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ELECTRONIC DEVICE FOR SHARING SCREEN SETTINGS, AND CONTROL METHOD THEREFOR

Abstract

An electronic device is provided. The electronic device includes a display, memory storing one or more computer programs, a communication module and one processor communicatively coupled to the display, the memory, and the communication module, wherein the one or more computer programs include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to, based on a plurality of applications stored in the memory, display a plurality of user interfaces corresponding to a screen setting applied to the electronic device, receive a first user input for selecting at least one user interface from among the plurality of user interfaces, obtain each of pieces of setting information about at least one screen corresponding to the selected at least one user interface, obtain a data file that groups at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen, and transmit the data file to an external server.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATION(S) [0001] This application is a continuation application, claiming priority under 35 U.S.C. § 365 (c), of an International application No. PCT/KR2023/017853, filed on Nov. 8, 2023, which is based on and claims the benefit of a Korean patent application number 10-2022-0147689, filed on Nov. 8, 2022, in the Korean Intellectual Property Office, and of a Korean patent application number 10-2022-0185731, filed on Dec. 27, 2022, in the Korean Intellectual Property Office, the disclosure of each of which is incorporated by reference herein in its entirety.

BACKGROUND
1. Field
[0002] The disclosure relate to an electronic device sharing a screen setting and a method for controlling the same.
2. Description of Related Art
[0003] More and more services and additional functions are being provided through electronic devices, e.g., smartphones, or other portable electronic devices. To meet the needs of various users and raise use efficiency of electronic devices, communication service carriers or device manufacturers are jumping into competitions to develop electronic devices with differentiated and diversified functionalities. Accordingly, various functions that are provided through electronic devices are evolving more and more.
[0004] Further, the electronic device provides various graphic user interfaces (GUIs) for interaction with the user through the display.
[0005] The above information is presented as background information only to assist with an understanding of the disclosure. No determination has been made, and no assertion is made, as to whether any of the above might be applicable as prior art with regard to the disclosure.
SUMMARY
[0006] Aspects of the disclosure are to address at least the above-mentioned problems and/or disadvantages and to provide at least the advantages described below. Accordingly, an aspect of the disclosure is to provide an electronic device sharing a screen setting and a method for controlling the same.
[0007] Additional aspects will be set forth in part in the description which follows and, in part, will be apparent from the description, or may be learned by practice of the presented embodiments.
[0008] In accordance with an aspect of the disclosure, an electronic device is provided. The electronic device includes a display, memory storing one or more computer programs, a communication module, and at least one processor communicatively coupled to the display, the

memory, and the communication module, wherein the one or more computer programs include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to, based on a plurality of applications stored in the memory, display a plurality of user interfaces corresponding to a screen setting applied to the electronic device, receive a first user input for selecting at least one user interface among the plurality of user interfaces, obtain each of pieces of setting information about at least one screen corresponding to the selected at least one user interface, obtain a data file that groups at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen, and transmit the data file to an external server.

[0009] According to an embodiment, the at least one processor displays at least one image captured for a screen displayed on the display.

[0010] According to an embodiment, the at least one processor displays the plurality of user interfaces corresponding to a setting included in an image selected among the at least one image.

[0011] According to an embodiment, the at least one processor displays an execution screen of one of the plurality of applications.

[0012] According to an embodiment, the at least one processor displays the plurality of user interfaces corresponding to a setting of the execution screen of the one application based on receiving a second user input for sharing a setting of a screen through the execution screen of the one application.

[0013] According to an embodiment, the at least one processor displays the plurality of user interfaces corresponding to a setting of a shareable screen based on receiving a third user input for executing an execution screen of a screen sharing application for sharing a setting of a screen.

[0014] According to an embodiment, the setting of the screen includes at least one of a background screen, a function, an arrangement, a shape, or a color of at least one object.

[0015] According to an embodiment, the setting information about the at least one screen includes at least one of data corresponding to the setting of the screen or a thumbnail image corresponding to the setting of the screen.

[0016] According to an embodiment, the screen applied to the electronic device includes at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an application execution screen.

[0017] According to an embodiment, the at least one processor displays at least one of a quick response (QR) code or a uniform resource locator (URL) for sharing the data file on the display after transmitting the data file to the external server.

[0018] In accordance with another aspect of the disclosure, an electronic device is provided. The electronic device incudes a display, memory storing one or more computer programs, a communication module, and at least one processor communicatively coupled to the display, the memory, and the communication module, receive a data file including screen setting information shared from an external server, display a plurality of user interfaces corresponding to setting information about a plurality of screens included in the data file, based on receiving a user input for selecting at least one user interface among the plurality of user interfaces, obtain information about at least one application and setting information about at least one screen, corresponding to the at least one user interface, based on the information about the at least one application and the setting information about the at least one screen, and modify a setting of at least one screen.

[0019] According to an embodiment, the at least one processor, based on at least some of the at least one application being not installed on the electronic device, displays a message for leading to install at least some of the at least one application.

[0020] In accordance with another aspect of the disclosure, a method for controlling an electronic device is provided. The method includes displaying a plurality of user interfaces corresponding to a

screen setting applied to the electronic device based on a plurality of applications stored in memory, receiving a first user input for selecting at least one user interface among the plurality of user interfaces, obtaining each of pieces of setting information about at least one screen corresponding to the selected at least one user interface, obtaining a data file that groups at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen, and transmitting the data file to an external server.

[0021] According to an embodiment, displaying the plurality of user interfaces displays at least one image captured for a screen displayed on a display.

[0022] According to an embodiment, displaying the plurality of user interfaces displays the plurality of user interfaces corresponding to a setting included in an image selected among the at least one image.

[0023] According to an embodiment, displaying the plurality of user interfaces displays an execution screen of one of the plurality of applications.

[0024] According to an embodiment, displaying the plurality of user interfaces displays the plurality of user interfaces corresponding to a setting of the execution screen of the one application based on receiving a second user input for sharing a setting of a screen through the execution screen of the one application.

[0025] According to an embodiment, displaying the plurality of user interfaces displays the plurality of user interfaces corresponding to a setting of a shareable screen based on receiving a third user input for executing an execution screen of a screen sharing application for sharing a setting of a screen.

[0026] According to an embodiment, the setting of the screen includes at least one of a background screen, a function, an arrangement, a shape, or a color of at least one object.

[0027] According to an embodiment, the setting information about the at least one screen includes at least one of data corresponding to the setting of the screen or a thumbnail image corresponding to the setting of the screen.

[0028] According to an embodiment, the screen applied to the electronic device includes at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an application execution screen.

[0029] According to an embodiment, the method further includes displaying at least one of a QR code or a URL for sharing the data file on the display after transmitting the data file to the external server.

[0030] According to an embodiment, the method for controlling the electronic device includes receiving a data file including screen setting information shared from an external server.

[0031] According to an embodiment, the method for controlling the electronic device includes displaying a plurality of user interfaces corresponding to setting information about a plurality of screens included in the data file.

[0032] According to an embodiment, the method for controlling the electronic device includes, based on receiving a user input for selecting at least one user interface among the plurality of user interfaces, obtaining information about at least one application and setting information about at least one screen, corresponding to the at least one user interface.

[0033] According to an embodiment, the method for controlling the electronic device includes changing a setting of at least one screen based on the information about the at least one application and the setting information about the at least one screen.

[0034] According to an embodiment, the method for controlling the electronic device further includes, based on at least some of the at least one application being not installed on the electronic device, displaying a message for leading to install at least some of the at least one application.

[0035] In accordance with another aspect of the disclosure, one or more non-transitory computer-

readable storage media storing one or more computer programs including computer-executable instructions that, when executed by the one or more processors of an electronic device individually or collectively, cause the electronic device to perform operations are provided. The operations include, based on a plurality of applications stored in memory, displaying a plurality of user interfaces corresponding to a screen setting applied to the electronic device based on a plurality of applications stored in the memory, by the electronic device, receiving a first user input for selecting at least one user interface among the plurality of user interfaces, obtaining each of pieces of setting information about at least one screen corresponding to the selected at least one user interface, obtaining a data file that groups at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen, transmitting the data file to an external server.

[0036] According to an embodiment, the one or more programs includes instructions for the electronic device to display at least one image captured for a screen displayed on the display.

[0037] According to an embodiment, the one or more programs include instructions for the electronic device to display the plurality of user interfaces corresponding to a setting included in an image selected among the at least one image.

[0038] According to an embodiment, the one or more programs include instructions for the electronic device to display an execution screen of one of the plurality of applications.

[0039] According to an embodiment, the one or more programs include instructions for the electronic device to display the plurality of user interfaces corresponding to a setting of the execution screen of the one application based on receiving a second user input for sharing a setting of a screen through the execution screen of the one application.

[0040] According to an embodiment, the one or more programs include instructions for the electronic device to display the plurality of user interfaces corresponding to a setting of a shareable screen based on receiving a third user input for executing an execution screen of a screen sharing application for sharing a setting of a screen.

[0041] According to an embodiment, the setting of the screen includes at least one of a background screen, a function, an arrangement, a shape, or a color of at least one object.

[0042] According to an embodiment, the setting information about the at least one screen includes at least one of data corresponding to the setting of the screen or a thumbnail image corresponding to the setting of the screen.

[0043] According to an embodiment, the screen applied to the electronic device includes at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an application execution screen.

[0044] According to an embodiment, the one or more programs include instructions for the electronic device to display at least one of a QR code or a URL for sharing the data file on the display after transmitting the data file to the external server.

[0045] According to an embodiment, in a non-transitory computer-readable recording medium storing one or more programs, the one or more programs include instructions for an electronic device to receive a data file for sharing a screen setting from an external server.

[0046] According to an embodiment, the one or more programs include instructions for the electronic device to display a plurality of user interfaces corresponding to setting information about a plurality of screens included in the data file.

[0047] According to an embodiment, the one or more programs include instructions for the electronic device to, based on receiving a user input for selecting at least one user interface among the plurality of user interfaces, obtain information about at least one application and setting information about at least one screen, corresponding to the at least one user interface.

