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DEVICE, METHOD, AND GRAPHICAL USER INTERFACE FOR ANNOTATING TEXT

Abstract

In accordance with some embodiments, a method is performed at a device with one or more processors, non-transitory memory, and a touch-sensitive display. The method includes displaying, on the touch-sensitive display, a text region that includes a first portion of text and a second portion of text. The method includes detecting, on the touch-sensitive display, an input within the text region. The method includes, in response to detecting the input within the text region, moving the first portion of text relative to the second portion of text to display a non-text region between the first portion of text and the second portion of text that does not include any text and converting at least a portion of the non-text region into a drawing panel provided to receive drawing input via the touch-sensitive display and display a corresponding graphic in response to receiving the drawing input.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS [0001] This application is a continuation application of and claims priority to U.S. patent application Ser. No. 17/085,779, filed on Oct. 30, 2020, which is a continuation of U.S. patent application Ser. No. 16/333,103, filed on Mar. 13, 2019, which is the national phase entry of Intl. Patent App. No. PCT/US2017/053172, filed on Sep. 25, 2017, which claims priority to U.S. Provisional Patent App. No. 62/399,322, filed on Sep. 23, 2016, which are hereby incorporated by reference in their entireties.

TECHNICAL FIELD
[0002] This relates generally to electronic devices with touch-sensitive surfaces, including but not limited to electronic devices with touch-sensitive surfaces that allow to annotate displayed text.
BACKGROUND
[0003] The use of touch-sensitive surfaces as input devices for computers and other electronic computing devices has increased significantly in recent years. Example touch-sensitive surfaces include touchpads and touch-screen displays. Such surfaces are widely used to manipulate user interface objects on a display.
[0004] Example manipulations include adjusting the position and/or size of one or more user interface objects or activating buttons or opening files/applications represented by user interface objects, as well as associating metadata with one or more user interface objects or otherwise manipulating user interfaces. Example user interface objects include digital images, video, text, icons, control elements such as buttons and other graphics. A user will, in some circumstances, need to perform such manipulations on user interface objects in a file management program (e.g., Finder from Apple Inc. of Cupertino, California), an image management application (e.g., Aperture, iPhoto, Photos from Apple Inc. of Cupertino, California), a digital content (e.g., videos and music) management application (e.g., iTunes from Apple Inc. of Cupertino, California), a drawing application, a presentation application (e.g., Keynote from Apple Inc. of Cupertino, California), a word processing application (e.g., Pages from Apple Inc. of Cupertino, California), a website creation application (e.g., iWeb from Apple Inc. of Cupertino, California), a disk authoring application (e.g., iDVD from Apple Inc. of Cupertino, California), or a spreadsheet application (e.g., Numbers from Apple Inc. of Cupertino, California).
[0005] Some user interfaces display text and allow a user to annotate the text. However, methods for adding annotations to the text are cumbersome and inefficient. For example, using a sequence of mouse based inputs to select one or more user interface objects and perform one or more actions on the selected user interface objects is tedious and creates a significant cognitive burden on a user.

In addition, these methods take longer than necessary, thereby wasting energy. This latter consideration is particularly important in battery-operated devices.

SUMMARY

[0006] Accordingly, there is a need for electronic devices with faster, more efficient methods and interfaces for annotating text. Such methods and interfaces optionally complement or replace conventional methods for annotating text. Such methods and interfaces reduce the cognitive burden on a user and produce a more efficient human-machine interface. For battery-operated devices, such methods and interfaces conserve power and increase the time between battery charges.

[0007] The above deficiencies and other problems associated with user interfaces for electronic devices with touch-sensitive surfaces are reduced or eliminated by the disclosed devices. In some embodiments, the device is a desktop computer. In some embodiments, the device is portable (e.g., a notebook computer, tablet computer, or handheld device). In some embodiments, the device has a touchpad. In some embodiments, the device has a touch-sensitive display (also known as a “touch screen” or “touch-screen display”). In some embodiments, the device has a graphical user interface (GUI), one or more processors, memory and one or more modules, programs or sets of instructions stored in the memory for performing multiple functions. In some embodiments, the user interacts with the GUI primarily through stylus and/or finger contacts and gestures on the touch-sensitive surface. In some embodiments, the functions optionally include image editing, drawing, presenting, word processing, website creating, disk authoring, spreadsheet making, game playing, telephoning, video conferencing, e-mailing, instant messaging, workout support, digital photographing, digital videoing, web browsing, digital music playing, and/or digital video playing. Executable instructions for performing these functions are, optionally, included in a non-transitory computer readable storage medium or other computer program product configured for execution by one or more processors.

[0008] In accordance with some embodiments, a method is performed at a device with one or more processors, non-transitory memory, and a touch-sensitive display. The method includes displaying, on the touch-sensitive display, a text region that includes a first portion of text and a second portion of text. The method includes detecting, on the touch-sensitive display, an input within the text region. The method includes, in response to detecting the input within the text region, moving the first portion of text relative to the second portion of text to display a non-text region between the first portion of text and the second portion of text that does not include any text and converting at least a portion of the non-text region into a drawing panel provided to receive drawing input via the touch-sensitive display and display a corresponding graphic in response to receiving the drawing input.

[0009] In accordance with some embodiments, a method is performed at a device with one or more processors, non-transitory memory, at a device with one or more processors, non-transitory memory, and a touch-sensitive display. The method includes displaying, on the touch-sensitive display, a first arrangement of text in which a first portion of the text has a first position with respect to a second portion of the text. The method includes, while the text is displayed in the first arrangement, detecting, via the touch-sensitive display, a set of one or more annotation inputs. The method includes, in response to detecting the set of one or more annotation inputs, displaying, on the touch-sensitive display, a first representation of an annotation that is associated with both the first portion of the text and the second portion of the text, wherein at least a portion of the first representation is displayed proximate to the first portion of the text in the first arrangement and at least a portion of the first representation is displayed proximate to the second portion of the text in the first arrangement. The method includes, after displaying the first representation of the annotation, receiving a request to rearrange the text. The method includes, in response to receiving the request to rearrange the text, concurrently displaying, on the display a second arrangement of the text in which the first portion of the text has a second position with respect to the second portion of the text and a second representation of the annotation that is associated with both the

first portion of the text and the second portion of the text, wherein at least a portion of the second representation is displayed proximate to the first portion of the text in the second arrangement and at least a portion of the second representation is displayed proximate to the second portion of the text in the second arrangement.

[0010] In accordance with some embodiments, an electronic device includes a display unit configured to display a user interface, one or more input units configured to receive user inputs, and a processing unit coupled with the display unit and the one or more input units. The processing unit is configured to display, on the display unit, a text region that includes a first portion of text and a second portion of text. The processing unit is configured to detect, via the one or more input units, an input within the text region. The processing unit is configured to, in response to detecting the input within the text region, move the first portion of text relative to the second portion of text to display a non-text region between the first portion of text and the second portion of text that does not include any text and convert at least a portion of the non-text region into a drawing panel provided to receive drawing input via the touch-sensitive display and display a corresponding graphic in response to receiving the drawing input.

[0011] In accordance with some embodiments, an electronic device includes a display unit configured to display a user interface, one or more input units configured to receive user inputs, and a processing unit coupled with the display unit and the one or more input units. The processing unit is configured to display, on the display unit, a first arrangement of text in which a first portion of the text has a first position with respect to a second portion of the text. The processing unit is configured to, while the text is displayed in the first arrangement, detect, via the one or more input units, a set of one or more annotation inputs. The processing unit is configured to, in response to detecting the set of one or more annotation inputs, display, on the display unit, a first representation of an annotation that is associated with both the first portion of the text and the second portion of the text. At least a portion of the first representation is displayed proximate to the first portion of the text in the first arrangement and at least a portion of the first representation is displayed proximate to the second portion of the text in the first arrangement. The processing unit is configured to, after displaying the first representation of the annotation, receive a request to rearrange the text. The processing unit is configured to, in response to receiving the request to rearrange the text, concurrently display, on the display unit a second arrangement of the text in which the first portion of the text has a second position with respect to the second portion of the text and a second representation of the annotation that is associated with both the first portion of the text and the second portion of the text. The second position is different from the first position. The second representation is different from the first representation. As least a portion of the second representation is displayed proximate to the first portion of the text in the second arrangement and at least a portion of the second representation is displayed proximate to the second portion of the text in the second arrangement.

[0012] In accordance with some embodiments, an electronic device includes a display, an input device, one or more processors, non-transitory memory, and one or more programs; the one or more programs are stored in the non-transitory memory and configured to be executed by the one or more processors and the one or more programs include instructions for performing or causing performance of the operations of any of the methods described herein. In accordance with some embodiments, a non-transitory computer readable storage medium has stored therein instructions which when executed by one or more processors of an electronic device with a display and an input device, cause the device to perform or cause performance of the operations of any of the methods described herein. In accordance with some embodiments, a graphical user interface on an electronic device with a display, an input device, a memory, and one or more processors to execute one or more programs stored in the non-transitory memory includes one or more of the elements displayed in any of the methods described above, which are updated in response to inputs, as described in any of the methods described herein. In accordance with some embodiments, an electronic device

includes: a display, an input device; and means for performing or causing performance of the operations of any of the methods described herein. In accordance with some embodiments, an information processing apparatus, for use in an electronic device with a display and an input device, includes means for performing or causing performance of the operations of any of the methods described herein.

[0013] Thus, electronic devices with displays, touch-sensitive surfaces and optionally one or more sensors to detect intensity of contacts with the touch-sensitive surface are provided with faster, more efficient methods and interfaces for annotating text, thereby increasing the effectiveness, efficiency, and user satisfaction with such devices. Such methods and interfaces may complement or replace conventional methods for annotating text.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] For a better understanding of the various described embodiments, reference should be made to the Description of Embodiments below, in conjunction with the following drawings in which like reference numerals refer to corresponding parts throughout the figures.

[0015] FIG. **1**A is a block diagram illustrating a portable multifunction device with a touch-sensitive display in accordance with some embodiments.

[0016] FIG. **1**B is a block diagram illustrating example components for event handling in accordance with some embodiments.

[0017] FIG. **2** illustrates a portable multifunction device having a touch screen in accordance with some embodiments.

[0018] FIG. **3** is a block diagram of an example multifunction device with a display and a touch-sensitive surface in accordance with some embodiments.

[0019] FIG. **4**A illustrates an example user interface for a menu of applications on a portable multifunction device in accordance with some embodiments.

[0020] FIG. **4**B illustrates an example user interface for a multifunction device with a touch-sensitive surface that is separate from the display in accordance with some embodiments.

[0021] FIGS. **5**A-**5**AF illustrate example user interfaces for adding annotations to text in accordance with some embodiments.

[0022] FIGS. **6**A-**6**D are flow diagrams illustrating a method of adding a drawing annotation to text in accordance with some embodiments.

[0023] FIGS. **7**A-**7**D are flow diagrams illustrating a method of adding hand-drawn annotations to reflowable text in accordance with some embodiments.

[0024] FIGS. **8**-**9** are functional block diagrams of an electronic device in accordance with some embodiments.

DESCRIPTION OF EMBODIMENTS

[0025] Many electronic devices have graphical user interfaces that display text, such as an electronic book or a word processing document. Some applications allow a user to add annotations to the text, such as notes or highlighting. In embodiments described below, an application allows a user to add hand-drawn annotations to text. For example, in some embodiments, a drawing panel is provided in which a user can provide input for a drawing annotation associated with a portion of the text. As another example, in some embodiments, input for a hand-drawn annotation can be applied directly to reflowable text and the annotation reflows with the text.

[0026] Below, FIGS. **1**A-**1**B, **2**, and **3** provide a description of example devices. FIGS. **4**A-**4**B and **5**A-**5**AF illustrate example user interfaces for adding annotations to text. FIGS. **6**A-**6**D illustrate a flow diagram of a method of adding a drawing annotation to text. FIGS. **7**A-**7**D illustrate a flow diagram of a method of adding hand-drawn annotations to reflowable text. The user interfaces in

FIGS. **5**A-**5**AF are used to illustrate the processes in FIGS. **6**A-**6**D and **7**A-**7**D.

EXAMPLE DEVICES

[0027] Reference will now be made in detail to embodiments, examples of which are illustrated in the accompanying drawings. In the following detailed description, numerous specific details are set forth in order to provide a thorough understanding of the various described embodiments. However, it will be apparent to one of ordinary skill in the art that the various described embodiments may be practiced without these specific details. In other instances, well-known methods, procedures, components, circuits, and networks have not been described in detail so as not to unnecessarily obscure aspects of the embodiments.

[0028] It will also be understood that, although the terms first, second, etc. are, in some instances, used herein to describe various elements, these elements should not be limited by these terms. These terms are only used to distinguish one element from another. For example, a first contact could be termed a second contact, and, similarly, a second contact could be termed a first contact, without departing from the scope of the various described embodiments. The first contact and the second contact are both contacts, but they are not the same contact, unless the context clearly indicates otherwise.

[0029] The terminology used in the description of the various described embodiments herein is for the purpose of describing particular embodiments only and is not intended to be limiting. As used in the description of the various described embodiments and the appended claims, the singular forms “a,” “an,” and “the” are intended to include the plural forms as well, unless the context clearly indicates otherwise. It will also be understood that the term “and/or” as used herein refers to and encompasses any and all possible combinations of one or more of the associated listed items. It will be further understood that the terms “includes,” “including,” “comprises,” and/or “comprising,” when used in this specification, specify the presence of stated features, integers, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, integers, steps, operations, elements, components, and/or groups thereof.

[0030] As used herein, the term “if” is, optionally, construed to mean “when” or “upon” or “in response to determining” or “in response to detecting,” depending on the context. Similarly, the phrase “if it is determined” or “if [a stated condition or event] is detected” is, optionally, construed to mean “upon determining” or “in response to determining” or “upon detecting [the stated condition or event]” or “in response to detecting [the stated condition or event],” depending on the context.

[0031] Embodiments of electronic devices, user interfaces for such devices, and associated processes for using such devices are described. In some embodiments, the device is a portable communications device, such as a mobile telephone, that also contains other functions, such as PDA and/or music player functions. Example embodiments of portable multifunction devices include, without limitation, the iPhone®, iPod Touch®, and iPad® devices from Apple Inc. of Cupertino, California. Other portable electronic devices, such as laptops or tablet computers with touch-sensitive surfaces (e.g., touch-screen displays and/or touchpads), are, optionally, used. It should also be understood that, in some embodiments, the device is not a portable communications device, but is a desktop computer with a touch-sensitive surface (e.g., a touch-screen display and/or a touchpad).

[0032] In the discussion that follows, an electronic device that includes a display and a touch-sensitive surface is described. It should be understood, however, that the electronic device optionally includes one or more other physical user-interface devices, such as a physical keyboard, a mouse and/or a joystick.

[0033] The device typically supports a variety of applications, such as one or more of the following: a drawing application, a presentation application, a word processing application, a website creation application, a disk authoring application, a spreadsheet application, a gaming application, a telephone application, a video conferencing application, an e-mail application, an

instant messaging application, a workout support application, a photo management application, a digital camera application, a digital video camera application, a web browsing application, a digital music player application, and/or a digital video player application.

[0034] The various applications that are executed on the device optionally use at least one common physical user-interface device, such as the touch-sensitive surface. One or more functions of the touch-sensitive surface as well as corresponding information displayed on the device are, optionally, adjusted and/or varied from one application to the next and/or within a respective application. In this way, a common physical architecture (such as the touch-sensitive surface) of the device optionally supports the variety of applications with user interfaces that are intuitive and transparent to the user.

[0035] Attention is now directed toward embodiments of portable devices with touch-sensitive displays. FIG. **1**A is a block diagram illustrating portable multifunction device **100** with touch-sensitive display system **112** in accordance with some embodiments. Touch-sensitive display system **112** is sometimes called a "touch screen" for convenience, and is sometimes simply called a touch-sensitive display. Device **100** includes memory **102** (which optionally includes one or more computer readable storage mediums), memory controller **122**, one or more processing units (CPUs) **120**, peripherals interface **118**, RF circuitry **108**, audio circuitry **110**, speaker **111**, microphone **113**, input/output (I/O) subsystem **106**, other input or control devices **116**, and external port **124**. Device **100** optionally includes one or more optical sensors **164**. Device **100** optionally includes one or more intensity sensors **165** for detecting intensity of contacts on device **100** (e.g., a touch-sensitive surface such as touch-sensitive display system **112** of device **100**). Device **100** optionally includes one or more tactile output generators **163** for generating tactile outputs on device **100** (e.g., generating tactile outputs on a touch-sensitive surface such as touch-sensitive display system **112** of device **100** or touchpad **355** of device **300**). These components optionally communicate over one or more communication buses or signal lines **103**.

[0036] As used in the specification and claims, the term "tactile output" refers to physical displacement of a device relative to a previous position of the device, physical displacement of a component (e.g., a touch-sensitive surface) of a device relative to another component (e.g., housing) of the device, or displacement of the component relative to a center of mass of the device that will be detected by a user with the user's sense of touch. For example, in situations where the device or the component of the device is in contact with a surface of a user that is sensitive to touch (e.g., a finger, palm, or other part of a user's hand), the tactile output generated by the physical displacement will be interpreted by the user as a tactile sensation corresponding to a perceived change in physical characteristics of the device or the component of the device. For example, movement of a touch-sensitive surface (e.g., a touch-sensitive display or trackpad) is, optionally, interpreted by the user as a "down click" or "up click" of a physical actuator button. In some cases, a user will feel a tactile sensation such as an "down click" or "up click" even when there is no movement of a physical actuator button associated with the touch-sensitive surface that is physically pressed (e.g., displaced) by the user's movements. As another example, movement of the touch-sensitive surface is, optionally, interpreted or sensed by the user as "roughness" of the touch-sensitive surface, even when there is no change in smoothness of the touch-sensitive surface. While such interpretations of touch by a user will be subject to the individualized sensory perceptions of the user, there are many sensory perceptions of touch that are common to a large majority of users. Thus, when a tactile output is described as corresponding to a particular sensory perception of a user (e.g., an "up click," a "down click," "roughness"), unless otherwise stated, the generated tactile output corresponds to physical displacement of the device or a component thereof that will generate the described sensory perception for a typical (or average) user.

[0037] It should be appreciated that device **100** is only one example of a portable multifunction device, and that device **100** optionally has more or fewer components than shown, optionally combines two or more components, or optionally has a different configuration or arrangement of

the components. The various components shown in FIG. **1**A are implemented in hardware, software, firmware, or a combination thereof, including one or more signal processing and/or application specific integrated circuits.

