

【DESCRIPTION】

【Invention Title】

METHOD AND SYSTEM FOR PROVIDING MULTI-PARTY CHAT SERVICE,
AND PLATFORM FOR IMPLEMENTING DIGITAL DENTISTRY

【Technical Field】

[1] The present disclosure relates to a method and system for providing a multi-party chat service for mediating conversations between a dental clinic and a manufacturer of prosthesis ordered by the dental clinic. More particularly, the present disclosure relates to a platform for implementing digital dentistry based on the provision of a multi-party chat service.

【Background Art】

[2] In the dental treatment process, processed materials are required for the patient's tooth treatment. To this end, dental clinics prepare order information that needs to be processed for each patient's teeth and delivers the order information to dental laboratories or implant companies that manufacture prosthetic materials.

[3] Accordingly, dental practitioners should record detailed records for each tooth for ordering tooth prostheses in addition to treatment records for dental treatment.

[4] In addition, since the means and methods of ordering tooth prostheses from laboratories or implant companies are not standardized, dental practitioners should order tooth prostheses in consideration of the means and methods of laboratories or implant companies.

[5] Furthermore, since the dental treatment process imposes significant costs on patients and the process of manufacturing tooth prostheses also takes a long time, the patients face the inconvenience of having to visit the dentist multiple times during the dental treatment period.

- [6] To address these issues, there is a need for a platform that connects dental clinics and laboratories to integrate and manage various services (e.g., prosthesis ordering services) performed between the dental clinics and the laboratories.
- [7] Meanwhile, with the advancement of technology, the spread of electronic devices (e.g., smartphones, tablet PCs, etc.) has become popular. Accordingly, as various social network services (SNS) are provided and many people are communicating with acquaintances using chat (or conversation or note) services provided on SNS.
- [8] As an example of the chat service using the SNS, a person who wants to chat may select a chat partner on his/her terminal and engage in a one-on-one conversation or in a group chat with three or more people, and messages exchanged between conversation partners are displayed in real time in a chat room, that is, in a chat window.
- [9] The dental laboratories manufacture prostheses based on contents contained in order information. In this case, during the prosthesis manufacturing process, when there is additional information or questions, a technician may request additional information from the relevant dentist or confirm answers to questions via means such as phone, message, or e-mail.
- [10] However, the existing communication schemes have limitations in performing fast and smooth communication between dental clinics and laboratories.
- [11] As a result, the present disclosure is to provide a chat service that may perform smooth communication between a dental clinic and a laboratory, based on a platform connecting the dental clinic and the laboratory.

【Disclosure】

【Technical Problem】

- [12] The present disclosure is directed to providing a method and system for providing a

multi-party chat service capable of providing a chat service for fast and smooth communication between a dental clinic and a laboratory.

[13] In particular, the present disclosure is directed to providing a method and system for providing a multi-party chat service capable of coordinating opinions related to prosthetic manufacturing orders between a dental clinic and a laboratory.

[14] In addition, the present disclosure is directed to providing a method and system for providing a multi-party chat service capable of providing an interface confirming all information of each case at a glance in a chat window to enable a technician to manufacture fast and well-crafted dental prostheses.

[15] More specifically, the present disclosure is directed to providing a method and system for providing a multi-party chat service that includes an interface that generates a chat room based on an order and enables order information to be confirmed and order information to be called in a chat window.

[16] Furthermore, the present disclosure is directed to providing a method and system for providing a multi-party chat service capable of differently processing subjects to which chat messages are delivered, according to a conversation mode configured in a chat window.

[17] Furthermore, the present disclosure is directed to providing a digital dentistry platform based on the method and system for providing a multi-party chat service discussed above.

【Technical Solution】

[18] According to an aspect of the present disclosure, a method for providing a multi-party chat service includes: generating a chat session based on a case with a first user account, a second user account and a manager account as participants; receiving a chat message from any one of the first user account and the second user account; and controlling

transmission processing of the chat message differently according to a conversation mode of the chat session.

