US006791536B2

(12) **United States Patent**
Keely et al.

(10) **Patent No.: US 6,791,536 B2**
(45) **Date of Patent: Sep. 14, 2004**

(54) **SIMULATING GESTURES OF A POINTING DEVICE USING A STYLUS AND PROVIDING FEEDBACK THERETO**

(75) Inventors: **Leroy B. Keely**, Portola Valley, CA (US); **David F. Jones**, Redmond, WA (US); **David Switzer**, Redmond, WA (US); **Michael Hin-cheung Tsang**, Bellevue, WA (US); **William Hong Vong**, Seattle, WA (US)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 69 days.

(21) Appl. No.: **09/815,272**

(22) Filed: **Mar. 23, 2001**

(65) **Prior Publication Data**

US 2002/0057263 A1 May 16, 2002

Related U.S. Application Data

(60) Provisional application No. 60/247,844, filed on Nov. 10, 2000.

(51) **Int. Cl.**[7] **G09G 5/00**

(52) **U.S. Cl.** **345/173**; 345/161; 345/163; 345/168; 345/173; 345/179; 345/863

(58) **Field of Search** 345/173, 156, 345/161, 163, 167, 168, 179, 863; 178/19.01, 19.04, 20.01; 703/17, 19, 21–24

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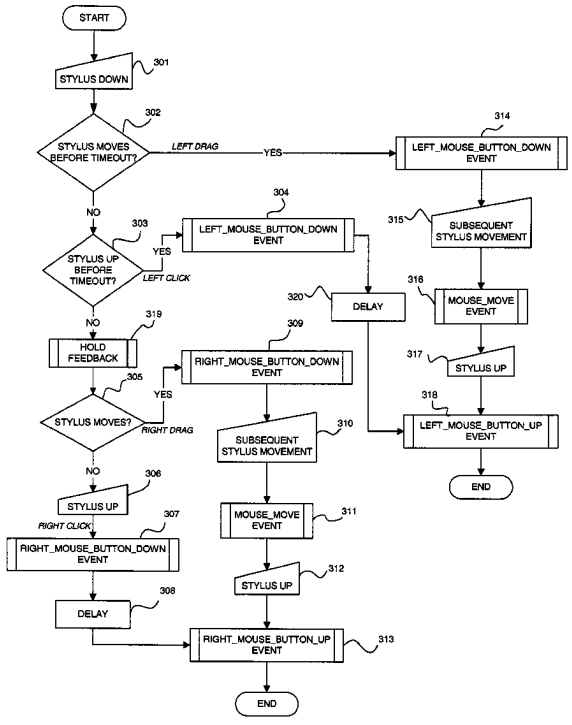
Primary Examiner—Henry N. Tran
(74) *Attorney, Agent, or Firm*—Banner & Witcoff, Ltd.

(57) **ABSTRACT**

A method and apparatus for simulating at least one gesture of a pointing device such as a mouse. A left click, right click, left drag, right drag, and/or mouse movement may be simulated using a stylus in conjunction with a touch-sensitive display surface. For example, a computer having the display surface may detect whether a stylus is being held down on a touch-sensitive display surface for at least a threshold amount of time. The computer may further detect whether the stylus is then removed from the touch-sensitive display surface after at least the threshold amount of time. Responsive to the stylus being removed, the computer may generate at least one event representing a right mouse button being pressed.

47 Claims, 4 Drawing Sheets



US006897853B2

(12) **United States Patent**
Keely et al.

(10) **Patent No.: US 6,897,853 B2**
(45) **Date of Patent: May 24, 2005**

(54) **HIGHLEVEL ACTIVE PEN MATRIX**

(75) Inventors: **Leroy B. Keely**, Portola Valley, CA (US); **Charlton E. Lui**, Redmond, WA (US); **F. David Jones**, Redmond, WA (US); **Ryan Edward Cukierman**, Redmond, WA (US); **Susanne Alysia Clark Cazzanti**, Bellevue, WA (US); **Marieke Iwema**, Renton, WA (US); **Robert Jarrett**, Snohomish, WA (US)

(73) Assignee: **Microsoft Corp.**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 172 days.

