IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner	:	Abbas I. Abdulselam
Art Unit	:	2629
Inventor	:	Timothy R. Pryor
Application No.	:	11/980,701
Filing Date	:	October 31, 2007
For	:	MULTIPOINT, VIRTUAL CONTROL AND FORCE BASED TOUCH SCREEN APPLICATIONS
Attorney Docket No.	:	135873.136839-US

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE

Responsive to the Official Action mailed October 18, 2010, the period for response being until January 18, 2011, please amend the above identified patent application as set forth on the following pages.

CLAIMS

1. through 3. (Canceled)

4. (Currently Amended) A touch interface comprising:

a display screen including a front surface and a rear surface and adapted to display visually observable data;

a sensor circuit adapted to identify a characteristic of a touch input on the front surface of the display screen; and

a force element ~~transducer~~ responsive to the sensor circuit and adapted to excite the display screen rear surface by generating a force feedback signal in response to the characteristic of the touch input.

5. (Previously Presented) The touch interface of claim 4 wherein:

the force feedback signal includes a frequency; and

the frequency is selected as a function of at least the characteristic of the touch input.

6. (Previously Presented) The touch interface of claim 4 wherein:

the force feedback signal includes an intensity; and

the intensity is selected as a function of at least the characteristic of the touch input.

7. (Previously Presented) The touch interface of claim 4 wherein:

the force feedback signal includes a pulse sequence; and

the pulse sequence is selected as a function of at least the characteristic of the touch input.

8. (Previously Presented) The touch interface of claim 4 wherein the characteristic includes the location of the touch input.

9. (Previously Presented) The touch interface of claim 4 wherein the characteristic includes at least a component of the force vector of the touch input.

10. (Currently Amended) The touch interface of claim 4 wherein the touch input includes one of a finger and a thumb in contact with the display ~~touch~~ screen.

11. (Previously Presented) The touch interface of claim 4 wherein the force feedback signal is directed to a portion of the display screen underlying the touch input.

12. (Currently Amended) The touch interface of claim 4 wherein the force element ~~transducer~~ includes a piezoelectric crystal.

13. (Currently Amended) The touch interface of claim 4 wherein the force element ~~transducer~~ includes an air blast generator.

14. (Previously Presented) The touch interface of claim 4 wherein the force feedback signal is an acoustic wave signal.

15. (Currently Amended) A computer implemented method for providing tactile feedback in response to input received from a user, the method comprising:

providing a touch screen including a front surface, the touch screen adapted to display visually observable data;

providing a force element to actuate the touch screen;

detecting a first touch input on the touch screen front surface; and

actuating the touch screen perpendicular to the touch screen front surface with the force element to provide a first force feedback signal in response to said detecting step.

16. (Previously Presented) The method according to claim 15 further including determining a characteristic of the first touch input.

17. (Previously Presented) The method according to claim 16 wherein the characteristic of the first touch input includes the location of the first touch input on the touch screen front surface.

18. (Previously Presented) The method according to claim 16 wherein the characteristic of the first touch input includes the force of the first touch input.

19. (Previously Presented) The method according to claim 16 wherein the force feedback signal indicates a function selected by the user.

20. (Previously Presented) The method according to claim 15 wherein the force feedback signal indicates the first touch input has registered.

21. (Previously Presented) The method according claim 16 wherein:

the detecting step includes the first touch input generating a local surface distortion; and

the characteristic of the first touch input is based on the local surface distortion.

22. (Previously Presented) The method according to claim 15 wherein the first touch input includes one of a finger and a thumb in contact with the touch screen front surface.

23. (Previously Presented) The method according to claim 15 wherein said actuating step includes vibrating the touch screen front surface.

24. (Previously Presented) The method according to claim 15 wherein the first force feedback signal is directed to a portion of the touch screen underlying the first touch input.

25. (Previously Presented) The method according to claim 16 wherein:

the first force feedback signal includes a frequency; and

the frequency is selected as a function of the characteristic of the first touch input.

26. (Previously Presented) The method according to claim 16 wherein:

the first force feedback signal includes a pulse sequence; and

the pulse sequence is selected as a function of the characteristic of the first touch input.

27. (Previously Presented) The method according to claim 16 wherein:

the first force feedback signal includes an intensity; and

the intensity is selected as a function of the characteristic of the first touch input.

28. (Previously Presented) The method according to claim 16 further including:

detecting a second touch input;

determining a characteristic of the second touch input different from the characteristic of the first touch input; and

actuating the touch screen front surface with a second force feedback signal different from the first force feedback signal.

29. (Previously Presented) The method according to claim 28 wherein:

the first force feedback signal includes a first pulse sequence; and

the second force feedback signal includes a second pulse sequence different from the first pulse sequence.

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.