[0038] Memory **102** optionally includes high-speed random access memory and optionally also includes non-volatile memory, such as one or more magnetic disk storage devices, flash memory devices, or other non-volatile solid-state memory devices. Access to memory **102** by other components of device **100**, such as CPU(s) **120** and the peripherals interface **118**, is, optionally, controlled by memory controller **122**.

[0039] Peripherals interface **118** can be used to couple input and output peripherals of the device to CPU(s) **120** and memory **102**. The one or more processors **120** run or execute various software programs and/or sets of instructions stored in memory **102** to perform various functions for device **100** and to process data.

[0040] In some embodiments, peripherals interface **118**, CPU(s) **120**, and memory controller **122** are, optionally, implemented on a single chip, such as chip **104**. In some other embodiments, they are, optionally, implemented on separate chips.

[0041] RF (radio frequency) circuitry **108** receives and sends RF signals, also called electromagnetic signals. RF circuitry **108** converts electrical signals to/from electromagnetic signals and communicates with communications networks and other communications devices via the electromagnetic signals. RF circuitry **108** optionally includes well-known circuitry for performing these functions, including but not limited to an antenna system, an RF transceiver, one or more amplifiers, a tuner, one or more oscillators, a digital signal processor, a CODEC chipset, a subscriber identity module (SIM) card, memory, and so forth. RF circuitry **108** optionally communicates with networks, such as the Internet, also referred to as the World Wide Web (WWW), an intranet and/or a wireless network, such as a cellular telephone network, a wireless local area network (LAN) and/or a metropolitan area network (MAN), and other devices by wireless communication. The wireless communication optionally uses any of a plurality of communications standards, protocols and technologies, including but not limited to Global System for Mobile Communications (GSM), Enhanced Data GSM Environment (EDGE), high-speed downlink packet access (HSDPA), high-speed uplink packet access (HSUPA), Evolution, Data-Only (EV-DO), HSPA, HSPA+, Dual-Cell HSPA (DC-HSPDA), long term evolution (LTE), near field communication (NFC), wideband code division multiple access (W-CDMA), code division multiple access (CDMA), time division multiple access (TDMA), Bluetooth, Wireless Fidelity (Wi-Fi) (e.g., IEEE 802.11a, IEEE 802.11ac, IEEE 802.11ax, IEEE 802.11b, IEEE 802.11g and/or IEEE 802.11n), voice over Internet Protocol (VOIP), Wi-MAX, a protocol for e-mail (e.g., Internet message access protocol (IMAP) and/or post office protocol (POP)), instant messaging (e.g., extensible messaging and presence protocol (XMPP), Session Initiation Protocol for Instant Messaging and Presence Leveraging Extensions (SIMPLE), Instant Messaging and Presence Service (IMPS)), and/or Short Message Service (SMS), or any other suitable communication protocol, including communication protocols not yet developed as of the filing date of this document.

[0042] Audio circuitry **110**, speaker **111**, and microphone **113** provide an audio interface between a user and device **100**. Audio circuitry **110** receives audio data from peripherals interface **118**, converts the audio data to an electrical signal, and transmits the electrical signal to speaker **111**. Speaker **111** converts the electrical signal to human-audible sound waves. Audio circuitry **110** also receives electrical signals converted by microphone **113** from sound waves. Audio circuitry **110** converts the electrical signal to audio data and transmits the audio data to peripherals interface **118** for processing. Audio data is, optionally, retrieved from and/or transmitted to memory **102** and/or RF circuitry **108** by peripherals interface **118**. In some embodiments, audio circuitry **110** also includes a headset jack (e.g., **212**, FIG. **2**). The headset jack provides an interface between audio circuitry **110** and removable audio input/output peripherals, such as output-only headphones or a

headset with both output (e.g., a headphone for one or both cars) and input (e.g., a microphone).
[0043] I/O subsystem **106** couples input/output peripherals on device **100**, such as touch-sensitive display system **112** and other input or control devices **116**, with peripherals interface **118**. I/O subsystem **106** optionally includes display controller **156**, optical sensor controller **158**, intensity sensor controller **159**, haptic feedback controller **161**, and one or more input controllers **160** for other input or control devices. The one or more input controllers **160** receive/send electrical signals from/to other input or control devices **116**. The other input or control devices **116** optionally include physical buttons (e.g., push buttons, rocker buttons, etc.), dials, slider switches, joysticks, click wheels, and so forth. In some alternate embodiments, input controller(s) **160** are, optionally, coupled with any (or none) of the following: a keyboard, infrared port, USB port, stylus, and/or a pointer device such as a mouse. The one or more buttons (e.g., **208**, FIG. **2**) optionally include an up/down button for volume control of speaker **111** and/or microphone **113**. The one or more buttons optionally include a push button (e.g., **206**, FIG. **2**).
[0044] Touch-sensitive display system **112** provides an input interface and an output interface between the device and a user. Display controller **156** receives and/or sends electrical signals from/to touch-sensitive display system **112**. Touch-sensitive display system **112** displays visual output to the user. The visual output optionally includes graphics, text, icons, video, and any combination thereof (collectively termed “graphics”). In some embodiments, some or all of the visual output corresponds to user-interface objects.
[0045] Touch-sensitive display system **112** has a touch-sensitive surface, sensor or set of sensors that accepts input from the user based on haptic/tactile contact. Touch-sensitive display system **112** and display controller **156** (along with any associated modules and/or sets of instructions in memory **102**) detect contact (and any movement or breaking of the contact) on touch-sensitive display system **112** and converts the detected contact into interaction with user-interface objects (e.g., one or more soft keys, icons, web pages or images) that are displayed on touch-sensitive display system **112**. In an example embodiment, a point of contact between touch-sensitive display system **112** and the user corresponds to a finger of the user or a stylus.
[0046] Touch-sensitive display system **112** optionally uses LCD (liquid crystal display) technology, LPD (light emitting polymer display) technology, or LED (light emitting diode) technology, although other display technologies are used in other embodiments. Touch-sensitive display system **112** and display controller **156** optionally detect contact and any movement or breaking thereof using any of a plurality of touch sensing technologies now known or later developed, including but not limited to capacitive, resistive, infrared, and surface acoustic wave technologies, as well as other proximity sensor arrays or other elements for determining one or more points of contact with touch-sensitive display system **112**. In an example embodiment, projected mutual capacitance sensing technology is used, such as that found in the iPhone®, iPod Touch®, and iPad® from Apple Inc. of Cupertino, California.
[0047] Touch-sensitive display system **112** optionally has a video resolution in excess of 100 dpi. In some embodiments, the touch screen video resolution is in excess of 400 dpi (e.g., 500 dpi, 800 dpi, or greater). The user optionally makes contact with touch-sensitive display system **112** using any suitable object or appendage, such as a stylus, a finger, and so forth. In some embodiments, the user interface is designed to work with finger-based contacts and gestures, which can be less precise than stylus-based input due to the larger area of contact of a finger on the touch screen. In some embodiments, the device translates the rough finger-based input into a precise pointer/cursor position or command for performing the actions desired by the user.
[0048] In some embodiments, in addition to the touch screen, device **100** optionally includes a touchpad (not shown) for activating or deactivating particular functions. In some embodiments, the touchpad is a touch-sensitive area of the device that, unlike the touch screen, does not display visual output. The touchpad is, optionally, a touch-sensitive surface that is separate from touch-sensitive display system **112** or an extension of the touch-sensitive surface formed by the touch

screen.
[0049] Device **100** also includes power system **162** for powering the various components. Power system **162** optionally includes a power management system, one or more power sources (e.g., battery, alternating current (AC)), a recharging system, a power failure detection circuit, a power converter or inverter, a power status indicator (e.g., a light-emitting diode (LED)) and any other components associated with the generation, management and distribution of power in portable devices.
[0050] Device **100** optionally also includes one or more optical sensors **164**. FIG. **1**A shows an optical sensor coupled with optical sensor controller **158** in I/O subsystem **106**. Optical sensor(s) **164** optionally include charge-coupled device (CCD) or complementary metal-oxide semiconductor (CMOS) phototransistors. Optical sensor(s) **164** receive light from the environment, projected through one or more lens, and converts the light to data representing an image. In conjunction with imaging module **143** (also called a camera module), optical sensor(s) **164** optionally capture still images and/or video. In some embodiments, an optical sensor is located on the back of device **100**, opposite touch-sensitive display system **112** on the front of the device, so that the touch screen is enabled for use as a viewfinder for still and/or video image acquisition. In some embodiments, another optical sensor is located on the front of the device so that the user's image is obtained (e.g., for selfies, for videoconferencing while the user views the other video conference participants on the touch screen, etc.).
[0051] Device **100** optionally also includes one or more contact intensity sensors **165**. FIG. **1**A shows a contact intensity sensor coupled with intensity sensor controller **159** in I/O subsystem **106**. Contact intensity sensor(s) **165** optionally include one or more piezoresistive strain gauges, capacitive force sensors, electric force sensors, piezoelectric force sensors, optical force sensors, capacitive touch-sensitive surfaces, or other intensity sensors (e.g., sensors used to measure the force (or pressure) of a contact on a touch-sensitive surface). Contact intensity sensor(s) **165** receive contact intensity information (e.g., pressure information or a proxy for pressure information) from the environment. In some embodiments, at least one contact intensity sensor is collocated with, or proximate to, a touch-sensitive surface (e.g., touch-sensitive display system **112**). In some embodiments, at least one contact intensity sensor is located on the back of device **100**, opposite touch-screen display system **112** which is located on the front of device **100**.
[0052] Device **100** optionally also includes one or more proximity sensors **166**. FIG. **1**A shows proximity sensor **166** coupled with peripherals interface **118**. Alternately, proximity sensor **166** is coupled with input controller **160** in I/O subsystem **106**. In some embodiments, the proximity sensor turns off and disables touch-sensitive display system **112** when the multifunction device is placed near the user's ear (e.g., when the user is making a phone call).
[0053] Device **100** optionally also includes one or more tactile output generators **163**. FIG. **1**A shows a tactile output generator coupled with haptic feedback controller **161** in I/O subsystem **106**. Tactile output generator(s) **163** optionally include one or more electroacoustic devices such as speakers or other audio components and/or electromechanical devices that convert energy into linear motion such as a motor, solenoid, electroactive polymer, piezoelectric actuator, electrostatic actuator, or other tactile output generating component (e.g., a component that converts electrical signals into tactile outputs on the device). Tactile output generator(s) **163** receive tactile feedback generation instructions from haptic feedback module **133** and generates tactile outputs on device **100** that are capable of being sensed by a user of device **100**. In some embodiments, at least one tactile output generator is collocated with, or proximate to, a touch-sensitive surface (e.g., touch-sensitive display system **112**) and, optionally, generates a tactile output by moving the touch-sensitive surface vertically (e.g., in/out of a surface of device **100**) or laterally (e.g., back and forth in the same plane as a surface of device **100**). In some embodiments, at least one tactile output generator sensor is located on the back of device **100**, opposite touch-sensitive display system **112**, which is located on the front of device **100**.

[0054] Device **100** optionally also includes one or more accelerometers **167**, gyroscopes **168**, and/or magnetometers **169** (e.g., as part of an inertial measurement unit (IMU)) for obtaining information concerning the position (e.g., attitude) of the device. FIG. **1**A shows sensors **167**, **168**, and **169** coupled with peripherals interface **118**. Alternately, sensors **167**, **168**, and **169** are, optionally, coupled with an input controller **160** in I/O subsystem **106**. In some embodiments, information is displayed on the touch-screen display in a portrait view or a landscape view based on an analysis of data received from the one or more accelerometers. Device **100** optionally includes a GPS (or GLONASS or other global navigation system) receiver (not shown) for obtaining information concerning the location of device **100**.
[0055] In some embodiments, the software components stored in memory **102** include operating system **126**, communication module (or set of instructions) **128**, contact/motion module (or set of instructions) **130**, graphics module (or set of instructions) **132**, haptic feedback module (or set of instructions) **133**, text input module (or set of instructions) **134**, Global Positioning System (GPS) module (or set of instructions) **135**, and applications (or sets of instructions) **136**. Furthermore, in some embodiments, memory **102** stores device/global internal state **157**, as shown in FIGS. **1**A and **3**. Device/global internal state **157** includes one or more of: active application state, indicating which applications, if any, are currently active; display state, indicating what applications, views or other information occupy various regions of touch-sensitive display system **112**; sensor state, including information obtained from the device's various sensors and other input or control devices **116**; and location and/or positional information concerning the device's location and/or attitude.
[0056] Operating system **126** (e.g., iOS, Darwin, RTXC, LINUX, UNIX, OS X, WINDOWS, or an embedded operating system such as Vx Works) includes various software components and/or drivers for controlling and managing general system tasks (e.g., memory management, storage device control, power management, etc.) and facilitates communication between various hardware and software components.
[0057] Communication module **128** facilitates communication with other devices over one or more external ports **124** and also includes various software components for handling data received by RF circuitry **108** and/or external port **124**. External port **124** (e.g., Universal Serial Bus (USB), FIREWIRE, etc.) is adapted for coupling directly to other devices or indirectly over a network (e.g., the Internet, wireless LAN, etc.). In some embodiments, the external port is a multi-pin (e.g., 30-pin) connector that is the same as, or similar to and/or compatible with the 30-pin connector used in some iPhone®, iPod Touch®, and iPad® devices from Apple Inc. of Cupertino, California. In some embodiments, the external port is a Lightning connector that is the same as, or similar to and/or compatible with the Lightning connector used in some iPhone®, iPod Touch®, and iPad® devices from Apple Inc. of Cupertino, California.
[0058] Contact/motion module **130** optionally detects contact with touch-sensitive display system **112** (in conjunction with display controller **156**) and other touch-sensitive devices (e.g., a touchpad or physical click wheel). Contact/motion module **130** includes software components for performing various operations related to detection of contact (e.g., by a finger or by a stylus), such as determining if contact has occurred (e.g., detecting a finger-down event), determining an intensity of the contact (e.g., the force or pressure of the contact or a substitute for the force or pressure of the contact), determining if there is movement of the contact and tracking the movement across the touch-sensitive surface (e.g., detecting one or more finger-dragging events), and determining if the contact has ceased (e.g., detecting a finger-up event or a break in contact). Contact/motion module **130** receives contact data from the touch-sensitive surface. Determining movement of the point of contact, which is represented by a series of contact data, optionally includes determining speed (magnitude), velocity (magnitude and direction), and/or an acceleration (a change in magnitude and/or direction) of the point of contact. These operations are, optionally, applied to single contacts (e.g., one finger contacts or stylus contacts) or to multiple simultaneous contacts (e.g., "multitouch"/multiple finger contacts and/or stylus contacts). In some embodiments,

contact/motion module **130** and display controller **156** detect contact on a touchpad.
[0059] Contact/motion module **130** optionally detects a gesture input by a user. Different gestures on the touch-sensitive surface have different contact patterns (e.g., different motions, timings, and/or intensities of detected contacts). Thus, a gesture is, optionally, detected by detecting a particular contact pattern. For example, detecting a finger tap gesture includes detecting a finger-down event followed by detecting a finger-up (lift off) event at the same position (or substantially the same position) as the finger-down event (e.g., at the position of an icon). As another example, detecting a finger swipe gesture on the touch-sensitive surface includes detecting a finger-down event followed by detecting one or more finger-dragging events, and subsequently followed by detecting a finger-up (lift off) event. Similarly, tap, swipe, drag, and other gestures are optionally detected for a stylus by detecting a particular contact pattern for the stylus.
[0060] Graphics module **132** includes various known software components for rendering and displaying graphics on touch-sensitive display system **112** or other display, including components for changing the visual impact (e.g., brightness, transparency, saturation, contrast or other visual property) of graphics that are displayed. As used herein, the term “graphics” includes any object that can be displayed to a user, including without limitation text, web pages, icons (such as user-interface objects including soft keys), digital images, videos, animations and the like.
[0061] In some embodiments, graphics module **132** stores data representing graphics to be used. Each graphic is, optionally, assigned a corresponding code. Graphics module **132** receives, from applications etc., one or more codes specifying graphics to be displayed along with, if necessary, coordinate data and other graphic property data, and then generates screen image data to output to display controller **156**.
[0062] Haptic feedback module **133** includes various software components for generating instructions used by tactile output generator(s) **163** to produce tactile outputs at one or more locations on device **100** in response to user interactions with device **100**.
[0063] Text input module **134**, which is, optionally, a component of graphics module **132**, provides soft keyboards for entering text in various applications (e.g., contacts **137**, e-mail **140**, IM **141**, browser **147**, and any other application that needs text input).
[0064] GPS module **135** determines the location of the device and provides this information for use in various applications (e.g., to telephone **138** for use in location-based dialing, to camera **143** as picture/video metadata, and to applications that provide location-based services such as weather widgets, local yellow page widgets, and map/navigation widgets).
[0065] Applications **136** optionally include the following modules (or sets of instructions), or a subset or superset thereof: [0066] contacts module **137** (sometimes called an address book or contact list); [0067] telephone module **138**; [0068] video conferencing module **139**; [0069] e-mail client module **140**; [0070] instant messaging (IM) module **141**; [0071] workout support module **142**; [0072] camera module **143** for still and/or video images; [0073] image management module **144**; [0074] browser module **147**; [0075] calendar module **148**; [0076] widget modules **149**, which optionally include one or more of: weather widget **149-1**, stocks widget **149-2**, calculator widget **149-3**, alarm clock widget **149-4**, dictionary widget **149-5**, and other widgets obtained by the user, as well as user-created widgets **149-6**; [0077] widget creator module **150** for making user-created widgets **149-6**; [0078] search module **151**; [0079] video and music player module **152**, which is, optionally, made up of a video player module and a music player module; [0080] notes module **153**; [0081] map module **154**; and/or [0082] online video module **155**.
[0083] Examples of other applications **136** that are, optionally, stored in memory **102** include other word processing applications, other image editing applications, drawing applications, presentation applications, JAVA-enabled applications, encryption, digital rights management, voice recognition, and voice replication.
[0084] In conjunction with touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, contacts module **137** includes

executable instructions to manage an address book or contact list (e.g., stored in application internal state **192** of contacts module **137** in memory **102** or memory **370**), including: adding name(s) to the address book; deleting name(s) from the address book; associating telephone number(s), e-mail address(es), physical address(es) or other information with a name; associating an image with a name; categorizing and sorting names; providing telephone numbers and/or e-mail addresses to initiate and/or facilitate communications by telephone **138**, video conference **139**, e-mail **140**, or IM **141**; and so forth.