(21) Appl. No.: **09/736,170**

(22) Filed: **Dec. 15, 2000**

(65) **Prior Publication Data**

US 2002/0056575 A1 May 16, 2002

Related U.S. Application Data

(60) Provisional application No. 60/247,400, filed on Nov. 10, 2000.

(51) **Int. Cl.**[7] **G09G 5/00**

(52) **U.S. Cl.** **345/179**; 345/764; 345/769; 382/188; 382/313; 382/314

(58) **Field of Search** 345/642, 585, 345/751, 769, 863, 179; 707/102; 709/231; 382/188, 313, 314

(56) **References Cited**

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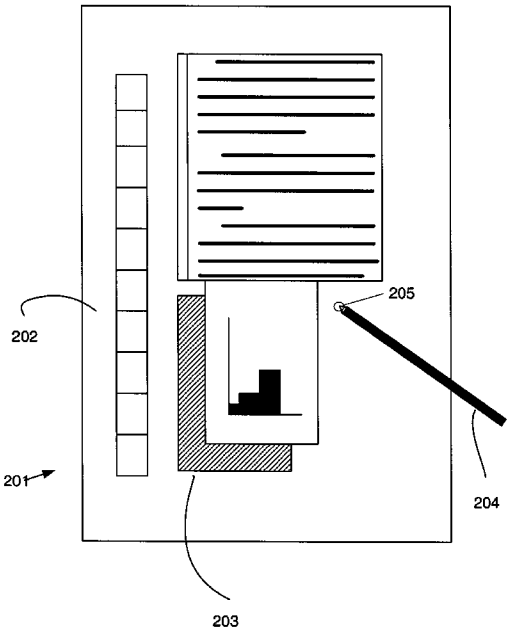
Primary Examiner—Dennis-Doon Chow
Assistant Examiner—Srilakshmi K. Kumar
(74) *Attorney, Agent, or Firm*—Banner & Witcoff, Ltd.

(57) **ABSTRACT**

The present invention relates to a system, method and medium for receiving and acting upon user input. In one embodiment, the user may only have access to a limited input device, like a stylus. Using the present invention, a user is provided with intuitive responses from the system based on inputs from the limited input device.

17 Claims, 7 Drawing Sheets



US007024214B2

(12) **United States Patent**
Loveland

(10) **Patent No.: US 7,024,214 B2**
(45) **Date of Patent: Apr. 4, 2006**

(54) **SYNCHRONIZING OVER A NUMBER OF SYNCHRONIZATION MECHANISMS USING FLEXIBLE RULES**

(75) Inventor: **Shawn Domenic Loveland**, Sammamish, WA (US)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 446 days.

(21) Appl. No.: **10/082,918**

(22) Filed: **Feb. 26, 2002**

(65) **Prior Publication Data**

US 2003/0162555 A1 Aug. 28, 2003

(51) **Int. Cl.**
H04B 15/00 (2006.01)

(52) **U.S. Cl.** **455/502**; 455/501; 455/503; 455/500; 370/350; 370/503; 370/506; 375/354; 375/355; 375/358

(58) **Field of Classification Search** 455/500–502, 455/507, 556, 456, 403, 419, 445, 446, 561, 455/550.1, 39, 503; 375/355, 358, 354; 370/350, 370/503, 506

See application file for complete search history.