[0048] According to an embodiment, the one or more programs include instructions for the electronic device to modify a setting of at least one screen based on the information about the at

least one application and the setting information about the at least one screen.
[0049] According to an embodiment, the one or more programs include instructions for the electronic device to, based on at least some of the at least one application being not installed on the electronic device, display a message for leading to install at least some of the at least one application.
[0050] Other aspects, advantages, and salient features of the disclosure will become apparent to those skilled in the art from the following detailed description, which, taken in conjunction with the annexed drawings, discloses various embodiments of the disclosure.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
[0051] The above and other aspects, features, and advantages of certain embodiments of the disclosure will be more apparent from the following description taken in conjunction with the accompanying drawings, in which:
[0052] FIG. **1** is a block diagram illustrating an electronic device in a network environment according to an embodiment of the disclosure;
[0053] FIG. **2** is a view illustrating a screen setting sharing operation by an electronic device according to an embodiment of the disclosure;
[0054] FIG. **3** is a flowchart illustrating a screen setting sharing operation by an electronic device according to an embodiment of the disclosure;
[0055] FIG. **4** is a view illustrating an application list for a screen setting of an electronic device according to an embodiment of the disclosure;
[0056] FIG. **5** is a view illustrating an operation of selecting a screen setting to be shared according to an embodiment of the disclosure;
[0057] FIG. **6** is a view illustrating an operation of selecting a screen setting to be shared according to an embodiment of the disclosure;
[0058] FIG. **7** is a view illustrating a screen setting sharing operation by an electronic device according to an embodiment of the disclosure;
[0059] FIG. **8**A is a view illustrating an operation of obtaining data for screen setting sharing by an electronic device according to an embodiment of the disclosure;
[0060] FIG. **8**B is a view illustrating data to be shared according to an embodiment of the disclosure;
[0061] FIG. **8**C is a view illustrating data to be shared according to an embodiment of the disclosure;
[0062] FIG. **9** is a view illustrating image data included in shared data according to an embodiment of the disclosure;
[0063] FIG. **10** is a view illustrating an application list included in shared data according to an embodiment of the disclosure;
[0064] FIG. **11** is a view illustrating a screen setting sharing operation by an electronic device according to an embodiment of the disclosure;
[0065] FIG. **12** is a view illustrating an operation of displaying a QR code or a URL for screen setting sharing by an electronic device according to an embodiment of the disclosure;
[0066] FIG. **13** is a view illustrating a screen setting sharing scheme by an electronic device according to an embodiment of the disclosure;
[0067] FIG. **14** is a flowchart illustrating an operation of receiving sharing of a screen setting by an electronic device according to an embodiment of the disclosure;
[0068] FIG. **15** is a flowchart illustrating an operation of applying a shared screen setting by an electronic device according to an embodiment of the disclosure;

[0069] FIG. **16** is a view illustrating an operation of applying a shared screen setting by an electronic device according to an embodiment of the disclosure;
[0070] FIG. **17** is a view illustrating an application where an electronic device where a screen setting is shared is a smart refrigerator according to an embodiment of the disclosure;
[0071] FIG. **18** is a view illustrating an application where an electronic device where a screen setting is shared is a navigation according to an embodiment of the disclosure;
[0072] FIG. **19** is a view illustrating an application where an electronic device where a screen setting is shared is a smart TV according to an embodiment of the disclosure;
[0073] FIG. **20** is a view illustrating an application where an electronic device where a screen setting is shared is a head-mounted device according to an embodiment of the disclosure; and
[0074] FIG. **21** is a view illustrating an application where an electronic device where a screen setting is shared is a smart watch according to an embodiment of the disclosure.
[0075] The same reference numerals are used to represent the same elements throughout the drawings.

DETAILED DESCRIPTION

[0076] The following description with reference to the accompanying drawings is provided to assist in a comprehensive understanding of various embodiments of the disclosure as defined by the claims and their equivalents. It includes various specific details to assist in that understanding but these are to be regarded as merely exemplary. Accordingly, those of ordinary skill in the art will recognize that various changes and modifications of the various embodiments described herein can be made without departing from the scope and spirit of the disclosure. In addition, descriptions of well-known functions and constructions may be omitted for clarity and conciseness.
[0077] The terms and words used in the following description and claims are not limited to the bibliographical meanings, but, are merely used by the inventor to enable a clear and consistent understanding of the disclosure. Accordingly, it should be apparent to those skilled in the art that the following description of various embodiments of the disclosure is provided for illustration purpose only and not for the purpose of limiting the disclosure as defined by the appended claims and their equivalents.
[0078] It is to be understood that the singular forms “a,” “an,” and “the” include plural referents unless the context clearly dictates otherwise. Thus, for example, reference to “a component surface” includes reference to one or more of such surfaces.
[0079] It should be appreciated that the blocks in each flowchart and combinations of the flowcharts may be performed by one or more computer programs which include computer-executable instructions. The entirety of the one or more computer programs may be stored in a single memory device or the one or more computer programs may be divided with different portions stored in different multiple memory devices.
[0080] Any of the functions or operations described herein can be processed by one processor or a combination of processors. The one processor or the combination of processors is circuitry performing processing and includes circuitry like an application processor (AP, e.g., a central processing unit (CPU)), a communication processor (CP, e.g., a modem), a graphical processing unit (GPU), a neural processing unit (NPU) (e.g., an artificial intelligence (AI) chip), a wireless-fidelity (Wi-Fi) chip, a Bluetooth™ chip, a global positioning system (GPS) chip, a near field communication (NFC) chip, connectivity chips, a sensor controller, a touch controller, a finger-print sensor controller, a display drive integrated circuit (IC), an audio CODEC chip, a universal serial bus (USB) controller, a camera controller, an image processing IC, a microprocessor unit (MPU), a system on chip (SoC), an IC, or the like.
[0081] FIG. **1** is a block diagram illustrating an electronic device in a network environment according to an embodiment of the disclosure.
[0082] Referring to FIG. **1**, an electronic device **101** in a network environment **100** may communicate with at least one of an external electronic device **102** via a first network **198** (e.g., a

short-range wireless communication network), or an external electronic device **104** or a server **108** via a second network **199** (e.g., a long-range wireless communication network). According to an embodiment, the electronic device **101** may communicate with the external electronic device **104** via the server **108**. According to an embodiment, the electronic device **101** may include a processor **120**, memory **130**, an input module **150**, a sound output module **155**, a display module **160**, an audio module **170**, a sensor module **176**, an interface **177**, a connecting terminal **178**, a haptic module **179**, a camera module **180**, a power management module **188**, a battery **189**, a communication module **190**, a subscriber identification module (SIM) **196**, or an antenna module **197**. In an embodiment, at least one (e.g., the connecting terminal **178**) of the components may be omitted from the electronic device **101**, or one or more other components may be added in the electronic device **101**. According to an embodiment, some (e.g., the sensor module **176**, the camera module **180**, or the antenna module **197**) of the components may be integrated into a single component (e.g., the display module **160**).

[0083] The processor **120** may execute, for example, software (e.g., a program **140**) to control at least one other component (e.g., a hardware or software component) of the electronic device **101** coupled with the processor **120**, and may perform various data processing or computation. According to an embodiment, as at least part of the data processing or computation, the processor **120** may store a command or data received from another component (e.g., the sensor module **176** or the communication module **190**) in volatile memory **132**, process the command or the data stored in the volatile memory **132**, and store resulting data in non-volatile memory **134**. According to an embodiment, the processor **120** may include a main processor **121** (e.g., a central processing unit (CPU) or an application processor (AP)), or an auxiliary processor **123** (e.g., a graphics processing unit (GPU), a neural processing unit (NPU), an image signal processor (ISP), a sensor hub processor, or a communication processor (CP)) that is operable independently from, or in conjunction with, the main processor **121**. For example, when the electronic device **101** includes the main processor **121** and the auxiliary processor **123**, the auxiliary processor **123** may be configured to use lower power than the main processor **121** or to be specified for a designated function. The auxiliary processor **123** may be implemented as separate from, or as part of the main processor **121**.

[0084] The auxiliary processor **123** may control at least some of functions or states related to at least one component (e.g., the display module **160**, the sensor module **176**, or the communication module **190**) among the components of the electronic device **101**, instead of the main processor **121** while the main processor **121** is in an inactive (e.g., a sleep) state, or together with the main processor **121** while the main processor **121** is in an active state (e.g., executing an application). According to an embodiment, the auxiliary processor **123** (e.g., an image signal processor or a communication processor) may be implemented as part of another component (e.g., the camera module **180** or the communication module **190**) functionally related to the auxiliary processor **123**. According to an embodiment, the auxiliary processor **123** (e.g., the neural processing unit) may include a hardware structure specified for artificial intelligence model processing. The artificial intelligence model may be generated via machine learning. Such learning may be performed, e.g., by the electronic device **101** where the artificial intelligence is performed or via a separate server (e.g., the server **108**). Learning algorithms may include, but are not limited to, e.g., supervised learning, unsupervised learning, semi-supervised learning, or reinforcement learning. The artificial intelligence model may include a plurality of artificial neural network layers. The artificial neural network may be a deep neural network (DNN), a convolutional neural network (CNN), a recurrent neural network (RNN), a restricted Boltzmann machine (RBM), a deep belief network (DBN), a bidirectional recurrent deep neural network (BRDNN), deep Q-network or a combination of two or more thereof but is not limited thereto. The artificial intelligence model may, additionally or alternatively, include a software structure other than the hardware structure.

[0085] The memory **130** may store various data used by at least one component (e.g., the processor

120 or the sensor module **176**) of the electronic device **101**. The various data may include, for example, software (e.g., the program **140**) and input data or output data for a command related thereto. The memory **130** may include the volatile memory **132** or the non-volatile memory **134**.
[0086] The program **140** may be stored in the memory **130** as software, and may include, for example, an operating system (OS) **142**, middleware **144**, or an application **146**.
[0087] The input module **150** may receive a command or data to be used by other component (e.g., the processor **120**) of the electronic device **101**, from the outside (e.g., a user) of the electronic device **101**. The input module **150** may include, for example, a microphone, a mouse, a keyboard, keys (e.g., buttons), or a digital pen (e.g., a stylus pen).
[0088] The sound output module **155** may output sound signals to the outside of the electronic device **101**. The sound output module **155** may include, for example, a speaker or a receiver. The speaker may be used for general purposes, such as playing multimedia or playing record. The receiver may be used for receiving incoming calls. According to an embodiment, the receiver may be implemented as separate from, or as part of the speaker.
[0089] The display module **160** may visually provide information to the outside (e.g., a user) of the electronic device **101**. The display module **160** may include, for example, a display, a hologram device, or a projector and control circuitry to control a corresponding one of the display, hologram device, and projector. According to an embodiment, the display module **160** may include a touch sensor configured to detect a touch, or a pressure sensor configured to measure the intensity of a force generated by the touch.
[0090] The audio module **170** may convert a sound into an electrical signal and vice versa. According to an embodiment, the audio module **170** may obtain the sound via the input module **150**, or output the sound via the sound output module **155** or a headphone of an external electronic device (e.g., the external electronic device **102**) directly (e.g., wiredly) or wirelessly coupled with the electronic device **101**.
[0091] The sensor module **176** may detect an operational state (e.g., power or temperature) of the electronic device **101** or an environmental state (e.g., a state of a user) external to the electronic device **101**, and then generate an electrical signal or data value corresponding to the detected state. According to an embodiment, the sensor module **176** may include, for example, a gesture sensor, a gyro sensor, an atmospheric pressure sensor, a magnetic sensor, an accelerometer, a grip sensor, a proximity sensor, a color sensor, an infrared (IR) sensor, a biometric sensor, a temperature sensor, a humidity sensor, or an illuminance sensor.
[0092] The interface **177** may support one or more specified protocols to be used for the electronic device **101** to be coupled with the external electronic device (e.g., the external electronic device **102**) directly (e.g., wiredly) or wirelessly. According to an embodiment, the interface **177** may include, for example, a high definition multimedia interface (HDMI), a universal serial bus (USB) interface, a secure digital (SD) card interface, or an audio interface.
[0093] A connecting terminal **178** may include a connector via which the electronic device **101** may be physically connected with the external electronic device (e.g., the external electronic device **102**). According to an embodiment, the connecting terminal **178** may include, for example, an HDMI connector, a USB connector, an SD card connector, or an audio connector (e.g., a headphone connector).
[0094] The haptic module **179** may convert an electrical signal into a mechanical stimulus (e.g., a vibration or motion) or electrical stimulus which may be recognized by a user via his tactile sensation or kinesthetic sensation. According to an embodiment, the haptic module **179** may include, for example, a motor, a piezoelectric element, or an electric stimulator.
[0095] The camera module **180** may capture a still image or moving images. According to an embodiment, the camera module **180** may include one or more lenses, image sensors, image signal processors, or flashes.
[0096] The power management module **188** may manage power supplied to the electronic device

