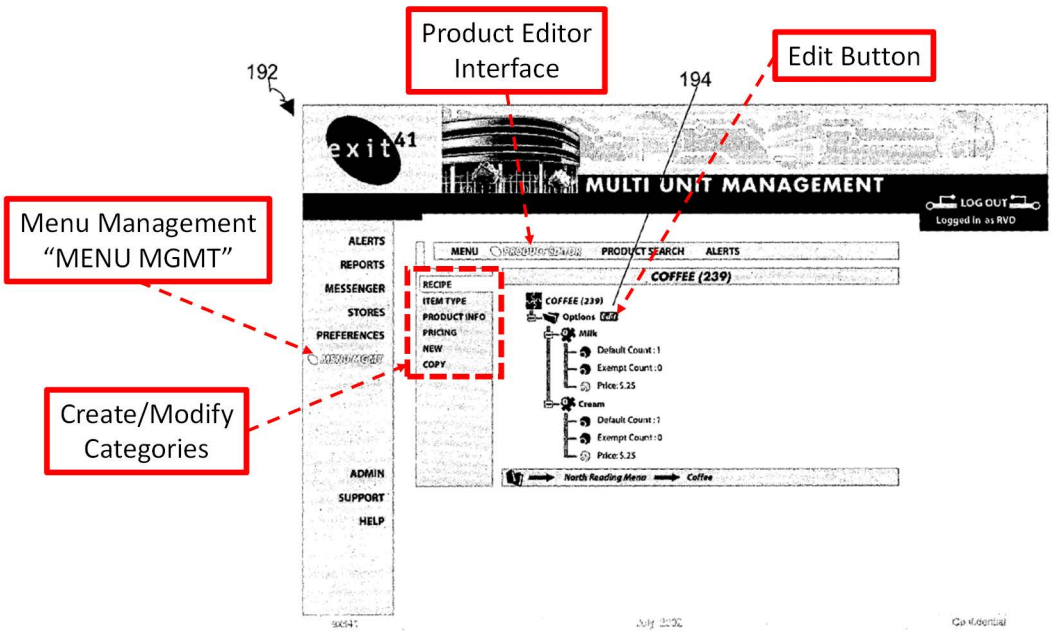


FIG. 7A

The "MENU MGMT" screen of Interface 196 includes options for managing and modifying menus, items, "discounts," and "merchandise." EX1005, Fig. 7B:

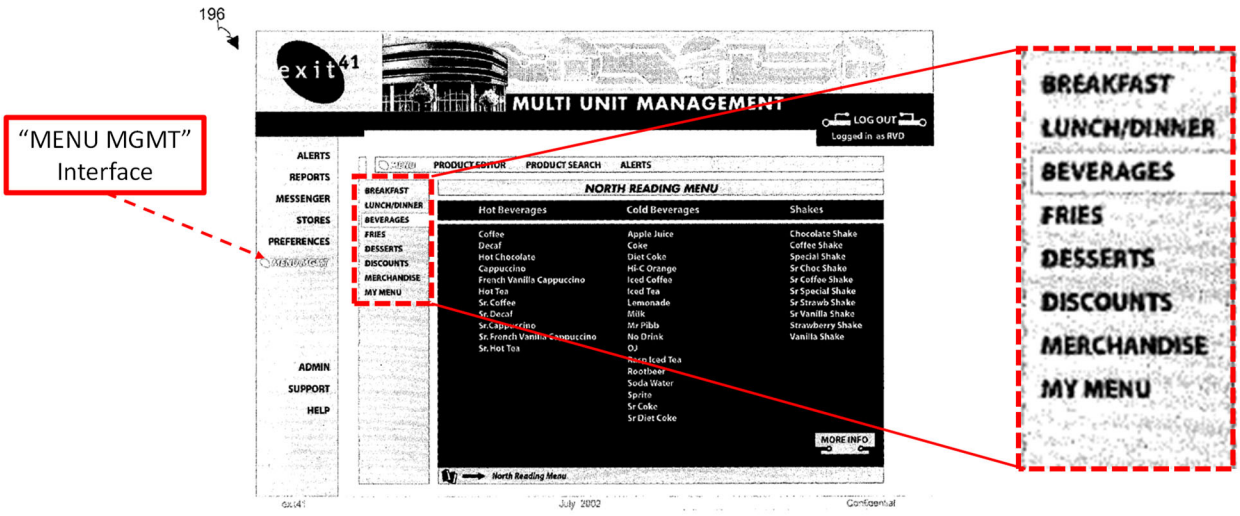


FIG. 7B

178. Using POS builder interfaces such as 192 and 196, managers provide information used to create/modify items associated with buttons displayed on POS

screens. *See* §XIII.2; EX1005, [0062], [0074]-[0076], [0032], [0040]. *Tengler* discloses various layouts of circular, square, and rectangular buttons (display interfaces) of POS screens associated with items for sale and placing orders, and also display interfaces associated with order information (items, price, tax, total, etc.). *See id.*, Figs. 3-4, 8-10. Figs. 3, 9:

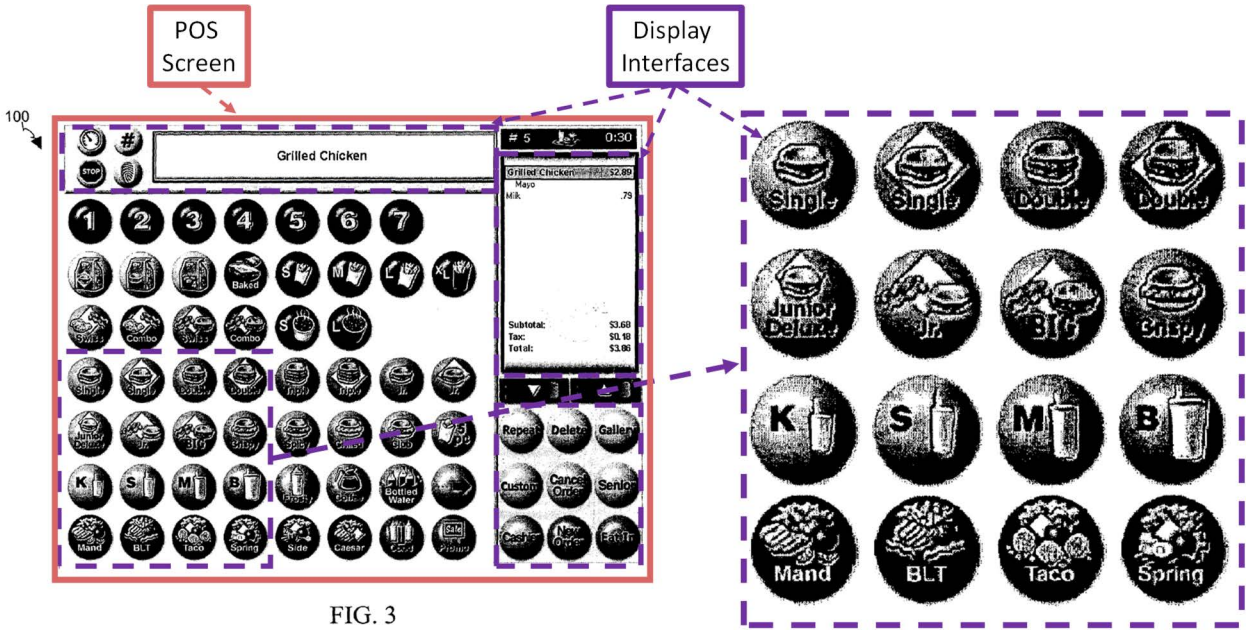


FIG. 3

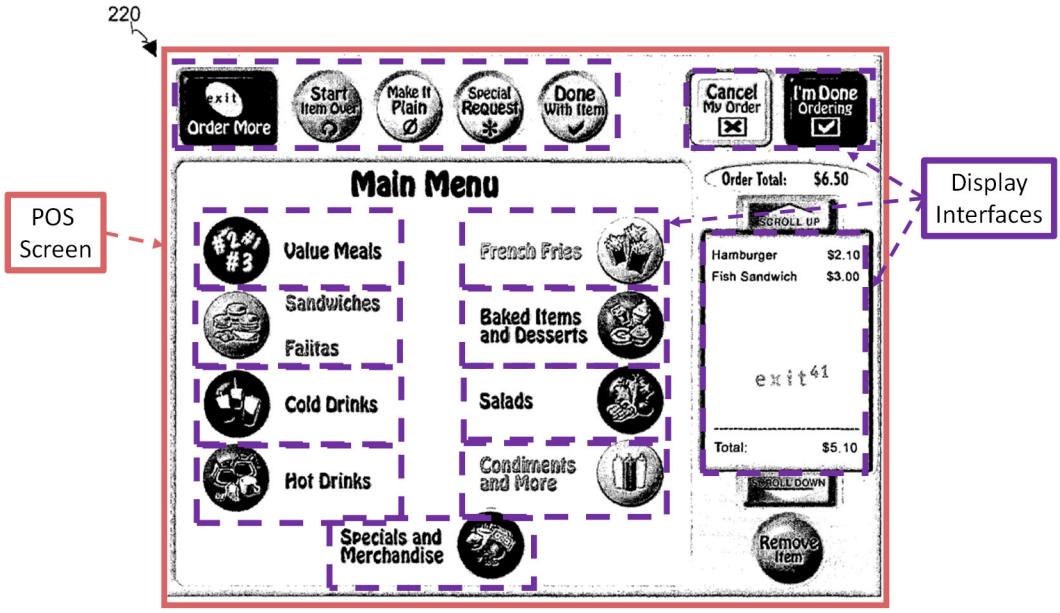


FIG. 9

179. *Tengler* thus discloses and suggests interfaces 192 and 196 allow managers to create/modify POS screens displayed on POS terminals, including by providing information used to create or modify display interfaces (buttons and their associated text/labels) associated with new/modified menu and other categories/items (food, discounts/specials, and merchandise). When managers add or remove items (and/or their associated attributes/options) from a menu, such interfaces (192/196) would provide information to the server used to modify POS screens (including screen layouts and hierarchies, buttons, and item names/prices). *Id.* For example, adding a new food/beverage category, item, or option would create a new or modify an existing button/key on the POS screens for displaying the new category/item/option. *Id.* (citing Fig. 9 (showing categories of items for sale) & Figs. 3/4 (POS screens with "Grilled Chicken" with "Mayo" added to order)).

Additionally, a POSITA would understand modifying an item name would in turn modify the button on the series of POS screens associated with that item (e.g., if the button for "Bottled Water" in Fig. 3 was edited to "Water"). *Id.*

180. *Tengler* thus discloses and suggests server 464 receiving, from a POS builder interface over the network comprising the Internet, information used to create/modify POS screens, including information used to create/modify display interfaces (buttons) associated with items.

181. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of 1[c].

4. 1[d] ("receive, from at least one of the one or more POS terminals over the network, further information regarding one or more POS transactions corresponding to the one or more items") and 1[g] ("wherein said further information regarding the one or more POS transactions relate to one or more transactions by corresponding customers respectively associated with at least one of said one or more POS terminals")

182. Server 464 receives, via the network, further information regarding POS transactions from ordering stations/kiosks (POS terminals) used by employees and customers to order items. For example, database 602 of server 464 "maintains a complete history of orders for a long period of time for later analysis and display." EX1005, [0089]. Figure 17 illustrates "an example of an object-oriented data structure for an order" corresponding to items purchased. *Id.*, [0125], Fig. 17:

802 Class	804 Guest Check		Level 806
808 Order	Order #591456		0
ItemLine	810 1 Hamburger	2.29	1
OptionLine	812 *no onions*		2
OptionLine	814 *extra mustard*		2
ItemLine	816 2 EVM #1 SS	9.78	1
ComponentLine	818 Dbl QP/Cheese		2
OptionLine	824 *side pickles*		3
ComponentLine	820 SS Fries		2
OptionLine	826 *no salt*		3
ComponentLine	822 SS Coke		2
ItemLine	1 Lg Coke	1.29	1
SubtotalLine	Subtotal	13.36	1
TaxLine	MA Tax 5%	0.67	1
TotalLine	Total	14.03	1
TenderedLine	Cash Tendered	20.00	1
ChangeLine	Change	5.97	1

FIG. 17

An object-oriented class definition encapsulates definitions of data and functions relating to a class of software objects. Object oriented programming (OOP) can ease system programming by providing implementation specific details as appropriate to specific classes of objects. For example, a Guest Check might have an amount tendered ("TenderedLine" in Fig. 17) and might have a method for TenderPayment. If the payment is cash, the system might invoke a more specific implementation of a Guest Check object called Cash Guest Check. The TenderPayment method would

likely prompt the user to enter the payment amount (e.g., a $20 bill), open the cash drawer, and display the change due (e.g., $5.97). If the payment is credit, the system might invoke a more specific implementation called Credit Guest Check. The TenderPayment method for a credit card payment might prompt the user to swipe a card through a mag reader and sign the screen with their finger. The POS system need only know the names of the specialized guest check class definitions and can call the TenderPayment method without knowing anything else about the underlying details of that payment type. *See* EX1005, [0121] (explaining that object-oriented programming allows implementation details to be isolated so an object definition corresponding to a device, e.g., a bump bar for signaling completing of an order, from one vendor does not change if a different vender begins offering a similar kitchen input device). *Tengler* identifies Java as a suitable object-oriented programming environment.