[0085] In conjunction with RF circuitry **108**, audio circuitry **110**, speaker **111**, microphone **113**, touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, telephone module **138** includes executable instructions to enter a sequence of characters corresponding to a telephone number, access one or more telephone numbers in address book **137**, modify a telephone number that has been entered, dial a respective telephone number, conduct a conversation and disconnect or hang up when the conversation is completed. As noted above, the wireless communication optionally uses any of a plurality of communications standards, protocols and technologies.

[0086] In conjunction with RF circuitry **108**, audio circuitry **110**, speaker **111**, microphone **113**, touch-sensitive display system **112**, display controller **156**, optical sensor(s) **164**, optical sensor controller **158**, contact module **130**, graphics module **132**, text input module **134**, contact list **137**, and telephone module **138**, videoconferencing module **139** includes executable instructions to initiate, conduct, and terminate a video conference between a user and one or more other participants in accordance with user instructions.

[0087] In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, e-mail client module **140** includes executable instructions to create, send, receive, and manage e-mail in response to user instructions. In conjunction with image management module **144**, e-mail client module **140** makes it very easy to create and send e-mails with still or video images taken with camera module **143**.

[0088] In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, the instant messaging module **141** includes executable instructions to enter a sequence of characters corresponding to an instant message, to modify previously entered characters, to transmit a respective instant message (for example, using a Short Message Service (SMS) or Multimedia Message Service (MMS) protocol for telephony-based instant messages or using XMPP, SIMPLE, Apple Push Notification Service (APNs) or IMPS for Internet-based instant messages), to receive instant messages and to view received instant messages. In some embodiments, transmitted and/or received instant messages optionally include graphics, photos, audio files, video files and/or other attachments as are supported in a MMS and/or an Enhanced Messaging Service (EMS). As used herein, “instant messaging” refers to both telephony-based messages (e.g., messages sent using SMS or MMS) and Internet-based messages (e.g., messages sent using XMPP, SIMPLE, APNs, or IMPS).

[0089] In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, text input module **134**, GPS module **135**, map module **154**, and music player module **146**, workout support module **142** includes executable instructions to create workouts (e.g., with time, distance, and/or calorie burning goals); communicate with workout sensors (in sports devices and smart watches); receive workout sensor data; calibrate sensors used to monitor a workout; select and play music for a workout; and display, store and transmit workout data.

[0090] In conjunction with touch-sensitive display system **112**, display controller **156**, optical sensor(s) **164**, optical sensor controller **158**, contact module **130**, graphics module **132**, and image management module **144**, camera module **143** includes executable instructions to capture still images or video (including a video stream) and store them into memory **102**, modify characteristics of a still image or video, and/or delete a still image or video from memory **102**.

[0091] In conjunction with touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, text input module **134**, and camera module **143**, image management module **144** includes executable instructions to arrange, modify (e.g., edit), or otherwise manipulate, label, delete, present (e.g., in a digital slide show or album), and store still and/or video images.
[0092] In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, and text input module **134**, browser module **147** includes executable instructions to browse the Internet in accordance with user instructions, including searching, linking to, receiving, and displaying web pages or portions thereof, as well as attachments and other files linked to web pages.
[0093] In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, text input module **134**, e-mail client module **140**, and browser module **147**, calendar module **148** includes executable instructions to create, display, modify, and store calendars and data associated with calendars (e.g., calendar entries, to do lists, etc.) in accordance with user instructions.
[0094] In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, text input module **134**, and browser module **147**, widget modules **149** are mini-applications that are, optionally, downloaded and used by a user (e.g., weather widget **149-1**, stocks widget **149-2**, calculator widget **149-3**, alarm clock widget **149-4**, and dictionary widget **149-5**) or created by the user (e.g., user-created widget **149-6**). In some embodiments, a widget includes an HTML (Hypertext Markup Language) file, a CSS (Cascading Style Sheets) file, and a JavaScript file. In some embodiments, a widget includes an XML (Extensible Markup Language) file and a JavaScript file (e.g., Yahoo! Widgets).
[0095] In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, text input module **134**, and browser module **147**, the widget creator module **150** includes executable instructions to create widgets (e.g., turning a user-specified portion of a web page into a widget).
[0096] In conjunction with touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, and text input module **134**, search module **151** includes executable instructions to search for text, music, sound, image, video, and/or other files in memory **102** that match one or more search criteria (e.g., one or more user-specified search terms) in accordance with user instructions.
[0097] In conjunction with touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, audio circuitry **110**, speaker **111**, RF circuitry **108**, and browser module **147**, video and music player module **152** includes executable instructions that allow the user to download and play back recorded music and other sound files stored in one or more file formats, such as MP3 or AAC files, and executable instructions to display, present or otherwise play back videos (e.g., on touch-sensitive display system **112**, or on an external display connected wirelessly or via external port **124**). In some embodiments, device **100** optionally includes the functionality of an MP3 player, such as an iPod (trademark of Apple Inc.).
[0098] In conjunction with touch-sensitive display system **112**, display controller **156**, contact module **130**, graphics module **132**, and text input module **134**, notes module **153** includes executable instructions to create and manage notes, to do lists, and the like in accordance with user instructions.
[0099] In conjunction with RF circuitry **108**, touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, text input module **134**, GPS module **135**, and browser module **147**, map module **154** includes executable instructions to receive, display, modify, and store maps and data associated with maps (e.g., driving directions; data on stores and other points of interest at or near a particular location; and other location-based data) in accordance with user instructions.

[0100] In conjunction with touch-sensitive display system **112**, display system controller **156**, contact module **130**, graphics module **132**, audio circuitry **110**, speaker **111**, RF circuitry **108**, text input module **134**, e-mail client module **140**, and browser module **147**, online video module **155** includes executable instructions that allow the user to access, browse, receive (e.g., by streaming and/or download), play back (e.g., on the touch screen **112**, or on an external display connected wirelessly or via external port **124**), send an e-mail with a link to a particular online video, and otherwise manage online videos in one or more file formats, such as H.264. In some embodiments, instant messaging module **141**, rather than e-mail client module **140**, is used to send a link to a particular online video.

[0101] Each of the above identified modules and applications correspond to a set of executable instructions for performing one or more functions described above and the methods described in this application (e.g., the computer-implemented methods and other information processing methods described herein). These modules (i.e., sets of instructions) need not be implemented as separate software programs, procedures or modules, and thus various subsets of these modules are, optionally, combined or otherwise re-arranged in various embodiments. In some embodiments, memory **102** optionally stores a subset of the modules and data structures identified above. Furthermore, memory **102** optionally stores additional modules and data structures not described above.

[0102] In some embodiments, device **100** is a device where operation of a predefined set of functions on the device is performed exclusively through a touch screen and/or a touchpad. By using a touch screen and/or a touchpad as the primary input control device for operation of device **100**, the number of physical input control devices (such as push buttons, dials, and the like) on device **100** is, optionally, reduced.

[0103] The predefined set of functions that are performed exclusively through a touch screen and/or a touchpad optionally include navigation between user interfaces. In some embodiments, the touchpad, when touched by the user, navigates device **100** to a main, home, or root menu from any user interface that is displayed on device **100**. In such embodiments, a “menu button” is implemented using a touchpad. In some other embodiments, the menu button is a physical push button or other physical input control device instead of a touchpad.

[0104] FIG. **1**B is a block diagram illustrating example components for event handling in accordance with some embodiments. In some embodiments, memory **102** (in FIG. **1**A) or **370** (FIG. **3**) includes event sorter **170** (e.g., in operating system **126**) and a respective application **136-1** (e.g., any of the aforementioned applications **136**, **137-155**, **380-390**).

[0105] Event sorter **170** receives event information and determines the application **136-1** and application view **191** of application **136-1** to which to deliver the event information. Event sorter **170** includes event monitor **171** and event dispatcher module **174**. In some embodiments, application **136-1** includes application internal state **192**, which indicates the current application view(s) displayed on touch-sensitive display system **112** when the application is active or executing. In some embodiments, device/global internal state **157** is used by event sorter **170** to determine which application(s) is (are) currently active, and application internal state **192** is used by event sorter **170** to determine application views **191** to which to deliver event information.

[0106] In some embodiments, application internal state **192** includes additional information, such as one or more of: resume information to be used when application **136-1** resumes execution, user interface state information that indicates information being displayed or that is ready for display by application **136-1**, a state queue for enabling the user to go back to a prior state or view of application **136-1**, and a redo/undo queue of previous actions taken by the user.

[0107] Event monitor **171** receives event information from peripherals interface **118**. Event information includes information about a sub-event (e.g., a user touch on touch-sensitive display system **112**, as part of a multi-touch gesture). Peripherals interface **118** transmits information it receives from I/O subsystem **106** or a sensor, such as proximity sensor **166**, accelerometer(s) **167**,

gyroscope(s) **168**, magnetometer(s) **169**, and/or microphone **113** (through audio circuitry **110**). Information that peripherals interface **118** receives from I/O subsystem **106** includes information from touch-sensitive display system **112** or a touch-sensitive surface.

[0108] In some embodiments, event monitor **171** sends requests to the peripherals interface **118** at predetermined intervals. In response, peripherals interface **118** transmits event information. In other embodiments, peripheral interface **118** transmits event information only when there is a significant event (e.g., receiving an input above a predetermined noise threshold and/or for more than a predetermined duration).

[0109] In some embodiments, event sorter **170** also includes a hit view determination module **172** and/or an active event recognizer determination module **173**.

[0110] Hit view determination module **172** provides software procedures for determining where a sub-event has taken place within one or more views, when touch-sensitive display system **112** displays more than one view. Views are made up of controls and other elements that a user can see on the display.

[0111] Another aspect of the user interface associated with an application is a set of views, sometimes herein called application views or user interface windows, in which information is displayed and touch-based gestures occur. The application views (of a respective application) in which a touch is detected optionally correspond to programmatic levels within a programmatic or view hierarchy of the application. For example, the lowest level view in which a touch is detected is, optionally, called the hit view, and the set of events that are recognized as proper inputs are, optionally, determined based, at least in part, on the hit view of the initial touch that begins a touch-based gesture.

[0112] Hit view determination module **172** receives information related to sub-events of a touch-based gesture. When an application has multiple views organized in a hierarchy, hit view determination module **172** identifies a hit view as the lowest view in the hierarchy which should handle the sub-event. In most circumstances, the hit view is the lowest level view in which an initiating sub-event occurs (i.e., the first sub-event in the sequence of sub-events that form an event or potential event). Once the hit view is identified by the hit view determination module, the hit view typically receives all sub-events related to the same touch or input source for which it was identified as the hit view.

[0113] Active event recognizer determination module **173** determines which view or views within a view hierarchy should receive a particular sequence of sub-events. In some embodiments, active event recognizer determination module **173** determines that only the hit view should receive a particular sequence of sub-events. In other embodiments, active event recognizer determination module **173** determines that all views that include the physical location of a sub-event are actively involved views, and therefore determines that all actively involved views should receive a particular sequence of sub-events. In other embodiments, even if touch sub-events were entirely confined to the area associated with one particular view, views higher in the hierarchy would still remain as actively involved views.

[0114] Event dispatcher module **174** dispatches the event information to an event recognizer (e.g., event recognizer **180**). In embodiments including active event recognizer determination module **173**, event dispatcher module **174** delivers the event information to an event recognizer determined by active event recognizer determination module **173**. In some embodiments, event dispatcher module **174** stores in an event queue the event information, which is retrieved by a respective event receiver module **182**.

[0115] In some embodiments, operating system **126** includes event sorter **170**. Alternatively, application **136-1** includes event sorter **170**. In yet other embodiments, event sorter **170** is a stand-alone module, or a part of another module stored in memory **102**, such as contact/motion module **130**.

[0116] In some embodiments, application **136-1** includes a plurality of event handlers **190** and one

or more application views **191**, each of which includes instructions for handling touch events that occur within a respective view of the application's user interface. Each application view **191** of the application **136-1** includes one or more event recognizers **180**. Typically, a respective application view **191** includes a plurality of event recognizers **180**. In other embodiments, one or more of event recognizers **180** are part of a separate module, such as a user interface kit (not shown) or a higher level object from which application **136-1** inherits methods and other properties. In some embodiments, a respective event handler **190** includes one or more of: data updater **176**, object updater **177**, GUI updater **178**, and/or event data **179** received from event sorter **170**. Event handler **190** optionally utilizes or calls data updater **176**, object updater **177** or GUI updater **178** to update the application internal state **192**. Alternatively, one or more of the application views **191** includes one or more respective event handlers **190**. Also, in some embodiments, one or more of data updater **176**, object updater **177**, and GUI updater **178** are included in a respective application view **191**.

[0117] A respective event recognizer **180** receives event information (e.g., event data **179**) from event sorter **170**, and identifies an event from the event information. Event recognizer **180** includes event receiver **182** and event comparator **184**. In some embodiments, event recognizer **180** also includes at least a subset of: metadata **183**, and event delivery instructions **188** (which optionally include sub-event delivery instructions).

[0118] Event receiver **182** receives event information from event sorter **170**. The event information includes information about a sub-event, for example, a touch or a touch movement. Depending on the sub-event, the event information also includes additional information, such as location of the sub-event. When the sub-event concerns motion of a touch, the event information optionally also includes speed and direction of the sub-event. In some embodiments, events include rotation of the device from one orientation to another (e.g., from a portrait orientation to a landscape orientation, or vice versa), and the event information includes corresponding information about the current orientation (also called device attitude) of the device.

[0119] Event comparator **184** compares the event information to predefined event or sub-event definitions and, based on the comparison, determines an event or sub-event, or determines or updates the state of an event or sub-event. In some embodiments, event comparator **184** includes event definitions **186**. Event definitions **186** contain definitions of events (e.g., predefined sequences of sub-events), for example, event **1** (**187-1**), event **2** (**187-2**), and others. In some embodiments, sub-events in an event **187** include, for example, touch begin, touch end, touch movement, touch cancellation, and multiple touching. In one example, the definition for event **1** (**187-1**) is a double tap on a displayed object. The double tap, for example, comprises a first touch (touch begin) on the displayed object for a predetermined phase, a first lift-off (touch end) for a predetermined phase, a second touch (touch begin) on the displayed object for a predetermined phase, and a second lift-off (touch end) for a predetermined phase. In another example, the definition for event **2** (**187-2**) is a dragging on a displayed object. The dragging, for example, comprises a touch (or contact) on the displayed object for a predetermined phase, a movement of the touch across touch-sensitive display system **112**, and lift-off of the touch (touch end). In some embodiments, the event also includes information for one or more associated event handlers **190**.

[0120] In some embodiments, event definition **187** includes a definition of an event for a respective user-interface object. In some embodiments, event comparator **184** performs a hit test to determine which user-interface object is associated with a sub-event. For example, in an application view in which three user-interface objects are displayed on touch-sensitive display system **112**, when a touch is detected on touch-sensitive display system **112**, event comparator **184** performs a hit test to determine which of the three user-interface objects is associated with the touch (sub-event). If each displayed object is associated with a respective event handler **190**, the event comparator uses the result of the hit test to determine which event handler **190** should be activated. For example, event comparator **184** selects an event handler associated with the sub-event and the object triggering the

hit test.
[0121] In some embodiments, the definition for a respective event **187** also includes delayed actions that delay delivery of the event information until after it has been determined whether the sequence of sub-events does or does not correspond to the event recognizer's event type.
[0122] When a respective event recognizer **180** determines that the series of sub-events do not match any of the events in event definitions **186**, the respective event recognizer **180** enters an event impossible, event failed, or event ended state, after which it disregards subsequent sub-events of the touch-based gesture. In this situation, other event recognizers, if any, that remain active for the hit view continue to track and process sub-events of an ongoing touch-based gesture.
[0123] In some embodiments, a respective event recognizer **180** includes metadata **183** with configurable properties, flags, and/or lists that indicate how the event delivery system should perform sub-event delivery to actively involved event recognizers. In some embodiments, metadata **183** includes configurable properties, flags, and/or lists that indicate how event recognizers interact, or are enabled to interact, with one another. In some embodiments, metadata **183** includes configurable properties, flags, and/or lists that indicate whether sub-events are delivered to varying levels in the view or programmatic hierarchy.
[0124] In some embodiments, a respective event recognizer **180** activates event handler **190** associated with an event when one or more particular sub-events of an event are recognized. In some embodiments, a respective event recognizer **180** delivers event information associated with the event to event handler **190**. Activating an event handler **190** is distinct from sending (and deferred sending) sub-events to a respective hit view. In some embodiments, event recognizer **180** throws a flag associated with the recognized event, and event handler **190** associated with the flag catches the flag and performs a predefined process.
[0125] In some embodiments, event delivery instructions **188** include sub-event delivery instructions that deliver event information about a sub-event without activating an event handler. Instead, the sub-event delivery instructions deliver event information to event handlers associated with the series of sub-events or to actively involved views. Event handlers associated with the series of sub-events or with actively involved views receive the event information and perform a predetermined process.
[0126] In some embodiments, data updater **176** creates and updates data used in application **136-1**. For example, data updater **176** updates the telephone number used in contacts module **137**, or stores a video file used in video player module **145**. In some embodiments, object updater **177** creates and updates objects used in application **136-1**. For example, object updater **177** creates a new user-interface object or updates the position of a user-interface object. GUI updater **178** updates the GUI. For example, GUI updater **178** prepares display information and sends it to graphics module **132** for display on a touch-sensitive display.
[0127] In some embodiments, event handler(s) **190** includes or has access to data updater **176**, object updater **177**, and GUI updater **178**. In some embodiments, data updater **176**, object updater **177**, and GUI updater **178** are included in a single module of a respective application **136-1** or application view **191**. In other embodiments, they are included in two or more software modules.
[0128] It shall be understood that the foregoing discussion regarding event handling of user touches on touch-sensitive displays also applies to other forms of user inputs to operate multifunction devices **100** with input-devices, not all of which are initiated on touch screens. For example, mouse movement and mouse button presses, optionally coordinated with single or multiple keyboard presses or holds; contact movements such as taps, drags, scrolls, etc., on touch-pads; pen stylus inputs; movement of the device; oral instructions; detected eye movements; biometric inputs; and/or any combination thereof are optionally utilized as inputs corresponding to sub-events which define an event to be recognized.
[0129] FIG. **2** illustrates a portable multifunction device **100** having a touch screen (e.g., touch-sensitive display system **112**, FIG. **1**A) in accordance with some embodiments. The touch screen

optionally displays one or more graphics within user interface (UI) **200**. In this embodiment, as well as others described below, a user is enabled to select one or more of the graphics by making a gesture on the graphics, for example, with one or more fingers **202** (not drawn to scale in the figure) or one or more styluses **203** (not drawn to scale in the figure). In some embodiments, selection of one or more graphics occurs when the user breaks contact with the one or more graphics. In some embodiments, the gesture optionally includes one or more taps, one or more swipes (from left to right, right to left, upward and/or downward) and/or a rolling of a finger (from right to left, left to right, upward and/or downward) that has made contact with device **100**. In some implementations or circumstances, inadvertent contact with a graphic does not select the graphic. For example, a swipe gesture that sweeps over an application icon optionally does not select the corresponding application when the gesture corresponding to selection is a tap.