101. According to an embodiment, the power management module **188** may be implemented as at least part of, for example, a power management integrated circuit (PMIC).
[0097] The battery **189** may supply power to at least one component of the electronic device **101**. According to an embodiment, the battery **189** may include, for example, a primary cell which is not rechargeable, a secondary cell which is rechargeable, or a fuel cell.
[0098] The communication module **190** may support establishing a direct (e.g., wired) communication channel or a wireless communication channel between the electronic device **101** and the external electronic device (e.g., the external electronic device **102**, the external electronic device **104**, or the server **108**) and performing communication via the established communication channel. The communication module **190** may include one or more communication processors that are operable independently from the processor **120** (e.g., the application processor (AP)) and supports a direct (e.g., wired) communication or a wireless communication. According to an embodiment, the communication module **190** may include a wireless communication module **192** (e.g., a cellular communication module, a short-range wireless communication module, or a global navigation satellite system (GNSS) communication module) or a wired communication module **194** (e.g., a local area network (LAN) communication module or a power line communication (PLC) module). A corresponding one of these communication modules may communicate with the external electronic device **104** via a first network **198** (e.g., a short-range communication network, such as Bluetooth™, wireless-fidelity (Wi-Fi) direct, or infrared data association (IrDA)) or a second network **199** (e.g., a long-range communication network, such as a legacy cellular network, a fifth generation (5G) network, a next-generation communication network, the Internet, or a computer network (e.g., local area network (LAN) or wide area network (WAN)). These various types of communication modules may be implemented as a single component (e.g., a single chip), or may be implemented as multi components (e.g., multi chips) separate from each other. The wireless communication module **192** may identify or authenticate the electronic device **101** in a communication network, such as the first network **198** or the second network **199**, using subscriber information (e.g., international mobile subscriber identity (IMSI)) stored in the subscriber identification module **196**.
[0099] The wireless communication module **192** may support a 5G network, after a fourth generation (4G) network, and next-generation communication technology, e.g., new radio (NR) access technology. The NR access technology may support enhanced mobile broadband (eMBB), massive machine type communications (mMTC), or ultra-reliable and low-latency communications (URLLC). The wireless communication module **192** may support a high-frequency band (e.g., the millimeter wave (mmWave) band) to achieve, e.g., a high data transmission rate. The wireless communication module **192** may support various technologies for securing performance on a high-frequency band, such as, e.g., beamforming, massive multiple-input and multiple-output (massive MIMO), full dimensional MIMO (FD-MIMO), array antenna, analog beam-forming, or large scale antenna. The wireless communication module **192** may support various requirements specified in the electronic device **101**, an external electronic device (e.g., the external electronic device **104**), or a network system (e.g., the second network **199**). According to an embodiment, the wireless communication module **192** may support a peak data rate (e.g., 20 Gbps or more) for implementing eMBB, loss coverage (e.g., 164 dB or less) for implementing mMTC, or U-plane latency (e.g., 0.5 ms or less for each of downlink (DL) and uplink (UL), or a round trip of 1 ms or less) for implementing URLLC.
[0100] The antenna module **197** may transmit or receive a signal or power to or from the outside (e.g., the external electronic device). According to an embodiment, the antenna module **197** may include one antenna including a radiator formed of a conductor or conductive pattern formed on a substrate (e.g., a printed circuit board (PCB)). According to an embodiment, the antenna module **197** may include a plurality of antennas (e.g., an antenna array). In this case, at least one antenna appropriate for a communication scheme used in a communication network, such as the first

network **198** or the second network **199**, may be selected from the plurality of antennas by, e.g., the communication module **190**. The signal or the power may then be transmitted or received between the communication module **190** and the external electronic device via the selected at least one antenna. According to an embodiment, other parts (e.g., radio frequency integrated circuit (RFIC)) than the radiator may be further formed as part of the antenna module **197**.

[0101] According to an embodiment, the antenna module **197** may form a mmWave antenna module. According to an embodiment, the mmWave antenna module may include a printed circuit board, a RFIC disposed on a first surface (e.g., the bottom surface) of the printed circuit board, or adjacent to the first surface and capable of supporting a designated high-frequency band (e.g., the mmWave band), and a plurality of antennas (e.g., array antennas) disposed on a second surface (e.g., the top or a side surface) of the printed circuit board, or adjacent to the second surface and capable of transmitting or receiving signals of the designated high-frequency band.

[0102] At least some of the above-described components may be coupled mutually and communicate signals (e.g., commands or data) therebetween via an inter-peripheral communication scheme (e.g., a bus, general purpose input and output (GPIO), serial peripheral interface (SPI), or mobile industry processor interface (MIPI)).

[0103] According to an embodiment, commands or data may be transmitted or received between the electronic device **101** and the external electronic device **104** via the server **108** coupled with the second network **199**. The external electronic devices **102** or **104** each may be a device of the same or a different type from the electronic device **101**. According to an embodiment, all or some of operations to be executed at the electronic device **101** may be executed at one or more of the external electronic devices **102** or **104**, or the server **108**. For example, if the electronic device **101** should perform a function or a service automatically, or in response to a request from a user or another device, the electronic device **101**, instead of, or in addition to, executing the function or the service, may request the one or more external electronic devices to perform at least part of the function or the service. The one or more external electronic devices receiving the request may perform the at least part of the function or the service requested, or an additional function or an additional service related to the request, and transfer an outcome of the performing to the electronic device **101**. The electronic device **101** may provide the outcome, with or without further processing of the outcome, as at least part of a reply to the request. To that end, a cloud computing, distributed computing, mobile edge computing (MEC), or client-server computing technology may be used, for example. The electronic device **101** may provide ultra low-latency services using, e.g., distributed computing or mobile edge computing. In another embodiment, the external electronic device **104** may include an Internet-of-things (IoT) device. The server **108** may be an intelligent server using machine learning and/or a neural network. According to an embodiment, the external electronic device **104** or the server **108** may be included in the second network **199**. The electronic device **101** may be applied to intelligent services (e.g., a smart home, a smart city, a smart car, or health-care) based on 5G communication technology or IoT-related technology.

[0104] FIG. **2** is a view illustrating a screen setting sharing operation by an electronic device according to an embodiment of the disclosure.

[0105] Referring to FIG. **2**, the electronic device **101** (e.g., the electronic device **101** of FIG. **1**) may customize the setting of the screen based on a user input. According to an embodiment, the electronic device **101** may install at least one application for customizing the screen setting, and may customize the screen setting based on the installed at least one application.

[0106] According to an embodiment, the electronic device **101** may customize the settings of at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an execution screen of an application.

[0107] According to an embodiment, the customizable screen setting may include at least one of a background screen, a function, arrangement, shape, or color of at least one object.

[0108] According to an embodiment, the electronic device **101** may transmit setting information about the customized screen **210** (e.g., a keyboard screen) to the server **108** (e.g., the server **108** of FIG. **1**). For example, the customized keyboard screen **210** may be one in which at least one of the color, the shape of a key, the key layout, or the size of a key by a user input.
[0109] According to an embodiment, the external electronic device **104** (e.g., the external electronic device **104** of FIG. **1**) may receive the setting information from the server **108**.
[0110] According to an embodiment, the external electronic device **104** may set the screen **220** (e.g., a keyboard screen) to be suitable for the display of the external electronic device **104** based on the received setting information.
[0111] As such, the external electronic device **104** may set the screen to correspond to the screen setting of the electronic device **101** by sharing the screen setting information transmitted from the electronic device **101**.
[0112] According to an embodiment, an operation of sharing a screen setting is described below with reference to FIGS. **3** to **7**, **8**A, **8**B, **8**C, and **9** to **17**.
[0113] FIG. **3** is a flowchart illustrating a screen setting sharing operation by an electronic device according to an embodiment of the disclosure.
[0114] Referring to FIG. **3**, according to an embodiment, in operation **310**, the electronic device (e.g., the electronic device **101** of FIG. **1** or the processor **120** of FIG. **1**) may display a plurality of user interfaces respectively corresponding to the settings of a plurality of screens applied to the electronic device based on a plurality of applications stored in the memory (e.g., the memory **130** of FIG. **1**).
[0115] According to an embodiment, the plurality of user interfaces may be displayed through a screen shot image, an execution screen of an application for screen sharing, and/or an execution screen of an application to be shared.
[0116] According to an embodiment, the electronic device may display at least one image obtained by capturing (e.g., screen shot) the screen displayed on the display (e.g., the display module **160** of FIG. **1**). According to an embodiment, if a user input for starting screen sharing is received on the execution screen of the application for screen sharing, the electronic device may display at least one screen shot image.
[0117] According to an embodiment, the at least one image may include at least one screen shot image of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an execution screen of an application.
[0118] According to an embodiment, the electronic device may display a plurality of user interfaces corresponding to the settings included in the selected image from among at least one image.
[0119] According to an embodiment, the electronic device may obtain setting information included in the image selected from at least one image. For example, if the selected image is a screen shot image of the home screen, the electronic device may obtain setting information, such as the background, the arrangement of objects (e.g., application icons, widgets, and/or hotseats), and/or the arrangement (e.g., 5 rows 3 columns or 4 rows 4 columns) of application icons.
[0120] According to an embodiment, the electronic device may display a plurality of user interfaces corresponding to the obtained settings. For example, the electronic device may display a plurality of user interfaces corresponding to the setting information, such as the background, the arrangement of objects (e.g., application icons, widgets, and/or hotseats), and/or the arrangement (e.g., 5 rows 3 columns or 4 rows 4 columns) of application icons.
[0121] According to an embodiment, an operation of sharing a screen setting using a stored screen shot image is described below with reference to FIG. **5**.
[0122] Although it has been described above that one image is selected from at least one image already stored, according to an embodiment, the electronic device may obtain a screen setting included in the captured image if a user input for capturing a specific screen (e.g., a home screen, a

lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an execution screen of an application) and a user input for sharing the screen setting are received.

[0123] According to an embodiment, the electronic device may display a plurality of user interfaces respectively corresponding to the obtained screen settings.

[0124] According to an embodiment, the electronic device may display an execution screen of one application among a plurality of applications installed in the electronic device, and display a plurality of user interfaces corresponding to the settings of the execution screen of one application based on receiving a user input for sharing the settings of the screen through the execution screen of the one application.

[0125] According to an embodiment, if the electronic device receives a user input for sharing the screen setting on the execution screen of an application capable of customizing the screen setting, the electronic device may display at least one user interface corresponding to each of the screen settings provided through the application.

[0126] For example, if receiving a user input for sharing the screen settings on the execution screen of the application (e.g., keys cafe) capable of customizing the keyboard screen settings, the electronic device may display at least one user interface related to the keyboard screen.

[0127] According to an embodiment, the electronic device may display a plurality of user interfaces corresponding to settings of a shareable screen based on receiving a user input for executing the execution screen of a screen sharing application for sharing the screen setting.

[0128] According to an embodiment, the electronic device may display a list including a plurality of user interfaces applied to the electronic device and respectively corresponding to the settings of the shareable screen through the execution screen of the screen sharing application (e.g., Galaxy To Share) for sharing the screen setting.

[0129] According to an embodiment, an operation of displaying a list of settings of a shareable screen is described below with reference to FIG. **4**.

