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(54) [Title]

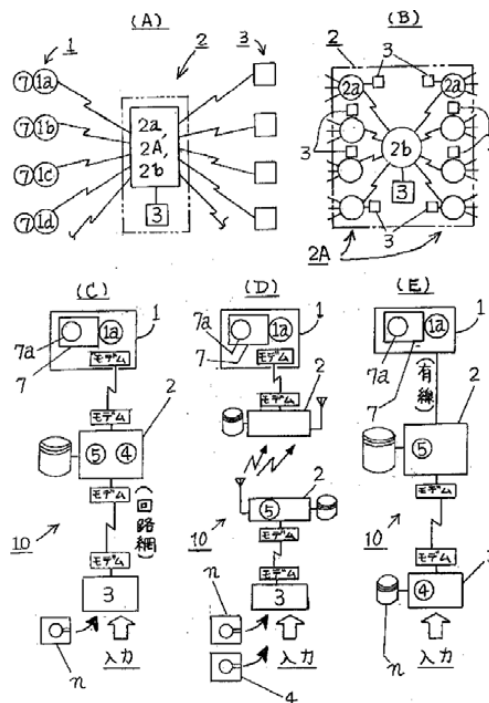
ADVERTIZING, ETC. DISPLAY CONTROL  
SYSTEM

(57) [Abstract]

[Object] Create a control system allowing a registered user to input information at any location without technical constraints to display advertisements and information on the preregistered display devices selected.

[Constituent Features] The system is structured by registering a plurality of slave stations each having a storage means which can receive and transmit data in the communication range and a display device connected to a plurality of terminal devices via a master station. Display contents are prepared using display content preparation support software operated within the system, and display conditions, such as location and time, are set using posting support software operated within the system. The processing is performed by selecting audio, text, and pictures in the guide displayed by the system to appropriately add the display contents for the personally prepared portion to be converted to allow the system to display. The conditions for the posting reservations and the costs are decided by sequentially limiting the location and time. After editing and adjusting for the available display time at the slave stations and overlapped reservations during the multi-reservation time frames established by the system, the slave stations store the information and then execute the reserved display. The execution records are created in a transmittable form.

[Effect] An individual can advertise on a group of display devices globally at the level operable by ordinary persons; slave station owners can widely solicit advertisers; and system operators can autonomously employ the latest technology.



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## [Claims]

[Claim 1] An advertising, etc. display control system 10 for advertising facilities comprising a plurality of fixed or mobile registered electronically controllable display devices 1a, 1b, ---, as slave stations 1, and a master station 2 selectively organized and configured with a central control unit 2b controlling a central processing unit 2a or a group or a plurality of groups of central processing units 2A, each unit individually and the group, adapted to display advertisements or information at any of the slave stations 1 by inputting and transmitting the display reservation information m prepared from a plurality of terminal devices 3 via the master station 2 which transmits the data to the slave station 1, wherein the advertising, etc. display control system is characterized such that the display reservation information m for a slave station 1 available for reservation is prepared by using display content preparation support software 4, which assists the preparation of display data, including audio, text, or videos, for the display reservation information m, and display content posting support software 5, which assists the selection of a single or plural slave stations 1 to be reserved for display specified in accordance with certain standards, setting the display duration t and posting reservation time frame T, and display related procedural processing P, including editing of multiple display reservations, calculating and collecting fees or costs c; a display reservation with a specific slave station 1 is completed by inputting at any specific terminal device 3 directly or via a prescribed storage medium n upon storing the information on the storage medium n; and the display of the display reservation information m is executed at the specific slave station 1 under the set conditions reserved from a specific terminal device 3 via the master station 2.