183. *Tengler* discloses all this further information about customer transactions (e.g., items ordered, options selected, prices, tax, total) is transmitted from POS terminals over the network and stored in a database of server 464. *Id.*, [0049]-[0051], [0055], [0058], [0089], [0116], [0121]. *Tengler* discloses and suggests such information relates to transactions by corresponding customers respectively associated with POS terminals because employees and customers use

POS terminals to enter customer orders and because, as explained below, customer images are associated with their respective orders.

184. *Tengler* also discloses and suggests 1[b] and 1[g] by "receiving an electronic image of a customer, and associating the electronic image with an order of a customer," which "is captured at the ordering location." EX1005, [0017]-[0019]. When customers "directly place orders using customer self-service kiosks" where they can also make payment "the kiosk takes a picture of the customer with a digital camera and enters the image into the database, linked to the order." *Id.*, [0055]; *see also* Cls. 16, 19, 21-22, 36. Additional examples include, "an order number 132, the contents of the order 134," changes to the order, and "information about the location of the customer placing the order." *Id.*, [0063], [0079], Cl. 37; *see also* [0051], [0083], [0125]-[0127]. When an order is created or updated, server 464 receives information regarding "the current time," the POS terminal/station "that issued the update, and the worker using the station." *Id.*, [0128].

185. Thus, *Tengler* discloses and suggests server 464 receives from POS terminals over the network further information regarding POS transactions corresponding to items (1[d]) that is related to transactions by corresponding customers respectively associated with the POS terminals (1[g]).

186. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of 1[d] and 1[g].

5. 1[e] ("configure the one or more POS terminals with the information over the network to create or modify based on the further information regarding one or more POS transactions the one or more POS screens displayed on the one or more POS terminals")

187. As explained for limitations 1[a]-[c], server 464 configures stations/kiosks (POS terminals) to display POS screens based on information provided from manager user interfaces (POS builder interface) over the network comprising the Internet. EX1005, [0073], [0103], [0109], [0115]-[0116], Fig. 15. *Tengler* also discloses and suggests server 464 configures POS terminals with information from the POS builder interface to create/modify a series of POS screens based at least in part on further information provided by employees/customers relating to orders (e.g., user selections) and received/stored by server 464.

188. For example, "interface 220 enables the customer to add different food items to the order" and to "add more food to the order by clicking on a button 234." *Id.*, [0076], Figs. 9-10. During the ordering process, in which the customer inputs this "item add/update information" as the "further information," POS terminals display successive POS screens with such items (and options/prices) added to the order. *See id.*, Figs. 3-4, 9-10 (displaying selected items, options, and prices);

189. When paying for an order, the POS screen is modified to include details of the order (e.g., items, options, price, tax, etc.) based on user selections, which is

further information about the transaction transmitted to server 464 as part of order information. EX1005, [0062], Fig. 17, Fig. 4:

FIG. 4

The same applies for self-service kiosks. EX1005, [0076], Fig. 10:

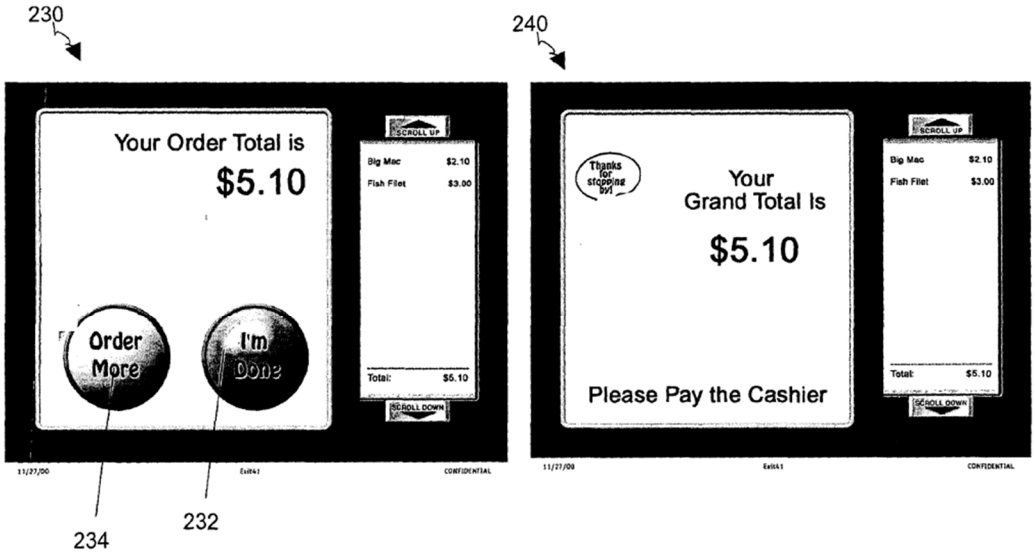


FIG. 10

190. As another example, *Tengler* discloses and suggests interface 196 allows managers to create/modify menu categories and sub-categories and items/options, thus creating/modifying hierarchical POS screens to be displayed based on user selections (further information regarding POS transactions). *Id*., Figs. 7B & 9. Addition of a new category item (e.g., "brunch" in Fig. 7B) or sub-category item (e.g., "other beverages" in Fig. 7B) and food/beverage items therein would create new or modified POS screens and buttons for such categories/items to be displayed on POS terminal. *Id.* Addition or modification of a food/beverage/discount item, its price, or its options would likewise create or modify successive POS screens with buttons for such items/options to be displayed on POS terminals during a transaction, and further information about user selections/POS transactions would be transmitted to and stored at server 464. *Id*.

191. POS screens are also modified based on the customer's image so orders can be delivered to the right person. EX1005, [0017]-[0019]. "The contents of the order may be displayed with the electronic image" of the customer captured "at the kiosk when the order is placed." *Id.*, [0018]-[0019], Cl. 17; *see also* [0055], [0065], [0074], [0088]. Images can be displayed on the same terminals used to enter orders and take payment, e.g., when ordering from a drive-through cashier. *Id.*, [0058], [0062], [0065], [0077] ("drive-through cashier payment area 28 includes … order

entry"), [0088]. *Tengler* thus discloses and suggests that a POS screen displaying order contents is modified to include the electronic image of the customer. A POSITA would understand instructions from manager user interfaces (the POS builder interface) dictate such POS screen behavior/display.

192. When orders are updated, the server "broadcasts the new version of the order to applications such as register applications 606 [and] self service ordering 618" applications running on the stations/kiosks. EX1005, [0126]. Specifically, "RMS server 604 updates the display model and rebuilds the display" (POS screen) shown on the station/kiosk. *Id.*, [0127]. Server 604 is part of main server 464. *Id.*, [0116], Fig. 15.

193. In all these examples, *Tengler* discloses and suggests that the information provided by the manager regarding menu items, categories, options, pricing, tax rate, customer recognition, etc., is used to configure POS terminals/stations/kiosks to create and modify POS screens based on further information about orders (POS transactions) and respective corresponding customers.

194. Accordingly, it is my opinion that *Tengler* discloses and suggests 1[e].

6. 1[f] ("wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information")

195. *Tengler* discloses information received from the POS builder interface to create/modify POS screens includes information for adding/updating items, tax information, discount information, and promotion information, any of which is alternatively sufficient to show 1[f].

196. As explained for 1[b], *Tengler* discloses POS screens showing menu, item, and price information with buttons/keys allowing employees and customers to order items in a restaurant. EX1005, [0062], Figs. 3-4:

FIG. 3

FIG. 4

See also, *id.*, [0074]-[0076]; Fig. 9:

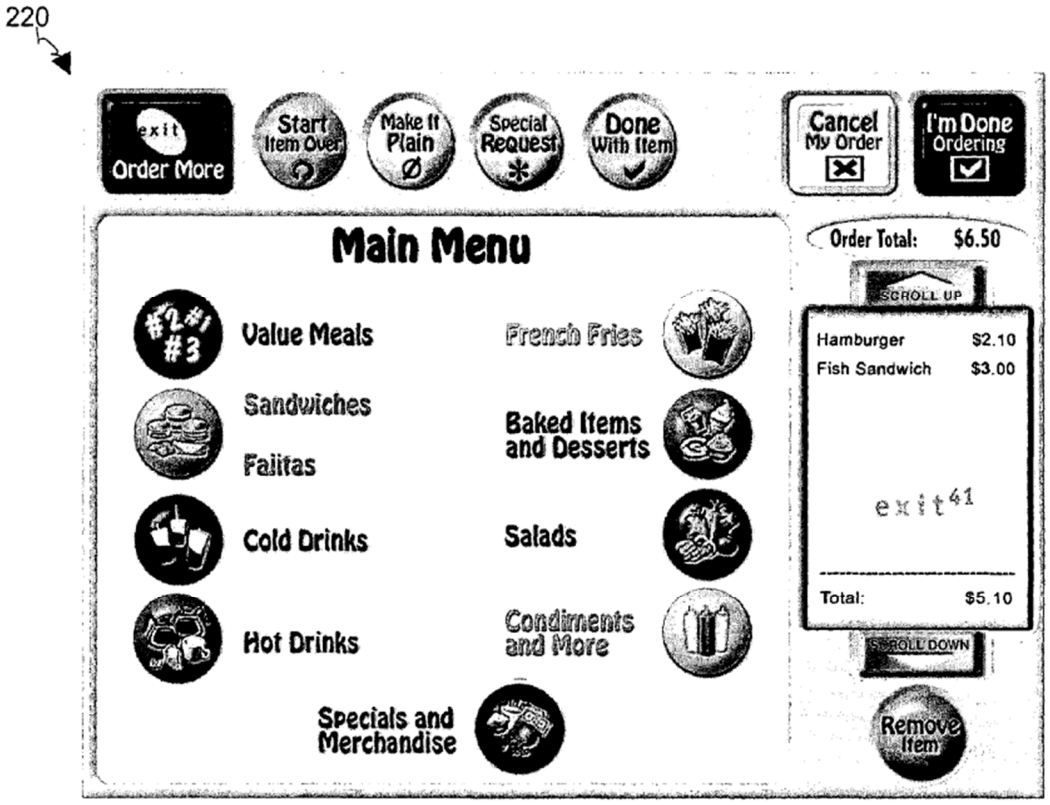
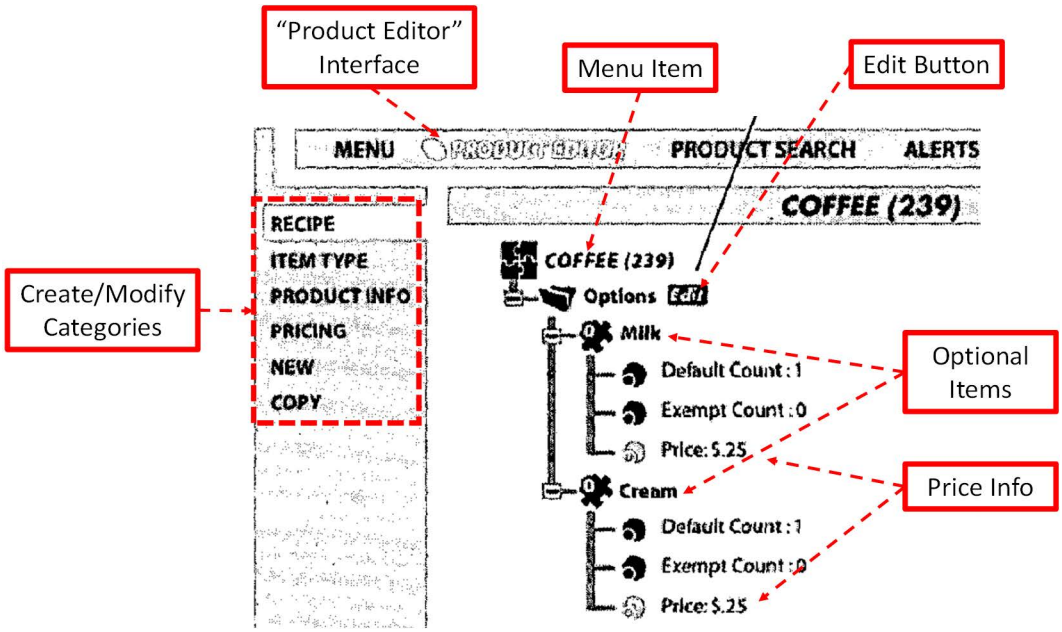


FIG. 9

197. As explained for 1[c], *Tengler* discloses and suggests a POS builder interface managers use to create/modify such POS screens and items associated with buttons. EX1005, [0073], [0103], [0107], [0109]; Figs. 7A-7B. That interface includes options for creating new menu items and editing the "recipe," the "item type," "product info," and "pricing" information for menu items. *Id.*, Fig. 7A (excerpted):



The information managers provide via interface 192 to create/modify menu items that appear on POS screens thus includes item add/update information.

198. *Tengler* also discloses managers can input discount information using interface 196. EX1005, Fig. 7B (excerpted):

Tengler thus discloses and suggests using interface 196, managers can create/modify "discounts," thus providing "discount information" for display on POS screens (and suggesting "promotion information") is provided by managers and used for creating/modifying POS screens displayed on POS terminals. *Id.*, Fig. 7B; *see also* Fig. 9 (button for "Specials and Merchandise"), [0103] ("The self service ordering application 618 is a platform for promotions and loyalty programs.").