- [19] The conversation mode may include a first conversation mode in which a chat message transmitted from the manager account is transmitted to any one of the first user account and the second user account, and a second conversation mode in which a chat message transmitted from the manager account is transmitted to both the first user account and the second user account.
- [20] In the first conversation mode, the chat message transmitted from the first user account or the second user account may be received only by the manager account, and in the second conversation mode, the chat message transmitted from any one of the first user account and the second user account may be received by both the other account and the manager account.
- [21] Conversation mode switching between the first conversation mode and the second conversation mode may be determined based on selection information received from the manager account.
- [22] When a first chat message is sent from any one of the first user account and the second user account while the first conversation mode is selected in the manager account, the first chat message may be displayed only in a chat area of the manager account and a chat area of the any one user account, and is not displayed in a chat area of the other user account, and based on the selection information received from the manager account, when a second chat message is transmitted from any one account while the first conversation mode is switched to the second conversation mode, the second chat message may be displayed in all of the chat area of the manager account, the chat area of the any one user account, and the chat area of the other user account.
- [23] Based the selection information received in the manager account, even if the second

conversation mode is switched back to the first conversation mode, the second chat message transmitted from the any one account may continue to be displayed in the chat area of the other user account.

- [24] A terminal of the manager account may be provided with a graphical user interface (GUI) for providing the multi-party chat service, and the GUI may include: a first area in which the case information is displayed; a second area in which the chat message is displayed; and a third area for receiving a transmission-target chat message transmitted to at least one of the first user account and the second user account.
- [25] The GUI may further include a graphic object for selecting any one of the first conversation mode and the second conversation mode from the manager account, and switching between the first conversation mode and the second conversation mode may be performed based on the selection of the graphic object.
- [26] The third area in the first conversation mode may include a plurality of input areas composed of a first input area for receiving the transmission-target chat message transmitted to the first user account and a second input area for receiving the transmission-target chat message transmitted to the second user account, and the third area in the second conversation mode may include a single input area composed of a third input area for receiving the transmission-target chat message commonly transmitted to both the first user account and the second user account.
- [27] According to another aspect of the present disclosure, a system for providing a multi-party chat service includes: a communication unit communicating with a first user account, a second user account, and a manager account; and a control unit controlling the multi-party chat service, in which the control unit generates a chat session based on a case with a first user account, a second user account and a manager account as participants, receives a chat message from any one of the first user account and the

second user account, and controls transmission processing of the chat message differently according to a conversation mode of the chat session.

- [28]** According to still another aspect of the present disclosure, there is provided a program stored on a computer-readable recording medium, executed by one or more processes in an electronic device, in which the program includes instructions to perform: generating a chat session based on a case with a first user account, a second user account and a manager account as participants; receiving a chat message from any one of the first user account and the second user account; and controlling transmission processing of the chat message differently according to a conversation mode of the chat session.

【Advantageous Effect】

- [29]** As described above, according to a method and system for providing a multi-party chat service according to the present disclosure, it is possible to provide a chat service that may perform fast and smooth communication between dental clinics and laboratories. As a result, it is possible to allow technicians to quickly manufacture well-crafted dental prostheses, and dental clinics to receive dental prostheses suitable for each case. In addition, it is possible to reduce the inconvenience of patients who need to visit the dental clinics frequently and to lessen the financial burden borne by patients during the dental treatment process.
- [30]** Furthermore, according to the method and system for providing a multi-party chat service according to the present disclosure, by managing chats between dental clinics and laboratories through various conversation mode functions, it is possible to filter inappropriate languages to enhance the overall quality of communication and prevent potential conflicts between users in advance. In addition, by preventing an unnecessary conversation and providing an efficient communication environment, it is

possible to facilitate smooth communication between dental clinics and laboratories and contribute to increasing accuracy and efficiency in tasks.

- [31] Furthermore, according to a method and system for providing a multi-party chat service according to the present disclosure, by centrally controlling chats between dental clinics and laboratories on a platform that connects the dental clinics and the laboratories, it is possible to enhance the quality of the platform and guide the dental clinics and the laboratories to use the platform provided by the present disclosure.

【Description of Drawings】

- [32] FIG. 1 is a conceptual diagram illustrating a system for providing a multi-party chat service according to the present disclosure.
- [33] FIG. 2 is a flowchart for describing a method for providing a multi-party chat service according to the present disclosure.
- [34] FIGS. 3A and 3B are conceptual diagrams for describing various interfaces constituting a chat session provided by the present disclosure.
- [35] FIGS. 4A to 4E and 5A to 5F are conceptual diagrams for describing a method for transmitting a chat message according to a conversation mode of a chat session.
- [36] FIGS. 6A to 6F are conceptual diagrams for describing various functions provided in the multi-party chat service according to the present disclosure.