[0130] According to an embodiment, the screen applied to the electronic device may include at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an execution screen of an application.

[0131] According to an embodiment, the settings of the screen may include at least one of a background screen, a function, arrangement, shape, or color of at least one object.

[0132] According to an embodiment, the setting information about the at least one screen may include at least one of data corresponding to the setting of the screen or the thumbnail image corresponding to the setting of the screen. According to an embodiment, the setting information about the at least one screen may include a value of a sensor value change (e.g., hinge angle, folding, and folding) of a form factor, which is a physical attribute of the electronic device.

[0133] According to an embodiment, in operation **320**, the electronic device may receive a user input for selecting at least one user interface from among a plurality of user interfaces.

[0134] According to an embodiment, in operation **330**, the electronic device may obtain each of pieces of setting information about at least one screen corresponding to the selected at least one user interface.

[0135] According to an embodiment, the electronic device may obtain screen setting information from each application that provides settings of at least one screen corresponding to the selected at least one user interface.

[0136] An operation of obtaining setting information about a screen according to an embodiment is described below with reference to FIG. **8**A.

[0137] According to an embodiment, in operation **340**, the electronic device may obtain a data file that groups at least one application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen.

[0138] According to an embodiment, the setting information about the at least one screen may include at least one of data corresponding to the setting of the screen or the thumbnail image corresponding to the setting of the screen.
[0139] According to an embodiment, the electronic device may obtain information about at least one application providing at least one screen setting corresponding to the selected at least one user interface and setting information about at least one screen as one data file.
[0140] According to an embodiment, one data file in which setting information about at least one screen obtained from at least one application is grouped is described with reference to FIGS. **9** and **10**.
[0141] According to an embodiment, in operation **350**, the electronic device may transmit the data file to an external server (e.g., the server **108** of FIG. **1**).
[0142] According to an embodiment, the electronic device may select a setting of a screen to be shared among the settings of the applied screen, and transmit it together with an image, a video, and/or a description to a server for sharing the screen setting.
[0143] According to an embodiment, the server for sharing the screen setting may store the setting of the screen to be shared, received from the electronic device. The server may transfer information including information related to a stored location of the setting of the screen to be shared to the electronic device in the form of a quick response (QR) code, a barcode and/or URL. According to an embodiment, the electronic device may receive a QR code, a barcode, and/or URL from the external server after transmitting the data file to the external server. The electronic device may display at least one of the QR code, the barcode, or the URL for sharing the data file on the display.
[0144] Accordingly, the external electronic device may scan the QR code or share the URL displayed on the electronic device and share the data file by the electronic device without a search through the server.
[0145] According to an embodiment, an operation of displaying at least one of the QR code or the URL by the electronic device is described with reference to FIGS. **11** and **12**.
[0146] As described above, the electronic device according to embodiments of the disclosure may more easily share screen settings (e.g., decoration) of the mobile device, and the user of the sharing electronic device may apply screen settings of another device without complicated settings.
[0147] FIG. **4** is a view illustrating an application list for a screen setting of an electronic device according to an embodiment of the disclosure.
[0148] Referring to FIG. **4**, according to an embodiment, the electronic device (e.g., the electronic device **101** of FIG. **1** or the processor **120** of FIG. **1**) may display an application list **410** and **420** related to the screen setting through the execution screen of the screen setting sharing application for sharing the screen setting. According to an embodiment, the application list **410** and **420** may include the application related to the screen setting applied to the electronic device. According to an embodiment, the application list **410** and **420** may include an application related to a shareable screen setting among screen settings applied to the electronic device.
[0149] According to an embodiment, the application list **410** and **420** may include an application (e.g., keys cafe) capable of setting the color, key size, animation effect, and/or sound of the keyboard.
[0150] According to an embodiment, the application list **410** and **420** may include an application (e.g., routine+) for automatically setting a plurality of functions performed as routines.
[0151] According to an embodiment, the application list **410** and **420** may include an application (e.g., lockstar) for setting the style of the lock screen.
[0152] According to an embodiment, the application list **410** and **420** may include an application (e.g., quickstar) for setting the style of the quick panel notification window.
[0153] According to an embodiment, the application list **410** and **420** may include an application (e.g., clockface) for setting a clock style.
[0154] According to an embodiment, the application list **410** and **420** may include an application

(e.g., multistar) for setting a multi-window style.
[0155] According to an embodiment, the application list **410** and **420** may include an application (e.g., navista) for setting the style of the navigation bar.
[0156] According to an embodiment, the application list **410** and **420** may include an application (e.g., home up) for setting the style of the home screen.
[0157] According to an embodiment, the application list **410** and **420** may include an application (e.g., notistar) for setting the style of the notification screen.
[0158] According to an embodiment, the application list **410** and **420** may include an application (e.g., pentastic) for customizing the function of the stylus pen.
[0159] According to an embodiment, the application list **410** and **420** may include an application (e.g., wonderland) for setting a style of a moving background screen.
[0160] According to an embodiment, the application list **410** and **420** may include an application (e.g., one hand operation+) for customizing user inputs and functions to control the electronic device with one hand.
[0161] According to an embodiment, the application list **410** and **420** may include an application (e.g., edge touch) for customizing the location, size, and/or function of the touch area among edge areas of the display.
[0162] According to an embodiment, the application list **410** and **420** may include an application (e.g., soundassident) for customizing audio-related functions.
[0163] According to an embodiment, the electronic device may select at least one user interface related to the screen setting to be shared from among the plurality of user interfaces included in the application list **410** and **420**.
[0164] FIG. **5** is a view illustrating an operation of selecting a screen setting to be shared according to an embodiment of the disclosure.
[0165] Referring to FIG. **5**, if an electronic device (e.g., the electronic device **101** of FIG. **1** or the processor **120** of FIG. **1**) receives a user input for sharing a screen setting through an execution screen of an application for sharing a screen setting, the electronic device may display a plurality of user interfaces related to sharable screens. According to an embodiment, the shareable screens may include at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an execution screen of an application applied to the electronic device.
[0166] According to an embodiment, if a user input for sharing a screen setting is received, the electronic device may display a first screen **510** for selecting an image or video to represent the screen setting to be shared, and if an image or video is selected, the electronic device may display a second screen **520** including at least one screen list capable of sharing the screen setting.
[0167] According to an embodiment, if a user input for sharing a screen setting is received, the electronic device may display the second screen **520** without displaying the first screen **510**. According to an embodiment, the image and/or video included in the first screen **510** may be an image obtained by screen capturing sharable screens and/or a recorded video.
[0168] According to an embodiment, the second screen **520** may include a list of at least one screen (e.g., a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an execution screen of an application) applied to the electronic device.
[0169] According to an embodiment, the electronic device may receive a user input for selecting a screen to be shared among screen settings applied to the electronic device through the second screen **520**.
[0170] According to an embodiment, the electronic device may display a third screen **530** including at least one user interface corresponding to the setting of the screen for which the setting is to be shared.
[0171] According to an embodiment, at least one setting may be included in each of the at least one

screen for which the setting is to be shared, and the electronic device may display at least one setting included in each of the at least one screen for each screen. According to an embodiment, the settings of the screen may include at least one of a background screen, a function, arrangement, shape, or color of at least one object.

[0172] According to an embodiment, FIG. **5** illustrates the second screen **520** and the third screen **530** as separate screens, but a single screen may be present. For example, a screen and a screen setting applied to the electronic device may be displayed on one screen.

[0173] According to an embodiment, if a user input for selecting a setting of at least one screen to be shared is received through the third screen **530**, the electronic device may display a fourth screen **540** for inputting a description and a tag for the selected at least one screen setting.

[0174] According to an embodiment, if receiving a user input for inputting a description related to the selected screen setting and/or for setting a tag, and a user input for transmitting screen setting information to the server, the electronic device may generate at least one selected screen setting information, description, and/or tag as one data file and transmit the generated data file to an external server (e.g., the server **108** of FIG. **1**).

[0175] According to an embodiment, if a user input for setting a description input and/or setting a tag is not received through the fourth screen **540**, and a user input for transmitting the screen setting information to the server is received, the electronic device may generate the selected at least one screen setting information as one data file and transmit the generated data file to the external server.

[0176] In the foregoing, the operation of sharing the screen setting through the execution screen of the application for sharing the screen setting has been described, but according to an embodiment, the screen setting may be shared through the execution screen of the application where the screen setting is to be shared.

[0177] For example, if receiving a user input for sharing the screen setting through the execution screen of a specific application, the electronic device may display at least one user interface related to the screen setting applied to the specific application.

[0178] According to an embodiment, if a user input for sharing a screen setting is received through an execution screen of a specific application, the electronic device may display a screen for selecting an image or video representing the screen setting, and if an image or video is selected, may display at least one user interface related to a screen setting applied to a specific application.

[0179] According to an embodiment, if receiving a user input for selecting at least one of at least one user interface related to the screen setting applied to the specific application, the electronic device may generate the screen setting corresponding to the at least one user interface as one data file and transmit the generated data file to the external server.

[0180] As such, it is possible to selectively share only the screen setting to be shared among the screen settings applied to the electronic device.

[0181] FIG. **6** is a view illustrating an operation of selecting a screen setting to be shared according to an embodiment of the disclosure.

[0182] Referring to FIG. **6**, if an electronic device (e.g., the electronic device **101** of FIG. **1** or the processor **120** of FIG. **1**) performs a screen capture on a specific screen **610** to be shared, the electronic device may obtain at least one screen setting **620**, **621**, and **622** included in the screen **610**. According to an embodiment, the electronic device may identify at least one process being executed in relation to the screen captured screen **610**. The electronic device may obtain at least one screen setting **620**, **621**, and **622** information from at least one process related to the screen **610**. For example, the electronic device may screen-capture the screen **610** if the user input is received through the user interface for sharing the screen setting displayed in a partial area of the display (e.g., the display module **160** of FIG. **1**). According to an embodiment, the electronic device may receive the user input through the user interface for sharing the screen setting displayed in the partial area of the display after screen-capturing the screen **610**.