199. Further, *Tengler* discloses and suggests managers can enter state/local sales tax percentages (e.g., "MA Tax 5%"). *Id.*, Fig. 17:

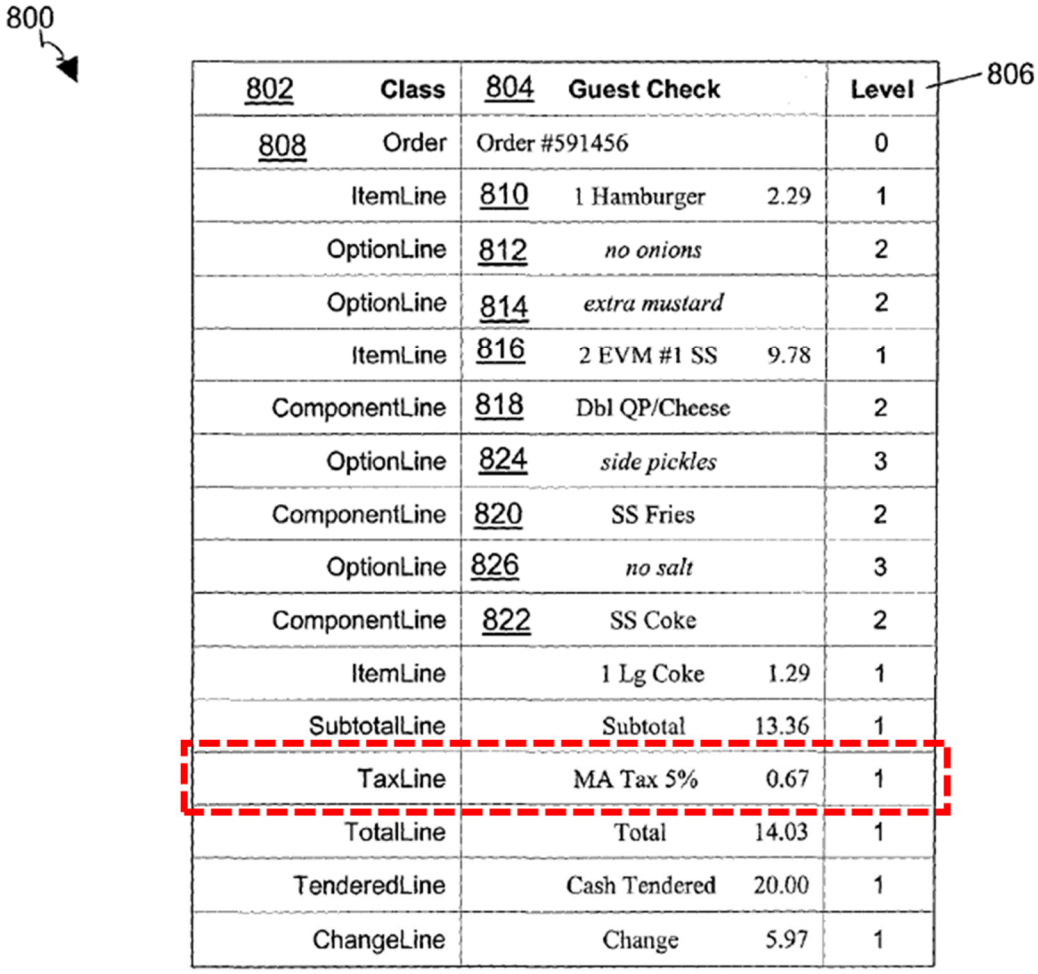


FIG. 17

As explained for 1[e], the item, price, and tax information are used to create/modify POS screens. EX1005, Fig. 4:

FIG. 4

200. Limitation 1[f] can be alternatively shown by further information. *Tengler's* further information regarding POS transactions received from the POS terminals includes item add/update, employee clock, customer add/update, and loyalty/promotion information.

201. *Tengler* discloses receiving information from POS terminals regarding orders (POS transactions) that includes item add/update information, e.g., for items purchased and options selected. EX1005, [0076], Figs. 9-10; *see also* [0127]-[0131]. As explained for 1[d], orders may be updated with further information regarding changes to the order. *Id.*, [0125]-[0127]. For example, a "customer may add items to the order" before payment (item add/update information). *Id.*, [0083]; *see also*, [0076]. When an order is updated, the server also receives information regarding

"the current time … and the worker using the station" (employee clock information). *Id.*, [0128].

202. As explained for 1[d], the ordering station/kiosk (POS terminal) takes a picture of the customer and stores the image in the database. EX1005, [0017]-[0019], [0055]. There, "[i]nformation about the customer is associated with the electronic image of the customer," e.g., "historical information about orders previously placed by the customer." *Id.*, [0018]. A POSITA would understand that creating/updating a customer record or order in the database with an image of the customer is or suggests customer add/update information received from POS terminals.

203. *Tengler* also discloses "[t]he self service ordering application 618" running on the kiosk is "a platform for promotions and loyalty programs." EX1005, [0103]; *see also* Fig. 9 (button for "Specials and Merchandise"). *Tengler's* disclosure of a "discounts" category for interface 196 and a "Specials and Merchandise" button on a POS screen for the self-service ordering application suggests further information provided by POS terminals to server 464 includes promotion information, discount information, and/or loyalty point information (e.g., to track performance of promotions and discounts and to associate the order with the customer's loyalty point account). *Id.*

204. Accordingly, it is my opinion that *Tengler* discloses and suggests limitation 1[f].

B. Claims 2 ("The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is configured to run on a computing device") and 11 ("The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is accessible via a web browser")

205. As explained for 1[c], *Tengler's* POS builder (which provides manager GUIs such as 190, 192, and 196) runs on "main server computer 464" (computing device). EX1005, [0109], [0116], *see also*, [0103], [0107]. Managers access manager GUIs (POS builder interface) "over the Internet" "using the web server 620," which allows access "remotely through a web interface." *Id.*, [0073], [0109], [0022]. For example, managers can use "web browser 704" on computer 702 (computing device). *Id.*, [0116], [0073]. *Tengler* thus discloses the POS builder interface is configured to run on a computing device and is accessible via a web browser.

206. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of 2 and 11.

C. Claim 3 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more POS terminals comprise a plurality of POS terminals in a plurality of locations")

207. As explained for limitation 1[b], *Tengler* discloses a plurality of POS terminals in a plurality of locations within and around "restaurant 2." EX1005, [0073]-[0075], [0077]-[0078], [0115]-[0120], Figs. 11, 15:

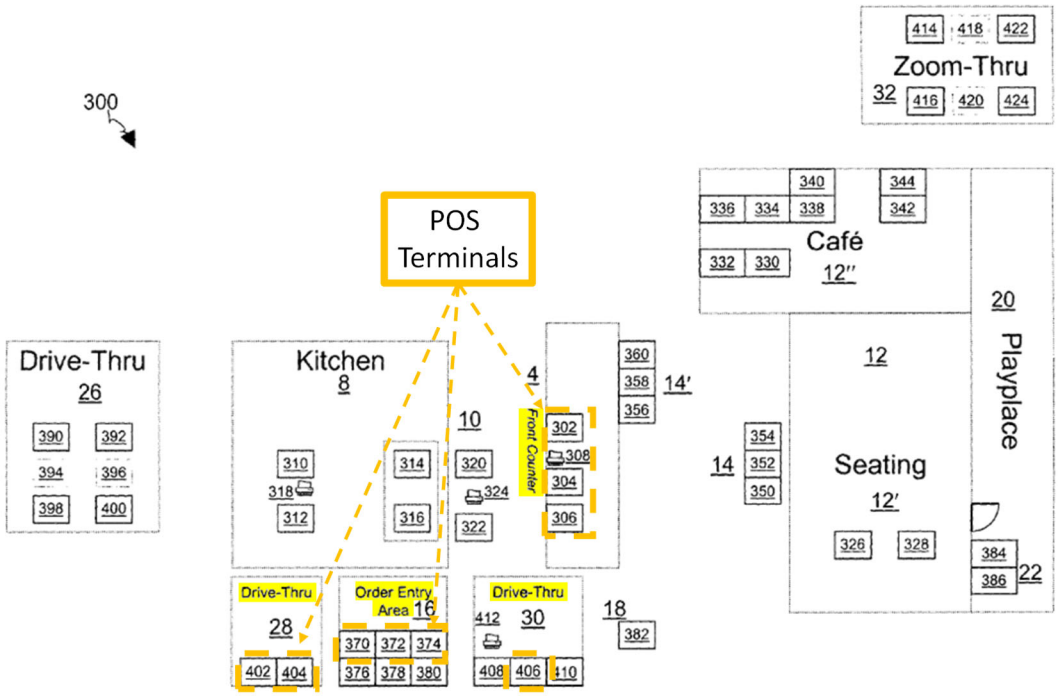


FIG. 11

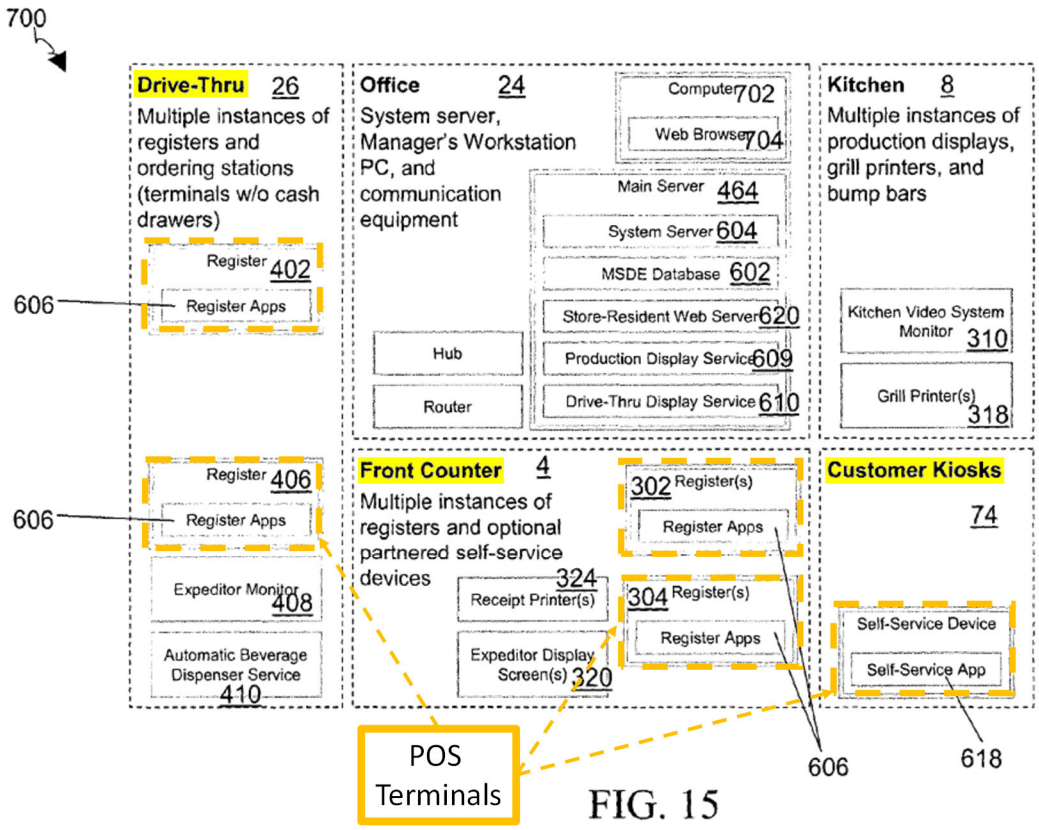


FIG. 15

208. *Tengler* also discloses a plurality of POS terminals running register applications 627 via proxies with RMS server 604 (on server 464) at a remote call center where "telephone order takers at the call center use the same interface 100 as order takers in restaurant 2 to enter customer orders." *Id.*, [0114]; *see also* [0016], [0025], [0112]-[0113]. *Tengler* thus discloses and suggests a plurality of in-store terminals and a plurality of remote call center terminals in network communication with server 464. Additionally, *Tengler* discloses "enterprise management of multiple restaurants 2," which suggests a plurality of POS terminals in a plurality of restaurant locations. *Id.*, [0108]-[0111].

209. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of 3.