【Mode for Disclosure】

- [37] Hereafter, embodiments disclosed in the present specification will be described in detail with reference to the accompanying drawings and the same or similar components are given the same reference numerals regardless of the reference numbers of figures, and are not repeatedly described. In addition, terms “module” and “unit” for components used in the following description are used only to easily make the disclosure. Therefore, these terms do not have meanings or roles that distinguish

from each other in themselves. Further, when it is determined that a detailed description for the related known art in describing embodiments disclosed in the present specification may obscure the gist of the present disclosure, a detailed description thereof will be omitted. Further, it should be understood that the accompanying drawings are provided only in order to allow embodiments disclosed in the present specification to be easily understood, and the spirit of the present disclosure is not limited by the accompanying drawings, but includes all the modifications, equivalents, and substitutions included in the spirit and the scope of the present disclosure.

[38] Terms including ordinal numbers such as “first”, “second”, etc., may be used to describe various components, but the components are not to be construed as being limited to the terms. The terms are used to distinguish one component from another component.

[39] It is to be understood that when one element is referred to as being “connected to” or “coupled to” another element, it may be connected directly to or coupled directly to another element or be connected to or coupled to another element, having the other element intervening therebetween. On the other hand, it should be understood that when one element is referred to as being “connected directly to” or “coupled directly to” another element, it may be connected to or coupled to another element without the other element interposed therebetween.

[40] Singular expressions are intended to include plural expressions unless the context clearly represents otherwise.

[41] It will be further understood that terms “include”, “have”, or the like used in the present specification specify the presence of features, numerals, steps, operations, components, parts mentioned in the present specification, or combinations thereof, but do not

preclude the presence or addition of one or more other features, numerals, steps, operations, components, parts, or combinations thereof.

[42] The present disclosure provides a method and system for providing a multi-party chat service that may provide a chat service for fast and smooth communication between dental clinics and laboratories. The system for providing a multi-party chat service according to the present disclosure may also be referred to as a platform, a digital dentistry platform, or a platform for implementing digital dentistry.

[43] FIG. 1 is a conceptual diagram illustrating a system for providing a multi-party chat service according to the present disclosure.

[44] Referring to FIG. 1, a system 100 for providing a multi-party chat service according to the present disclosure may generate a chat session (or chat room) based on a case with a first user account U1 logged in to a first user terminal 10, a second user account U2 logged in to a second user terminal 20, and a manager account U3 logged in to a manager terminal 30 as participants.

[45] The case described in the present disclosure may be related to order information for a dental (or tooth) prosthesis required for tooth treatment of a specific patient. For example, in the present disclosure, when a specific prosthesis order request is received from an account of a medical staff working in a dental clinic, order information related to a specific prosthesis order may be generated. In this case, a chart number may match each piece of order information, and a chat session may be configured to be generated for each chart number (or for each piece of order information).

[46] Meanwhile, a first user account U1 may be an account of a "medical staff." The medical staff described in the present disclosure may be understood as a person working in a medical institution (e.g., a dental clinic). For convenience of explanation, a dentist is used as an example of a medical staff in the present disclosure.

However, the medical staff is not limited thereto, and any user working in a medical institution to use the multi-party chat service may correspond to a medical staff according to the present disclosure.

[47] Next, the second user account U2 may be an account of a "technician" working in a dental laboratory. The dental laboratory may refer to a specialized institution responsible for manufacturing instruments, devices, etc., necessary for a dental treatment process. For example, the technician working in a dental laboratory may perform an operation of manufacturing tooth prostheses, orthodontic devices, etc., necessary for patient's tooth treatment according to a dentist's prescription.

[48] Here, the term "tooth (or dental) prosthesis" may vary according to a material (or texture), an attachment scheme, and tooth treatment purpose, etc. For example, prostheses may be classified into metal, ceramic, resin, plastic, etc., according to the materials used, and materials used for each prosthesis may be selected according to characteristics such as strength, durability, and aesthetics. For another example, prostheses may be classified into at least one of fixed prostheses (e.g., crowns, bridges, implants, etc., which a patient may not remove on his/her own), removable prostheses (e.g., dentures, which a patient may remove and attach on his/her own), and temporary prostheses (e.g., prostheses used while manufacturing permanent prostheses) according to the attachment scheme.

[49] Furthermore, the manager account U3 may be a "manager (or supporter)" account that manages chats between the first user account and the second user account through the generated chat session. For example, the manager may be a server manager that manages a multi-party chat service server.