[0130] Device **100** optionally also includes one or more physical buttons, such as “home” or menu button **204**. As described previously, menu button **204** is, optionally, used to navigate to any application **136** in a set of applications that are, optionally executed on device **100**. Alternatively, in some embodiments, the menu button is implemented as a soft key in a GUI displayed on the touch-screen display.

[0131] In some embodiments, device **100** includes the touch-screen display, menu button **204**, push button **206** for powering the device on/off and locking the device, volume adjustment button(s) **208**, Subscriber Identity Module (SIM) card slot **210**, head set jack **212**, and docking/charging external port **124**. Push button **206** is, optionally, used to turn the power on/off on the device by depressing the button and holding the button in the depressed state for a predefined time interval; to lock the device by depressing the button and releasing the button before the predefined time interval has elapsed; and/or to unlock the device or initiate an unlock process. In some embodiments, device **100** also accepts verbal input for activation or deactivation of some functions through microphone **113**. Device **100** also, optionally, includes one or more contact intensity sensors **165** for detecting intensity of contacts on touch-sensitive display system **112** and/or one or more tactile output generators **163** for generating tactile outputs for a user of device **100**.

[0132] FIG. **3** is a block diagram of an example multifunction device with a display and a touch-sensitive surface in accordance with some embodiments. Device **300** need not be portable. In some embodiments, device **300** is a laptop computer, a desktop computer, a tablet computer, a multimedia player device, a navigation device, an educational device (such as a child's learning toy), a gaming system, or a control device (e.g., a home or industrial controller). Device **300** typically includes one or more processing units (CPU's) **310**, one or more network or other communications interfaces **360**, memory **370**, and one or more communication buses **320** for interconnecting these components. Communication buses **320** optionally include circuitry (sometimes called a chipset) that interconnects and controls communications between system components. Device **300** includes input/output (I/O) interface **330** comprising display **340**, which is typically a touch-screen display. I/O interface **330** also optionally includes a keyboard and/or mouse (or other pointing device) **350** and touchpad **355**, tactile output generator **357** for generating tactile outputs on device **300** (e.g., similar to tactile output generator(s) **163** described above with reference to FIG. **1**A), sensors **359** (e.g., touch-sensitive, optical, contact intensity, proximity, acceleration, attitude, and/or magnetic sensors similar to sensors **112**, **164**, **165**, **166**, **167**, **168**, and **169** described above with reference to FIG. **1**A). Memory **370** includes high-speed random access memory, such as DRAM, SRAM, DDR RAM or other random access solid state memory devices; and optionally includes non-volatile memory, such as one or more magnetic disk storage devices, optical disk storage devices, flash memory devices, or other non-volatile solid state storage devices. Memory **370** optionally includes one or more storage devices remotely located from CPU(s) **310**. In some embodiments, memory **370** stores programs, modules, and data structures analogous to the programs, modules, and data structures stored in memory **102** of portable multifunction device **100** (FIG. **1**A), or a subset thereof. Furthermore, memory **370** optionally stores additional programs,

modules, and data structures not present in memory **102** of portable multifunction device **100**. For example, memory **370** of device **300** optionally stores drawing module **380**, presentation module **382**, word processing module **384**, website creation module **386**, disk authoring module **388**, and/or spreadsheet module **390**, while memory **102** of portable multifunction device **100** (FIG. **1**A) optionally does not store these modules.

[0133] Each of the above identified elements in FIG. **3** are, optionally, stored in one or more of the previously mentioned memory devices. Each of the above identified modules corresponds to a set of instructions for performing a function described above. The above identified modules or programs (i.e., sets of instructions) need not be implemented as separate software programs, procedures or modules, and thus various subsets of these modules are, optionally, combined or otherwise re-arranged in various embodiments. In some embodiments, memory **370** optionally stores a subset of the modules and data structures identified above. Furthermore, memory **370** optionally stores additional modules and data structures not described above.

[0134] Attention is now directed towards embodiments of user interfaces ("UI") that are, optionally, implemented on portable multifunction device **100**.

[0135] FIG. **4**A illustrates an example user interface for a menu of applications on portable multifunction device **100** in accordance with some embodiments. Similar user interfaces are, optionally, implemented on device **300**. In some embodiments, user interface **400** includes the following elements, or a subset or superset thereof: [0136] Signal strength indicator(s) **402** for wireless communication(s), such as cellular and Wi-Fi signals; [0137] Time **404**; [0138] Bluetooth indicator **405**; [0139] Battery status indicator **406**; [0140] Tray **408** with icons for frequently used applications, such as: [0141] Icon **416** for telephone module **138**, labeled "Phone," which optionally includes an indicator **414** of the number of missed calls or voicemail messages; [0142] Icon **418** for e-mail client module **140**, labeled "Mail," which optionally includes an indicator **410** of the number of unread e-mails; [0143] Icon **420** for browser module **147**, labeled "Browser"; and [0144] Icon **422** for video and music player module **152**, also referred to as iPod (trademark of Apple Inc.) module **152**, labeled "iPod"; and [0145] Icons for other applications, such as: [0146] Icon **424** for IM module **141**, labeled "Text"; [0147] Icon **426** for calendar module **148**, labeled "Calendar"; [0148] Icon **428** for image management module **144**, labeled "Photos"; [0149] Icon **430** for camera module **143**, labeled "Camera"; [0150] Icon **432** for online video module **155**, labeled "Online Video"; [0151] Icon **434** for stocks widget **149-2**, labeled "Stocks"; [0152] Icon **436** for map module **154**, labeled "Map"; [0153] Icon **438** for weather widget **149-1**, labeled "Weather"; [0154] Icon **440** for alarm clock widget **169-6**, labeled "Clock"; [0155] Icon **442** for workout support module **142**, labeled "Workout Support"; [0156] Icon **444** for notes module **153**, labeled "Notes"; and [0157] Icon **446** for a settings application or module, which provides access to settings for device **100** and its various applications **136**.

[0158] It should be noted that the icon labels illustrated in FIG. **4**A are merely examples. For example, in some embodiments, icon **422** for video and music player module **152** is labeled "Music" or "Music Player." Other labels are, optionally, used for various application icons. In some embodiments, a label for a respective application icon includes a name of an application corresponding to the respective application icon. In some embodiments, a label for a particular application icon is distinct from a name of an application corresponding to the particular application icon.

[0159] FIG. **4**B illustrates an example user interface on a device (e.g., device **300**, FIG. **3**) with a touch-sensitive surface **451** (e.g., a tablet or touchpad **355**, FIG. **3**) that is separate from the display **450**. Device **300** also, optionally, includes one or more contact intensity sensors (e.g., one or more of sensors **359**) for detecting intensity of contacts on touch-sensitive surface **451** and/or one or more tactile output generators **359** for generating tactile outputs for a user of device **300**.

[0160] FIG. **4**B illustrates an example user interface on a device (e.g., device **300**, FIG. **3**) with a touch-sensitive surface **451** (e.g., a tablet or touchpad **355**, FIG. **3**) that is separate from the display

450. Although many of the examples that follow will be given with reference to inputs on touch screen display **112** (where the touch sensitive surface and the display are combined), in some embodiments, the device detects inputs on a touch-sensitive surface that is separate from the display, as shown in FIG. **4**B. In some embodiments, the touch-sensitive surface (e.g., **451** in FIG. **4**B) has a primary axis (e.g., **452** in FIG. **4**B) that corresponds to a primary axis (e.g., **453** in FIG. **4**B) on the display (e.g., **450**). In accordance with these embodiments, the device detects contacts (e.g., **460** and **462** in FIG. **4**B) with the touch-sensitive surface **451** at locations that correspond to respective locations on the display (e.g., in FIG. **4**B, **460** corresponds to **468** and **462** corresponds to **470**). In this way, user inputs (e.g., contacts **460** and **462**, and movements thereof) detected by the device on the touch-sensitive surface (e.g., **451** in FIG. **4**B) are used by the device to manipulate the user interface on the display (e.g., **450** in FIG. **4**B) of the multifunction device when the touch-sensitive surface is separate from the display. It should be understood that similar methods are, optionally, used for other user interfaces described herein.

[0161] Additionally, while the following examples are given primarily with reference to finger inputs (e.g., finger contacts, finger tap gestures, finger swipe gestures, etc.) or stylus inputs, it should be understood that, in some embodiments, one or more of the finger inputs or stylus inputs are replaced with input from another input device (e.g., a mouse based input). For example, a swipe gesture is, optionally, replaced with a mouse click (e.g., instead of a contact) followed by movement of the cursor along the path of the swipe (e.g., instead of movement of the contact). As another example, a tap gesture is, optionally, replaced with a mouse click while the cursor is located over the location of the tap gesture (e.g., instead of detection of the contact followed by ceasing to detect the contact). Similarly, when multiple user inputs are simultaneously detected, it should be understood that multiple computer mice are, optionally, used simultaneously, or a mouse and finger contacts are, optionally, used simultaneously.

User Interfaces and Associated Processes

[0162] Attention is now directed towards embodiments of user interfaces ("UI") and associated processes that may be implemented on an electronic device, such as portable multifunction device (PMD) **100** or device **300**, with a display, a touch-sensitive surface, and one or more sensors to detect intensity of contacts with the touch-sensitive surface.

[0163] FIGS. **5**A-**5**AF illustrate example user interfaces for annotating text in accordance with some embodiments. The user interfaces in these figures are used to illustrate the processes described below, including the processes in FIGS. **6**A-**6**D and FIGS. **7**A-**7**D. Although some of the examples which follow will be given with reference to inputs on a touch-screen display (where the touch-sensitive surface and the display are combined), in some embodiments, the device detects inputs on a touch-sensitive surface **451** that is separate from the display **450**, as shown in FIG. **4**B.

[0164] FIG. **5**A illustrates an e-book application as part of a user interface **500** displayed by a portable multifunctional device **100**. The user interface **500** includes, in addition to the e-book application, within an application region, a device bar **570** at the top of the display including an identifier of the portable multifunctional device **100** (e.g., "iPad"), a wireless connection indicator, a current time, and a battery indicator indicating a charge level of the portable multifunctional device **100**.

[0165] The user interface **500** includes, below the device bar **570** and spanning the rest of the display, an application region of an e-book application. Although primary described herein (with reference to FIGS. **5**A-**5**AF) in the context of an e-book application, aspects described herein can be applied to other applications that display text, including word processing applications, PDF (portable document format) reader applications, and web browser applications.

[0166] The application region includes an application bar **510** at the top of the application region. In some embodiments, the application bar **510** is displayed at a bottom of the application region or at another location within the application region. The application bar **510** includes a library affordance **511** for displaying a library view within the application. The library view includes

affordances for selecting e-books available for display by the application. The application bar **510** includes a contents affordance **512** for displaying a contents view within the application. As described further below, the contents view includes a table of contents of the e-book with affordances for displaying corresponding portions of the text of the e-book. As also described further below, a notes view is accessible from the contents view.

[0167] The application bar **510** includes author text **513** indicative of the author of the e-book and title text **516** indicative of the title of the e-book. The application bar **510** includes a text display options affordance **517** for changing display of the text of the e-book, e.g., the font or font size. The application bar **510** includes a search affordance **518** for searching the text of the e-book. The application bar **510** includes bookmark affordance **519** for adding a bookmark associated with the displayed text of the e-book. The application bar **510** includes a hand-drawn annotations affordance **590** described in detail below.

[0168] The application region includes a text display region **520** in which at least a portion of the text of the e-book is displayed. As shown in FIG. **5**A, the text display region **520** includes a first column **521** and a second column **522**, each including a portion of the text of the e-book. In various implementations, the text display region **520** includes a single column or more than two columns.

[0169] FIG. **5**B illustrates the user interface **500** of FIG. **5**A with a finger contact **581**A detected at a location of the text. In particular, the finger contact **581**A is at the location of the word “apple” in the first column **521** of the text display region **520**. Although various finger contacts (illustrated as dashed ovals) and stylus contacts (illustrated as dashed circles with a stylus **203**) are illustrated throughout the figures and described herein, it is to be appreciated that in various implementations, finger contacts can be replaced with stylus contacts and, similarly, stylus contacts can be replaced with finger contacts. In some embodiments, finger contacts are treated in the same manner as stylus contacts. In some embodiments, finger contacts are treated differently from stylus contacts.

[0170] FIG. **5**C illustrates the user interface **500**, which is displayed in response to detecting the finger contact **581**A in FIG. **5**B. In response to detecting the finger contact **581**A, the word “apple” in the text display region **520** is selected and a selected text menu **530** is displayed in association with the selected text. In various implementations, if the finger contact **581**A is a tap (e.g., the time of contact is less than a threshold), the selected text menu **530** is not displayed. In some embodiments, the user interface **500** does not change in response to detecting a tap of a finger. In some embodiments, the user interface **500** changes in ways other than displaying the selected text menu **530**, such as scrolling the text or displaying a next page. In various implementations, if the finger contact **581**A is a long press (e.g., the time of contact is greater than a threshold), the selected text menu **530** is displayed.

[0171] The selected text menu **530** includes a copy affordance **531** for copying the selected text to a clipboard. The selected text menu **530** includes a define affordance **532** for displaying a definition of the selected text. The selected text menu **530** includes a highlight affordance **533** for adding a highlighting annotation to the selected text. The selected text menu **530** includes a note affordance **534** for adding a note annotation to the selected text. The selected text menu **530** includes a drawing affordance **535** for adding a drawing annotation to the selected text.

[0172] FIG. **5**C illustrates a finger contact **581**B detected at a location of the drawing affordance **535**.

[0173] FIG. **5**D illustrates the user interface **500**, which is displayed in response to detecting the finger contact **581**B in FIG. **5**C. In response to detecting the finger contact **581**B, a first portion **551**A of the displayed text in the first column **521** is moved upwards and a second portion **551**B of the displayed text in first column **521** is moved downwards, revealing a non-text region. In FIG. **5**D, at least a portion of the non-text region is converted into a drawing panel **540**.

[0174] As shown in FIG. **5**D, moving the first portion **551**A of the displayed text relative to the second portion **551**B of the displayed text to display the non-text region between the first portion **551**A and the second portion **551**B does not change display of the second column **522**. In various

implementations, some of the second portion **551**B of the displayed text is reflowed onto the second column **522**.

[0175] The drawing panel **540** is provided to receive drawing input and display a corresponding graphic in response to receiving the drawing input. The drawing panel **540** includes a number of drawing affordances **541**-**544** for changing a color or virtual drawing implement that modifies the drawing input and corresponding graphic. In particular, the drawing panel **540** includes a drawing-mode affordance **541** for entering into a drawing mode (e.g., selecting a virtual pencil tool) for adding lines to a drawing within the drawing panel **540**. The drawing panel **540** includes a brush affordance **542** for selecting a virtual paintbrush for adding brushstrokes to a drawing within the drawing panel **540**. The drawing panel **540** includes an eraser affordance **543** for erasing portions of a drawing within the drawing panel **540**. The drawing panel **540** includes a color affordance **544** for selecting a color of additions to a drawing within the drawing panel **540**.

[0176] FIG. **5**E illustrates the user interface **500** of FIG. **5**D, which is displayed in response to detecting drawing input within the drawing panel **540**. In FIG. **5**E, the drawing panel **540** displays a graphic of a drawing **545**A corresponding to the detected drawing input. In various implementations, the drawing input can be one or more finger inputs and/or one or more stylus inputs.

[0177] FIG. **5**E illustrates a finger contact **581**C detected at a location outside the drawing panel **540**.

[0178] FIG. **5**F illustrates the user interface **500**, which is displayed in response to detecting the finger contact **581**C. In FIG. **5**F, the first portion **551**A and second portion **551**B of displayed text of the first column **521** are moved relative to each other to cease display of the non-text region and the drawing panel **540** thereof.

[0179] In FIG. **5**F, the user interface **500** includes a drawing indicator **547**A displayed at a location corresponding to a location between the first portion **551**A and the second portion **551**B. In particular, the drawing indicator **547**A is displayed within a margin to the left of a location between the first portion **551**A and the second portion **551**B. Further, the selected text (e.g., the word “apple”) is highlighted to indicate that the drawing annotation is associated with that text.

[0180] FIG. **5**G illustrates the user interface **500** of FIG. **5**F with a de-pinch gesture **581**D detected within the first column **521**A. The de-pinch gesture **581**D is detected between a first portion **552**A of the displayed text of the first column **521** (which differs from the first portion **551**A illustrated earlier) and a second portion **552**B of the displayed text of the first column **521** (which differs from the second portion **551**B illustrated earlier).

[0181] FIG. **5**H illustrates the user interface **500**, which is displayed in response to detecting a first portion of the de-pinch gesture **581**D. In particular, FIG. **5**H illustrates the user interface **500** in response to detecting a first finger contact and a second finger contact moving a first distance away from each other. In FIG. **5**H, the first portion **552**A is moved relative to the second portion **552**B to display a non-text region **549** between the first portion **552**A and second portion **552**B.

[0182] FIG. **5**I illustrates the user interface **500**, which is displayed in response to detecting a second portion of the de-pinch gesture **581**D. In particular, FIG. **5**I illustrates the user interface **500** in response to detecting the first finger contact and second finger contact moving a second distance away from each other and lift-off of the first finger contact and second finger contact.

[0183] In FIG. **5**I, the non-text region **549** is increased in size and at least a portion of the non-text region **549** has been converted into a drawing panel **540**.

[0184] FIG. **5**J, like FIG. **5**G, illustrates the user interface **500** of FIG. **5**F with a de-pinch gesture **581**E detected within the first column **521**A. The de-pinch gesture **581**E of FIG. **5**J differs from the de-pinch gesture of FIG. **5**G in that the distance moved by the two finger contacts is greater.