[0183] For example, if screen capture is performed on the home screen **610**, the electronic device

may obtain screen setting information related to the background screen **620** of the home screen, the arrangement and/or type **621** of objects (e.g., application icons, widgets and/or navigation bars), and/or the type of application **622** disposed in a partial area (e.g., hotseat) of the home screen.
[0184] According to an embodiment, the electronic device may display at least one user interface respectively corresponding to the obtained screen setting information. According to an embodiment, the at least one user interface respectively corresponding to the obtained screen setting information may be displayed on a screen separate from the screen-captured screen, or the screen-captured image may be displayed in a partial area of the display while displaying the at least one user interface respectively corresponding to the obtained screen setting information in a remaining partial area.
[0185] According to an embodiment, if receiving a user input for selecting at least one of the at least one user interface, the electronic device may generate the screen setting information respectively corresponding to the selected user interface as one data file and transmit the generated data file to the external server (e.g., the server **108** of FIG. **1**).
[0186] FIG. **7** is a view illustrating a screen setting sharing operation by an electronic device according to an embodiment of the disclosure.
[0187] Referring to FIG. **7**, an electronic device **101** (e.g., the electronic device **101** of FIG. **1**) may include an application (e.g., a client) for sharing a screen setting. According to an embodiment, an application (e.g., a client) for sharing a screen setting may include a picker module, a CreateUI module, a Retrofit2 module, and/or a Sharevia module.
[0188] According to an embodiment, the picker module may be a module for selecting a photo and/or video from a photo album application (e.g., a gallery application).
[0189] According to an embodiment, the CreateUI module may be a module that generates and displays a screen (UI) provided for sharing a screen setting in an application for sharing a screen setting.
[0190] According to an embodiment, the Retrofit2 module may be a module for providing an interface for sharing a screen setting between the server **108** (e.g., the server **108** of FIG. **1**) and the electronic device **101**.
[0191] According to an embodiment, the Sharevia module may be a module that shares a data file (e.g., a QR code, a URL, and/or a barcode) including screen setting information to be shared.
[0192] According to an embodiment, the external electronic device **104** (e.g., the external electronic device **104** of FIG. **1**) may include an application (e.g., a client) for sharing a screen setting. According to an embodiment, the application (e.g., a client) for sharing a screen setting may include a Retrofit2 module, a DisplayUI module, and/or a Sharevia module.
[0193] According to an embodiment, the Retrofit2 module may be a module for providing an interface for sharing a screen setting between the server **108** (e.g., the server **108** of FIG. **1**) and the external electronic device **104**.
[0194] According to an embodiment, the DisplayUI module may be a module for displaying a UI related to a screen setting to be shared through the application for sharing a screen setting, and applying and displaying a screen setting selected through the UI.
[0195] According to an embodiment, the Sharevia module may be a module that shares the data file (e.g., the QR code, the URL, and/or the barcode) including screen setting information to be shared. According to an embodiment, the electronic device **101** (e.g., the electronic device **101** of FIG. **1**) may obtain a cellprovider of each application (e.g., App #1 (e.g., System UI) and App #2 (e.g., Launcher) respectively corresponding to a plurality of screens applied to the electronic device **101**. According to an embodiment, the cellprovider may include setting information about a shareable screen.
[0196] According to an embodiment, the electronic device **101** may display at least one user interface related to settings of at least one screen that may be shared based on the obtained cellprovider. According to an embodiment, if receiving the user input for selecting at least some of

the at least one user interface, the electronic device **101** may receive screen setting information from the cellprovider corresponding to the selected user interface. For example, the screen setting information may include data (e.g., item data) related to the application of screen settings and/or data (e.g., expression data) related to thumbnail images of screen settings. According to an embodiment, the data structure is described below with reference to FIGS. **8**A, **8**B, **8**C, and **9**.
[0197] According to an embodiment, the electronic device **101** may generate screen setting information as one data file and transmit the generated data file to the external server **108** for sharing the screen setting. According to an embodiment, the data file may include data in the form of a QR code and/or a URI.
[0198] According to an embodiment, the external electronic device **104** may receive the data file from the external server **108** and transfer only screen setting information to be shared among screen setting information included in the received data file to the cellprovider of a corresponding application. According to an embodiment, the external electronic device **104** may select a screen setting to be shared through the user input.
[0199] FIG. **8**A is a view illustrating an operation of obtaining data for screen setting sharing by an electronic device according to an embodiment of the disclosure.
[0200] Referring to FIG. **8**A, an electronic device (e.g., the electronic device **101** of FIG. **1** or the processor **120** of FIG. **1**) may obtain screen setting information from a locked screen cellprovider based on receiving the user input for sharing the screen setting of the lock screen.
[0201] According to an embodiment, the screen setting information (e.g., item supplier) may include data (e.g., expression item data) related to an image (e.g., thumbnail image) related to the screen setting and/or data (e.g., item data) related to the application of the screen setting.
[0202] According to an embodiment, the electronic device may transmit similar types of data among data included in the data file as a group (e.g., item supplier group (e.g., item group #2)).
[0203] According to an embodiment, the screen setting information may further include information related to the cellprovider, as shown in FIG. **8**B.
[0204] FIG. **8**B is a view illustrating data to be shared according to an embodiment of the disclosure.
[0205] Referring to FIG. **8**B, information related to the cellprovider may include application identification information (e.g., icon, label, and/or package name).
[0206] Among the data included in the screen setting information obtained by the electronic device, data (e.g., item data) related to the application of the screen setting may include a value to be shared in the form of a key and/or value. According to an embodiment, the key may be a unique value.
[0207] According to an embodiment, the application for sharing the screen setting of the external electronic device (e.g., the electronic external device **104** of FIG. **1**) to share the screen setting may apply the screen setting based on the data (e.g., expression item data) related to the image (e.g., a thumbnail image) related to the screen setting included in the screen setting information without using the key or the value.
[0208] FIG. **8**C is a view illustrating data to be shared according to an embodiment of the disclosure.
[0209] Referring to FIG. **8**C, when a key and/or value other than the key and/or value included in the data (e.g., item data) related to the application of the screen setting of the screen setting information is included, the screen setting information may add an embedded item. According to an embodiment, the embedded item may also include data in the form of a QR code and/or a URI. For example, when the key and/or value other than the key and/or value included in the data (e.g., item data) related to the application of the screen setting of at least one screen setting information (e.g., at least one icon information included in the navigation bar) applicable to the navigation bar is included, path information about at least one image related to the screen setting (e.g., navigation bar icon information) may be added, to the embedded item, as the data in the form of a QR code

and/or a URI.
[0210] For example, when the data of the data file should be transmitted together with a string type of data other than the URI type or together with another data file, the data or the another data file in the string type may be added, as an embedded item, to the data file.
[0211] FIG. **9** is a view illustrating image data included in shared data according to an embodiment of the disclosure. For example, FIG. **9** is a view illustrating a structure of data (e.g., expression item data) related to an image (e.g., a thumbnail image) related to the screen setting included in the screen setting information.
[0212] Referring to FIG. **9**, the data related to the image (e.g., a thumbnail image) related to the screen setting included in the screen setting information may include an icon **910** including at least one image.
[0213] According to an embodiment, the icon **910** (or image) including at least one image may include an on/off icon (or image), a URI image, a multipurpose internet mail extensions (Mime)-type icon (or image) and/or a drawable image included in the setting screen.
[0214] FIG. **10** is a view illustrating an application list included in shared data according to an embodiment of the disclosure.
[0215] Referring to FIG. **10**, an application for sharing a screen setting of an electronic device (e.g., the electronic device **101** of FIG. **1** or the processor **120** of FIG. **1**) may classify an application related to a screen setting into at least one category **1010**. For example, the application for sharing a screen setting may classify a plurality of applications into three categories related to the type of screen. According to an embodiment, the three categories may be a lock screen, a home screen, and an always on display (AOD). According to an embodiment, the applications for sharing a screen setting, which do not belong to the three categories may be classified into others (etc) category.
[0216] According to an embodiment, the lock screen category may include an application (e.g., lockstart) for setting the lock setting, clock style, background screen, and style of lock screen and/or an application (e.g., quickstar) for setting the style of the quick panel notification window.
[0217] According to an embodiment, the home screen category may include an application (e.g., home up) for setting the style of the background screen or home screen and/or an application (e.g., navistar) for setting the style of the navigation.
[0218] According to an embodiment, the AOD category may include an application (e.g., lockstar) for setting the AOD clock style, the AOD setting, and/or the style of the AOD of the lock screen.
[0219] According to an embodiment, the others category may include an application (e.g., keys cafe) for setting the keyboard color, key size, animation effect, and/or sound, an application (e.g., sound assistant) for customizing audio-related functions, and/or an application (e.g., routine) for setting automation of a plurality of functions performed as routines.
[0220] According to an embodiment, the application for sharing a screen setting may apply cellprovider as the category name, not the cellprovider of the application, when shareable data among the applications included in an application list **1020** selected for sharing is included in the category.
[0221] According to an embodiment, for the category-based cellprovider, the application for sharing a screen setting may generate a data file and transmit it to the external server (e.g., the server **108** of FIG. **1**).
[0222] According to an embodiment, the application for sharing a screen setting may transmit similar types of data among data included in the data file, as a group (e.g., item supplier group).
[0223] FIG. **11** is a view illustrating a screen setting sharing operation by an electronic device according to an embodiment of the disclosure.
[0224] Referring to FIG. **11**, if receiving the user input for sharing a screen setting **1110** of an electronic device **101** (e.g., the electronic device **101** of FIG. **1**), the electronic device **101** may transmit screen setting information **1120** to a server **108** (e.g., the server **108** of FIG. **1**). For example, the electronic device **101** may transmit the screen setting information **1120** about the

keyboard screen customized by the user to the server **108**.
[0225] According to an embodiment, if receiving the user input for sharing a screen setting, the electronic device **101** may display at least one user interface respectively corresponding to at least one shareable screen setting, and transmit screen setting information **1120** corresponding to at least some user interfaces selected by the user input among the at least one user interface to the server **108**.
[0226] According to an embodiment, the user input for sharing the screen setting may be received on the execution screen of the screen setting sharing application for sharing the screen setting, on the execution screen of the application corresponding to the screen setting to be shared, or through screen capture.
[0227] According to an embodiment, the screen setting information **1120** may include at least one of a background screen, a function, an arrangement, a shape, and a color of at least one object.
[0228] According to an embodiment, the electronic device **101** may transmit the screen setting information **1120** to the server **108** to share the screen setting information **1120** with the external electronic device **104** (e.g., the external electronic device **104** of FIG. **1**) through a dropship scheme. According to an embodiment, the dropship scheme is described below with reference to FIG. **13**.
[0229] According to an embodiment, the electronic device **101** may share a QR code and/or a URL **1130** corresponding to the screen setting information **1120** after transmitting the screen setting information **1120** to the server **108**. According to an embodiment, the electronic device **101** may display the QR code and/or URL **1130** corresponding to the screen setting information **1120** or transmit it to the external electronic device **104**. According to an embodiment, an operation of sharing the QR code and/or URL **1130** corresponding to the screen setting information **1120** may be omitted.
[0230] According to an embodiment, the external electronic device **104** may request screen setting information from the server **108**. According to an embodiment, if the external electronic device **104** receives the user input for sharing screen setting information through an execution screen of a screen setting sharing application for sharing the screen setting, the external electronic device **104** may request screen setting information from the server **108**. According to an embodiment, the external electronic device **104** may display a screen setting list including at least one screen setting that may be shared through the execution screen of the screen setting sharing application, and if receiving the user input for selecting a screen setting to be shared from the screen setting list, request the selected screen setting information from the server **108**. According to an embodiment, if receiving the user input for searching for a screen setting through the execution screen of the screen setting sharing application, the external electronic device **104** may display at least one searched screen setting and, if receiving the user input for selecting the screen setting to be shared among the displayed at least one screen setting, request the selected screen setting information from the server **108**.
[0231] According to an embodiment, if receiving the user input for selecting the URL received from the electronic device **101**, recognizing the QR code **1130** received from the electronic device **101**, or displayed on the electronic device **101**, the external electronic device **104** may request the screen setting information corresponding to the QR code or the URL from the server **108**.
[0232] According to an embodiment, the external electronic device **104** may apply at least some of the screen setting information received from the server **108**. According to an embodiment, the external electronic device **104** may display at least one user interface respectively corresponding to at least one screen setting included in the screen setting information received from the server **108**, and apply only a screen setting corresponding to at least some selected by the user input among at least one user interface.
[0233] According to an embodiment, if an application for applying at least some of the at least one screen setting included in the screen setting information received from the server **108** is not

installed, the external electronic device **104** may display a message leading to application installation. According to an embodiment, when an application for applying a screen setting is installed, the external electronic device **104** may apply the screen setting based on the screen setting information received from the server **108**.