D. Claims 4 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more items comprise at least one of: one or more items for sale, one or more promotions, or one or more loyalty points programs") and 9 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more display interfaces comprise one or more buttons or keys")

210. As explained for 1[c], *Tengler* discloses items associated with buttons/keys (display interfaces) on POS screens that are added/updated via the POS builder interface are items for sale, e.g., "food items" in a restaurant (claim 4). EX1005, [0003], [0062], [0076], Figs. 3, 9:

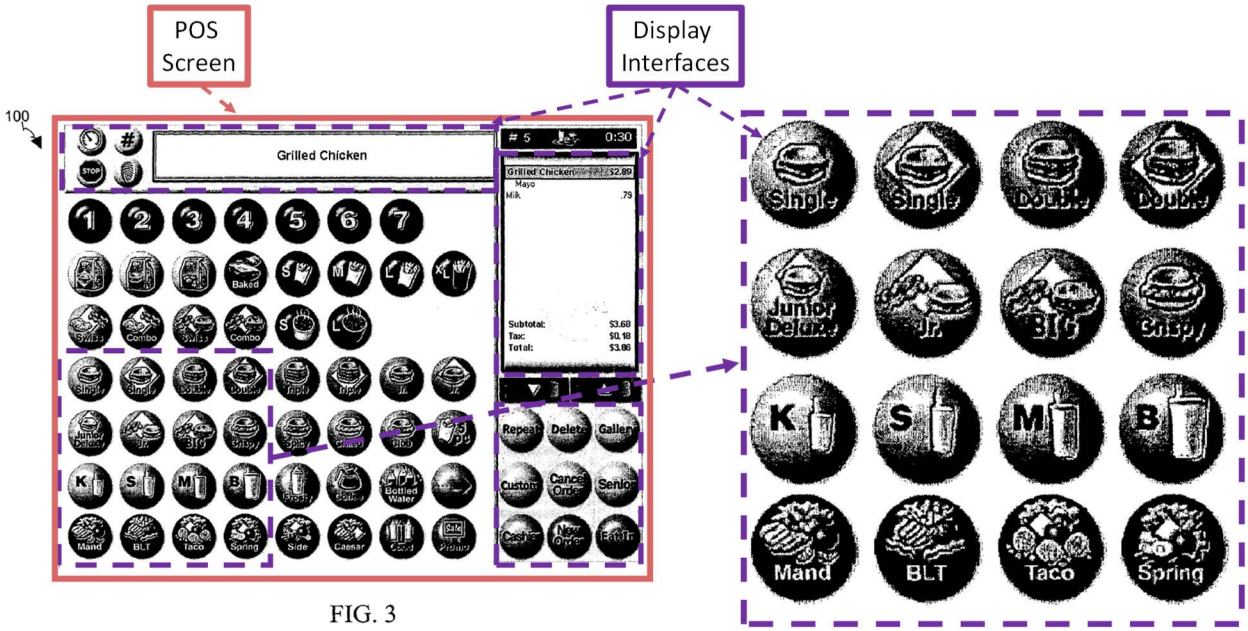


FIG. 3

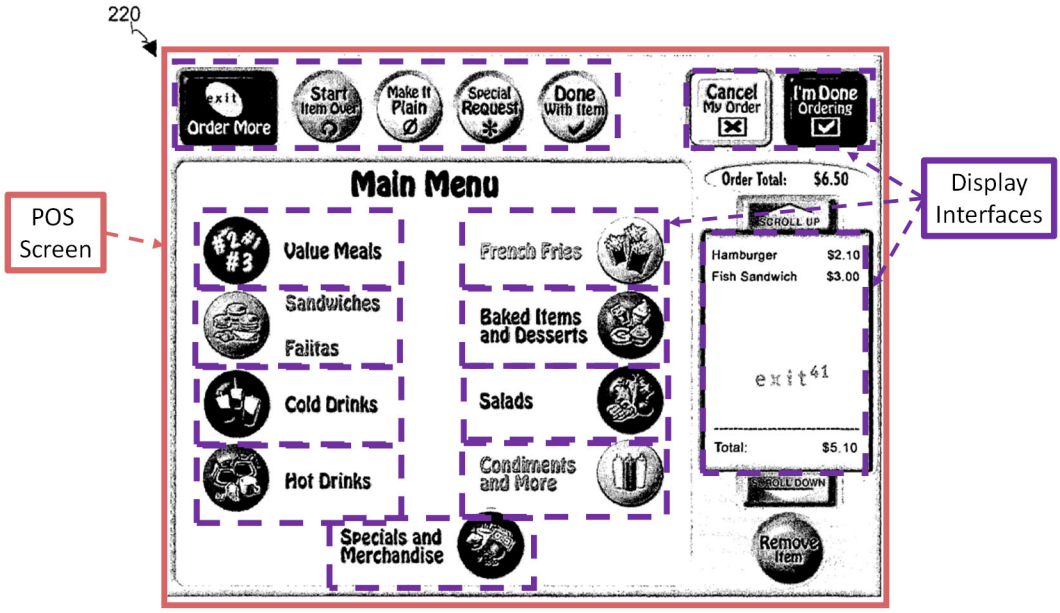


FIG. 9

Further, as explained for 1[f], *Tengler* discloses "[t]he self service ordering application 618" running on the kiosk is also "a platform for promotions and loyalty programs." *Id.*, [0103]; *see also* Fig. 9 (button for "Specials and Merchandise"). *Tengler* thus discloses and suggests allowing managers to create and modify buttons/keys (display interfaces) on POS screens (claim 9) related to such promotions/specials and loyalty point programs (and items associated with such promotions/programs) the same way managers do for food items, e.g., to allow customers to redeem discounts/promotions/loyalty points and check loyalty point balances. *Tengler* thus discloses and suggests the items comprise items for sale, promotions, and loyalty points programs (claim 4) and such items are associated with display interfaces comprising buttons and keys (claim 9).

211. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of 4.

E. Claim 7 ("The web-based point of sale (POS) builder system of claim 1, wherein the information regarding one or more POS transactions comprises one or more of the employee clock information, the customer add/update information, the item add/update information, or the promotion information")

212. As explained for 1[e]-1[f], *Tengler's* further information regarding POS transactions includes item add/update, customer add/update, employee clock, and promotion information (e.g., as part of a loyalty program).

213. *Tengler* discloses server 464 receiving information from POS terminals regarding orders (POS transactions) that includes item add/update information based on customers adding/updating items in an order. EX1005, [0076], Figs. 9-10. *Tengler* discloses receiving "[i]nformation about the customer," including images of customers and order histories, saving the information in a database, associating it with orders, and displaying it on POS screens (customer add/update information). EX1005, [0017]-[0019], [0055], Cl. 22. When an order is updated, the server also receives information regarding "the current time … and the worker using the station" (employee clock information). *Id.*, [0128]. Further, because *Tengler's* POS terminals/screens provide "a platform for promotions and loyalty programs" and include a "Specials and Merchandise" menu option (*id*., Fig. 9), it would be obvious that promotion information is received from POS terminals and stored on server 464

when participating customers purchase discounted items and/or items subject to a promotion. EX1005, [0103].

214. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of 7.

F. Claim 8 ("The web-based point of sale (POS) builder system of claim 1, wherein the information regarding one or more POS transactions are viewable via the POS builder interface")

215. As explained for 1[c], Tengler's POS builder interfaces includes manager GUIs 190, 192, and 196 accessible via main server 464, which also includes database 602. EX1005, [0073], [0103], [0107], [0109], [0115]-[0116]; Figs. 7A-7B. *Tengler's* "database 602 … maintains a complete history of orders for a long period of time for later analysis and display." *Id.*, [0089]. Managers can access that information "remotely through a web interface," e.g., "using the interface 190," which includes a "Reports" tab. *Id.*, [0022], [0073], [0130], Fig. 7:

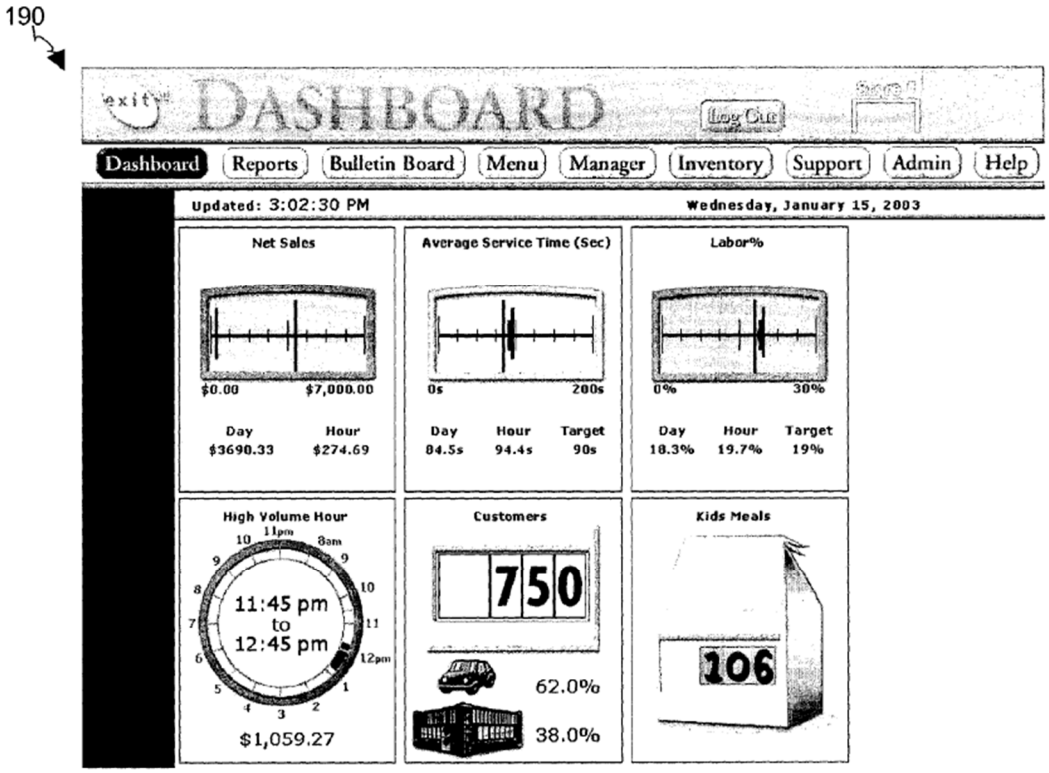


FIG. 7

Because interface 190 is a "Dashboard" interface to access reports, menus, etc., it is part of *Tengler*'s POS builder interface. *Tengler* thus discloses and suggests that managers can view (via the POS builder interface) customer orders (POS transactions) and "Reports" regarding customer orders, each containing information regarding POS transactions.

216. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of 8.

G. Claim 10 ("The web-based point of sale (POS) builder system of claim 1, wherein the received information comprises information indicative of at least one of a number, shape, or arrangement of the one or more display interfaces")

217. As explained for 1[c], *Tengler's* "user interface designer 614 allows management to edit the user interface of the register and self-service applications and also saves the specifications in the database 602." EX1005, [0103]. Managers edit the user interfaces employees and customers use to place orders by creating/modifying menus, items, and thus their associated buttons displayed on POS screens. *Id.*, [0062], [0074]-[0076]. *Tengler* discloses various layouts/arrangements of circular, square, and rectangular buttons (display interfaces) and other interfaces displaying information regarding an order. *See id.*, Figs. 8-10.

Figs. 3, 9:

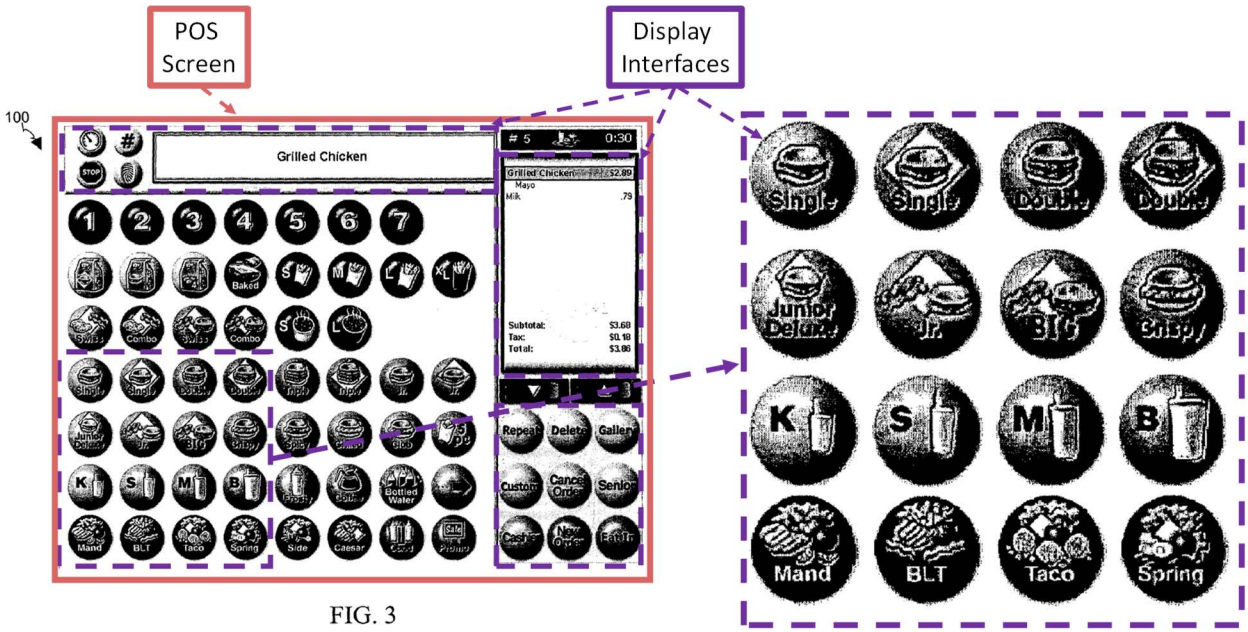


FIG. 3

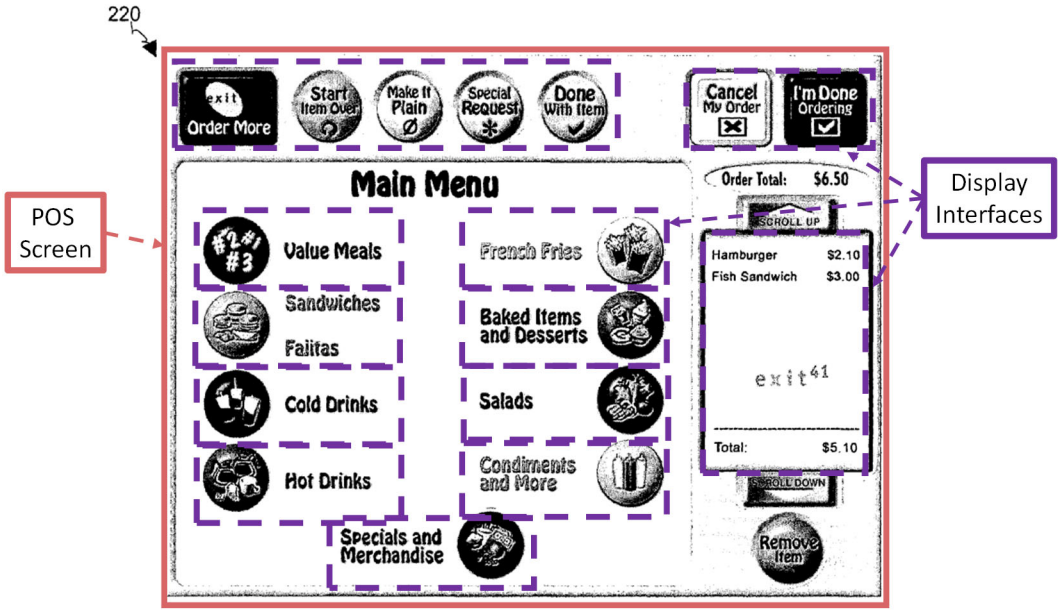


FIG. 9

A POSITA would understand *Tengler* discloses and suggests manager edits to menus and items includes information indicative of at least one of a number, shape, and arrangement of display interfaces (buttons) appearing on POS screens associated with such menus and items. For example, adding a new category to the main menu using the menu editor would modify the main menu screen to include an additional category button for selection. Likewise, adding a new beverage item to an existing category (e.g., "Cold Drinks") would modify the screen for such category to include an additional button associated with such item. Additionally, interface logic is implemented on the backend using GUI "design objects" in an object-oriented structure. EX1005, [0121]. A POSITA would understand that object-oriented GUI design was common in the 2008 timeframe and discloses and suggests allowing a

manager to customize the layout and functionality of design objects, e.g., buttons and other display interfaces.

218. *Tengler* thus discloses and suggests the server receives information from the POS builder interface, including information indicative of at least one of a number, shape, or arrangement of display interfaces on POS screens.

219. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 10.

H. Claim 12 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more display interfaces are accessible on the POS builder interface")

220. As explained for claims 1[c] and 9-10, *Tengler* discloses buttons/keys on POS screens (display interfaces). EX1005, [0062], [0074]-[0076], Figs. 3, 8-10. *Tengler's* "user interface designer 614 allows management to edit the user interface of the register and self-service applications and also saves the specifications in the database 602." EX1005, [0103]. For example, manager user interfaces such as 190, 192, and 196 (POS builder interface) allow managers to create/edit menus, items, and attributes that are displayed on POS screens associated with display interfaces (buttons/keys). *Tengler* thus suggests managers can access the buttons and other display interfaces on the POS builder interface to edit display interfaces on POS screens employees and customers use to place orders. *Tengler* further renders this claim obvious because a POSITA would have been motivated to enhance

functionality and customization options for the user interface designer and would have had a reasonable expectation of success because *Tengler* includes GUI design objects and elements "for creating GUIs for client applications." *Id*., [0121]. For example, object orientation means that enhancing the UI is a simple matter of manipulating the views of the objects. In other words, the POSITA would not have been tasked with defining objects and their relationships but would have had the simpler task of modifying the views of the extant objects.

221. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 12.

I. Claim 13 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to: receive, over the network from the POS builder interface, second information regarding a modification to at least one of the one or more POS screens; and update the at least one of the one or more POS screens on the one or more POS terminals based on the second information")

222. As explained for 1[c], *Tengler's* server receives information over the network from managers using a POS builder interface to create/modify POS screens displayed on POS terminals, which is used to configure POS terminals to reflect those changes. EX1005, [0073], [0094], [0103], [0107], [0109], [0121]. Managers can "modify menus and change prices using interfaces 192 and 196" iteratively and/or as many times as desired. *Id.*, [0073]. Additional (second) information regarding a modification to a menu item or price is thus received when managers

make such changes using the POS builder interface a second time after using it a first time. The system saves revised "specifications in the database 602" and updates POS screens on POS terminals based on each set of revised specifications. EX1005, [0103], [0073], [0094], [0107]. *Tengler* thus discloses and suggests receiving second information to modify a POS screen, saving that information in the database at server 464, then updating the POS screens displayed on POS terminals to reflect those modifications.

223. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 12.

J. Claim 14 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to store information regarding the one or more POS screens")

224. As explained for claim 13, *Tengler's* "user interface designer 614 allows management to edit the user interface of the register and self-service applications and also saves the specifications in the database 602." EX1005, [0103], [0073]. Database 602 is part of main server 464. *Id.*, [0115]-[0116], Fig. 15:

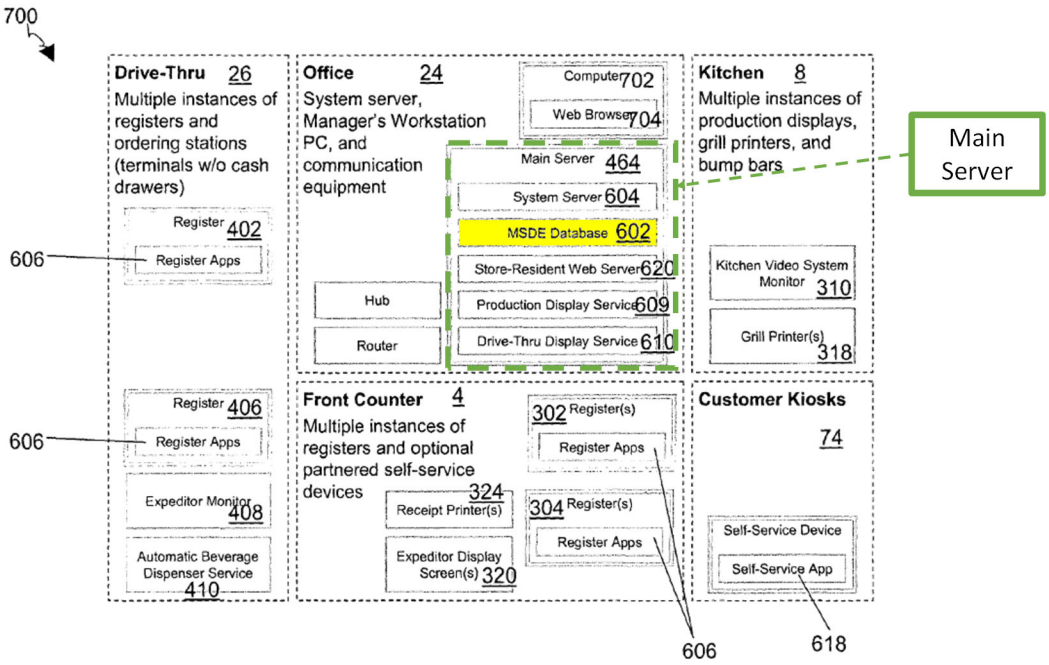


FIG. 15

Server 464 is thus configured to store information regarding POS screens.

225. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 14.

K. Claim 15 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is located remotely from the one or more POS terminals")

226. As explained for 1[a]-1[b], *Tengler's* main server 464 is in "manager's office 24," which is in a different part of the restaurant than, and thus remote from, the order entry stations (POS terminals). EX1005, [0056], [0115]-[0116], Figs. 1, 15:

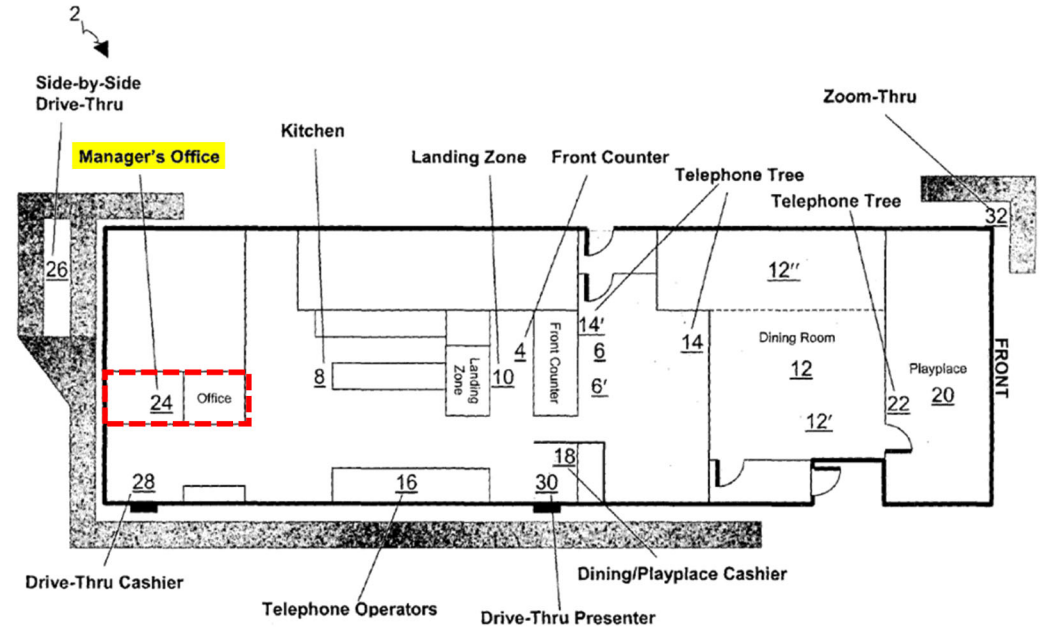

2
Side-by-Side Drive-Thru
Manager's Office
Kitchen
Landing Zone
Front Counter
Telephone Tree
Telephone Tree
Zoom-Thru
32
26
12''
14'
6
6'
14
Dining Room
12
12'
Playplace
20
22
FRONT
24
Office
8
Landing Zone
10
4
Front Counter
18
28
16
30
Drive-Thru Cashier
Telephone Operators
Drive-Thru Presenter
Dining/Playplace Cashier

FIG. 1

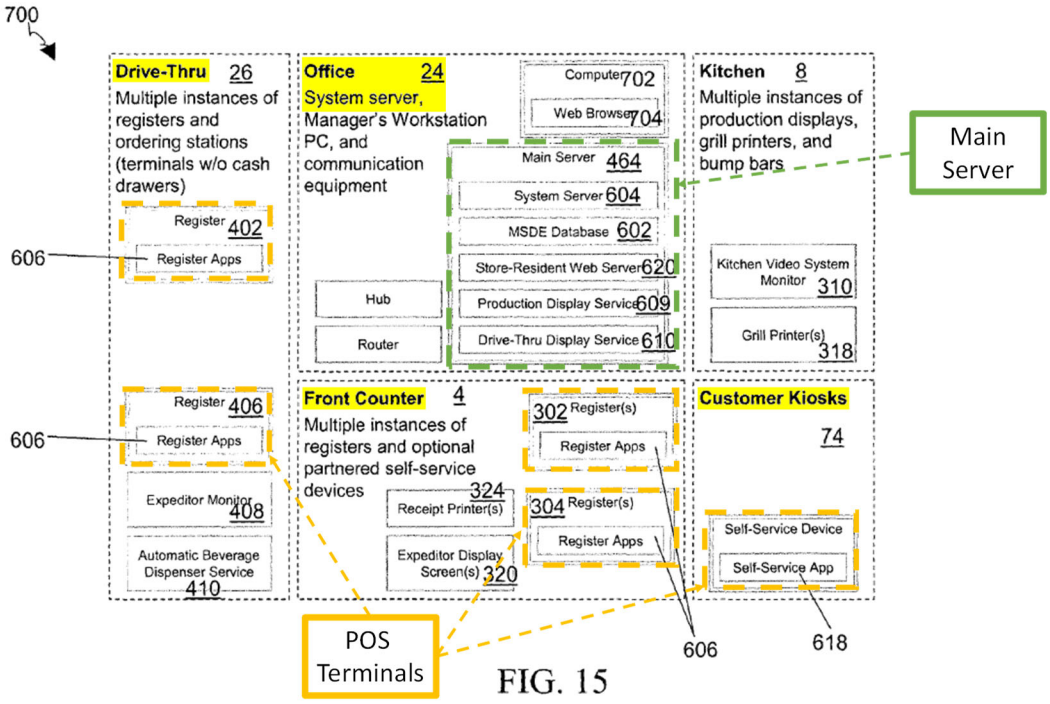

700
Drive-Thru 26
Multiple instances of registers and ordering stations (terminals w/o cash drawers)
Register 402
Register Apps
606
Register 406
Register Apps
606
Expeditor Monitor 408
Automatic Beverage Dispenser Service 410
Office 24
System server, Manager's Workstation PC, and communication equipment
Computer 702
Web Browser 704
Main Server 464
System Server 604
MSDE Database 602
Store-Resident Web Server 620
Production Display Service 609
Drive-Thru Display Service 610
Hub
Router
Front Counter 4
Multiple instances of registers and optional partnered self-service devices
302 Register(s)
Register Apps
304 Register(s)
Register Apps
Receipt Printer(s) 324
Expeditor Display Screen(s) 320
Kitchen 8
Multiple instances of production displays, grill printers, and bump bars
Kitchen Video System Monitor 310
Grill Printer(s) 318
Customer Kiosks 74
Self-Service Device
Self-Service App
Main Server
POS Terminals
606
618

FIG. 15

227. *Tengler* also discloses a plurality of POS terminals at a remote call center running register applications 627 via proxies with RMS server 604 on main server 464 where "telephone order takers at the call center use the same interface 100 as order takers in restaurant 2 to enter customer orders." *Id.*, [0114]; *see also* [0016], [0025], [0112]-[0113]. Server 464 is located remotely from such POS terminals. *Id.*, [0028] (call center can handle "calls from restaurants in different time zones").