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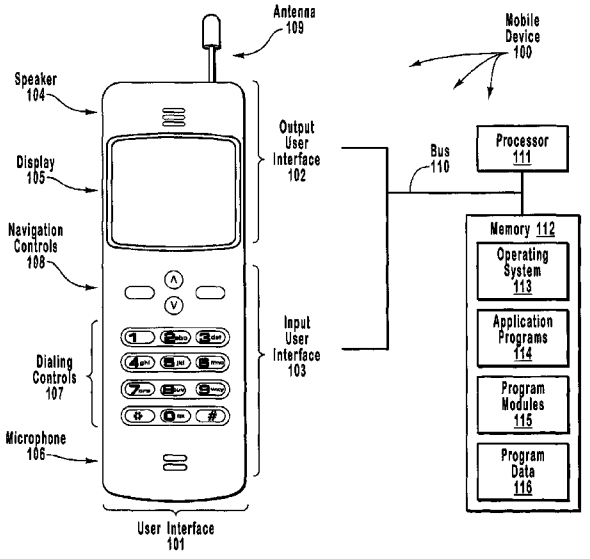
Primary Examiner—Sonny Trinh
Assistant Examiner—Khai Nguyen
(74) *Attorney, Agent, or Firm*—Workman Nydegger

(57) **ABSTRACT**

Two computer systems in a network each have a local store that contains a copy of a data item that is to be synchronized. One of the computer systems may be, for example, a mobile device while the other may be a synchronization server. In order to determine whether to synchronize a data item, and what synchronization mechanism to use, one of the computer systems references a flexible set of rules that may be influenced by instructions from a network administrator or a mobile device user. The flexible set of rules takes into consideration the value of the data, the cost associated with synchronization, the security of the synchronization mechanisms, the security of the mobile device, as well as the location of the mobile user in dictating whether and how to synchronize.

58 Claims, 3 Drawing Sheets



US007493130B2

(12) **United States Patent**
Loveland

(10) **Patent No.: US 7,493,130 B2**
(45) **Date of Patent: *Feb. 17, 2009**

(54) **SYNCHRONIZING OVER A NUMBER OF SYNCHRONIZATION MECHANISMS USING FLEXIBLE RULES**

(75) Inventor: **Shawn Domenic Loveland**, Sammamish, WA (US)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 368 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **11/340,346**

(22) Filed: **Jan. 26, 2006**

(65) **Prior Publication Data**

US 2006/0235898 A1 Oct. 19, 2006

Related U.S. Application Data

(63) Continuation of application No. 10/082,918, filed on Feb. 26, 2002, now Pat. No. 7,024,214.

(51) **Int. Cl.**
H04B 7/00 (2006.01)

(52) **U.S. Cl.** **455/502**; 455/501; 455/503; 455/500; 370/350; 370/503

(58) **Field of Classification Search** 455/502, 455/501, 503, 500; 370/350, 503, 506
See application file for complete search history.

(56) **References Cited**

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7,024,214	B2 *	4/2006	Loveland	455/502
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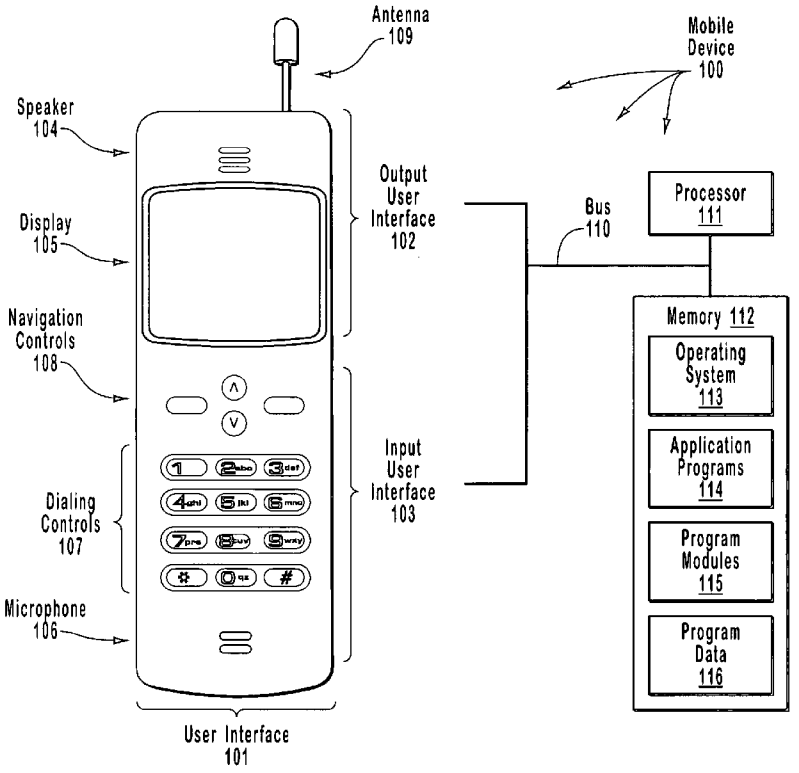
Primary Examiner—Vincent P. Harper
Assistant Examiner—Khai M Nguyen