[0234] FIG. **12** is a view illustrating an operation of displaying a QR code or a URL for screen setting sharing by an electronic device according to an embodiment of the disclosure.

[0235] Referring to FIG. **12**, the electronic device (e.g., the electronic device **101** of FIG. **1** or the processor **120** of FIG. **1**) may display a screen **1220** to which the screen setting to be shared is applied if selecting the user interface **1211** corresponding to the screen setting to be shared on an execution screen **1210** of the application to share the screen setting.

[0236] FIG. **12** illustrates and describes that the user interface **1211** corresponding to the screen setting to be shared is selected from among the plurality of user interfaces corresponding to the screen setting having a history of sharing but, according to an embodiment, the user interface to be shared among the user interfaces corresponding to at least one shareable screen setting among the screen settings applied to the electronic device may be selected.

[0237] According to an embodiment, if receiving a user input **1221** instructing to start sharing after displaying a screen **1220** to which the screen setting to be shared is applied, the electronic device may transmit the screen setting information to the server (e.g., the server **108** of FIG. **1**) and display a screen **1230** including the QR code and/or URL information corresponding to the transmitted screen setting information. According to an embodiment, the QR code and/or URL information may be access information for an external electronic device (e.g., the external electronic device **104** of FIG. **1**) to access the screen setting information.

[0238] According to an embodiment, the electronic device may transmit the QR code and/or URL information to the external electronic device through a message, an email, and/or an SNS application.

[0239] As such, it is possible to immediately access the screen setting information without a separate search operation by providing the QR code and/or URL information corresponding to the transmitted screen setting information to the external electronic device.

[0240] FIG. **13** is a view illustrating a screen setting sharing scheme by an electronic device according to an embodiment of the disclosure.

[0241] Referring to FIG. **13**, a data file including screen setting information transmitted from an electronic device (e.g., electronic device **101** of FIG. **1**) may be stored in a dropship server **1310** (e.g., the server **108** of FIG. **1**).

[0242] According to an embodiment, dropship is a method of uploading and sharing files to the dropship server **1310** without restrictions on terminal devices and operating systems (e.g., Android or iOS).

[0243] According to an embodiment, the dropship may generate a pin code based on the user account (e.g., account), add a file to be shared to the dropship server **1310**, and search and/or download a file based on the URL, barcode and/or QR code including the dropship domain and the pin code through another user account.

[0244] According to an embodiment, the dropship server **1310** may perform login authentication to a server **1320** related to the user account and generate the pin code.

[0245] For example, the pin code may be a code including about six natural numbers. According to an embodiment, if the shared file is uploaded through the pin code, the dropship server **1310** may map the pin code and the shared file.

[0246] According to an embodiment, the dropship server **1310** may store the uploaded shared file in file storage **1330**.

[0247] According to an embodiment, the dropship server **1310** may provide a search and/or download of the shared file based on the pin code. According to an embodiment, the dropship server **1310** may provide a search and/or download of the file stored in the file storage **1330** based

on the pin code.
[0248] According to an embodiment, the pin code may have a valid period. For example, the pin code may have a validity period of about 1 hour to about 24 hours.
[0249] FIG. **14** is a flowchart illustrating an operation of receiving sharing of a screen setting by an electronic device according to an embodiment of the disclosure.
[0250] Referring to FIG. **14**, according to an embodiment, in operation **1410**, the electronic device (e.g., the external electronic device **104** of FIG. **1**) may receive a data file including screen setting information shared from an external server (e.g., the server **108** of FIG. **1**).
[0251] According to an embodiment, the electronic device may receive the data file for a screen setting selected or searched from the execution screen of the screen setting sharing application for screen setting sharing.
[0252] According to an embodiment, the electronic device may receive the data file corresponding to the QR code or URL through URL selection or scanning of the QR code received from the external electronic device (e.g., the electronic device **101** of FIG. **1**).
[0253] According to an embodiment, in operation **1420**, the electronic device may display a plurality of user interfaces corresponding to setting information about a plurality of screens included in the data file. According to an embodiment, the setting information about the plurality of screens may be classified for each application. According to an embodiment, the setting information about the plurality of screens may be classified into at least one screen setting applicable to each application and displayed in the form of a list.
[0254] According to an embodiment, the electronic device may display a plurality of user interfaces based on data (e.g., item data) related to the application of the screen setting included in the data file and/or data (e.g., expression data) related to the thumbnail image of the screen setting.
[0255] According to an embodiment, in operation **1430**, the electronic device may obtain information about at least one application and setting information about at least one screen, corresponding to at least one user interface based on receiving the user input for selecting at least one user interface among the plurality of user interfaces.
[0256] According to an embodiment, the electronic device may display a message leading to installation of at least some of the at least one application based on at least some of the at least one application being not installed in the electronic device.
[0257] According to an embodiment, in operation **1440**, the electronic device may change (or apply) a setting of at least one screen based on information about at least one application and setting information about at least one screen.
[0258] According to an embodiment, the electronic device may display a screen having a changed setting.
[0259] FIG. **15** is a flowchart illustrating an operation of applying a shared screen setting by an electronic device according to an embodiment of the disclosure.
[0260] Referring to FIG. **15**, a screen setting sharing application **1510** for screen setting sharing of an electronic device (e.g., the external electronic device **104** of FIG. **1**) sharing the data file including the screen setting information from a server (e.g., the server **108** of FIG. **1**) may include a display activity module **1511** for displaying the shared content (e.g., screen setting) and a cellprovider manager **1512** for controlling a request for an application (e.g., cellprovider).
[0261] According to an embodiment, in operation **1501**, the display activity module **1511** may request the cellprovider manager **1512** to apply the screen setting selected by the user.
[0262] According to an embodiment, in operation **1502**, the cellprovider manager **1512** may request a content resolver **1520** connecting between the screen setting sharing application **1510** and the application (provider) **1530** providing the screen setting to apply the screen setting selected by the user.
[0263] According to an embodiment, in operation **1503**, the content resolver **1520** may call a set_item function to the cellprovider **1531** which is a content provider.

[0264] According to an embodiment, in operation **1504**, the cellprovider **1531** may attempt to apply the settings received from the screen setting sharing application **1510** in the set_item function and construct result data. According to an embodiment, the result data may include a result of performing screen setting application and/or a result requiring installation of an application required for screen setting application.
[0265] According to an embodiment, in operation **1505**, the cellprovider **1531** may transfer the result data to the cellprovider manager **1512** and, in operation **1506**, the cellprovider manager **1512** may transfer the result data to the display activity module **1511**.
[0266] According to an embodiment, the display activity module **1511** may display a screen to which the screen setting is applied or a message requesting installation of an application necessary for applying the screen setting based on the result data.
[0267] FIG. **16** is a view illustrating an operation of applying a shared screen setting by an electronic device according to an embodiment of the disclosure.
[0268] Referring to FIG. **16**, an electronic device (e.g., the external electronic device **104** of FIG. **1**) receiving a data file including screen setting information shared from a server (e.g., the server **108** of FIG. **1**) may display at least one representative image respectively corresponding to at least one screen setting that may be shared through an execution screen **1610** of an application for sharing a screen setting.
[0269] According to an embodiment, if receiving the user input for selecting the representative image **1611** corresponding to the screen setting to be shared among the at least one representative image displayed on the execution screen **1610** of the application for sharing a screen setting, the electronic device may display a screen **1620** for identifying an example of a screen setting related to the representative image **1611**.
[0270] According to an embodiment, if receiving the user input for proceeding to a next step (e.g., applying the screen setting) after displaying the screen **1620** for identifying the example of the screen setting, the electronic device may display a screen **1630** for identifying information about the screen setting included in the data file. According to an embodiment, only information about the screen to which the setting is to be applied may be included in the screen **1630** for identifying the information about the screen setting. For example, the screen **1630** for identifying the information about the screen setting may include types of setting-applied screens, such as the home screen, lock screen, or AOD. According to an embodiment, the screen **1630** for identifying the information about the screen setting may include application information necessary to apply the screen setting.
[0271] According to an embodiment, if receiving the user input for proceeding to the next step after displaying the screen **1630** for identifying the information about the screen setting, the electronic device may display a screen **1640** for identifying at least one screen setting which may be applied to a screen to which the setting is to be applied. For example, the screen **1640** for identifying at least one screen setting applicable to the screen where the setting is to be applied may include at least one screen setting information, in the form of a list, applied to the screen as the at least one screen setting applicable to the lock screen, or at least one screen setting applicable to the home screen. According to an embodiment, at least one screen setting may be applied through an application related to a corresponding screen setting. For example, the screen **1640** for identifying at least one screen setting applicable to the screen where the setting is to be applied may include a background screen (e.g., home wallpaper) item of the home screen which is screen setting information about the application (e.g., wallpaper) related to the background screen and/or a color item and/or a size item which is screen setting information about the application (e.g., keys cafe) related to the keyboard style.
[0272] According to an embodiment, the screen **1630** including only information about the type of screen and the screen **1640** including at least one screen setting information applied to the screen may be displayed as one screen.

[0273] According to an embodiment, if receiving a user input for selecting the screen setting to be applied through the screen **1640** for identifying at least one applicable screen setting, the electronic device may display a screen **1650** displaying the application result of the screen setting. For example, the screen **1650** displaying the application result of the screen setting may include an example of a screen to which the screen setting information is applied. For example, it may include an example of a screen including a keyboard to which a color and/or size of a keyboard style selected through the screen **1640** for identifying a screen setting is applied.
[0274] According to an embodiment, the screen **1650** displaying the application result of the screen setting may include success and/or failure in application of the screen setting. According to an embodiment, if the application fails because the application required for screen setting is not installed, the electronic device may display a message leading to installation of the corresponding application.
[0275] For example, if the screen setting information includes a widget for an application that is not installed in the electronic device, the electronic device may display a message to lead to a connection to a screen where the application may be downloaded and apply the widget after the installation of the application is completed.
[0276] According to an embodiment, the electronic device may set a feature dependent on the feature of the screen setting to be applied. For example, in a circumstance in which the resolution supporting a refresh rate of 120 Hz is full high definition (FHD), and only 60 Hz is supported for quad high definition (QHD), when a screen setting is applied to change the refresh rate of the QHD electronic device to 120 Hz, the electronic device may change the resolution to FHD along with the change of the refresh rate to 120 Hz.
[0277] According to an embodiment, if the received screen setting is applied in a state in which a function (e.g., routine+) of automatically changing the setting under a specific condition is activated, the setting may be automatically changed while the screen setting is applied. The electronic device may deactivate the function of automatically changing the setting while the screen setting is applied and, if the application of the screen setting is completed, reactivate the automatically changing function.
[0278] According to an embodiment, when the user's additional operation is required after the screen setting is applied, the electronic device may display an execution screen for performing the additional operation through the screen setting sharing application and perform the operation based on a user input received through the execution screen.
[0279] For example, when the applied screen setting includes private information (e.g., home address and/or Wi-Fi information), the electronic device may display a screen for changing the private information to be applied to the screen setting.
[0280] FIG. **17** is a view illustrating an application where an electronic device where a screen setting is shared is a smart refrigerator according to an embodiment of the disclosure.
[0281] Referring to FIG. **17**, the electronic device **101** (e.g., the electronic device **101** of FIG. **1**) may transmit a screen setting **1710** (e.g., a keyboard screen) applied to the electronic device **101** to the external electronic device **104** (e.g., the external electronic device **104** of FIG. **1**), which is a smart refrigerator, through the server **108** (e.g., the server **108** of FIG. **1**).
[0282] According to an embodiment, the external electronic device **104** may change from an existing screen setting **1721** to a screen **1720** to which the screen setting received through the server **108** is applied.
[0283] As described above, the customized keyboard screen of the electronic device **101** may be shared with the external electronic device **104**, which is a refrigerator, providing a continuous use environment.
[0284] FIG. **18** is a view illustrating an application where an electronic device where a screen setting is shared is a navigation device according to an embodiment of the disclosure.
[0285] Referring to FIG. **18**, the electronic device **101** (e.g., the electronic device **101** of FIG. **1**)

may transmit a screen setting **1810** (e.g., a keyboard screen) applied to the electronic device **101** to the external electronic device **104** (e.g., the external electronic device **104** of FIG. **1**), which is a navigation device for a means of transportation (e.g., vehicle, motorcycle, bicycle) through the server **108** (e.g., the server **108** of FIG. **1**).