228. *Tengler* also discloses and suggests that a central server can "provide[] features to manage a set of restaurants." EX1005, [0108]-[0111]. *Tengler* thus discloses and suggests that a server located remotely from the restaurant could be used to provide "enterprise management of multiple restaurants." *Id.* It would be obvious that such a server could be used to perform the same functions as server 464 regarding creating/modifying POS screens to allow management to efficiently make enterprise changes for multiple store locations on a single server. *Id.*; *see also* §XIII.A.2 (1[a]-1[b]).

229. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 15.

L. Claim 16 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to receive the information for creating or modifying the one or more POS screens and create or modify the one or more POS screens in real time while the one or more POS terminals are in use performing one or more POS transactions")

230. As discussed in 1[c], "user interface designer 614," remotely accessible via web server 620 of main server 464, "allows managers to edit user interfaces of client applications and save modified specifications to database 602." EX1005, [0103], [0107], [0073]. *Tengler* thus suggests managers can make changes in real time during their shifts while POS terminals are in use for POS transactions. *Tengler* makes no mention of intervening processes or batch processing that might suggest something other than the ability to make changes in real time. *Tengler* also discloses real-time communication with server 464 and its components, e.g., RMS server 604 and database 602. *Id.*, [0055]-[0056], [0089], [0094]-[0095], [0107], [0112], [0115]-[0116], Fig. 15; *see also*, [0121], [0126]-[0127]. *Tengler* thus discloses and suggests server 464 receives information from the POS builder interface and modifies POS screens in real time while POS terminals are in use performing transactions, then provides modified specifications to POS terminals after the manager saves changes to database 602.

231. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 16.

M. Claim 17 ("The web-based point of sale (POS) builder system of claim 1, wherein the one or more POS terminals use the one or more POS screens after completing a pending POS transaction")

232. As explained for 1[c], 1[e], and claim 16, *Tengler* discloses managers can edit/modify previously created POS screens. EX1005, [0073], [0103], [0107]. For example, "managers can also modify menus and change prices using interfaces 192 and 196." *Id.*, [0073]. A POSITA would have been motivated to ensure manager changes are not immediately propagated to terminals in use for a pending transaction, e.g., to avoid customer and employee dissatisfaction with changing menu items, options, and prices during a pending transaction. A POSITA would also have been motivated to maintain data coherence and consistency by applying POS screen modifications after a pending transaction is complete. For example, if a restaurant changes its lunch menu to lower the price but remove the soup starter during a transaction, a user entering multiple meals on a single ticket might end up with some meals having soup at a higher price and others without. The user might have no clear way to conform those meals to either the new or old menu. To avoid this scenario and the possibility of other data coherence/consistency issues in the database, a POSITA would have been motivated to complete any open transaction before implementing POS screen modifications. Such POS terminals would then display modified POS screens for subsequent transactions.

233. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 17.

N. Claims 18 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to maintain information regarding POS screens for separate sets of POS terminals separately") and 20 ("The web-based point of sale (POS) builder system of claim 1, wherein the at least one server is further configured to maintain information regarding the one or more POS screens")

234. As explained for 1[b] and 16, *Tengler* discloses database 602 of server 464 maintains information regarding POS screens (claim 20). "A user interface designer 614 allows management to edit the user interface of the register and self-service applications and also saves the specifications in the database 602." EX1005, [0103]. The register application displays POS screens for employees at order terminals 52, and the self-service application displays POS screens for customers at self-service kiosks 74. EX1005, [0062], [0074]-[0076], Fig. 2; *see also* [0026], [0032]-[0033]; Figs. 3-4 (register application at terminals 52):

FIG. 3

FIG. 4

Figs. 8-9 (self-service application at customer kiosks 74):

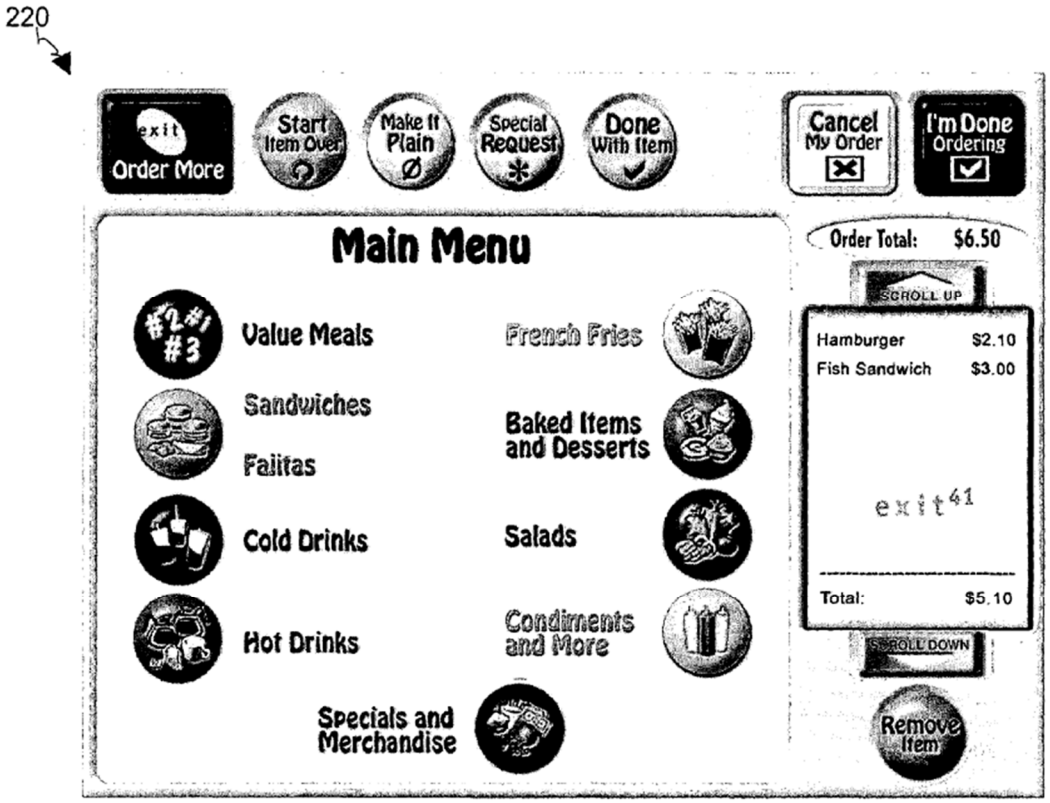


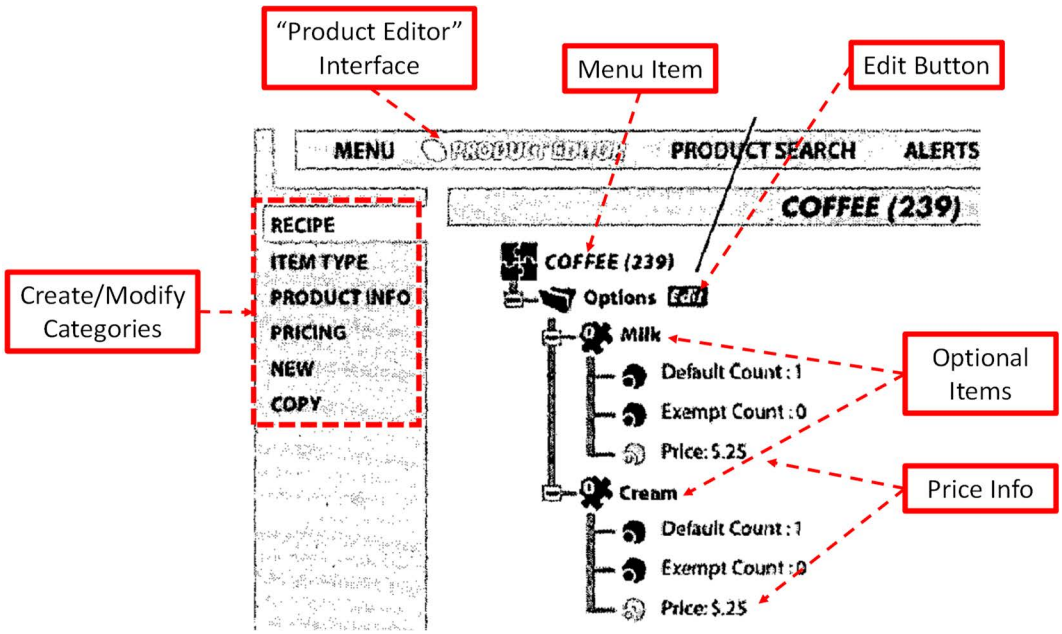
FIG. 9

235. A POSITA would understand employee terminals and self-service terminals are separate sets of POS terminals and that database 602 would store information regarding POS screens for each set of POS terminals separately to ensure each respective terminal displays appropriate screens. *Id.*, [0073], [0103], [0107].

236. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claims 19 and 20.

O. Claim 19 ("The web-based point of sale (POS) builder system of claim 1, wherein instructions to the POS builder interface for programmatic creation and modification of the POS terminals are not formatted in programming code")

237. As explained in 1[c], *Tengler* discloses a POS builder interface for accessing user interface designer for programmatic creation/modification of POS screens. Manager instructions to the POS builder interface are made using the GUI and are thus not formatted in programming code because the manager is not entering programming code into the interface. For example, managers "modify menus and change prices using interfaces 192 and 196" without access to "programming code." EX1005, [0073]; *see also* [0103], [0108]-[0109], Figs. 7A and 7B (excerpted):



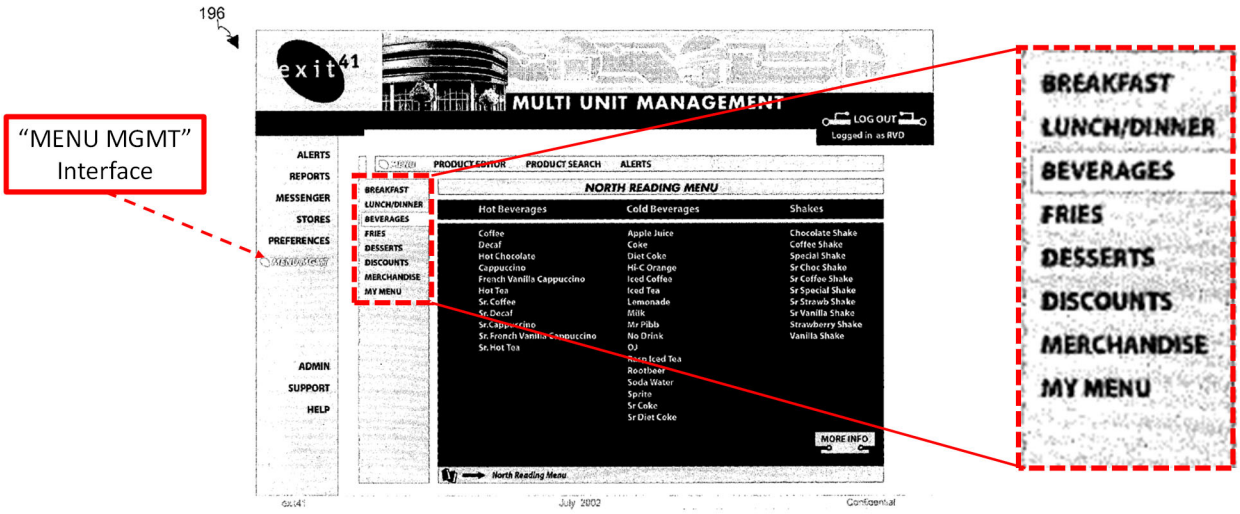
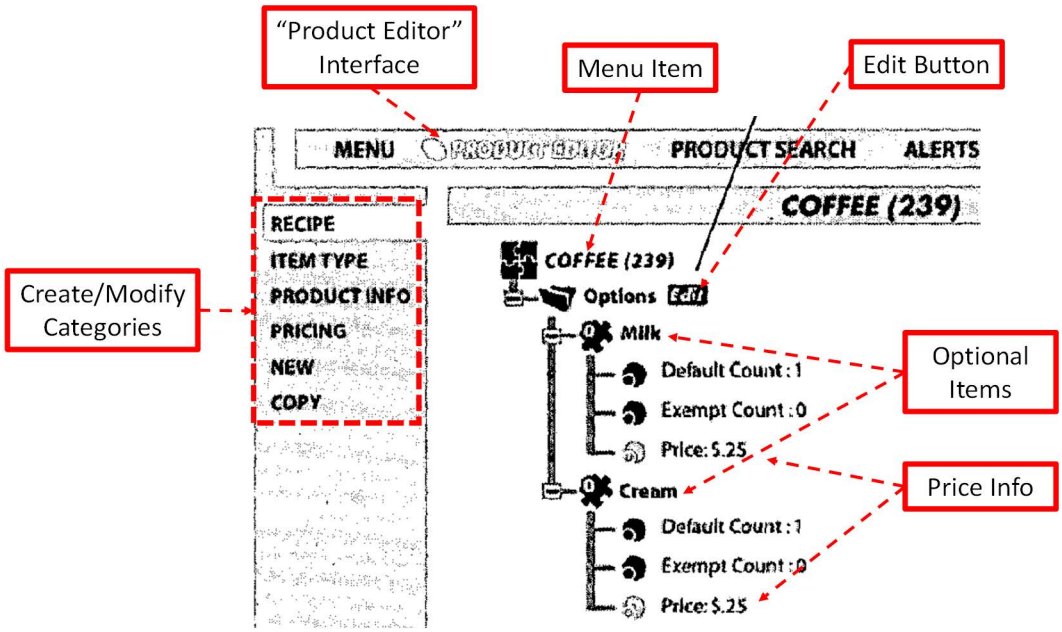