[0185] FIG. **5**K illustrates the user interface **500**, which is displayed in response to detecting the de-pinch gesture **581**E. In FIG. **5**K, the first portion **552**A and second portion **552**B are moved relative to each other to display a non-text region of which at least a portion has been converted

into a drawing region **540**.
[0186] In comparing FIG. **5**I and FIG. **5**K, the drawing panel **540** of FIG. **5**K is larger than the drawing panel **540** of FIG. **5**I. In various implementations, the size of the drawing panel **540** is proportional to the size of the de-pinch gesture, e.g., the distance moved by the two finger contacts.
[0187] As described above, in displaying the drawing panel **540**, a first portion **552**A of the text is moved relative to a second portion **552**B of the text. In particular, the first portion **552**A is moved a first distance in a first direction (e.g., up) and the second portion **552**B is moved a second distance in a second direction (e.g., down). In some embodiments, the first distance is the same as the second distance. In some embodiments, however, the first distance is different from the second distance. In various implementations, the first distance and the second distance are selected based the location of the input that opens the drawing panel **540**. In some implementations, the first distance and second distance are selected so as to maintain at least a subset of the first portion **552**A and at least a subset of the second portion **552**B on the display. For example, as shown in FIG. **5**K, the user interface **500** includes a subset of the first portion **552**A above the drawing panel **540** and a subset of the second portion **522**B below the drawing panel. In particular, the first distance moved by the first portion **552**A is small enough that the first portion **552**A is not removed from the display. For example, as shown in FIG. **5**K, if the boundary between a first portion **552**A above the boundary and a second portion **552**B below the boundary is closer to the top of the display, the first portion **552**A moves less than the second portion **552**B. While, as shown in FIG. **5**D (and, similarly, in FIG. **5**P described below), if the boundary between the first portion **551**A and the second portion **551**B is closer to a bottom of the display, the first portion **551**A moves more than the second portion **551**B.
[0188] FIG. **5**L illustrates the user interface **500** of FIG. **5**K, which is displayed in response to detecting drawing input within the drawing panel **540**. In FIG. **5**L, the drawing panel **540** displays a graphic of a drawing **545**B corresponding to the detected drawing input.
[0189] FIG. **5**M illustrates the user interface **500** of FIG. **5**L with a pinch gesture **581**F detected within the first column **521**. The pinch gesture **581**F includes two finger contacts moving towards each other. In various implementations, as illustrated in FIG. **5**M, one or both of the two finger contacts can be detected within the drawing panel **540**. In some embodiments, one or both of the two finger contacts are detected outside of the drawing panel **540**.
[0190] FIG. **5**N illustrates the user interface **500**, which is displayed in response to detecting the pinch gesture **581**F. In response to the pinch gesture **581**F, the first portion **552**A and second portion **552**B have moved relative to each other to cease display of the non-text region and the drawing panel **540** thereof.
[0191] In FIG. **5**N, the user interface **500** includes a drawing indicator **547**B displayed at a location corresponding to a location between the first portion **552**A and the second portion **552**B. The drawing indicator **547**A associated with the previously selected text (e.g., the word “apple”) is also displayed.
[0192] FIG. **5**O illustrates the user interface **500** of FIG. **5**N with a stylus contact **581**G detected at a location between two paragraphs of the text of the second column **522**. In particular, the stylus contact **581**G is generally between a first portion **553**A of text displayed in the second column **522** and a second portion **553**B of text displayed in the second column **522**.
[0193] FIG. **5**P illustrates the user interface **500**, which is displayed in response to detecting the stylus contact **581**G. In FIG. **5**P, the first portion **553**A and second portion **533**A are moved relative to each to display a non-text region which has been converted into a drawing region **540**.
[0194] In various implementations, in response to detecting a tap from the stylus, the user interface **500** displays the drawing panel **540**, but, in response to detecting a tap from a finger, the user interface **500** does not display the drawing panel **540**. Rather, in response to detecting a tap from a finger, the user interface **500** does not change or changes in another way, such as a navigation operation or displaying the selected text menu **530** described above.

[0195] In various implementations, the size of the drawing panel **540** is proportional to a magnitude of a property of the stylus contact **581**G. In some embodiments, the property is a force, time, or distance of the stylus contact **581**G.
[0196] FIG. **5**Q illustrates the user interface **500** of FIG. **5**P, which is displayed in response to detecting drawing input within the drawing panel **540**. In FIG. **5**Q, the drawing panel **540** displays a graphic of a drawing **545**C corresponding to the detected drawing input. As shown in FIG. **5**Q, the drawing panel **540** is displayed with a feathered border so that portions of the drawing **545**C that are near the edge of the drawing panel **540** gradually fade out. Thus, the user interface **500** displays the graphic of the drawing **545**C by fading the graphic near the edges of the drawing panel **540**.
[0197] FIG. **5**R illustrates the user interface **500** of FIG. **5**Q with a stylus contact **581**H detected at a location outside the drawing panel **540**.
[0198] FIG. **5**S illustrates the user interface **500** of FIG. **5**R, which is displayed in response to detecting the stylus contact **581**H. In response to detecting the stylus contact **581**H, the first portion **553**A and second portion **553**B have been moved relative to each other to cease display of the drawing panel **540**. In FIG. **5**S, the user interface **500** includes a drawing indicator **547**C displayed at a location corresponding to a location between the first portion **553**A and the second portion **554**B. The drawing indicators **547**A-**547**B associated with other drawings are also displayed.
[0199] FIG. **5**S illustrates a finger contact **581**I detected at a location of the drawing indicator **547**A associated with the previously selected text (e.g., the word “apple”).
[0200] FIG. **5**T illustrates the user interface **500**, which is displayed in response to detecting the finger contact **581**I. In response to detecting the finger contact **581**I, the first portion **551**A and second portion **551**B are moved to display the drawing panel **540** including a graphic of the drawing **545**A previously input.
[0201] FIG. **5**T illustrates a finger contact **581**J detected at a location outside the drawing panel **540**.
[0202] FIG. **5**U illustrates the user interface **500**, which is displayed in response to detecting the finger contact **581**J. In response to detecting the finger contact **581**J, the first portion **551**A and second portion **551**B are moved to cease display of the drawing panel **540**.
[0203] FIG. **5**U illustrates a finger contact **581**K detected at a location of the contents affordance **512**.
[0204] FIG. **5**V illustrates the user interface **500**, which is displayed in response to detecting the finger contact **581**K. In response to detecting the finger contact **581**K at the location of the contents affordance **512**, the user interface **500** displays a contents view. Within the contents view, the application bar **510** is changed to display, in place of the contents affordance **512**, a resume affordance **514** for returning to the reading view illustrated in the previous figures. Within the contents view, the text display region **520** is replaced with a metadata display region **527** which shows, in the contents view, a table of contents **528** of the e-book with affordances for displaying corresponding portions of the text of the e-book.
[0205] The metadata display region **527** includes a view toggle affordance **529** for toggling between the contents view, a bookmarks view including a listing of bookmarks of the e-book, and a notes view including a listing of annotations of the e-book.
[0206] FIG. **5**V illustrates a finger contact **581**L detected at a location of the view toggle affordance **529** corresponding to the notes view.
[0207] FIG. **5**W illustrates the user interface **500**, which is displayed in response to detecting the finger contact **581**L. In FIG. **5**W, the user interface **500** displays a notes view. In the notes view, the metadata display region **527** includes an annotations list **528** listing annotations of the e-book. The annotations list **528** includes drawing annotations added by the user in addition to other annotations added by the user (e.g., notes and highlighting). In particular, as shown in FIG. **5**W, the annotations list **528** includes graphics of the drawing **545**A (and a portion of the graphic of a portion of the

drawing **545**B) in conjunction with additional annotations.
[0208] FIG. **5**W illustrates a finger contact **581**M detected at the location of the resume affordance **514**.
[0209] FIG. **5**X illustrates the user interface **500**, which is displayed in response to detecting the finger contact **581**M and additional inputs to navigate to another portion of the e-book. In FIG. **5**X, the text display region **520** includes a first arrangement of text **525**A in two columns. The first arrangement of text **525**A includes various portions of text in various positions. As illustrated below, the text being reflowable allows other arrangements of text to include the various portions of text in different positions.
[0210] FIG. **5**X illustrates a finger contact **581**N detected at the location of the hand-drawn annotations affordance **590**. In response to detecting the finger contact **581**N at the location of the hand-drawn annotations affordance **590**, the user interface **500** enters a hand-drawn annotations mode in which finger contacts are interpreted as hand-drawn annotations. In some embodiments, stylus contacts are interpreted as hand-drawn annotations without explicitly entering the hand-drawn annotations mode (e.g., via the hand-drawn annotations affordance **590**). In response to detecting a second finger contact at the location of the hand-drawn annotations affordance **590**, the user interface **500** exits the hand-drawn annotations mode and finger contacts are interpreted according to default behavior.
[0211] FIG. **5**Y illustrates the user interface **500**, which is displayed in response to receiving a number of sets of one or more annotation inputs, each set corresponding to an individual annotation associated with a portion of the text (each portion of the text itself including multiple portions as described below). In various implementations, a portion of text includes a character, multiple characters, a word, multiple words, a line, multiple lines, a paragraph, or multiple paragraphs. The user interface **500** displays a representation of each annotation in association with the portion of the text. The shape of the representation corresponds to locations on the display at which the set of annotation inputs are detected. Thus, on a touch-sensitive display, the representation is displayed (at least initially) at the same locations at which contact is detected. Accordingly, the representation is not automatically generated based on selection of an annotation type, but the representation reflects the input provided by an individual user. This allows a user to input a limitless number of different types of annotation.
[0212] The user interface **500** includes a first representation of a strikethrough annotation **591**A over the portion of the text reading “(as already related)”. A strikethrough annotation can be generated in response to detecting a set of one or more annotation inputs that includes one or more strikethrough inputs at least partially detected at a set of locations over the portion of the text associated with the strikethrough annotation. The strikethrough annotation can take various forms, such as a line through the text, crossing out the text (as shown by the first representation of the strikethrough annotation **591**A), highlighting the text with a non-black color, or any other annotation over the portion of text.
[0213] The user interface includes a first representation of an encircling annotation **592**A around the portion of the text reading “apples.”. An encircling annotation can be generated in response to detecting a set of one or more annotation inputs includes one or more encircling inputs at least partially detected at a set of locations surrounding the portion of text associated with the encircling annotation. The encircling annotation can take various forms, such as a circle around the text (as shown by the first representation of the encircling annotation **592**A), a box around the text, or a cloud shape around the text. Further, the encircling annotation need not completely surround the text, but includes portions on at least two sides of the portion of text. Thus, the encircling annotation can include a line above the text and a line below the text (sandwiching the text) or bracketing the text, or any other annotation surrounding (even if not completely surrounding) the portion of text.
[0214] The user interface **500** includes a first representation of an underlining annotation **593**A

below the portion of text reading “three of the golden apples”. An underlining annotation can be generated in response to detecting a set of one or more annotation inputs including one or more underlining inputs at least partially detected at a set of locations below the portion of text associated with the underlining annotation. The underlining annotation can take various forms, such as a straight line, a wavy line (as shown by the first representation of the underlining annotation **593**A), a dashed line, or any other annotation below the portion of text.

[0215] The user interface **500** includes a first representation of a text-connecting annotation **594**A connecting a first portion of the text reading “golden apples” with a second portion of the text reading “sacred fruit”. A text-connecting annotation can be generated in response to detecting a set of one or more annotation inputs including a first set of one or more annotation inputs detected at locations associated with the first portion of the text, a second set of one or more annotation inputs detected at locations associated with the second portion of the text, and a third set of one or more annotation inputs detects at locations between the first portion of the text and the second portion of the text. The text-connecting annotation can take various forms, such as one or more lines between encircling annotations (as shown by the first representation of the text-connecting annotation **594**A) or one or more lines between underlining annotations.

[0216] The user interface **500** includes a first representation of a drawing-connecting annotation **595**A connecting a portion of the text reading “Pallas-Athene” to a drawing of a question mark. The drawing-connecting annotation can be generated in response to detecting a set of one or more annotation inputs include a first set of one or more annotation inputs detected at locations associated with a portion of text, a second set of one or more annotation inputs detected at locations unassociated with a portion of text, and a third set of one or more annotation inputs detected at locations between the first portion of text and locations unassociated with a portion of text.

[0217] The user interface **500** includes a first representation of an underlining annotation **596**A below the portion of text reading “Realm of Shades”. The first representation of the underlining annotation **596**A includes two separate sub-portions, one below the sub-portion of text reading “Realm of” and another below the sub-portion of text reading “Shades”.

[0218] FIG. **5**Z illustrates the user interface **500** of FIG. **5**Y with a stylus contact **581**O detected at the location of the text display options affordance **517**.

[0219] FIG. **5**AA illustrates the user interface **500**, which is displayed in response to detecting the stylus contact **581**O. In response to detecting the stylus contact **581**O at the location of text display options affordance **517**, the user interface **500** includes a text display options menu **571**. The text display options menu **571** includes a shrink affordance **572**A for decreasing the font size of the displayed text, a grow affordance **572**B for increasing the font size of the displayed text, and a font selection affordance **573** for selecting a font for the displayed text.

[0220] FIG. **5**AA illustrates a stylus contact **581**P detected at the location of the font selection affordance **573**.

[0221] FIG. **5**AB illustrates the user interface **500**, which is displayed in response to detecting the stylus contact **581**P. In response to detecting the stylus contact **581**P, the user interface **500** includes a font selection menu **574** including a number of affordances for selecting particular fonts for the displayed text.

[0222] FIG. **5**AB illustrates a stylus contact **581**Q detected at a location of a Century selection affordance.

[0223] FIG. **5**AC illustrates the user interface **500**, which is displayed in response to detecting the stylus contact **581**Q. In FIG. **5**AC, the text display region **520** includes a second arrangement of text **525**B in two columns. The second arrangement of text **525**B includes various portions of the text previously displayed in the first arrangement of text **525**A in various different positions.

[0224] The user interface **500** includes a second representation of the strikethrough annotation **591**B over the portion of the text reading “(as already related)”. Whereas the first representation **591**A included a portion which is displayed proximate to a first portion of the text (e.g., “(as

already") in the first arrangement and another portion which is displayed proximate to a second portion of the text (e.g., "related)") in the first arrangement, the second representation **591**B includes a portion which is displayed proximate to the first portion of the text in the second arrangement and a portion which is displayed proximate to the second portion of the text in the second arrangement. Thus, the same portion of the text is struck through after the rearrangement of the text.

[0225] Nevertheless, the second representation **591**B is different from the first representation **591**A as it is a bit wider due to the different font. Further, the second representation **591**B is in a different position than the first representation **591**A. However, the second representation **591**B has the same shape as the first representation **591**A. Two representations (or portions thereof) are considered to have the same shape when one is a linear transformation of the other. Thus, moving, resizing, reflecting, rotating, and stretching a representation does not change its shape. Indeed, the second representation **591**B is a relocated and resized version of the first representation **591**A. Thus, the look-and-feel of the representations of the annotation is maintained through reflowing of the text.

[0226] The user interface **500** includes a second representation of the encircling annotation **592**B around the portion of the text reading "apples.". Whereas the first representation **592**A included a portion which is displayed proximate to a first portion of the text (e.g., "app") in the first arrangement and another portion which is displayed proximate to a second portion of the text (e.g., "les.") in the first arrangement, the second representation **592**B includes a portion which is displayed proximate to the first portion of the text in the second arrangement and a portion which is displayed proximate to the second portion of the text in the second arrangement. Thus, the same portion of the text is encircled after the rearrangement of the text.

[0227] Nevertheless, the second representation **592**B is different from the first representation **592**A as it is a bit wider due to the different font. Further, the second representation **592**B is in a different position than the first representation **592**A. However, the second representation **592**B has the same shape as the first representation **592**A. Indeed, the second representation **592**B is a relocated and resized version of the first representation **592**A. Thus, the look-and-feel of the representations of the annotation is maintained through reflowing of the text.

[0228] The user interface **500** includes a second representation of the underlining annotation **593**B below the portion of the text reading "three of the golden apples". Whereas the first representation **593**A included a portion which is displayed proximate to a first portion of the text (e.g., "thee of the") in the first arrangement and another portion which is displayed proximate to a second portion of the text (e.g., "golden apples") in the first arrangement, the second representation **593**B includes a portion which is displayed proximate to the first portion of the text in the second arrangement and a portion which is displayed proximate to the second portion of the text in the second arrangement. Thus, the same portion of the text is underlined after the rearrangement of the text.

[0229] In particular, in the first arrangement, the first portion of the text is adjacent to the second portion of the text in the first arrangement, whereas in the second arrangement, the first portion of the text is non-adjacent to the second portion of the text. Thus, in the second arrangement, the second representation **593**B is split into two portions, with the first portion displayed proximate to the first portion of the text and the second portion displayed proximate to the second portion of the text in the second arrangement.

[0230] In some embodiments, as described below, the second representation, rather than being a split version of the first representation, is a duplicated version of the first representation.

[0231] Thus, although the same portion of the text is underlined after the rearrangement of the text, the second representation **593**B is different from the first representation **592**A at least because it is in two parts. But, the look-and-feel of the representations of the annotation is maintained through reflowing of the text.

[0232] The user interface **500** includes a second representation of the text-connecting annotation **594**B connecting a first portion of the text reading "golden apples" with a second portion of the text

reading “sacred fruit”. Whereas the first representation **594**A included a portion which is displayed proximate to a first portion of the text (e.g., “golden apples”) in the first arrangement and another portion which is displayed proximate to a second portion of the text (e.g., “sacred fruit”) in the first arrangement, the second representation **594**B includes a portion which is displayed proximate to the first portion of the text in the second arrangement and a portion which is displayed proximate to the second portion of the text in the second arrangement. Thus, the same portions of the text are connected after the rearrangement of the text.

[0233] Nevertheless, the second representation **594**B is different from the first representation **594**A as the two portions of text have moved. Whereas the first representation **594**A included a dual-slash connector (//) between the portions of text, the second representation **594**B includes a dual-backslash connector (\\) between the portions of text. Both representations include a connector between the two portions of text and the connectors are the same shape. Thus, the look-and-feel of the representations of the annotation is maintained through reflowing of the text.

[0234] The user interface **500** includes a second representation of the drawing-connecting annotation **595**B connecting a portion of the text reading “Pallas-Athene” to a drawing of a question mark. Whereas the first representation **595**A included a portion which is displayed proximate to a first portion of the text (e.g., “Pallas-”) in the first arrangement and another portion which is displayed proximate to a second portion of the text (e.g., “Athene”) in the first arrangement, the second representation **595**B includes a portion which is displayed proximate to the first portion of the text in the second arrangement and a portion which is displayed proximate to the second portion of the text in the second arrangement. Thus, the same portion of text is identified (and connected with the drawing) after the rearrangement of the text.