[Claim 2] The advertising, etc. display control system characterized by updating the display time information 6 of the display content posting support software 5 by dividing the display reservation cut off period for the selected specific slave stations 1 into several periods, sequentially distributing and editing the display reservations to be displayed in the same posting reservation time frame T received during each of the 1<sup>st</sup> to the N<sup>th</sup> reservation periods, while distributing the idle time 2t remaining in the posting reservation time frame T before and after each of the reserved display runtime t1 during the reservation period to adjust for overlapping display reservations, setting the display duration t for each of the display reservations by adding the idle time t2 to the display runtime t1 at the end of the final reservation period, and successively registering the display reservation status with the master station 2.

[Claim 3] The advertising, etc. display control system characterized by providing the slave stations 1 with a storage means 7 accompanied by a transceiver 7a, enabling the slave stations 1 to store the transmitted contents 8 from the master station 2 before the display control system 10 executes and completes the reserved display of the transmitted contents 8 in the posting reservation time frame T at the slave stations 1, and enabling the slave stations to store the execution records 9 for the completed display before transmitting them to the master station 2, the applicable records for individual reservations among the transmitted records being subsequently transmitted to each of the preregistered addressees 3a.

## [Detailed Description of the Invention]

[0001]

[Industrial Applications] The present invention relates to displaying advertising and information, particularly to an advertising, etc. display control system capable of allowing a

user to display advertisement and information, while allowing him to manage his budget, by inputting the information at a prescribed terminal device installed at a given location for display on a group of registered display devices of any number to be remotely communicated to a single or plurality of display devices optionally selected from among the group of display devices.

[0002]

[Background Art] Conventional methods for placing advertisements and information (hereinafter referred to as advertisements) include: a) producing, and posting or distributing a single or plural printed materials displaying the information one wishes to display at a specific location or non-specific multiple locations, b) unilaterally transmitting advertising as audio broadcasting, or image/video advertising using a group of display or notification devices, including radios, cable broadcasting systems, and television sets to the general public or the persons located at a specific location, or c) exclusively displaying advertisement on a single display device by using a device, such as an illuminated advertising board, an electronic signboard, a liquid crystal display, or the like.

[0003] Conventional technologies for b) and c) above have been disclosed as the following advertising technologies: 1) anyone can know the registered display contents at an unspecified location by way of a prepaying means (Japanese Unexamined Patent Application Publication No. H01-115262), 2) the advertisement information stored on an electronic medium is displayed on a specific display means using a prepaying means by inserting a coin or card to display the information real time during a specific display period (Japanese Unexamined Patent Application Publication No. H02-47766), 3) communication data display technology comprising a data conversion means, a storage means, and a display means which compresses and converts the communication data for advertisements (Japanese Unexamined Patent Application Publication No. H02-181818), and 4) information notification technology which displays the display contents using text and images by way of a remote data transmission, and additionally provides audio (Japanese Unexamined Patent Application Publication No. H05-216420).

[0004] Additional disclosure includes 5) electronic billboard technology using a broadcasting system comprising a master station and a plurality of slave stations wherein an information provider prepares information contents and transmits to the master station, and specified slave stations display the contents on their display devices after confirming that the contents transmitted by the master station are indeed addressed to the slave stations (Japanese Unexamined Patent Application Publication No. H03-117123), and 6) such information transmission is performed by satellite communication (Japanese Unexamined Patent Application Publication No. S60-85631). Additional disclosure includes 7) a system which displays information in a transportation vehicle (disclosed in the Denpa Shimbun article "A New Vehicular Video Service System Using Liquid Crystal Displays" published on February 14, 1989), and 8) technology similar to 7) that provides non-specific information to the general public in a transportation vehicle by receiving the information transmitted from the outside (Japanese Unexamined Patent Application Publication No. H02-223985).

[0005] The latest prior art applicable to b) and c) above shows, "non-specific" being the keyword, that all display contents can be displayed on a remotely located display device by way of communication regardless of the form or style; the beneficiaries

(3)

can see the advertisements before their eyes at a specific location, such as a telephone box, by prepaying; the information providers can display information on a specific display device real time by prepaying; the communication and information companies can have the benefit of compressing the entrusted information to efficiently transmit and display the information; and the broadcasting system and transportation vehicle information network professionals can manipulate information provision and display to provide the public with unspecified information.