(57) **ABSTRACT**

Two computer systems in a network each have a local store that contains a copy of a data item that is to be synchronized. One of the computer systems may be, for example, a mobile device while the other may be a synchronization server. In order to determine whether to synchronize a data item, and what synchronization mechanism to use, one of the computer systems references a flexible set of rules that may be influenced by instructions from a network administrator or a mobile device user. The flexible set of rules takes into consideration the value of the data, the cost associated with synchronization, the security of the synchronization mechanisms, the security of the mobile device, as well as the location of the mobile user in dictating whether and how to synchronize.

20 Claims, 3 Drawing Sheets



US007383460B2

(12) **United States Patent**
Sherwin, Jr. et al.

(10) **Patent No.: US 7,383,460 B2**
(45) **Date of Patent: Jun. 3, 2008**

(54) **METHOD AND SYSTEM FOR CONFIGURING A TIMER**

(75) Inventors: **Bruce J Sherwin, Jr.**, Woodinville, WA (US); **Eric Nelson**, Woodinville, WA (US)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 392 days.

(21) Appl. No.: **11/089,957**

(22) Filed: **Mar. 25, 2005**

(65) **Prior Publication Data**

US 2006/0218429 A1 Sep. 28, 2006

(51) **Int. Cl.**

G06F 1/04	(2006.01)
G06F 1/12	(2006.01)
G06F 5/06	(2006.01)
G06F 11/00	(2006.01)
G06F 3/00	(2006.01)
G06F 9/44	(2006.01)
G06F 9/46	(2006.01)
G06F 13/00	(2006.01)

(52) **U.S. Cl.** **713/600**; 714/55; 719/328

(58) **Field of Classification Search** 713/600; 714/55; 719/328

See application file for complete search history.