[0235] Nevertheless, the second representation **595**B is different from the first representation **595**A as the connector between the text and the drawing has been resized. Thus, the look-and-feel of the representations of the annotation is maintained through reflowing of the text.

[0236] The user interface **500** includes a second representation of the underlining annotation **596**B below the portion of text reading “Realm of Shades”. Whereas the first representation **596**A included a portion which is displayed proximate to a first portion of the text (e.g., “Realm of”) in the first arrangement and another portion which is displayed proximate to a second portion of the text (e.g., “Shades”) in the first arrangement, the second representation **595**B includes a portion which is displayed proximate to the first portion of the text in the second arrangement and a portion which is displayed proximate to the second portion of the text in the second arrangement. Thus, the same portion of text is underlined after the rearrangement of the text.

[0237] Nevertheless, the second representation **596**B is different from the first representation **596**A as the two portions of the first representation **596**A have been merged. In particular, in the first arrangement, the first portion of the text (e.g., “Realm of” is non-adjacent to the second portion of the text (e.g., “Shades”), whereas, in the second arrangement, the first portion of the text is adjacent to the second portion of the text. Thus, the second representation **596**B includes two separate elements of the first representation **596**A merged together. For example, endpoints of the separate elements are displayed at the same location in the second representation. Thus, the look-and-feel of the representations of the annotation is maintained through reflowing of the text.

[0238] FIG. **5**AD illustrates the user interface **500** of FIG. **5**AC with a stylus contact **581**R detected at the location of the text display options affordance **517**.

[0239] FIG. **5**AE illustrates the user interface **500**, which is displayed in response to detecting the stylus contact **581**R. In response to detecting the stylus contact **581**R at the location of text display options affordance **517**, the user interface **500** includes the text display options menu **571**.

[0240] FIG. **5**AE illustrates a stylus contact **581**S detected at the location of the grow affordance **572**B.

[0241] FIG. **5**AF illustrates the user interface **500**, which is displayed in response to detecting the stylus contact **581**S. In FIG. **5**AF, the text display region **520** includes a third arrangement of text

525C in two columns. The third arrangement of text **525**C includes various portions of the text previously displayed in the first arrangement of text **525**A and second arrangement of text **525**B in various different positions.

[0242] The user interface **500** includes a third representation of the strikethrough annotation **591**C over the portion of the text reading "(as already related)". Whereas the first representation **591**A included a portion which is displayed proximate to a first portion of the text (e.g., "(as already") in the first arrangement and another portion which is displayed proximate to a second portion of the text (e.g., "related)") in the first arrangement, the third representation **591**C includes a portion which is displayed proximate to the first portion of the text in the second arrangement and a portion which is displayed proximate to the second portion of the text in the second arrangement. Thus, the same portion of the text is struck through after the rearrangement of the text.

[0243] Nevertheless, the third representation **591**C is different from the first representation **591**C as it includes two separate portions, each having the same shape as the first representation **591**A. In particular, whereas, in the first arrangement, the first portion of the text (e.g., "(as already") is adjacent to the second portion of the text (e.g., "related)"), in the second arrangement, the first portion of the text is non-adjacent to the second portion of the text. Thus, the third representation, includes a first instance displayed proximate to the first portion of the text and a second instance displayed proximate to the second portion of the text. Each instance has the same shape as the first representation **591**A. Thus, the look-and-feel of the representations of the annotation is maintained through reflowing of the text.

[0244] FIGS. **6**A-**6**D illustrate a flow diagram of a method **600** of displaying a drawing panel in accordance with some embodiments. The method **600** is performed at an electronic device (e.g., the portable multifunction device **100** in FIG. **1**A, or the device **300** in FIG. **3**) with a display and a touch-sensitive surface. In some embodiments, as detailed below as an example, the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **600** are, optionally, combined and/or the order of some operations is, optionally, changed.

[0245] As described below, the method **600** provides an intuitive way to add drawing annotations to text. The method reduces the cognitive burden on a user when adding drawing annotations to text, thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to add drawing annotations to text faster and more efficiently conserves power and increases the time between battery charges.

[0246] The device displays (**602**), on the touch-sensitive display, a text region that includes a first portion of text and a second portion of text. For example, in FIG. **5**A, the device displays a text display region **520** including various portions of text in various positions.

[0247] The device detects (**604**), on the touch-sensitive display, an input within the text region. For example, in FIG. **5**B, the device detects a finger contact **581**A within the text display region **520**. As another example, in FIG. **5**G, the device detects a de-pinch gesture **581**D within the text display region **520**. As another example, in FIG. **5**O, the device detects a stylus contact **581**G within the text display region **520**. In some embodiments, finger contacts are treated in the same manner as stylus contacts. In some embodiments, finger contacts are treated differently from stylus contacts.

[0248] In some embodiments, in detecting the input within the text region, the device detects (**606**), on the touch-sensitive display, a first input within the text region. For example, in FIG. **5**B, the device detects a finger contact **581**A within the text display region **520**. In some embodiments, in response to detecting the first input, the device displays (**608**), on the touch-sensitive display, an annotations menu including a drawing option. For example, in FIG. **5**C, the device displays a selected text menu **530** including a drawing affordance **535** for adding a drawing annotation to the selected text. In some embodiments, the device detects (**610**), on the touch-sensitive display, a second input at a location of the drawing option. For example, in FIG. **5**D, the device detects a finger contact **581**B at the location of the drawing affordance **535**.

[0249] In some embodiments, in detecting the input within the text region, the device detects (**612**), on the touch-sensitive display, a de-pinch gesture including a first contact and a second contact moving away from each other. Thus, a user can quickly, with a single gesture, open a drawing panel to add drawing annotations to the text, reducing interaction with the device. Reducing interaction with the device conserves power and increases the time between battery charges and reduces wear-and-tear of the device. Further, screen space need not be used to display an affordance for adding a drawing annotation, resulting in a more efficient human-machine interface (as a user need not manipulate the user interface to find affordances for performing the function). For battery-operated electronic devices, a more efficient human-machine user interface conserves power and increases the time between battery charges. Further, a more efficient human-machine user interface reduces the amount of user interaction with the device and reduces wear-and-tear of the device. By using less space on the screen, a smaller (and less expensive) screen can provide the same usability. For example, in FIG. **5**G, the device detects a de-pinch gesture **581**D including a first contact and a second contact moving away from each other. As another example, in FIG. **5**J, the device detects a de-pinch gesture **581**E including a first contact and a second contact moving away from each other.
[0250] In some embodiments, a size of the drawing panel is proportional (**614**) to an amount of movement of the first contact and/or second contact as part of the de-pinch gesture. Thus, a user can quickly, with a single gesture, set a size of drawing panel, reducing interaction with the device. As noted above, reducing interaction with the device conserves power and increases the time between battery charges and reduces wear-and-tear of the device. For example, in FIG. **5**I, the drawing panel **540** is a first size in response to a de-pinch gesture **581**D of a first size and, in FIG. **5**K, the drawing panel **540** is a second size in response to a de-pinch gesture **581**E of a second size.
[0251] In some embodiments, in detecting the input with the text region, the device detects (**616**), on the touch-sensitive display, a contact proximate to a paragraph break between the first portion of text and the second portion of text. By using the location of the contact as the input for opening a drawing panel, the paragraph break provides information to the user and also acts as an interactive affordance. This uses the space of the screen more efficiently, resulting in a more efficient human-machine interface. For battery-operated electronic devices, a more efficient human-machine user interface conserves power and increases the time between battery charges. Further, a more efficient human-machine user interface reduces the amount of user interaction with the device and reduces wear-and-tear of the device. By using less space on the screen, a smaller (and less expensive) screen can provide the same usability. For example, in FIG. **5**O, the device detects a stylus contact **581**G proximate to a paragraph break between a first portion **553**A of text and a second portion **553**B of text.
[0252] In some embodiments, in accordance with a determination (**620**) that the contact is a stylus contact, the first portion of text is moved relative to the second portion of text to display the non-text region, and, in accordance with a determination that the contact is a finger contact, the first portion of text is not moved relative to the second portion of text to display the non-text region. By using the type of input (finger or stylus) to determine user interface response, the space on the screen is used more efficiently and the amount of user interaction with the device is reduced. For example, in FIG. **5**P, in accordance with a determination that the stylus contact **581**G is a stylus contact, the first portion **553**A of text is moved relative to the second **553**B portion of text to display a non-text region that has been converted into a drawing panel **540**. In contrast, in FIG. **5**C, in accordance with a determination that the finger contact **581**A is a finger contact, the drawing panel is not displayed.
[0253] In response to detecting the input within the text region, the device moves (**622**) the first portion of text relative to the second portion of text to display a non-text region between the first portion of text and the second portion of text that does not include any text. For example, in FIG. **5**H, the first portion **552**A of text has been moved relative to the second portion **552**B of text to display a non-text region **549** between the first portion **552**A of text and the second portion **552**B

that does not include any text. As another example, in FIG. **5**D, the first portion **551**A of text has been moved relative to the second portion **551**B of text to display a non-text region that has been converted into a drawing panel **540**.

[0254] In some embodiments, the first portion of text is moved (**624**) relative to the second portion of text to display the non-text region in response to a first portion of a de-pinch gesture. By associating the movement of the text with a first portion of a gesture and associating the conversion of the non-text region into a drawing panel with a second portion of the gesture, partial gestures provide additional information to user regarding the availability of the drawing panel feature and increases the likelihood that the user will manipulate the user interface in an efficient manner, conserving power and increasing the time between battery charges and reducing wear-and-tear of the device. For example, in FIG. **5**H, the first portion **552**A of text has been moved relative to the second portion **552**B of text to display a non-text region **549** in response to a first portion of a de-pinch gesture **581**D (e.g., detecting the two contacts and their movement a first distance away from each other).

[0255] In some embodiments, in moving the first portion of text relative to the second portion of text, the device moves (**626**) the first portion of text a first distance in a first direction and moves the second portion of text a second distance in a second direction. Thus, both the first portion of text and the second portion of text are moved. For example, in FIG. **5**D, the first portion **551**A of text is moved a first distance in a first direction (e.g., up) and the second portion **552**B of text is moved a second distance in a second direction (e.g., the opposite direction, down).

[0256] In some embodiments, the first distance and the second distance are selected (**628**) so as to maintain at least a subset of the first portion of text and at least a subset of the second portion of text on the display. Accordingly, the user is provided additional context while providing the drawing input, reducing the likelihood that the user will close the drawing panel to access that context and re-open the drawing panel to provide the drawing input. This reduces user interaction with the device, conserving power and increasing the time between battery charges and reducing wear-and-tear of the device. For example, in FIG. **5**K, the first portion **552**A of text and the second portion **552**B of text are moved such that at least a subset of the first portion **552**A of text and at least a subset of the second portion **552**B of text are maintained on the display.

[0257] In some embodiments, the first distance and the second distance are selected (**630**) based on a location of the input. For example, in FIG. **5**I, the first portion **552**A of text is moved a particular first distance based on the location of de-pinch gesture **581**D being closer to the top of the display. In FIG. **5**P, the first portion **553**A of text is moved a different first distance based on the location of the stylus contact **581**G being closer to the bottom of the display.

[0258] The device converts (**632**) at least a portion of the non-text region into a drawing panel provided to receive drawing input via the touch-sensitive display and display a corresponding graphic in response to receiving the drawing input. For example, in FIG. **5**I, the device increases the size of the non-text region **549** and converts at least a portion of the non-text region **549** into a drawing panel **540**. As another example, FIG. **5**P illustrates at least a portion of non-text region converted into a drawing panel **540**.

[0259] In some embodiments, the device converts (**634**) at least a portion of the non-text region into a drawing panel in response to a second portion of a de-pinch gesture. For example, in FIG. **5**I, the device converts at least a portion of the non-text region **549** into a drawing panel **540** in response to a second portion of a de-pinch gesture **581**D. In some embodiments, the first portion of the de-pinch gesture is moving the contacts a first distance away from each other and the second portion of the de-pinch gesture is moving the contacts a second distance away from each other. Thus, the non-text region appears when the contacts begin to move away from each other and is converted once the contacts are a threshold distance away from each other. In some embodiments, the first portion of the de-pinch gesture is moving the contacts away from each other and the second portion of the de-pinch gesture is lifting the contacts from the display. Thus, the non-text

region appears (and changes in size) as the contacts move away from each other and is converted once the contacts are ended.

[0260] In some embodiments, the drawing panel includes (**636**) one or more drawing affordances for changing a color or virtual drawing implement that modifies the corresponding graphic. For example, in FIG. **5**D, the drawing panel **540** includes a number of drawing affordances **541**-**544** for changing a color or virtual drawing implement that modifies the corresponding graphic. In particular, the drawing panel **540** includes a drawing-mode affordance **541** for entering into a drawing mode (e.g., selecting a virtual pencil tool) for adding lines to a drawing within the drawing panel **540**. The drawing panel **540** includes a brush affordance **542** for selecting a virtual paintbrush for adding brushstrokes to a drawing within the drawing panel **540**. The drawing panel **540** includes an eraser affordance **543** for erasing portions of a drawing within the drawing panel **540**. The drawing panel **540** includes a color affordance **544** for selecting a color of additions to a drawing within the drawing panel **540**.

[0261] In some embodiments, the device receives (**638**) drawing input via the touch-sensitive display and displays (**640**) the corresponding graphic. For example, in FIG. **5**E, the device displays a graphic **545**A of a golden apple in response to receiving drawing input via the touch-sensitive display.

[0262] In some embodiments, in displaying the corresponding graphic, the device fades (**642**) the corresponding graphic near the edge of the drawing panel. This provides a user feedback regarding the limits of the drawing panel, preventing the user from attempt to provide drawing input outside the drawing panel (and, thus, closing the drawing panel and potentially having the user reopen the drawing panel). This reduces user interaction with the device conserving power and increases the time between battery charges and reducing wear-and-tear of the device. For example, in FIG. **5**Q, the device displays a graphic **545**C of a strongman that is faded near the edges of the drawing panel.

[0263] In some embodiments, the device detects (**644**), on the touch-sensitive display, a close input. For example, in FIG. **5**E, the device detects a finger contact **581**C. As another example, in FIG. **5**M, the device detects a pinch gesture **581**F. As another example, in FIG. **5**R, the device detects a stylus contact **581**H.

[0264] In some embodiments, in detecting the close input, the device detects (**646**), on the touch-sensitive display, a contact at a location outside the drawing panel. Thus, screen space need not be used for an affordance to close the drawing panel, efficiently using the space on the screen, resulting in a more efficient human-machine interface. For example, in FIG. **5**E, the device detects a finger contact **581**C at a location outside the drawing panel **540**. As another example, in FIG. **5**R, the device detects a stylus contact **581**H at a location outside the drawing panel **540**.

[0265] In some embodiments, in detecting the close input, the device detects (**648**), on the touch-sensitive display, a pinch gesture including a first contact and a second contact moving towards each other. Thus, screen space need not be used for an affordance to close the drawing panel, efficiently using the space on the screen, resulting in a more efficient human-machine interface. For example, in FIG. **5**M, the device detects a pinch gesture **581**F including a first contact and a second contact moving towards each other.

[0266] In some embodiments, in response to detecting the close input, the device moves (**650**) the first portion of text relative to the second portion of text to cease display of the non-text region. For example, in FIG. **5**F, the device moves the first portion **551**A of text relative to the second portion **551**B of text to cease display of the non-text region converted into a drawing panel **540**.

[0267] In some embodiments, the device displays (**652**), on the touch-sensitive display, a drawing indicator at a location corresponding to a location between the first portion of text and the second portion of text. For example, in FIG. **5**F, the device displays a drawing indicator **547**A at a location to the left (e.g., in the margin) of a location between the first portion **551**A of text and the second portion **551**B of text.

[0268] In some embodiments, the device detects (**654**), on the touch-sensitive display, an open input at the location of the drawing indicator. Thus, the drawing indicator provides information to a user (regarding the presence of the drawing) and also acts as an interactive affordance. This uses the space on the screen more efficiently, resulting in a more efficient human-machine interface (as a user need not manipulate the user interface to find affordances for performing the functions of interacting with the image). For battery-operated electronic devices, a more efficient human-machine user interface conserves power and increases the time between battery charges. Further, a more efficient human-machine user interface reduces the amount of user interaction with the device and reduces wear-and-tear of the device. By using less space on the screen, a smaller (and less expensive) screen can provide the same usability. For example, in FIG. **5**S, the device detects a finger contact **581**I at the location of the drawing indicator **547**A.
[0269] In some embodiments, in response to detecting the open input, the device moves the first portion of text relative to the second portion of text to display the drawing panel. For example, in FIG. **5**T, the device moves the first portion **551**A of text relative to the second portion **551**B of text to display the drawing panel **540** including the corresponding graphic **545**A.
[0270] In some embodiments, the device displays, on the touch-sensitive display, an annotations list including one or more drawings received via respective drawing panels in conjunction with one or more additional annotations. For example, in FIG. **5**W, the device displays an annotations list **528** includes including graphics of the drawing **545**A (and a portion of the graphic of a portion of the drawing **545**B) in conjunction with additional annotations.
[0271] It should be understood that the particular order in which the operations in FIGS. **6**A-**6**D have been described is merely example and is not intended to indicate that the described order is the only order in which the operations could be performed. One of ordinary skill in the art would recognize various ways to reorder the operations described herein. Additionally, it should be noted that details of other processes described herein with respect to other methods described herein (e.g., method **700**) are also applicable in an analogous manner to method **600** described above with respect to FIGS. **6**A-**6**D. For example, displayed text arrangements, inputs associated with displayed text arrangements, affordances, and user interface responses described above with reference to method **600** optionally have one or more of the characteristics of displayed text regions, inputs associated with text regions, affordances, and user interface responses described herein with reference to other methods described herein (e.g., method **700**). For brevity, these details are not repeated here.
[0272] FIG. **7**A-**7**D illustrate a flow diagram of a method **700** of annotating reflowable text in accordance with some embodiments. The method **700** is performed at an electronic device (e.g., the portable multifunction device **100** in FIG. **1**A, or the device **300** in FIG. **3**) with a display and a touch-sensitive surface. In some embodiments (as described below as an example), the display is a touch-screen display and the touch-sensitive surface is on or integrated with the display. In some embodiments, the display is separate from the touch-sensitive surface. Some operations in method **700** are, optionally, combined and/or the order of some operations is, optionally, changed.
[0273] As described below, the method **800** provides an intuitive way to annotate reflowable text. The method reduces the cognitive burden on a user when annotating reflowable text, thereby creating a more efficient human-machine interface. For battery-operated electronic devices, enabling a user to annotate reflowable text faster and more efficiently conserves power and increases the time between battery charges.
[0274] The device displays (**702**), on the touch-sensitive display, a first arrangement of text in which a first portion of the text has a first position with respect to a second portion of the text. For example, in FIG. **5**X, the text display region **520** includes a first arrangement of text **525**A in which various portions of the text have various positions with respect to other portions of the text.
[0275] While the text is displayed in the first arrangement, the device detects (**704**), via the touch-sensitive display, a set of one or more annotation inputs. For example, in FIG. **5**Y, the user interface

500 illustrates the results of multiple sets of one or more annotation inputs.