[0006]

[Problem to be Solved by the Invention] The conventional advertising method a) described above, however, is wasteful because the advertising media are expended or disposed of after use, and the conventional method b) has the same restrictions as those of the technologies 1) and 2) in which a beneficiary or an information provider seeking profits from advertising can transmit or receive advertisements, even if he is not a professional, if prepaid, i.e., he can merely receive profits to the extent that he can confirm. In order to increase profits from advertising in a wider area, an advertiser has no choice but to specify the conditions, such as a certain posting time frame and display duration, and to depend on the specific contracted professionals who exclusively select and use specific facilities for a broadcasting area or a transportation vehicle, which did not allow the advertiser to advertise to the general public in a few limited, selected regions to aim for the maximum economic effect.

[0007] In other words, if an end user transmitting advertisements in a wide area is located in Kyushu and wishes to advertise using advertising facilities located in Tokyo, for example, he would outsource the task to a professional, leaving the decisions on the advertising means and specifications to the professional. In the case of displaying an advertisement on broadcasting display devices, since advertisements are normally displayed for short time periods, a mid-sized advertisement not conforming to the broadcasting conditions cannot be displayed. In the case of advertising on an outdoor display device, an advertisement is posted continuously by securing the right under an exclusive long-term contract over several months to several years, and thus the advertising space cannot be made available to someone who wishes to place another advertisement for a short period of time. Even if the contractor wishes to suspend the advertisement, he cannot do so unless he terminates the contract prematurely or the other party agrees to such suspension. Even if a regionally located small enterprise wishes to utilize a distant, centrally located outdoor display device, it could not do so at an appropriate location on a timely manner.

[0008] Meanwhile, if an owner of an outdoor display device such as an advertisement tower wishes to have an advertiser, he could not solicit a large number of advertisers nor lease the facility by the hour unless he outsources the solicitation to an advertising company due to the restrictions faced because the facility is fixed in one region. Companies do not typically outsource advertiser searches to advertising companies located across the country. Even for the individual notification means for the sales offices of tourism industries and their member inns and hotels, typical systems are such that when placing the information transmitted from a regional office on the company-wide notification rout, such information is communicated through a central office, which does not allow a regional office to directly input the information to the routing system to independently transmit information or use the system, or otherwise severely restrict such use. The

present invention provides a means for advertising from a location, even in a foreign country, for example, distant from the display facilities where the advertisement will be displayed without outsourcing the task to professionals, which allows the end user himself to directly decide the major specifications for providing the information, such as display contents, posting time frame, display durations, and display facilities, while managing his budget, and make display reservations upon confirming the selected particulars related to the display contents beforehand. Another object of the present invention is to provide the advertising facility owners and operators with the advertising display control system technology capable of increasing the utilization of the facilities by widely soliciting advertisers and collecting advertising revenues in an assured manner.

[0009]

[Means for Solving the Problems] The advertising, etc. display control display system according to the present invention is a system for advertising facilities comprising a plurality of fixed or mobile registered electronically controllable display devices as slave stations, and a master station selectively organized and configured with a central control unit controlling a central processing unit or a group or a plurality of groups of central processing units, each unit individually and the group, adapted to display advertisements or information at any of the slave stations by inputting and transmitting the display reservation information m prepared from a plurality of terminal devices via the master station which transmits the data to the slave station, wherein the advertising, etc. display control system is characterized such that the display reservation information m for a slave station available for reservation is prepared by using display content preparation support software, which assists the preparation of display data, including audio, text, or videos, for the display reservation information m, and display content posting support software, which assists the selection of a single or plural slave stations to be reserved for display specified in accordance with certain standards, setting the display duration t and posting reservation time frame, and display related procedural processing, including editing of multiple display reservations, calculating and collecting fees or costs; a display reservation with a specific slave station is completed by inputting at any specific terminal device directly or via a prescribed storage medium upon storing the information on the storage medium; and the display of the display reservation information is executed at the specific slave station under the set conditions reserved from a specific terminal device via the master station.