(56) **References Cited**

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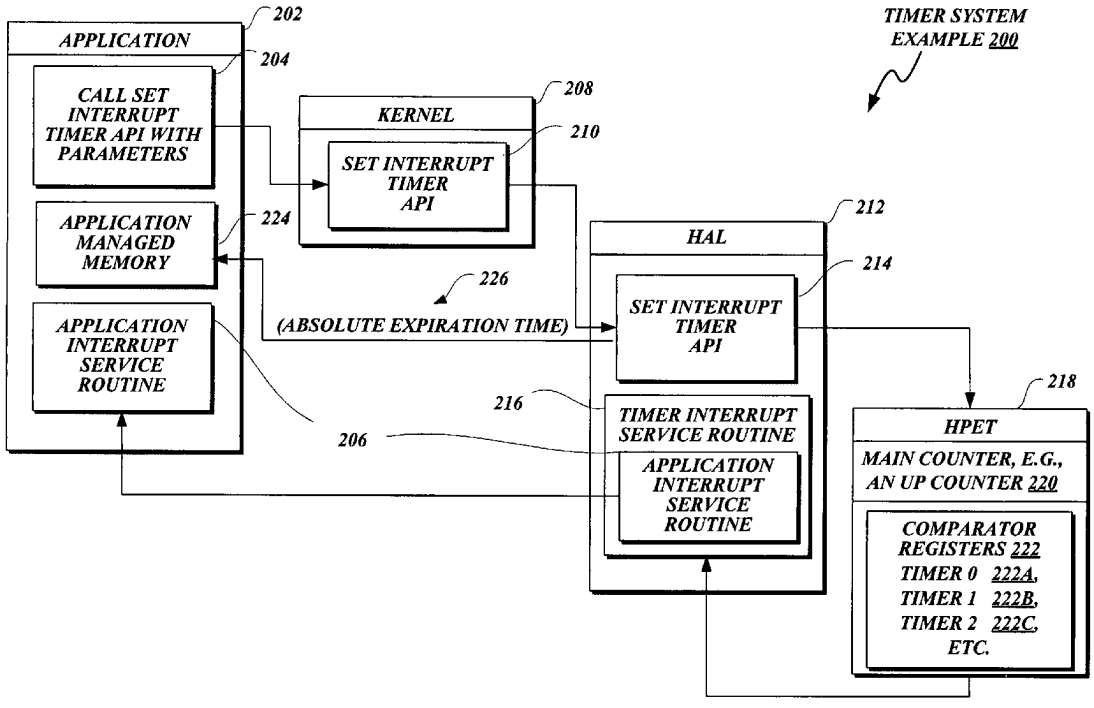
Primary Examiner—Chun Cao
Assistant Examiner—Jaweed A Abbaszadeh
(74) *Attorney, Agent, or Firm*—Christensen O'Connor Johnson Kindness PLLC

(57) **ABSTRACT**

The present invention facilitates access to timers in a computing device. In particular, a timer system facilitates configuring a hardware interrupt timer in a computing device, the timer being guaranteed to expire at a specific time in a non-real-time environment. A calling application passes parameters to a hardware independent application programming interface (API) to the hardware interrupt timer. The hardware independent API validates the parameters and relays them to a hardware dependent API. The hardware dependent API establishes a connection with the timer in accordance with the validated parameters, and executes a service routine associated with the application upon expiration of the timer.

15 Claims, 7 Drawing Sheets



US006897904B2

(12) **United States Patent**
Potrebic et al.

(10) **Patent No.: US 6,897,904 B2**
(45) **Date of Patent: May 24, 2005**

(54) **METHOD AND APPARATUS FOR SELECTING AMONG MULTIPLE TUNERS**

(75) Inventors: **Peter J. Potrebic**, Calistoga, CA (US); **Geoffrey Smith**, Mountain View, CA (US)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 583 days.

(21) Appl. No.: **10/039,225**

(22) Filed: **Jan. 4, 2002**

(65) **Prior Publication Data**

US 2003/0128302 A1 Jul. 10, 2003

(51) **Int. Cl.**[7] **H04N 5/50**
(52) **U.S. Cl.** **348/731**; 348/732
(58) **Field of Search** 348/731, 732, 348/733, 565, 566, 567, 569; 386/46, 83; H04N 5/50