[0276] In some embodiments, in detecting the set of one or more annotation inputs, the device detects (**706**), via the touch-sensitive display, an input at a location of an annotations affordance displayed on the touch-sensitive display. For example, in FIG. **5**X, a finger touch **581**N is detected at a location of an annotations affordance **590** displayed as part of the user interface. In some embodiments, in detecting the set of one or more annotation inputs, the device detects (**708**), via the touch-sensitive display, one or more finger contacts. In some embodiments, in detecting the set of one or more annotation inputs, the device detects (**710**), via the touch-sensitive display, one or more stylus contacts. By using the type of input (finger or stylus) to determine user interface response, the space on the screen is used more efficiently and the amount of user interaction with the device is reduced. In some embodiments, finger contacts are treated in the same manner as stylus contacts. In some embodiments, finger contacts are treated differently from stylus contacts.

[0277] In some embodiments, the set of one or more annotation inputs includes (**712**) one or more underlining inputs at least partially detected at a set of locations below the first portion of the text and the second portion of the text. For example, in FIG. **5**Y, the device displays a first representation of an underlining annotation **593**A in response to underlining inputs at least partially detected at a set of locations below a first portion of the text (e.g., “three of the”) and a second portion of the text (e.g., “golden apples”).

[0278] In some embodiments, the set of one or more annotation inputs includes (**714**) one or more strikethrough inputs at least partially detected at a set of locations over the first portion of the text and the second portion of the text. For example, in FIG. **5**Y, the device displays a first representation of a strikethrough annotation **591**A in response to strikethrough inputs at least partially detected at a set of locations over a first portion of the text (e.g., “(as already”) and a second portion of the text (e.g., “related)”).

[0279] In some embodiments, the set of one or more annotation inputs includes (**716**) one or more encircling inputs at least partially detected at a set of locations surrounding the first portion of the text and the second portion of the text. For example, in FIG. **5**Y, the device displays a first representation of an encircling annotation **592**A in response to encircling inputs at least partially detected at a set of locations surrounding a first portion of the text (e.g., “app”) and a second portion of the text (e.g., “les.”).

[0280] In some embodiments, the set of one or more annotation inputs includes (**718**) a first set of one or more annotation inputs detected at locations associated with the first portion of the text, a second set of one or more annotation inputs detected at locations associated with the second portion of the text, and a third set of one or more annotation inputs detected at locations between the first portion of the text and the second portion of the text. For example, in FIG. **5**Y, the device displays a first representation of a text-connecting annotation **594**A in response to a first set of one or more annotation inputs detects at locations associated with a first portion of the text (e.g., an encircling gesture surrounding the text reading “golden apples”), a second set of one or more annotations inputs detected at locations associated with a second portion of the text (e.g., an encircling gesture surrounding the text reading “sacred fruit”), and a third set of one or more annotations inputs detected at locations between the two texts (e.g., the dual-slash connector).

[0281] The device displays (**720**), on the touch-sensitive display, a first representation of an annotation that is associated with both the first portion of the text and the second portion of the text. At least a portion of the first representation is displayed (**722**) proximate to the first portion of the text in the first arrangement and at least a second portion of the first representation is displayed proximate to the second portion of the text in the first arrangement. For example, in FIG. **5**Y, the device displays a first representation of a strikethrough annotation **591**A that is associated with a first portion of the text reading “(as already” and a second portion of the text reading “related)”. As another example, in FIG. **5**Y, the device displays a first representation of an encircling annotation **592**A that is associated with a first portion of the text ready “app” and a second portion of the text

reading “les.” As another example, in FIG. **5**Y, the device displays a first representation of an underlining annotation **593**A that is associated with a first portion of the text reading “three of the” and a second portion of the text reading “golden apples”. As another example, in FIG. **5**Y, the device display a first representation of a text-connecting annotation **594**A that is associated with a first portion of the text reading “golden apples” and a second portion of the text reading “sacred fruit”.

[0282] In some embodiments, at least a portion of the first representation is displayed (**724**) below the first portion of the text in the first arrangement and at least a second portion of the first representation is displayed below the second portion of the text in the first arrangement. For example, in FIG. **5**Y, in the first arrangement **525**A of text, at least a portion of the first representation of the underlining annotation **593**A is displayed below a first portion of the text reading “three of the” and at least a portion of the first representation of the underlining annotation **593**A is displayed below a second portion of the text reading “golden apples”.

[0283] In some embodiments, at least a portion of the first representation is displayed (**726**) over the first portion of the text in the first arrangement and at least a second portion of the first arrangement is displayed over the second portion of the text in the first arrangement. For example, in FIG. **5**Y, in the first arrangement **525**A of text, at least a portion of the first representation of the strikethrough annotation **591**A is displayed over a first portion of the text reading “(as already” and at least a portion of the first representation of the strikethrough annotation **591**A is displayed over a second portion of the text reading “related)”. By dividing the strikethrough annotation **591**A into two or more components in accordance with various implementations, the strikethrough annotation **591**A can track rearranged text in order to allow a user to change text reading and/or presentation preferences. In the present example, the text reading “(as already” and the text reading “related)” can thus be separated in order to reflow the text in order to conform to the reading and/or presentation preferences of a user, and provides visual feedback to the user indicating that annotations to one arrangement of displayed text will cause the device to associate and adapt the presentation of the annotations to other arrangements of the displayed text (e.g., reflowed from a first arrangement to a second arrangement). Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by encouraging the user to provide inputs that use available features and reducing user mistakes when operating/interacting with the device) which, additionally, reduces power usage and improves battery life of the device by enabling the user to use the device more quickly and efficiently.

[0284] In some embodiments, at least a portion of the first representation is displayed (**728**) surrounding the first portion of the text in the first arrangement and at least a second portion of the first arrangement is displayed surrounding the second portion of the text in the first arrangement. For example, in FIG. **5**Y, in the first arrangement **525**A of text, at least a portion of the first representation of the encircling annotation **592**A is displayed surrounding a first portion of the text reading “app” and at least portion of the first representation of the encircling annotation **592**A is displayed surrounding a second portion of the text reading “les.”. Similar to the dividing the strikethrough annotation **591**A, by dividing the encircling annotation **592**A into two or more components in accordance with various implementations, the encircling annotation **592**A can track rearranged text in order to allow a user to change text reading and/or presentation preferences. In the present example, the text comprising “apples” can thus be separated in order to reflow the text in order to conform to the reading and/or presentation preferences of a user, and provides visual feedback to the user indicating that annotations to one arrangement of displayed text will cause the device to associate and adapt the presentation of the annotations to other arrangements of the displayed text (e.g., reflowed from a first arrangement to a second arrangement). Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by encouraging the user to provide inputs that use available features and reducing user mistakes when operating/interacting with the device) which,

additionally, reduces power usage and improves battery life of the device by enabling the user to use the device more quickly and efficiently.

[0285] In some embodiments, the first representation includes (**730**) a connector displayed between the first portion of the text and the second portion of the text in the first arrangement. For example, in FIG. **5**Y, in the first arrangement **525**A of text, the first representation of the text-connecting annotation **594**A includes a dual-slash connector displayed between a first portion of the text reading “golden apples” and a second portion of the text reading “sacred fruit”.

[0286] After displaying the first representation of the annotation (which can include continuing to display the first representation of the annotation), the device receives (**732**) a request to rearrange the text. For example, in FIG. **5**AB, the device detects a stylus contact **581**Q at a location of a Century selection affordance of the font selection menu **574**. Thus, the request to rearrange the text is a request to change the font of the text. As another example, in FIG. **5**AE, the device detects a stylus contact **581**S at a location of a grow affordance **572**B of the text display options menu **571**. Thus, the request to rearrange the text is a request to change the font size of the text.

[0287] In response to receiving the request to rearrange the text, the device concurrently displays (**734**), on the touch-sensitive display, a second arrangement of the text in which the first portion of the text has a second position with respect to the second portion of the text, wherein the second position is different from the first position, and a second representation of the annotation that is associated with both the first portion of the text and the second portion of the text, wherein the second representation is different from the first representation. At least a portion of the second representation is displayed (**736**) proximate to the first portion of the text in the second arrangement and at least a second portion of the second representation is displayed proximate to the second portion of the text in the second arrangement.

[0288] Rearranging the text can make it easier for a user to read the text, increasing their reading speed and reducing the amount of user interaction with the device, conserving power and increases the time between battery charges and reduces wear-and-tear of the device. Maintaining the annotations in association with the same portions of text after rearrangement increases the likelihood that a user will reflow the text to their reading preference. In other words, annotations track rearranged text in order to allow a user to change text reading and/or presentation preferences. Adjusting the display of the annotations as a function of changes to the display of the text provides visual feedback to the user indicating that annotations to one arrangement of displayed text will cause the device to associate and adapt the presentation of the annotations to other arrangements of the displayed text (e.g., reflowed from a first arrangement to a second arrangement). Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by encouraging the user to provide inputs that use available features and reducing user mistakes when operating/interacting with the device) which, additionally, reduces power usage and improves battery life of the device by enabling the user to use the device more quickly and efficiently.

[0289] For example, in FIG. **5**AC, the device displays a second arrangement of the text **525**B in which the first portion of the text reading “(as already” has a second position with respect to the second portion of the text reading “related)”, wherein the second position is different from the first position (of FIG. **5**Y). For example, the two portions of text are separated by a space of a different size due to the different font and different justification (due to fewer words in the same line). The device also displays a second representation of the strikethrough annotation **591**B that is associated with both the first portion of the text and the second portion of the text. The second representation of the strikethrough annotation **591**B is different from the first representation of the strikethrough annotation **591**A (of FIG. **5**Y) at least because it a bit wider due to the different font.

[0290] As another example, in FIG. **5**AC, the device displays a second arrangement of the text **525**B in which the first portion of the text reading “three of the” has a second position with respect to the second portion of the text reading “golden apples”, wherein the second position is different

from the first position (of FIG. **5**Y). For example, in FIG. **5**Y, the first portion of the text is to the left of the second portion of the text and, in FIG. **5**AC, the first portion of the text is to the right of the second portion of the text. The device also displays a second representation of the underlining annotation **593**B that is associated with both the first portion of the text and the second portion of the text. The second representation of the underlining annotation **593**B is different from the first representation of the underlining annotation **593**A (of FIG. **5**Y) at least because it is in two parts.

[0291] In some embodiments, at least a portion of the second representation is displayed (**738**) below the first portion of the text in the second arrangement and at least a second portion of the second representation is displayed below the second portion of the text in the second arrangement. For example, in FIG. **5**AC, in the second arrangement **525**B of text, at least a portion of the second representation of the underlining annotation **593**B is displayed below a first portion of the text reading "three of the" and at least a portion of the second representation of the underlining annotation **593**B is displayed below a second portion of the text reading "golden apples".

[0292] In some embodiments, at least a portion of the second representation is displayed (**740**) over the first portion of the text in the second arrangement and at least a second portion of the second representation is displayed over the second portion of the text in the second arrangement. For example, in FIG. **5**AC, in the second arrangement **525**B of text, at least a portion of the second representation of the strikethrough annotation **591**B is displayed over a first portion of the text reading "(as already" and at least a portion of the second representation of the strikethrough annotation **591**B is displayed over a second portion of the text reading "related)".

[0293] In some embodiments, at least a portion of the second representation is displayed (**742**) surrounding the first portion of the text in the second arrangement and at least a second portion of the second arrangement is displayed surrounding the second portion of the text in the second arrangement. For example, in FIG. **5**AC, in the second arrangement **525**B of text, at least a portion of the second representation of the encircling annotation **592**B is displayed surrounding a first portion of the text reading "app" and at least portion of the second representation of the encircling annotation **592**B is displayed surrounding a second portion of the text reading "les.". Again, similar to the dividing the strikethrough annotation **591**A, by dividing the encircling annotation **592**B into two or more components in accordance with various implementations, the encircling annotation **592**B can track rearranged text in order to allow a user to change text reading and/or presentation preferences. In the present example, the text comprising "apples" can thus be separated in order to reflow the text in order to conform to the reading and/or presentation preferences of a user, and provides visual feedback to the user indicating that annotations to one arrangement of displayed text will cause the device to associate and adapt the presentation of the annotations to other arrangements of the displayed text (e.g., reflowed from a first arrangement to a second arrangement). Providing improved visual feedback to the user enhances the operability of the device and makes the user-device interface more efficient (e.g., by encouraging the user to provide inputs that use available features and reducing user mistakes when operating/interacting with the device) which, additionally, reduces power usage and improves battery life of the device by enabling the user to use the device more quickly and efficiently.

[0294] In some embodiments, the second representation includes (**744**) a connector displayed between the first portion of the text and the second portion of the text in the second arrangement. For example, in FIG. **5**AC, in the second arrangement **525**B of text, the second representation of the text-connecting annotation **594**B includes a dual-backslash connector displayed between a first portion of the text reading "golden apples" and a second portion of the text reading "sacred fruit". In some embodiments, the first connector of the first representation has the same shape (**746**) as the second connector of the second representation. For example, in FIG. **5**AC, the dual-backslash connector of the second representation of the text-connecting annotation **594**B is the same shape as the dual-slash connector of the first representation of the text-connecting annotation **594**A, having been rotated (or reflected) and possibly resized.

[0295] In some embodiments, the second representation has the same shape (**748**) as the first representation. By maintaining the look-and-feel of the annotations, a user can input a limitless number of different types of annotation efficiently providing a variety of information, meaning, and context. Efficiently providing this information reduces the user interaction with the device (e.g., a wavy line indicating that a word is confusing can be input rather than a detailed note explaining such). For example, in FIG. **5**AC, the second representation of the strikethrough annotation **591**B has the same shape as the first representation of the strikethrough annotation **591**A of FIG. **5**Y. As another example, in FIG. **5**AC, the second representation of the encircling annotation **593**B has the same shape as the first representation of the encircling annotation **593**A of FIG. **5**Y. Presenting similar annotations using similar shapes and visual indicia provides visual feedback to the user that enhances the operability of the device and makes the user-device interface more efficient (e.g., by encouraging the user to provide inputs that use available features and reducing user mistakes when operating/interacting with the device) which, additionally, reduces power usage and improves battery life of the device by enabling the user to use the device more quickly and efficiently.
[0296] In some embodiments, the second representation is a relocated and resized version of the first representation. For example, in FIG. **5**AC, the second representation of the strikethrough annotation **591**B is a relocated and resized version of the first representation of the strikethrough annotation **591**A of FIG. **5**Y. As another example, in FIG. **5**AC, the second representation of the encircling annotation **593**B is a relocated and resized version of the first representation of the encircling annotation **593**A of FIG. **5**Y.
[0297] In some embodiments, the first portion of the text is adjacent to the second portion of the text in the first arrangement and is non-adjacent in the second arrangement. Thus, in some embodiments, a first portion of the second representation corresponding to a first portion of the first representation is displayed (**752**) proximate to the first portion of the text in the second arrangement and a second portion of the second representation corresponding to a second portion of the first representation is displayed proximate to the second portion of the text in the second arrangement. For example, in FIG. **5**AC, a first portion of the second representation of the underlining annotation **593**B corresponding to the left portion of the first representation of the underlining annotation **593**A (of FIG. **5**Y) is displayed proximate to the portion of the text reading “three of the” and a second portion of the second representation of the underlining annotation **593**B corresponding to the right portion of the first representation of the underlining annotation **593**A is displayed proximate to the portion of the text reading “golden apples”.
[0298] As noted above, in some embodiments, the first portion of the text is adjacent to the second portion of the text in the first arrangement and is non-adjacent in the second arrangement. Thus, in some embodiments, a first portion of the second representation corresponding to at least a portion of the first representation is displayed (**754**) proximate to the first portion of the text in the second arrangement and a second portion of the second representation corresponding to the at least a portion of the first representation is displayed proximate to the second portion of the text in the second arrangement. For example, in FIG. **5**AF, a first portion of the third representation of the strikethrough annotation **591**C corresponding to the entire first representation of the strikethrough annotation **591**A is displayed proximate to the portion of the text reading “(as already” and a second portion of the third representation of the strikethrough annotation **591**C corresponding to the same entire first representation of the strikethrough annotation **591**A is displayed proximate to the portion of the text reading “related)”.
[0299] In some embodiments, the first portion of the text is non-adjacent to the second portion of the text in the first arrangement and is adjacent in the second arrangement. Thus, in some embodiments, the second representation includes (**756**) two separate portions of the first representation merged together. For example, in FIG. **5**AC, the second representation of the underlining annotation **596**B includes two separate portions of the first representation of the underlining annotation **596**A (e.g., the portion of the representation below the portion of the text

reading “Realm of” and the portion of the representation below the portion of the text reading “Shades”) merged together.

[0300] It should be understood that the particular order in which the operations in FIGS. **7**A-**7**D have been described is merely example and is not intended to indicate that the described order is the only order in which the operations could be performed. One of ordinary skill in the art would recognize various ways to reorder the operations described herein. Additionally, it should be noted that details of other processes described herein with respect to other methods described herein (e.g., method **600**) are also applicable in an analogous manner to method **700** described above with respect to FIGS. **7**A-**7**D. For example, displayed text regions, inputs associated with text regions, affordances, and user interface responses described above with reference to method **700** optionally have one or more of the characteristics of displayed text arrangements, inputs associated with displayed text arrangements, affordances, and user interface responses described herein with reference to other methods described herein (e.g., method **600**). For brevity, these details are not repeated here.

[0301] In accordance with some embodiments, FIG. **8** shows a functional block diagram of an electronic device **800** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, firmware, or a combination thereof to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **8** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.

[0302] As shown in FIG. **8**, an electronic device **800** includes a display unit **802** configured to display a user interface, a touch-sensitive surface unit **804** configured to detect contacts, and a processing unit **810** coupled with the display unit **802** and the touch-sensitive surface unit **804**. In some embodiments, the processing unit **810** includes: a display control unit **812**, an input detecting unit **814**, and a drawing panel unit **816**.

[0303] The processing unit **810** is configured to display (e.g., with the display control unit **812**), on the display unit **802**, a text region that includes a first portion of text and a second portion of text.