[0010] Moreover, the present invention is characterized by updating the display time information of the display content posting support software by dividing the display reservation cut off period for the selected specific slave stations into several periods, sequentially distributing and editing the display reservations to be displayed in the same posting reservation time frame received during each of the 1<sup>st</sup> to the N<sup>th</sup> reservation periods, while distributing the idle time remaining in the posting reservation time frame before and after each of the reserved display runtime during the reservation period to adjust for overlapping display reservations, setting the display duration for each of the display reservations by adding the idle time to the display runtime at the end of the final reservation period, and successively registering the display reservation status with the master station.

[0011] Furthermore, the present invention is characterized by providing the slave stations with a storage means accompanied by a transceiver, enabling the slave stations to store the

transmitted contents from the master station before the display control system executes and completes the reserved display of the transmitted contents in the posting reservation time frame at the slave stations, and enabling the slave stations to store the execution records for the completed display before transmitting them to the master station, the applicable records for individual reservations among the transmitted records being subsequently transmitted to each of the preregistered addressees.

[0012]

[Operation] The present invention enables an end user who can access the two pieces of advertisement display support software provided by the system to put together the elements of the contents that can be displayed on a display device by selecting audio, text, images, or videos, individually or in combination, as a presentation, and store the presentation in the system, and by using the separate posting software in a similar manner, select the desirable regions or locations in accordance with the budget to make reservations for individually or continuously displaying the presentation on display devices in one or multiple locations in a limited small area or a wide area during a specific posing time frame over the selected specific time period, such as for a day, days, or weeks. The records of the display being executed can be obtained for confirmation, in addition to directly confirming the execution of the reserved presentation by being at a specific display location. Meanwhile, display device owners or operators can widely solicit advertisers from among the public in Japan and abroad, as well as controlling the quality of the system by editing and managing the reserved advertisements by applying certain standards, as well as understanding the utilization status using the reservation system, ensuring payments for the advertisements using the deposit system, and automating payment collection.

[0013]

[Example] The whole system according to the present invention is explained below with reference to FIG. 1 and FIG. 2. FIG. 1 explains the overall structure of the system according to the present invention comprising slave stations, a master station, and terminal devices. FIG. 1(A) is a system configuration and layout diagram, FIG. 1(B) is an internal system configuration and layout diagram of the master station according to one example, FIG. 1(C) is a configuration diagram of the pertinent portion of the communication system through a slave station from a terminal device according to one example, FIG. 1(D) is a system configuration diagram according to another example, and FIG. 1(E) is a system configuration diagram according to another example. FIG. 2 is a flowchart describing the system processing sequence of the present invention. As shown in FIG. 1, reference numeral 1 denotes a plurality of slave stations each having a display device 1a-1d, and so on, capable of computer processing, the display on which can be controlled by the master station 2. Each of the slave stations is provided with a storage device for temporarily storing the reserved display contents received by the accompanying transceiver 7a and the execution records after posting advertisements are transmitted to the master station 2. As for the master station 2, the system comprises a plurality of master stations 2, which have a single central processing unit 2a in some cases, but are structured, as shown in FIG. 1(B), with a central processing unit group 2A comprising a plurality of central processing units 2a each having a dedicated terminal device 3, controlled individually and as a group by a central control unit 2b, being selectively organized by the advertising, etc. display control system 10 (hereinafter referred to as the system). Here, the slave stations 1, the master stations 2, and the terminal devices 3 are registered with the

system 10, and subjected to display control under the control standards for reserved display information unified by the system 10.