(56) **References Cited**

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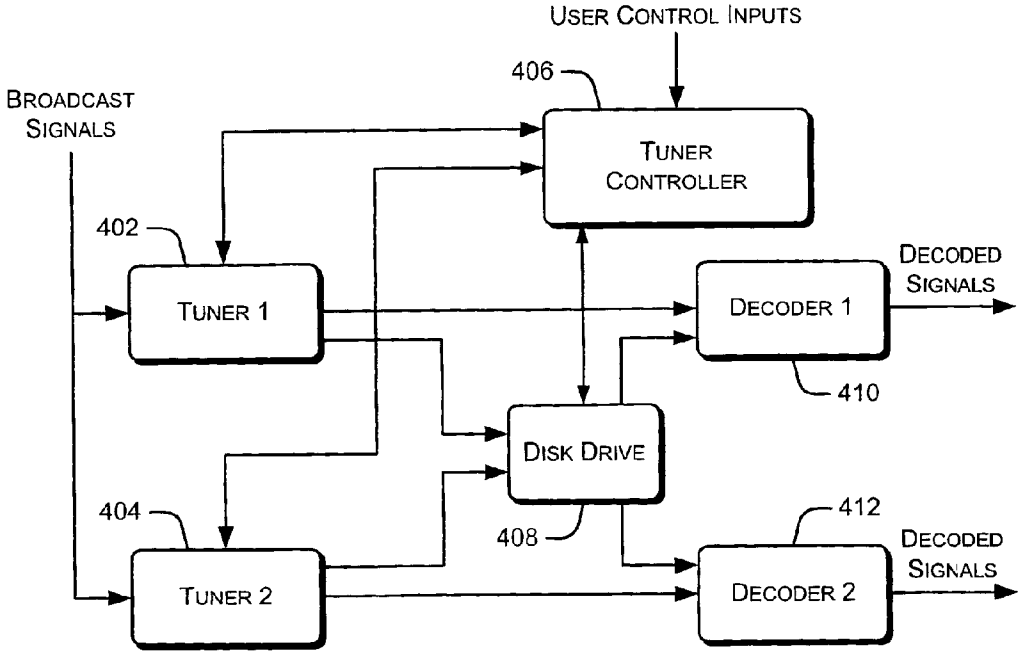
Primary Examiner—Michael H. Lee
(74) *Attorney, Agent, or Firm*—Lee & Hayes, PLLC

(57) **ABSTRACT**

A system or method selects among multiple tuners to tune a particular channel. A request is received to tune a first channel. In response to this request, a first tuner is assigned to tune the first channel. A request is received to tune a second channel. If the program tuned by the first tuner is not being recorded, the first tuner is assigned to tune the second channel. If the program tuned by the first tuner is being recorded, the second tuner is assigned to tune the second channel.

24 Claims, 6 Drawing Sheets



US006785901B1

(12) **United States Patent**
Horiwitz et al.

(10) **Patent No.: US 6,785,901 B1**
(45) **Date of Patent: Aug. 31, 2004**

(54) **ALTERING LOCKS ON PROGRAMMING CONTENT**

(75) Inventors: **Steven M. Horiwitz**, Los Altos, CA (US); **Jeff Yaksick**, Sunnyvale, CA (US)

(73) Assignee: **WEBTV Networks, Inc.**, Mountain View, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/575,413**

(22) Filed: **May 19, 2000**

(51) **Int. Cl.**[7] **H04N 7/16**; H04N 5/76

(52) **U.S. Cl.** **725/25**; 725/28; 725/27; 725/58; 725/85; 725/100; 725/139; 386/1; 386/83

(58) **Field of Search** 725/25–31, 68, 725/85, 100, 139–142, 151–153, 58; 386/1, 83

(56) **References Cited**

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Primary Examiner—John Miller
Assistant Examiner—Annan Q. Shang
(74) *Attorney, Agent, or Firm*—Workman Nydegger

(57) **ABSTRACT**

The present invention provides systems and methods for flexible locking and unlocking programming content. Programming content and the content of the programming content is often described by electronic program guide (EPG) data or guide data. Using the guide data, a user is able to create, alter and unlock locks on the programming content. Locking and unlocking the programming content can be based on characteristics of the programming content such as the duration of the programming content, start times of the programming content, end times of the programming content, content descriptors and ratings of the programming content and the like. The ability to create and unlock locks is flexible and can be directed specifically to particular programs within a channel or to specific channels. The ability to create and unlock locks can further be based on user profiles such that the programming content provided to particular users is determined by the user's profile. The ability to alter locks on programming content enable a user to determine the programming content that will be accessible in a highly configurable manner.

35 Claims, 6 Drawing Sheets