FIG. 7B

238. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 19.

P. Claim 21 ("The web-based point of sale (POS) builder system of claim 1, wherein the received information comprises one or more attributes of the one or more items")

239. As explained in 1[c], managers can "modify menus and change prices using interfaces 192 and 196." *Id.*, [0073]. The "product editor" screen of interface 192 lists various item attributes that can be modified/edited (including recipe, item type, product info, and pricing) and options for adding new products and copying existing products. *Id.*, [0073], Fig. 7A (excerpted):



Tengler thus discloses and suggests the server receives information comprising attributes (options, pricing) of menu items for display on POS screens of POS terminals.

240. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 21.

Q. Claim 22 ("The web-based point of sale (POS) builder system of claim 1, wherein the POS terminals are configured to perform transactions independently of a connection with the network")

241. *Tengler* discloses POS terminals comprise client application 606 (such as register or self-service application) and database 607, such that "each of the stations operates using the cached copies of the data if the station is disconnected from the network." EX1005, [0011], [0090], Cl. 6. This allows POS terminals to run "in a standalone mode by operating on stored or cached data in any of the cashier

stations become disconnected from network 462." *Id.*, [0090]. POS terminals may thus perform transactions independently of a connection to the network.

242. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 22.

R. Claim 23 ("The web-based point of sale (POS) builder system of claim 1, wherein the input interface element comprises a data interface for inputting at least some of said further information")

243. As explained for 1[c] and claim 9, *Tengler* discloses numerous display interfaces for inputting further information (data interfaces) associated with ordering items in a restaurant (selecting/removing items, options, etc.). EX1005, [0003], [0062], [0076], Figs. 3-4, 8-10:

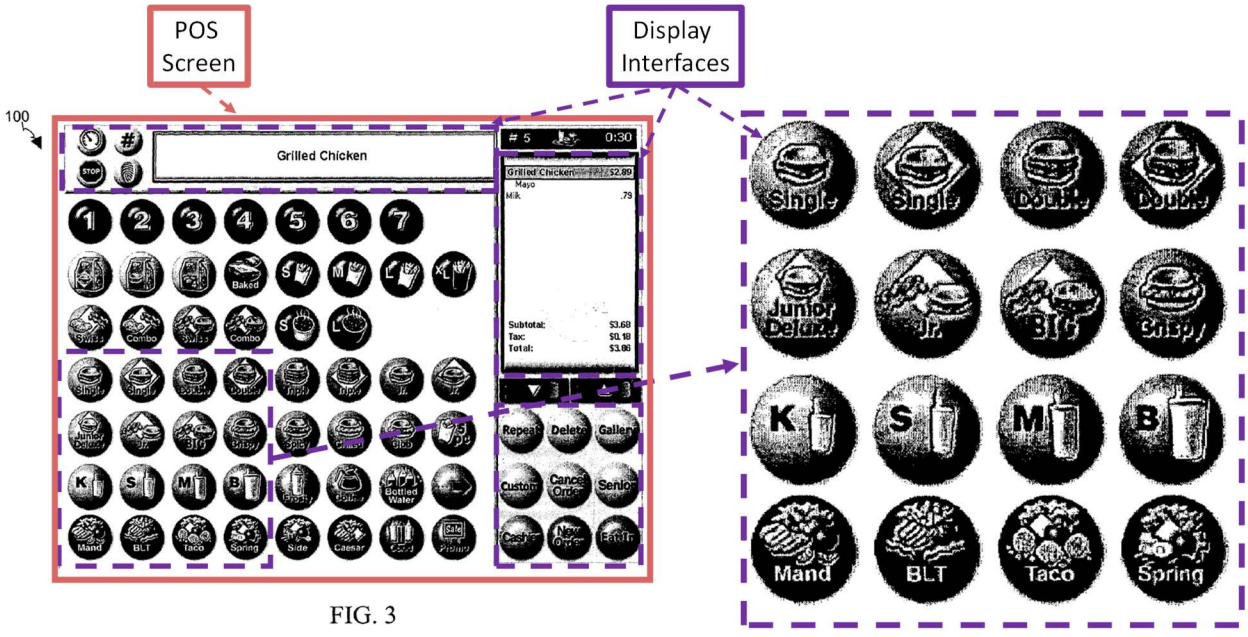


FIG. 3

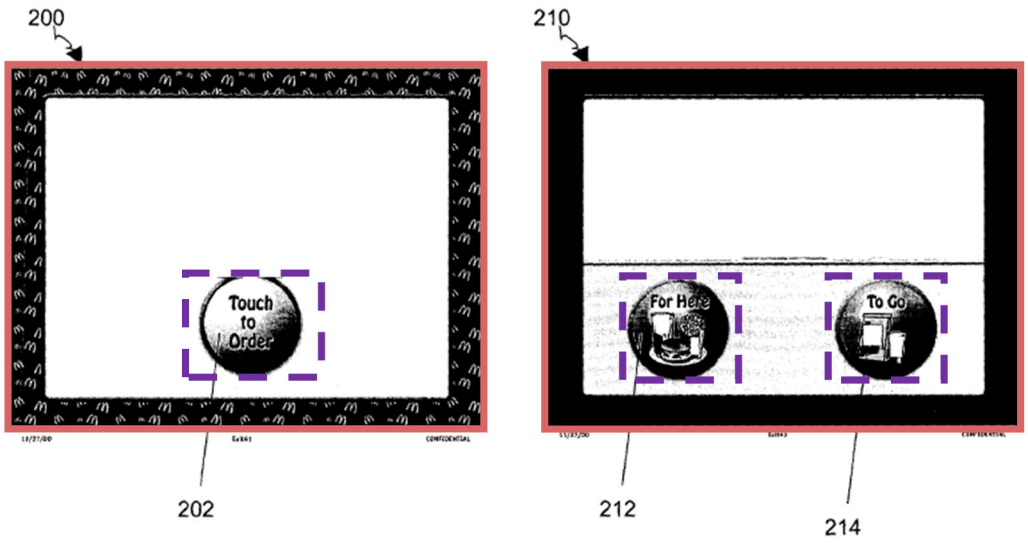


FIG. 8

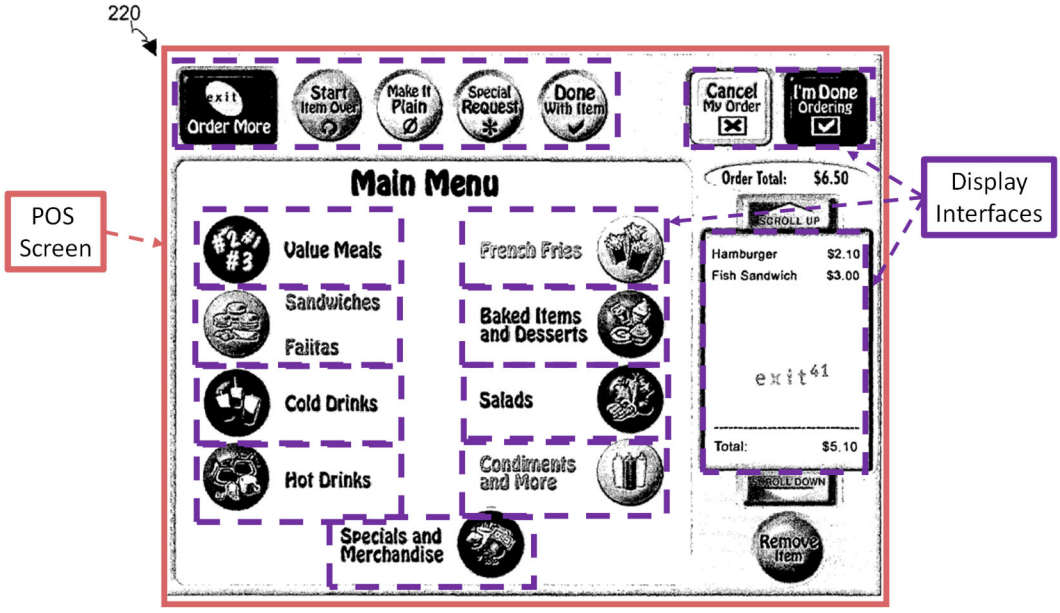


FIG. 9

A POSITA would understand the ticket display interface (showing the current total and list of selected items) to be a running list that is updated as items are added, removed, or customized. In addition, the "repeat" button of Figure 3 would only be activated after an item were added to the running list. In another example, the

"senior" button of Figure 3 would be expected to apply a discounted pricing schedule to menu items. One or more of these inputs from the POS terminal represents further information input into the POS terminal, which is transmitted to server 464.

244. Additionally, a POSITA would be motivated to allow managers to specify a display interface element allowing text entry, e.g., to allow a customer to make special requests for further item customization.

245. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 23.

S. Claim 24 ("The web-based point of sale (POS) builder system of claim 1, wherein to configure the one or more POS terminals comprises dynamically configuring the one or more POS terminals specific for the corresponding customer based on the one or more transactions by the corresponding customer")

246. As explained for 1[d] and 1[e], *Tengler* discloses "receiving an electronic image of a customer, and associating the electronic image with an order of a customer," which "is captured at the ordering location" and stored in the database. EX1005, [0017]-[0019], [0055]. Images can be displayed on the same terminals used to enter orders and take payment, e.g., when ordering from a drive-through cashier. *Id.*, [0058], [0062], [0065], [0077] ("drive-through cashier payment area 28 includes … order entry"), [0088]. POS screens are modified based on the customer's image so orders, including subsequent orders, can be delivered to the right person. *Id. Tengler* thus discloses and suggests dynamically configuring POS

terminals specific to a corresponding customer based on information about the customer's transactions received from POS terminals and stored in the database at server 464.

247. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 24.