[0014] The system 10, which includes the registered slave stations 1, master stations 2, and terminal devices 3, is such that the slave stations 1 comprise devices, such as outdoor display panels for the general public, including pedestrians, those that are installed indoors, including train stations, stadiums and sport facilities, electronic billboards, TV monitors, and cable broadcasting devices in airplanes, ships, and trains. The system can be structured with a radio or TV station as a master station 2, and receivers as slave stations 1 installed permanently or for a specific time period targeting the general public or the members of a regional organization within a specific organization. The system 10 can be structured as one of the internal systems organized by a certain group, installing, for example, slave stations 1 and terminal devices 3 in a number of plants, offices, and sales offices while providing a master station 2 in an appropriate separate location to display advertisements suitable for the business objectives. The system 10 can be structured with a master station 2 installed at a tourism association office or professional management company, while installing slave stations 1 at the supporting sales offices in various locations, regional offices, and member inns. Slave stations 1 can be installed on the exterior walls of buildings, outdoor advertising panels of any form installed on the rooftops, telephone boxes, utility poles, or fixed-form bulletin boards installed in transportation equipment such as airplanes. When advertising can be effective with the use of a large outdoor billboard, in particular, the display surface of the display device 1a of a slave station 1 can be divided into sections, depending on the size and the shape of the billboard, to be treated as one device on one occasion while being treated as multiple display devices 1a and 1b corresponding to the sections on another occasion. Moreover, the route to a specified slave station 1 from a terminal device 3 via the master station 2, i.e., the central processing unit 2a, the central control unit 2b, and the central processing unit 2a' on the slave station 1 district side, is selectively chosen. In the case where a specific slave station 1 is located at the central processing unit 2a within the same district as that of the terminal device 1, the communication route in the same district is directly selected.

[0015] As shown in FIG. 1(C) to (D), the slave station 1 is connected to the terminal device 3 via the master station 2 using a communication network using modems, such as telephone lines, enabling the use of the display content preparation support software 4 (hereinafter referred to as the preparation software) and the display content posing support software 5 (hereinafter referred to as the posting software) installed at the master station 2 at the terminal device 3. What has been input and prepared at the terminal device can be stored on a storage medium n. The slave station 1 is equipped with a display device 1a and a storage means 7 accompanied by a transceiver 7a, and can receive and store transmissions from the master station 2, as well as receiving display control signals (FIG. 1(C)). Another example shown in FIG. 1(D) is structured by connecting via a wireless or satellite communication a master station 2, which is connected to a slave station 1 via a communication network, and another master station 2, which is connected to a terminal device 3 via a communication network. The preparation software shown in FIG. 1(D) installed on the terminal device 3 allows for the preparation of the display contents in part or in whole to be displayed at the slave station 1 without communicating with the

master station 2, as in the case of the terminal device 3 having a built-in storage medium n and the preparation software 4 shown in FIG. 1(E). The slave station 1, as shown in another example (FIG. 1(E)), can alternatively be connected with a master station 2 using a cable.

[0016] As shown in FIG. 2, the preparation software 4 is software accompanied by a preparation guide for assisting in the preparation of the data to be displayed by storing on a storage medium n the display contents, such as audio, pictures, and text among the reserved display information m, including the contents, time, and location, to be communicated by the system 10 and displayed on a display device 1a, and displaying on a display (CRT) screen, not shown, of the terminal device 3. The posting software 5 is software accompanied by a setting operation guide for performing display related procedural processing P to confirm and reserve the locations and time for the display data prepared by the preparation software 4, such as the budget, the locations of the slave stations 1a, display time, duration, and the method of display. The terminal device 3 equipped with the preparation software 4 shown in FIG. 1(E) is structured as a special use device for an advertising company or a device for exclusive use by a specific organization, and is equipped with a storage device for incorporating, recycling, and repeatedly using for sales purposes a portion of the assets of the system 10 which are sorted out, transmitted, and purchased from among the display content data assets, such as audio, text, images, and videos, increasing in volume with the passage of time at the master station 2 as occasion demands. The user of the exclusive use device can reduce the preparation software 4 usage fees and the communication costs while using the software to be paid to the operator of the system 10. The posting software 5, moreover, remains installed at the master station 2 so as to handle the fluctuations in the slave stations 1, but for use by a special organization, the system 10 can structure the entire assets after editing a portion or a particularly important portion of the posted information assets in divided sections or as a whole for a separate application. The preparation software 4 shown in FIG. 1(D) stores the basic display content data structured and produced by the system 10, but in the event that the storage capacity is insufficient for preparing a presentation even if the stored assets of the upgraded software product having improved storage contents are used, it will have the presentation completed by supplementing the display content data preparation deficiency through communication with the master station 2.