[0286] According to an embodiment, the external electronic device **104** may change from an existing screen setting **1821** to a screen **1820** to which the screen setting received through the server **108** is applied.

[0287] As described above, the customized keyboard screen of the electronic device **101** may be shared with the external electronic device **104**, which is a navigation device, providing a continuous use environment.

[0288] FIG. **19** is a view illustrating an application where an electronic device where a screen setting is shared is a smart TV according to an embodiment of the disclosure.

[0289] Referring to FIG. **19**, the electronic device **101** (e.g., electronic device **101** of FIG. **1**) may transmit a screen setting **1910** (e.g., a keyboard screen) applied to the electronic device **101** to the external electronic device **104** (e.g., the external electronic device **104** of FIG. **1**) which is a smart TV through the server **108** (e.g., the server **108** of FIG. **1**).

[0290] According to an embodiment, the external electronic device **104** may change from an existing screen setting **1921** to a screen **1920** to which the screen setting received through the server **108** is applied.

[0291] As described above, the customized keyboard screen of the electronic device **101** may be shared with the external electronic device **104** that is a TV, providing a continuous use environment.

[0292] FIG. **20** is a view illustrating an application where an electronic device where a screen setting is shared is a head-mounted device according to an embodiment of the disclosure.

[0293] Referring to FIG. **20**, the electronic device **101** (e.g., electronic device **101** of FIG. **1**) may transmit a screen setting **2010** (e.g., a keyboard screen) applied to the electronic device **101** to the external electronic device **104** (e.g., the external electronic device **104** of FIG. **1**), which is a head-mounted device that provides a virtual reality screen or an augmented reality screen, through the server **108** (e.g., the server **108** of FIG. **1**). According to an embodiment, the external electronic device **104** may be a glasses-type wearable device as well as the head-mounted device.

[0294] According to an embodiment, the external electronic device **104** may change from an existing screen setting **2021** to a screen **2020** to which the screen setting received through the server **108** is applied.

[0295] As described above, the customized keyboard screen of the electronic device **101** may be shared with the external electronic device **104**, which is a head-mounted device, providing a continuous use environment.

[0296] FIG. **21** is a view illustrating an application where an electronic device where a screen setting is shared is a smart watch according to an embodiment of the disclosure.

[0297] Referring to FIG. **21**, the electronic device **101** (e.g., electronic device **101** of FIG. **1**) may transmit a screen setting **2110** (e.g., a keyboard screen) applied to the electronic device **101** to the external electronic device **104** (e.g., the external electronic device **104** of FIG. **1**) which is a smart watch through the server **108** (e.g., server **108** of FIG. **1**).

[0298] According to an embodiment, the external electronic device **104** may change from an existing screen setting **2121** to a screen **2120** to which the screen setting received through the server **108** is applied.

[0299] As such, the customized keyboard screen of the electronic device **101** may be shared with the external electronic device **104**, which is a smart watch, providing a continuous use environment.

[0300] According to an embodiment, an electronic device (e.g., the electronic device **101** of FIG. **1**) may comprise a display (e.g., the display module **160** of FIG. **1**), memory (e.g., the memory **130** of

FIG. **1**), a communication module (e.g., the communication module **190** of FIG. **1**), and at least one processor (e.g., the processor **120** of FIG. **1**) operatively connected to the display, the memory, and the communication module.

[0301] According to an embodiment, the at least one processor may display a plurality of user interfaces corresponding to a screen setting applied to the electronic device based on a plurality of applications stored in the memory.

[0302] According to an embodiment, the at least one processor may receive a first user input for selecting at least one user interface among the plurality of user interfaces.

[0303] According to an embodiment, the at least one processor may obtain each of pieces of setting information about at least one screen corresponding to the selected at least one user interface.

[0304] According to an embodiment, the at least one processor may obtain a data file obtained by grouping at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen.

[0305] According to an embodiment, the at least one processor may transmit the data file to an external server (e.g., the server **108** of FIG. **1**).

[0306] According to an embodiment, the at least one processor may display at least one image captured for a screen displayed on the display.

[0307] According to an embodiment, the at least one processor may display the plurality of user interfaces corresponding to a setting included in an image selected among the at least one image.

[0308] According to an embodiment, the at least one processor may display an execution screen of one of the plurality of applications.

[0309] According to an embodiment, the at least one processor may display the plurality of user interfaces corresponding to a setting of the execution screen of the one application based on receiving a second user input for sharing a setting of a screen through the execution screen of the one application.

[0310] According to an embodiment, the at least one processor may display the plurality of user interfaces corresponding to a setting of a shareable screen based on receiving a third user input for executing an execution screen of a screen sharing application for sharing a setting of a screen.

[0311] According to an embodiment, the setting of the screen may include at least one of a background screen, a function, an arrangement, a shape, or a color of at least one object.

[0312] According to an embodiment, the setting information about the at least one screen may include at least one of data corresponding to the setting of the screen or a thumbnail image corresponding to the setting of the screen.

[0313] According to an embodiment, the screen applied to the electronic device may include at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an application execution screen.

[0314] According to an embodiment, the at least one processor may display at least one of a quick response (QR) code or a uniform resource locator (URL) for sharing the data file on the display after transmitting the data file to the external server.

[0315] According to an embodiment, an electronic device (e.g., the external electronic device **104** of FIG. **1**) may comprise a display, memory, a communication module, and at least one processor operatively connected to the display, the memory, and the communication module.

[0316] According to an embodiment, the at least one processor may receive a data file including screen setting information shared from an external server (e.g., the server **108** of FIG. **1**).

[0317] According to an embodiment, the at least one processor may display a plurality of user interfaces corresponding to setting information about a plurality of screens included in the data file.

[0318] According to an embodiment, the at least one processor may, based on receiving a user input for selecting at least one user interface among the plurality of user interfaces, obtain information about at least one application and setting information about at least one screen, corresponding to

the at least one user interface.
[0319] According to an embodiment, the at least one processor may change a setting of at least one screen based on the information about the at least one application and the setting information about the at least one screen.
[0320] According to an embodiment, the at least one processor may, based on at least some of the at least one application being not installed on the electronic device, display a message for leading to install at least some of the at least one application.
[0321] According to an embodiment, a method for controlling an electronic device may comprise displaying a plurality of user interfaces corresponding to a screen setting applied to the electronic device based on a plurality of applications stored in memory.
[0322] According to an embodiment, the method for operating the electronic device may comprise receiving a first user input for selecting at least one user interface among the plurality of user interfaces.
[0323] According to an embodiment, the method for operating the electronic device may comprise obtaining each of pieces of setting information about at least one screen corresponding to the selected at least one user interface.
[0324] According to an embodiment, the method for operating the electronic device may comprise obtaining a data file obtained by grouping at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen.
[0325] According to an embodiment, the method for operating the electronic device may comprise transmitting the data file to an external server.
[0326] According to an embodiment, displaying the plurality of user interfaces may display at least one image captured for a screen displayed on a display.
[0327] According to an embodiment, displaying the plurality of user interfaces may display the plurality of user interfaces corresponding to a setting included in an image selected among the at least one image.
[0328] According to an embodiment, displaying the plurality of user interfaces may display an execution screen of one of the plurality of applications.
[0329] According to an embodiment, displaying the plurality of user interfaces may display the plurality of user interfaces corresponding to a setting of the execution screen of the one application based on receiving a second user input for sharing a setting of a screen through the execution screen of the one application.
[0330] According to an embodiment, displaying the plurality of user interfaces may display the plurality of user interfaces corresponding to a setting of a shareable screen based on receiving a third user input for executing an execution screen of a screen sharing application for sharing a setting of a screen.
[0331] According to an embodiment, the setting of the screen may include at least one of a background screen, a function, an arrangement, a shape, or a color of at least one object.
[0332] According to an embodiment, the setting information about the at least one screen may include at least one of data corresponding to the setting of the screen or a thumbnail image corresponding to the setting of the screen.
[0333] According to an embodiment, the screen applied to the electronic device may include at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an application execution screen.
[0334] According to an embodiment, the method may further comprise displaying at least one of a QR code or a URL for sharing the data file on the display after transmitting the data file to the external server.
[0335] According to an embodiment, the method for controlling the electronic device may

comprise receiving a data file including screen setting information shared from an external server.
[0336] According to an embodiment, the method for controlling the electronic device may comprise displaying a plurality of user interfaces corresponding to setting information about a plurality of screens included in the data file.
[0337] According to an embodiment, the method for controlling the electronic device may comprise, based on receiving a user input for selecting at least one user interface among the plurality of user interfaces, obtaining information about at least one application and setting information about at least one screen, corresponding to the at least one user interface.
[0338] According to an embodiment, the method for controlling the electronic device may comprise changing a setting of at least one screen based on the information about the at least one application and the setting information about the at least one screen.
[0339] According to an embodiment, the method for controlling the electronic device may further comprise, based on at least some of the at least one application being not installed on the electronic device, displaying a message for leading to install at least some of the at least one application.
[0340] According to an embodiment, in a non-transitory computer-readable recording medium storing one or more programs, the one or more programs may display a plurality of user interfaces corresponding to a screen setting applied to the electronic device based on a plurality of applications stored in the memory, by the electronic device.
[0341] According to an embodiment, the one or more programs may comprise instructions for the electronic device to receive a first user input for selecting at least one user interface among the plurality of user interfaces.
[0342] According to an embodiment, the one or more programs may comprise instructions for the electronic device to obtain each of pieces of setting information about at least one screen corresponding to the selected at least one user interface.
[0343] According to an embodiment, the one or more programs may comprise instructions for the electronic device to obtain a data file obtained by grouping at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen.
[0344] According to an embodiment, the one or more programs may comprise instructions for the electronic device to transmit the data file to an external server.
[0345] According to an embodiment, the one or more programs may comprise instructions for the electronic device to display at least one image captured for a screen displayed on the display.
[0346] According to an embodiment, the one or more programs may comprise instructions for the electronic device to display the plurality of user interfaces corresponding to a setting included in an image selected among the at least one image.
[0347] According to an embodiment, the one or more programs may comprise instructions for the electronic device to display an execution screen of one of the plurality of applications.
[0348] According to an embodiment, the one or more programs may comprise instructions for the electronic device to display the plurality of user interfaces corresponding to a setting of the execution screen of the one application based on receiving a second user input for sharing a setting of a screen through the execution screen of the one application.
[0349] According to an embodiment, the one or more programs may comprise instructions for the electronic device to display the plurality of user interfaces corresponding to a setting of a shareable screen based on receiving a third user input for executing an execution screen of a screen sharing application for sharing a setting of a screen.
[0350] According to an embodiment, the setting of the screen may include at least one of a background screen, a function, an arrangement, a shape, or a color of at least one object.
[0351] According to an embodiment, the setting information about the at least one screen may include at least one of data corresponding to the setting of the screen or a thumbnail image corresponding to the setting of the screen.