[0304] The processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, an input within the text region. In some embodiments, the processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, a first input within the text region and, in response to detecting the first input, display (e.g., with the display control unit **812**), on the display unit **802**, an annotations menu including a drawing option. In some embodiments, the processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, a second input at a location of the drawing option.

[0305] In some embodiments, the processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, a de-pinch gesture including a first contact and a second contact moving away from each other. In some embodiments, a size of the drawing panel (e.g., as provided by the drawing panel unit **816** as described below) is proportional to an amount of movement of the first contact and/or second contact as part of the de-pinch gesture.

[0306] In some embodiments, the processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, a contact proximate to a paragraph break between the first portion of text and second portion of text. In some embodiments, a size of the drawing panel (e.g., as provided by the drawing panel unit **816** as described below) is proportional to a magnitude of a property of the contact. In some embodiments, the processing unit **810** is configured to, in accordance with a determination that the contact is a stylus contact, move (e.g., with the drawing panel unit **816** as described below) the first portion of text relative to the second portion of text to display a non-text region, and, in accordance with a determination that the

contact is a finger contact, not move the first portion of text relative to the second portion of text to display the non-text region.

[0307] The processing unit **810** is configured to move (e.g., with the drawing panel unit **816**) the first portion of text relative to the second portion of text display a non-text region between the first portion of text and the second portion of text. In some embodiments, the processing unit **810** moves (e.g., with the drawing panel unit **816**) the first portion of text relative to the second portion of text to display the non-text region in response to a first portion of a de-pinch gesture. In some embodiments, the processing unit **810** is configured to move (e.g., with the drawing panel unit **816**) the first portion of text a first distance in a first direction and move (e.g., with the drawing panel unit **816**) the second portion of text a second distance in a second direction. In some embodiments, the processing unit **810** is configured to select (e.g., with the drawing panel unit **816**) the first distance and the second distance so as to maintain at least a subset of the first portion of text and at least a subset of the second portion of text on the display unit **802**. In some embodiments, the processing unit **810** is configured to select (e.g., with the drawing panel unit **816**) the first distance and the second distance based on a location of the input.

[0308] The processing unit **810** is configured to convert (e.g., with the drawing panel unit **816**) at least a portion of the non-text region into a drawing panel provided to receive drawing input via the touch-sensitive surface **804** and display a corresponding graphic in response to receiving the drawing input. In some embodiments, the processing unit **810** converts (e.g., with the drawing panel unit **816**) the at least a portion of the non-text region into the drawing panel in response to a second portion of a de-pinch gesture. In some embodiments, the drawing panel includes one or more drawing affordances for changing a color or virtual drawing implement that modifies the corresponding graphic.

[0309] In some embodiments, the processing unit **810** is configured to receive (e.g., with the input detecting unit **814**) the drawing input via the touch-sensitive surface **804**. In some embodiments, the processing unit **810** is configured to display (e.g., with the display control unit **802**) the corresponding graphic. In some embodiments, the processing unit **810** is configured to fade (e.g., with the display control unit **802**) the corresponding graphic near the edge of the drawing panel.

[0310] In some embodiments, the processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, a close input. In some embodiments, the processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, a contact at a location outside the drawing panel. In some embodiments, the processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, a pinch gesture including a first contact and a second contact moving towards each other.

[0311] In some embodiments, the processing unit **810** is configured to, in response to detecting the close input, move (e.g., with the drawing panel unit **816**) the first portion of text relative to the second portion of text to cease display of the non-text region.

[0312] In some embodiments, the processing unit **810** is configured to display (e.g., with the display control unit **812**), on the display unit **802**, a drawing indicator at a location corresponding to a location between the first portion of text and the second portion of text.

[0313] In some embodiments, the processing unit **810** is configured to detect (e.g., with the input detecting unit **814**), via the touch-sensitive surface unit **804**, an open input at the location of the drawing indication.

[0314] In some embodiments, the processing unit **810** is configured to, in response to detecting the open input, move (e.g., with the drawing panel unit **816**) the first portion of text relative to the second portion of text to display the drawing panel.

[0315] In some embodiments, the processing unit **810** is configured to display (e.g., with the display control unit **812**), via the display unit **802**, an annotations list including one or more drawings received via respective drawing panels in conjunction with one or more additional

annotations.
[0316] The operations in the information processing methods described above are, optionally implemented by running one or more functional modules in information processing apparatus such as general purpose processors (e.g., as described above with respect to FIGS. **1**A and **3**) or application specific chips.
[0317] The operations described above with reference to FIGS. **6**A-**6**D are, optionally, implemented by components depicted in FIGS. **1**A-**1**B or FIG. **8**. For example, display operation **602**, detect operation **604**, move operation **622**, and convert operation **632** are, optionally, implemented by event sorter **170**, event recognizer **180**, and event handler **190**. Event monitor **171** in event sorter **170** detects a contact on touch-sensitive display **112**, and event dispatcher module **174** delivers the event information to application **136-1**. A respective event recognizer **180** of application **136-1** compares the event information to respective event definitions **186**, and determines whether a first contact at a first location on the touch-sensitive surface (or whether rotation of the device) corresponds to a predefined event or sub-event, such as selection of an object on a user interface, or rotation of the device from one orientation to another. When a respective predefined event or sub-event is detected, event recognizer **180** activates an event handler **190** associated with the detection of the event or sub-event. Event handler **190** optionally uses or calls data updater **176** or object updater **177** to update the application internal state **192**. In some embodiments, event handler **190** accesses a respective GUI updater **178** to update what is displayed by the application. Similarly, it would be clear to a person having ordinary skill in the art how other processes can be implemented based on the components depicted in FIGS. **1**A-**1**B.
[0318] In accordance with some embodiments, FIG. **9** shows a functional block diagram of an electronic device **900** configured in accordance with the principles of the various described embodiments. The functional blocks of the device are, optionally, implemented by hardware, software, firmware, or a combination thereof to carry out the principles of the various described embodiments. It is understood by persons of skill in the art that the functional blocks described in FIG. **9** are, optionally, combined or separated into sub-blocks to implement the principles of the various described embodiments. Therefore, the description herein optionally supports any possible combination or separation or further definition of the functional blocks described herein.
[0319] As shown in FIG. **9**, an electronic device **900** includes a display unit **902** configured to display a user interface, a touch-sensitive surface unit **904** configured to detect contacts, and a processing unit **910** coupled with the display unit **902** and the touch-sensitive surface unit **904**. In some embodiments, the processing unit **910** includes: a display control unit **912**, an input detecting unit **914**, and an annotated text rendering unit **916**.
[0320] The processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, a first arrangement of text in which a first portion of the text has a first position with respect to a second portion of the text.
[0321] The processing unit **910** is configured to, while the text is displayed in the first arrangement, detect (e.g., with the input detecting unit **914**), via the touch-sensitive surface unit **904**, a set of one or more annotation inputs. In some embodiments, the processing unit **910** is configured to detect (e.g., with the input detecting unit **914**), via the touch-sensitive surface unit **904**, an input at a location of an annotations affordance displayed on the display unit **902** and to detect (e.g., with the input detecting unit), via the touch-sensitive surface unit **904**, one or more finger contacts. In some embodiments, the processing unit **910** is configured to detect (e.g., with the input detecting unit **914**), via the touch-sensitive surface unit **904**, one or more stylus contacts.
[0322] In some embodiments, the processing unit **910** is configured to detect (e.g., with the input detecting unit **914**), via the touch-sensitive surface unit **904**, a set of one or more annotation inputs include one or more underlining inputs at least partially detected at a set of locations below the first portion of the text and the second portion of the text.
[0323] In some embodiments, the processing unit **910** is configured to detect (e.g., with the input

detecting unit **914**), via the touch-sensitive surface unit **904**, a set of one or more annotation inputs including one or more strikethrough inputs at least partially detected at a set of locations over the first portion of the text and the second portion of the text.

[0324] In some embodiments, the processing unit **910** is configured to detect (e.g., with the input detecting unit **914**), via the touch-sensitive surface unit **904**, a set of one or more annotation inputs including one or more encircling inputs at least partially detected at a set of locations surrounding the first portion of the text and the second portion of the text.

[0325] In some embodiments, the processing unit **910** is configured to detect (e.g., with the input detecting unit **914**), via the touch-sensitive surface unit **904**, a set of one or more annotation inputs including a first set of one or more annotation inputs detected at locations associated with the first portion of the text, a second set of one or more annotation inputs detected at locations associated with the second portion of the text, and a third set of one or more annotation inputs detected at locations between the first portion of the text and the second portion of the text

[0326] The processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, a first representation of an annotation that is associated with both the first portion of the text and the second portion of the text. The processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, a least a portion of the first representation is proximate to the first portion of the text in the first arrangement and at least a second portion of the first representation proximate to the second portion of the text in the first arrangement.

[0327] In some embodiments, such as when the set of one or more annotation inputs includes underlining inputs, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit, **902** at least a portion of the first representation below the first portion of the text in the first arrangement and at least a second portion of the first representation below the second portion of the text in the first arrangement.

[0328] In some embodiments, such as when the set of one or more annotation inputs includes strikethrough inputs, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, at least a portion of the first representation over the first portion of the text in the first arrangement and at least a second portion of the first representation over the second portion of the text in the first arrangement.

[0329] In some embodiments, such as when the set of one or more annotation inputs includes encircling inputs, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, at least a portion of the first representation surrounding the first portion of the text in the first arrangement and at least a second portion of the first representation surrounding the second portion of the text in the first arrangement.

[0330] In some embodiments, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, the first representation with a connector between the first portion of the text and the second portion of the text.

[0331] The processing unit **910** is configured to receive (e.g., via the input detecting unit **914**) a request to rearrange the text.

[0332] The processing unit **910** is configured to, in response to receiving the request to rearrange the text, concurrently display (e.g., with the display control unit **914**), on the display unit **902**, a second arrangement of the text in which the first portion of the text has a second position with respect to the second portion of the text, wherein the second position is different from the first position, and a second representation of the annotation that is associated with both the first portion of the text and the second portion of the text, wherein the second representation is different from the first representation. The processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, at least a portion of the second representation proximate to the first portion of the text in the second arrangement and at least a second portion of the second representation proximate to the second portion of the text in the second arrangement.

[0333] In some embodiments, such as when the set of one or more annotation inputs includes underlining inputs, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit, **902** at least a portion of the second representation below the first portion of the text in the second arrangement and at least a second portion of the second representation below the second portion of the text in the second arrangement.
[0334] In some embodiments, such as when the set of one or more annotation inputs includes strikethrough inputs, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, at least a portion of the second representation over the first portion of the text in the second arrangement and at least a second portion of the second representation over the second portion of the text in the second arrangement.
[0335] In some embodiments, such as when the set of one or more annotation inputs includes encircling inputs, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, at least a portion of the second representation surrounding the first portion of the text in the second arrangement and at least a second portion of the second representation surrounding the second portion of the text in the second arrangement.
[0336] In some embodiments, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, the second representation with a connector between the first portion of the text and the second portion of the text. In some embodiments, the connector is the same shape as the connector of the first representation.
[0337] In some embodiments, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, the second representation having the same shape as the first representation. In some embodiments, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, the second representation as a relocated and resized version of the first representation.
[0338] In some embodiments, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, a first portion of the second representation corresponding to a first portion of the first representation proximate to the first portion of the text in the second arrangement and a second portion of the second representation corresponding to a second portion of the first representation proximate to the second portion of the text in the second arrangement.
[0339] In some embodiments, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, a first portion of the second representation corresponding to at least a portion of the first representation proximate to the first portion of the text in the second arrangement and a second portion of the second representation corresponding to the at least a portion of the first representation proximate to the second portion of the text in the second arrangement.
[0340] In some embodiments, the processing unit **910** is configured to display (e.g., with the display control unit **912**), on the display unit **902**, the second representation including two separate portions of the first representation merged together.
[0341] The operations described above with reference to FIGS. **7**A-**7**D are, optionally, implemented by components depicted in FIGS. **1**A-**1**B or FIG. **9**. For example, display operation **702**, detect operation **704**, display operation **720**, receive operation **732**, and display operations **734** are, optionally, implemented by event sorter **170**, event recognizer **180**, and event handler **190**. Event monitor **171** in event sorter **170** detects a contact on touch-sensitive display **112**, and event dispatcher module **174** delivers the event information to application **136-1**. A respective event recognizer **180** of application **136-1** compares the event information to respective event definitions **186**, and determines whether a first contact at a first location on the touch-sensitive surface (or whether rotation of the device) corresponds to a predefined event or sub-event, such as selection of an object on a user interface, or rotation of the device from one orientation to another. When a respective predefined event or sub-event is detected, event recognizer **180** activates an event

handler **190** associated with the detection of the event or sub-event. Event handler **190** optionally uses or calls data updater **176** or object updater **177** to update the application internal state **192**. In some embodiments, event handler **190** accesses a respective GUI updater **178** to update what is displayed by the application. Similarly, it would be clear to a person having ordinary skill in the art how other processes can be implemented based on the components depicted in FIGS. **1**A-**1**B.

[0342] The foregoing description, for purpose of explanation, has been described with reference to specific embodiments. However, the illustrative discussions above are not intended to be exhaustive or to limit the invention to the precise forms disclosed. Many modifications and variations are possible in view of the above teachings. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications, to thereby enable others skilled in the art to best use the invention and various described embodiments with various modifications as are suited to the particular use contemplated.

Claims

1. A method comprising: at a device in communication with a display and one or more input devices: displaying, via the display, a user interface including a first portion of text; while displaying the first portion of text, detecting, via the one or more input devices, a selection of a second portion of text, wherein the second portion of text is included as part of the first portion of text; in response to detecting the selection of the second portion of text, displaying, in the user interface, one or more selectable options including a selectable drawing option to associate a drawing with the second portion of text; while displaying the one or more selectable options, detecting, via the one or more input devices, a selection of the selectable drawing option; in response to detecting the selection of the selectable drawing option, displaying, in the user interface, a drawing panel to receive drawing input; while displaying the drawing panel, detecting, via the one or more input devices, drawing input directed to the drawing panel; in response to detecting the drawing input directed to the drawing panel, displaying, via the display, a representation of the drawing input in the drawing panel; while displaying the representation of the drawing input in the drawing panel, receiving, via the one or more input devices, an input to dismiss the drawing panel; and in response to receiving the input to dismiss the drawing panel, associating the drawing input with the second portion of text.

2. The method of claim 1, further comprising: in response to receiving the input to dismiss the drawing panel, ceasing to display the drawing panel.

3. The method of claim 1, further comprising: after associating the drawing input with the second portion of text, detecting, via the one or more input devices, an input corresponding to a request to display information about one or more drawing inputs that have been associated with the text; and in response to detecting the input corresponding to the request to display the information about the one or more drawing inputs that have been associated with the text, concurrently displaying, via the display, the representation of the drawing input in association with a representation of the second portion of text.

4. The method of claim 3, further comprising: in response to detecting the input corresponding to the request to display the information about the one or more drawing inputs that have been associated with the text, displaying, via the one or more input devices, one or more representations of one or more additional drawing inputs in association with one or more representations of corresponding portions of the text with which the one or more additional drawing inputs have been associated.

5. The method of claim 1, wherein detecting the input to dismiss the drawing panel includes detecting, via the one or more input devices, an input at a location outside the drawing panel.

6. The method of claim 1, wherein one or more of: the selection of the second portion of text, the selection of the selectable drawing option, the drawing input, and the input to dismiss the drawing

input are a stylus input.
7. The method of claim 1, wherein one or more of: the selection of the second portion of text, the selection of the selectable drawing option, the drawing input, and the input to dismiss the drawing input are a finger input.
8. The method of claim 1, wherein the drawing panel includes one or more drawing affordances that are selectable for changing a visual characteristic of the representation of the drawing input displayed in the drawing panel.
9. The method of claim 1, wherein the one or more selectable options includes a copy affordance, a define affordance, a highlight affordance, a note affordance, or a combination thereof.
10. The method of claim 1, further comprising, in response to receiving the input to dismiss the drawing panel, displaying, via the display, a drawing indicator next to the second portion of text to indicate that the drawing input is associated with the second portion of text.
11. The method of claim 10, further comprising: in response to receiving the input to dismiss the drawing panel, ceasing to display the drawing panel; while displaying the drawing indicator, receiving, via the one or more input devices, an input at a location of the drawing indicator; and in response to receiving an input at the location of the drawing indicator, displaying the drawing panel and the representation of the drawing input.
12. A non-transitory computer-readable storage medium storing executable instructions that, when executed by an electronic device with a touch-sensitive display, cause the electronic device to perform: displaying, via the display, a user interface including a first portion of text; while displaying the first portion of text, detecting, via one or more input devices, a selection of a second portion of text, wherein the second portion of text is included as part of the first portion of text; in response to detecting the selection of the second portion of text, displaying, in the user interface, one or more selectable options including a selectable drawing option to associate a drawing with the second portion of text; while displaying the one or more selectable options, detecting, via the one or more input devices, a selection of the selectable drawing option; in response to detecting the selection of the selectable drawing option, displaying, in the user interface, a drawing panel to receive drawing input; while displaying the drawing panel, detecting, via the one or more input devices, drawing input directed to the drawing panel; in response to detecting the drawing input directed to the drawing panel, displaying, via the display, a representation of the drawing input in the drawing panel; while displaying the representation of the drawing input in the drawing panel, receiving, via the one or more input devices, an input to dismiss the drawing panel; and in response to receiving the input to dismiss the drawing panel, associating the drawing input with the second portion of text.
13. An electronic device, comprising: a touch-sensitive display; one or more processors; and memory storing one or more programs that, when executed by one or more processors, cause the electronic device to perform: displaying, via the display, a user interface including a first portion of text; while displaying the first portion of text, detecting, via one or more input devices, a selection of a second portion of text, wherein the second portion of text is included as part of the first portion of text; in response to detecting the selection of the second portion of text, displaying, in the user interface, one or more selectable options including a selectable drawing option to associate a drawing with the second portion of text; while displaying the one or more selectable options, detecting, via the one or more input devices, a selection of the selectable drawing option; in response to detecting the selection of the selectable drawing option, displaying, in the user interface, a drawing panel to receive drawing input; while displaying the drawing panel, detecting, via the one or more input devices, drawing input directed to the drawing panel; in response to detecting the drawing input directed to the drawing panel, displaying, via the display, a representation of the drawing input in the drawing panel; while displaying the representation of the drawing input in the drawing panel, receiving, via the one or more input devices, an input to

dismiss the drawing panel; and in response to receiving the input to dismiss the drawing panel, associating the drawing input with the second portion of text.