[0017] FIG. 3 explains an advertisement display time frame according to the invention, where FIG. 3(A) is a diagram showing how display time reservation information is handled, and FIG. 3(B) is a posting time frame diagram showing seasonal factors and the reservation status in progress. For a display time 6 where the display of an advertisement on display devices 1a is reserved and executed, posting time slots are appropriately set so as to fit the daytime and nighttime of the region where each display device 1a is located, and an idle time t2 is sporadically distributed in the posting reservation time frame T in order to accommodate the daytime-nighttime fluctuations attributable to seasonal factors, time adjustments, the conditions surrounding the subject being advertised, and others (FIG. 3(B)). When display reservations are received from an operator, the reservation periods created from the first to several orders are sequentially filled, and reservations are cut off when posting time is no longer available. If any time were to remain available, the display time 6 for individual reservations are arranged so that the posting reservation time frame T is filled with all the

reservations that came in before the final reservation cut-off time, i.e., the N<sup>th</sup> order cut-off time, without excess or deficiency, while occasionally adding the display contents separately prepared by the system 10 (FIG. 3(A)). The specific reservation information described above is successively registered with the master station 2 and the applicable items updated so as not to allow any double booking to occur.

[0018] The steps of operating the advertising, etc. display control system 10 according to the present invention structured as above will be explained with reference to FIG. 2 and FIG. 4. FIG. 4 is a block diagram showing the steps of selecting slave stations, explaining the pertinent part of one example of the display content posting support software. In FIG. 2, a user who wishes to advertise at a specific slave station 1 registers with the system 10, and shows the financial backing for the display reservation by confirming the deposit made. He then prepares his own storage medium n for making a copy of the product and inputs the display reservation information m. After preparing the display data determining the display contents by using the preparation software 4 and confirming the display reservation contents, he proceeds with display related procedural processing P through communication using the posting software 5. In other words, he selects and reserves a display location, date, time, and time period using the processing P in accordance with his budget. The reserved display contents are stored by the system 10, including the master station 2, and the system 10 executes the display after allocating the posting time and performing a prescribed editing so as not to compromise public order and standards of decency. Even though not shown, the system 10 suitably prepares a list of unnecessary language and images, which is automatically applied to the display contents being prepared at all times or in batch processing to seek correction when applicable. For the purpose of performing an effective display, the edits performed by the system 10 are also applied when planning a special campaign and story-based advertisements involving the system operators and the owners of the slave stations 1 prior to accepting reservations, as well as making public relations announcements and public notifications. With respect to transmission of display data to specified slave stations installed in transportation equipment, such as airplanes and buses, the quality of information can be higher if received when the transportation equipment are parked at terminals rather than in transit.

[0019] The operations performed using the software shown in FIG. 2 will be explained in greater detail below. After processing the prescribed storage medium n to an exclusive use format, which concurrently confirms the registrant of the system 10 by using the posting software 5, a deposit confirmation operation (1) (the first confirming process) is performed. Here, the deposit balance is displayed, and the system 10 selectively displays the usage fees for the preparation software 4 which assists the preparation of audio, text, images, and videos, as well as the display device usage fees in accordance with the selected conditions, including daytime versus nighttime, seasonal factors, and posting time slot in the scheduled display period at various levels, grade, and region. The operator can have multiple budget proposals to be automatically prepared to allow the process to continue, and retrieve the budget proposals onto the CRT screen to check them at a suitable time during the process. The process may be suspended by making a hard copy. If the selected budget proposal exceeds the deposit balance, unless computer processing for increasing the deposit is performed, the communication with the system 10 is automatically terminated.



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