T. Claims 25 ("The web-based point of sale (POS) builder system of claim 1, wherein the POS builder interface is configured to create or modify at least one of: a position or operation of a first display interface of the one or more display interfaces, wherein the first display interface comprises an input interface element") and 26 ("The web-based point of sale (POS) builder system of claim 25, wherein the input interface element comprises a touch screen input interface element")

248. *Tengler's* "user interface designer 614 allows management to edit the user interfaces of register and self-service applications and also saves the specifications in the database 602." EX1005, [0103]; *see also*, [0062], [0074]-[0076], Figs. 3-4, 8-10:

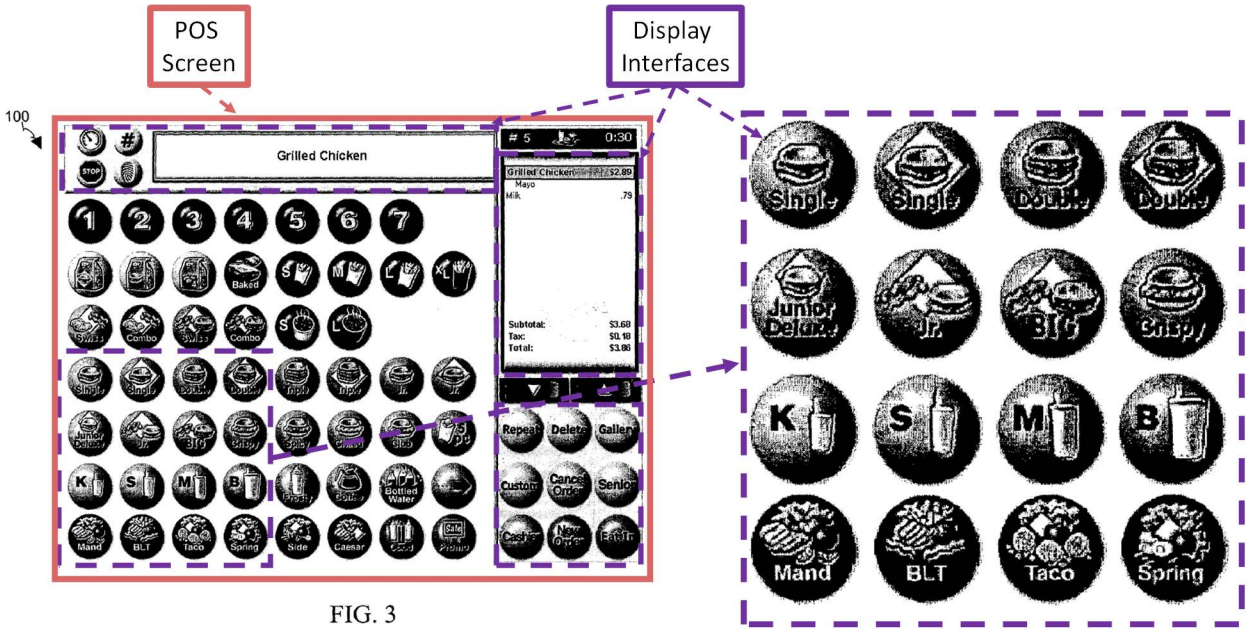


FIG. 3

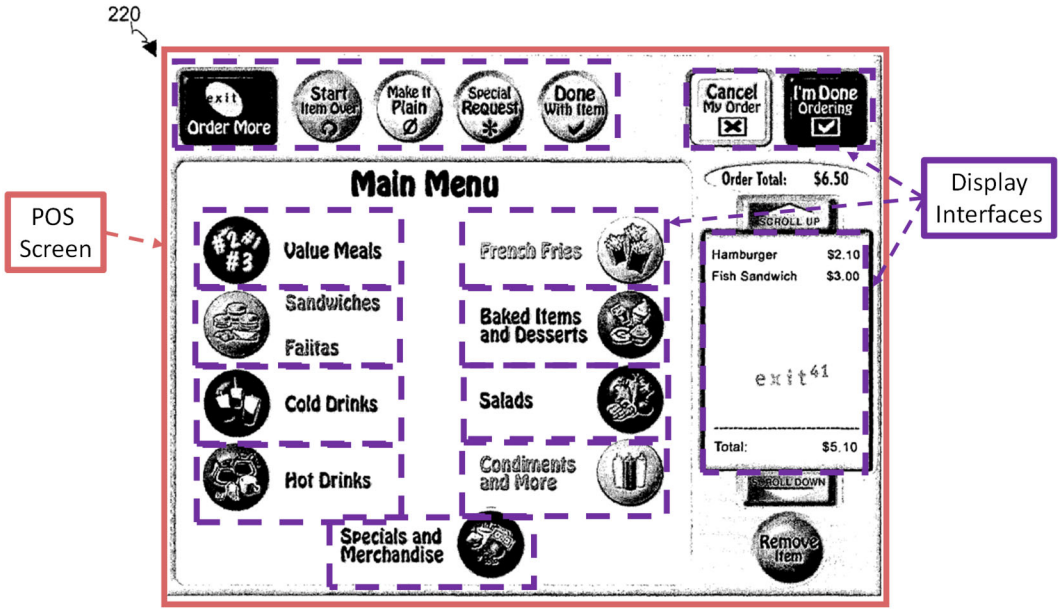


FIG. 9

249. As explained for 1[c], new and existing items, and their associated buttons (display interfaces), are created/modified using the POS builder interface. *Id.*, [0073], [0103], [0107], [0109]; Figs. 7, 7A-7B. As explained for claim 10, *Tengler* discloses and suggests the server receives specifications/information from

managers to create/modify POS screens displayed on POS terminals, including at least one of a number, shape, and arrangement of buttons (including their position). Further, because changing the item/option associated with a button on a POS screen (e.g., if a new item was added to replace an existing item) would modify the operation of a POS terminal by altering how it responds when that button (area) of the screen is selected, *Tengler* discloses and suggests creating/modifying the operation of buttons. *Id.* Because the display interfaces are buttons for inputting data/information on a touchscreen, they are themselves and/or include an input interface element. EX1005, [0075];

250. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 25 and 26.

U. Claim 27

251. Claim 27 is similar to claim 1, but drafted from the perspective of a POS terminal rather than a server. Similar elements are obvious for the same reasons as in claim 1 and as explained below.

1. 27[pre] ("A web-based point of sale (POS) builder system comprising")

252. *See* 1[pre], XIII.A.1.

253. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 27[pre].

2. 27[a] ("at least one POS terminal configured to: display one or more POS screens") and 27[b] ("communicate with at least one server over a network comprising the Internet")

254. *See* 1[a]-1[b], XIII.A.2.

255. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 27[a] and 27[b].

3. 27[c] ("receive, over the network from the at least one server, information used for creating or modifying the one or more POS screens including creating or modifying one or more display interfaces for display on the one or more POS screens, the one or more display interfaces being associated with one or more items")

256. This limitation is similar to 1[c], but recites a POS terminal receiving information from the server rather than a server receiving information from a POS builder interface. That difference is addressed below. The remaining limitations of 27[c] are obvious for the same reasons explained for 1[c].

257. As explained in 1[c], *Tengler's* POS builder resides on main server 464 and is accessible remotely over the Internet via a browser and web server 620. EX1005, [0073], [0103], [0107], [0109], [0121]; Figs. 7, 7A-7B. Server 464 includes web server software 620 and database 602. *Id.*, [0115]-[0116], Fig. 15. "The store resident web server 620 also allows managers to edit the user interface of the register [606] and self-service applications [618] and also saves the specifications in the database 602." *Id.*, [0103], [0107]; *see also* [0073]. POS terminals running register application 606 and self-service application 618 display their user interfaces (POS

screens) to employees and customers. *Id.*, [0103], [0107], Fig. 15. POS terminals "contact the restaurant's RMS server 604 … to display the appropriate user interface, so that the order taker can enter the customer's order." *Id.*, [0112]. Further, as explained for claim 22, *Tengler's* POS terminals are configured to operate independent of a network connection. *Id.*, [0011], [0090]. *Tengler* thus discloses and suggests POS screen specifications, including information for creating/modifying buttons associated with items, are received by the POS terminals from database 602, which is part of server 464, over the network to display POS screens and process orders.

258. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 27[c].

4. 27[d] ("perform one or more transactions with respect to the one or more items")

259. As explained for 1[a]-1[b], *Tengler's* POS terminals enable "users to enter orders" and process payment. EX1005, [0011], [0055], [0062], [0074]-[0076], Figs. 3-4, 8-10. *Tengler's* POS terminals thus perform transactions regarding food items ordered in a restaurant.

260. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 27[d].

5. 27[e] ("transmit, from at least one of the one or more POS terminals over the network, further information regarding one or more POS transactions corresponding to the one or more items") and 27[h] ("wherein said one or more POS transactions relate to one or more transactions by corresponding customers respectively associated with at least one of said one or more POS terminals")

261. *See* 1[d], 1[g], XIII.A.4.

262. As explained in 1[d], the further information regarding POS transactions relates to transactions by customers to order food items, either from cashier order terminals 52 or themselves via self-service kiosks 74. EX1005, [0011], [0055], [0062], [0074]-[0076]. The information is transmitted from the POS terminals to main server 464 and stored in its database 602. *Id.*, [0049]-[0051], [0055], [0058], [0089], [0116], [0121]; *see also* [0125], Fig. 17.

263. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 27[e] and 27[h].

6. 27[f] ("create or modify based on the received information or further information the one or more POS screens")

264. *See* 1[e], XIII.A.5. Additionally, 27[f] allows a POS terminal to create or modify POS screens "based on the received information ***or*** further information." As explained for 1[e], *Tengler* discloses POS terminals configured to create and modify POS screens based on information provided from the POS builder interface ***and*** based on further information about POS transactions transmitted from POS terminals to the central server.

265. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 27[f].

7. 27[g] ("wherein the further information regarding the one or more POS transactions, the information used for creating or modifying the one or more POS screens, or a combination thereof comprises one or more of employee clock information, customer add/update information, item add/update information, promotion information, loyalty point information, discount information, taxation information, item cost information, or inventory information")

266. *See* 1[f], XIII.A.6.

267. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 27[g].

V. Claims 28, 31-38, 40-41

268. These claims recite nearly identical limitations to those depending from claim 1 and are obvious for the same reasons. The following chart identifies the corresponding claims with additional argument/support to address differences.

Claim 28	Claim 3, XIII.A.C
Claim 31	Claim 9, XIII.A.D
Claim 32	Claim 10, XIII.A.G
Claim 33	Claim 15, XIII.A.K
Claim 34	Claim 16, XIII.A.L Claim 34 is like claim 16 but from the perspective of the POS terminal rather than server. As explained for claim 16, *Tengler* discloses and suggests managers create/modify POS screens on

	the server in real time while POS terminals are in use performing transactions in real time as the customer is placing the order.
Claim 35	Claim 17, XIII.A.M
Claim 36	Claim 21, XIII.A.P
Claim 37	Claim 4, XIII.A.D
Claim 38	Claim 22, XIII.A.Q Claim 38 is like claim 22 but adds additional limitations regarding transmitting the information regarding POS transactions to the server after the transaction is complete and the POS terminal establishes a connection to the server. *Tengler's* main server 464 includes "web server software 620" that provides remote access to the POS builder via the Internet, and it is thus also a web server. EX1005, [0073], [0103], [0109], [0116]. As explained for claim 22, *Tengler's* POS terminals operate in standalone mode (disconnected from the network) and then later establish a connection to the network and upload the transaction data to database 602 that "maintains a complete history of orders." *Id.*, [0011], [0089]-[0090]. That discloses and suggests performing transactions without a connection to the server.
Claims 40-41	Claim 25-26, XIII.A.T

269. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claims 28, 31-38, and 40-41.

W. Claim 39 ("The web-based point of sale (POS) builder system of claim 38, wherein the at least one POS terminal is further configured to store locally the information regarding the one or more transactions")

270. As explained for claims 22 and 38, *Tengler's* POS terminals can perform transactions, store transaction information locally, and then establish a connection to main server 464 and upload the transaction data to database 602. EX1005, [0011], [0089]-[0090].

271. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 39.

X. Claim 42

272. Claim 42's method steps are similar to the functions of claim 1's system, but omit the server limitation (hence numbering discrepancy). Claim 42 is obvious for the same reasons. The following chart identifies the corresponding limitations.

42[pre]	1[pre], XIII.A.1.
42[a]	1[a]-1[b], XIII.A.2.
42[b]	1[c], XIII.A.3.
42[c], 42[f]	1[d], 1[g], XIII.A.4.
42[d]	1[e], XIII.A.5.
42[e]	1[f], XIII.A.6.

273. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 42.

Y. Claim 43

274. Claim 43's method steps are nearly identical to the functions of claim 27's system. The following chart identifies the corresponding limitations of claim 27, which in turn reference claim 1 for several limitations (parallel references to claim 1 are provide for convenience).

43[pre]	27[pre], XIII.U.1 (1[pre], XIII.A.1)
43[a]-43[b]	27[a]-27[b], XIII.U.2 (1[a]-1[b], XIII.A.2)
43[c]	27[c], XIII.U.3 (1[c], XIII.A.3)
43[d]	27[d], XIII.U.4
43[e], 43[h]	27[e], 27[h], XIII.U.5 (1[d], 1[g], XIII.A.4)
43[f]	27[f], XIII.U.6 (1[e], XIII.A.5) As explained for 1[e] and 27[f], *Tengler* discloses POS terminals configured to create and modify POS screens based on information provided by a manager using the POS builder interface ("received information" of 43[f]) ***and*** based on further information about POS transactions transmitted from POS terminals to the central server ("transmitted information" of 43[e]).
43[g]	27[g], XIII.U.7 (1[f], XIII.A.6)

275. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 43.

Z. Claim 44

276. Claim 44 recites similar limitations to claim 1, but more broadly claims "creating or modifying *functionality of the one or POS terminals*" (44[c]). *Tengler's* disclosure regarding creating and modifying a series of POS screens and items/buttons displayed on POS terminals/kiosks renders obvious the broader limitations regarding functionality for the same reasons as explained for claim 1. The following chart identifies the corresponding limitations.

44[pre]	1[pre], XIII.A.1.
44[a]-44[b]	1[a]-1[b], XIII.A.2.
44[c]	1[c], XIII.A.3.
44[d], 44[g]	1[d], 1[g], XIII.A.4.
44[e]	1[e], XIII.A.5.
44[f]	1[f], XIII.A.6.

277. Accordingly, it is my opinion that *Tengler* discloses and suggests the limitations of claim 44.

XIV. CONCLUSION

278. For at least the above reasons, it is my opinion that the limitations of claims 1-4, 7-28, and 31-44 of the ’793 patent are disclosed, suggested, and rendered obvious as discussed above.