[0352] According to an embodiment, the screen applied to the electronic device may include at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an application execution screen.
[0353] According to an embodiment, the one or more programs may comprise instructions for the electronic device to display at least one of a QR code or a URL for sharing the data file on the display after transmitting the data file to the external server.
[0354] According to an embodiment, in a non-transitory computer-readable recording medium storing one or more programs, the one or more programs may comprise instructions for an electronic device to receive a data file including screen setting information shared from an external server.
[0355] According to an embodiment, the one or more programs may comprise instructions for the electronic device to display a plurality of user interfaces corresponding to setting information about a plurality of screens included in the data file.
[0356] According to an embodiment, the one or more programs may comprise instructions for the electronic device to, based on receiving a user input for selecting at least one user interface among the plurality of user interfaces, obtain information about at least one application and setting information about at least one screen, corresponding to the at least one user interface.
[0357] According to an embodiment, the one or more programs may comprise instructions for the electronic device to change a setting of at least one screen based on the information about the at least one application and the setting information about the at least one screen.
[0358] According to an embodiment, the one or more programs may comprise instructions for the electronic device to, based on at least some of the at least one application being not installed on the electronic device, display a message for leading to install at least some of the at least one application.
[0359] The electronic device according to an embodiment may be one of various types of electronic devices. The electronic devices may include, for example, a portable communication device (e.g., a smartphone), a computer device, a portable multimedia device, a portable medical device, a camera, a wearable device, or a home appliance. According to an embodiment of the disclosure, the electronic devices are not limited to those described above.
[0360] It should be appreciated that various embodiments of the disclosure and the terms used therein are not intended to limit the technological features set forth herein to particular embodiments and include various changes, equivalents, or replacements for a corresponding embodiment. With regard to the description of the drawings, similar reference numerals may be used to refer to similar or related elements. As used herein, each of such phrases as “A or B,” “at least one of A and B,” “at least one of A or B,” “A, B, or C,” “at least one of A, B, and C,” and “at least one of A, B, or C,” may include all possible combinations of the items enumerated together in a corresponding one of the phrases. As used herein, such terms as “1st” and “2nd,” or “first” and “second” may be used to simply distinguish a corresponding component from another, and does not limit the components in other aspect (e.g., importance or order). It is to be understood that if an element (e.g., a first element) is referred to, with or without the term “operatively” or “communicatively”, as “coupled with,” “coupled to,” “connected with,” or “connected to” another element (e.g., a second element), it means that the element may be coupled with the other element directly (e.g., wiredly), wirelessly, or via a third element.
[0361] As used herein, the term “module” may include a unit implemented in hardware, software, or firmware, and may interchangeably be used with other terms, for example, “logic,” “logic block,” “part,” or “circuitry”. A module may be a single integral component, or a minimum unit or part thereof, adapted to perform one or more functions. For example, according to an embodiment, the module may be implemented in a form of an application-specific integrated circuit (ASIC).
[0362] An embodiment of the disclosure may be implemented as software (e.g., the program **140**)

including one or more instructions that are stored in a storage medium (e.g., internal memory **136** or external memory **138**) that is readable by a machine (e.g., the electronic device **101**). For example, a processor (e.g., the processor **120**) of the machine (e.g., the electronic device **101**) may invoke at least one of the one or more instructions stored in the storage medium, and execute it, with or without using one or more other components under the control of the processor. This allows the machine to be operated to perform at least one function according to the at least one instruction invoked. The one or more instructions may include a code generated by a complier or a code executable by an interpreter. The storage medium readable by the machine may be provided in the form of a non-transitory storage medium. Wherein, the term “non-transitory” simply means that the storage medium is a tangible device, and does not include a signal (e.g., an electromagnetic wave), but this term does not differentiate between where data is semi-permanently stored in the storage medium and where the data is temporarily stored in the storage medium.

[0363] According to an embodiment, a method according to various embodiments of the disclosure may be included and provided in a computer program product. The computer program products may be traded as commodities between sellers and buyers. The computer program product may be distributed in the form of a machine-readable storage medium (e.g., compact disc read only memory (CD-ROM)), or be distributed (e.g., downloaded or uploaded) online via an application store (e.g., Play Store™), or between two user devices (e.g., smart phones) directly. If distributed online, at least part of the computer program product may be temporarily generated or at least temporarily stored in the machine-readable storage medium, such as memory of the manufacturer's server, a server of the application store, or a relay server.

[0364] According to an embodiment, each component (e.g., a module or a program) of the above-described components may include a single entity or multiple entities. Some of the plurality of entities may be separately disposed in different components. According to an embodiment, one or more of the above-described components may be omitted, or one or more other components may be added. Alternatively or additionally, a plurality of components (e.g., modules or programs) may be integrated into a single component. In such a case, according to various embodiments, the integrated component may still perform one or more functions of each of the plurality of components in the same or similar manner as they are performed by a corresponding one of the plurality of components before the integration. According to various embodiments, operations performed by the module, the program, or another component may be carried out sequentially, in parallel, repeatedly, or heuristically, or one or more of the operations may be executed in a different order or omitted, or one or more other operations may be added.

[0365] It will be appreciated that various embodiments of the disclosure according to the claims and description in the specification can be realized in the form of hardware, software or a combination of hardware and software.

[0366] Any such software may be stored in non-transitory computer readable storage media. The non-transitory computer readable storage media store one or more computer programs (software modules), the one or more computer programs include computer-executable instructions that, when executed by one or more processors of an electronic device, cause the electronic device to perform a method of the disclosure.

[0367] Any such software may be stored in the form of volatile or non-volatile storage, such as, for example, a storage device like read only memory (ROM), whether erasable or rewritable or not, or in the form of memory, such as, for example, random access memory (RAM), memory chips, device or integrated circuits or on an optically or magnetically readable medium, such as, for example, a compact disk (CD), digital versatile disc (DVD), magnetic disk or magnetic tape or the like. It will be appreciated that the storage devices and storage media are various embodiments of non-transitory machine-readable storage that are suitable for storing a computer program or computer programs comprising instructions that, when executed, implement various embodiments of the disclosure. Accordingly, various embodiments provide a program comprising code for

implementing apparatus or a method as claimed in any one of the claims of this specification and a non-transitory machine-readable storage storing such a program.
[0368] While the disclosure has been shown and described with reference to various embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the disclosure as defined by the appended claims and their equivalents.

Claims

1. An electronic device comprising: a display; memory storing one or more computer programs; a communication module; and at least one processor communicatively coupled to the display, the memory, and the communication module, wherein the one or more computer programs include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to: based on a plurality of applications stored in the memory, display a plurality of user interfaces corresponding to a screen setting applied to the electronic device, receive a first user input for selecting at least one user interface among the plurality of user interfaces, obtain each of pieces of setting information about at least one screen corresponding to the selected at least one user interface, obtain a data file that groups at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen, and transmit the data file to an external server.
2. The electronic device of claim 1, wherein the one or more computer programs further include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to: display at least one image captured for a screen displayed on the display, and display the plurality of user interfaces corresponding to a setting included in an image selected among the at least one image.
3. The electronic device of claim 1, wherein the one or more computer programs further include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to: display an execution screen of one of the plurality of applications, and based on receiving a second user input for sharing a setting of a screen through the execution screen of the one application, display the plurality of user interfaces corresponding to a setting of the execution screen of the one application.
4. The electronic device of claim 1, wherein the one or more computer programs further include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to, based on receiving a third user input for executing an execution screen of a screen sharing application for sharing a setting of a screen, display the plurality of user interfaces corresponding to a setting of a shareable screen.
5. The electronic device of claim 1, wherein a setting of the screen includes at least one of a background screen, a function, an arrangement, a shape, or a color of at least one object.
6. The electronic device of claim 1, wherein the setting information about the at least one screen includes at least one of data corresponding to the setting of the screen or a thumbnail image corresponding to the setting of the screen.
7. The electronic device of claim 1, wherein the screen applied to the electronic device includes at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an application execution screen.
8. The electronic device of claim 1, wherein the one or more computer programs further include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to display at least one of a QR code or a URL for sharing the data file on the display after transmitting the data file to the external server.

9. An electronic device comprising: a display; memory storing one or more computer programs; a communication module; and at least one processor communicatively coupled to the display, the memory, and the communication module, wherein the one or more computer programs include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to: receive a data file including screen setting information shared from an external server, display a plurality of user interfaces corresponding to setting information about a plurality of screens included in the data file, based on receiving a user input for selecting at least one user interface among the plurality of user interfaces, obtain information about at least one application and setting information about at least one screen, corresponding to the at least one user interface, and based on the information about the at least one application and the setting information about the at least one screen, modify a setting of at least one screen.

10. The electronic device of claim 9, wherein the one or more computer programs further include computer-executable instructions that, when executed by the at least one processor individually or collectively, cause the electronic device to, based on at least some of the at least one application being not installed on the electronic device, display a message for guiding to install at least some of the at least one application.

11. A method for controlling an electronic device, the method comprising: based on a plurality of applications stored in memory, displaying a plurality of user interfaces corresponding to a screen setting applied to the electronic device; receiving a first user input for selecting at least one user interface among the plurality of user interfaces; obtaining each of pieces of setting information about at least one screen corresponding to the selected at least one user interface; obtaining a data file that groups at least one piece of application information corresponding to the selected at least one user interface and the obtained setting information about the at least one screen; and transmitting the data file to an external server.

12. The method of claim 11, wherein the displaying of the plurality of user interfaces comprises: displaying at least one image captured for a screen displayed on a display; and displaying the plurality of user interfaces corresponding to a setting included in an image selected among the at least one image.

13. The method of claim 11, wherein the displaying of the plurality of user interfaces comprises: displaying an execution screen of one of the plurality of applications; and based on receiving a second user input for sharing a setting of a screen through the execution screen of the one application, displaying the plurality of user interfaces corresponding to a setting of the execution screen of the one application.

14. The method of claim 11, wherein the displaying of the plurality of user interfaces comprises, based on receiving a third user input for executing an execution screen of a screen sharing application for sharing a setting of a screen, displaying the plurality of user interfaces corresponding to a setting of a shareable screen.

15. The method of claim 11, wherein a setting of the screen includes at least one of a background screen, a function, an arrangement, a shape, or a color of at least one object.

16. The method of claim 11, wherein the setting information about the at least one screen includes at least one of data corresponding to the setting of the screen or a thumbnail image corresponding to the setting of the screen.

17. The method of claim 11, wherein the screen applied to the electronic device includes at least one of a home screen, a lock screen, a clock screen, a keyboard screen, a multi-window, a navigation bar, a notification screen, a stylus pen-related screen, a background screen, or an application execution screen.

18. The method of claim 17, further comprising displaying at least one of a QR code or a URL for sharing the data file on the display after transmitting the data file to the external server.