[50] Meanwhile, the system 100 for providing a multi-party chat service may provide a graphical user interface (GUI) with a different structure to each of the first user account

U1, the second user account U2, and the manager account U3. More specifically, the structures of the GUI provided to each of the plurality of user accounts U1 and U2 and the manager account U3 may be different. For example, a GUI 11 provided to the first user account U1 and a GUI 21 provided to the second user account U2 may have a single chat structure. On the other hand, a structure of a GUI 31 provided to the manager account U3 may have a dual chat structure.

[51] Furthermore, the system 100 for providing a multi-party chat service may control the transmission and processing of chat messages differently according to a conversation mode of a chat session. In the present disclosure, it may be controlled according to the conversation mode such that targets to which the chat message transmitted from at least one of the first user account U1, the second user account U2, and the manager account U3 is transmitted are different.

[52] The conversation mode may include a first conversation mode and a second conversation mode. More specific contents of the conversation mode will be described below.

[53] Meanwhile, as illustrated in FIG. 1, the system 100 for providing a multi-party chat service according to the present disclosure may include at least one of a communication unit 110, a storage unit 120, and a control unit 130.

[54] The communication unit 110 may be connected to a server, a device, or the like via a wireless or wired network, and configured to receive or transmit overall data and information required for the system 100 for providing a multi-party chat service.

[55] Specifically, the communication unit 110 may be communicatively connected to terminals 10, 20, and 30 to which the plurality of user accounts U1, U2, and U3 are logged in, and may receive requests related to the multi-party chat service from at least one of the plurality of user terminals 10, 20, and 30. For example, the communication

unit 110 may receive the chat message transmitted from any one of the terminal 10 of the first user account U1 and the terminal 20 of the second user account U2.

[56] Here, the user terminals 10 and 20 of the plurality of user accounts U1 and U2 and the terminal 30 of the manager account U3 may include at least one of a mobile phone, a smart phone, a notebook computer, a laptop computer, a slate PC, a tablet PC, an ultrabook, a desktop computer, a digital broadcasting terminal, a personal digital assistant (PDA), a portable multimedia player (PMP), a navigation device, or a wearable device (e.g., a smartwatch, smart glass, or a head-mounted display (HMD)).

[57] Although not illustrated, the terminals 10 and 20 of the plurality of user accounts U1 and U2 and the terminal 30 of the manager account U3 may include at least one of a display unit for outputting information and an input unit for receiving information from a medical staff.

[58] The display unit and the input unit of the terminals 10 and 20 of the plurality of user accounts U1 and U2 and the terminal 30 of the manager account U3 may exist independently of each other, but may also be present integrally, as in a touch screen. When the display unit and the input unit are integrated, as in a touch screen, the input unit may be understood as a detection unit that detects input (e.g., touch input, scroll input, etc.) through the display unit, and may be regarded as one component of the display unit.

[59] Hereinafter, regardless of whether the display unit and the input unit of the terminals 10 and 20 of the plurality of user accounts U1 and U2 and the terminal 30 of the manager account U3 are present independently or integrally, the component that performs the function of outputting information will be referred to as the display unit, and the component that performs the function of receiving information will be referred to as the input unit.

- [60] Furthermore, the communication unit 110 may support various communication schemes depending on communication standards of a communicating device.
- [61] For example, the communication unit 110 may be configured to communicate with at least one of the terminals 10 and 20 of the plurality of user accounts U1 and U2, the terminal 30 of the manager account U3, an external server (or cloud server), and a device using at least one of wireless LAN (WLAN), wireless-fidelity (Wi-Fi), wireless fidelity (Wi-Fi) direct, digital living network alliance (DLNA), wireless broadband (WiBro), world interoperability for microwave access (WiMAX), high speed downlink packet access (HSDPA), high speed uplink packet access (HSUPA), long term evolution (LTE), long term evolution-advanced (LTE-A), 5th generation (5G) mobile telecommunication, Bluetooth (Bluetooth™), radio frequency identification (RFID), infrared data association (IrDA), ultra-wideband (UWB), ZigBee, near field communication (NFC), Wi-Fi direct, and wireless universal serial bus (wireless USB) technologies.
- [62] Meanwhile, the storage unit 120 may also be referred to as a database (DB) and may be configured to store various pieces of information related to the present disclosure. In the present disclosure, the storage unit 120 may be provided in the system 100 for providing a multi-party chat service itself. In addition, at least a portion of the storage unit 120 may be configured as a cloud server (or cloud storage). That is, the storage unit 120 is sufficient as long as it is a space where information necessary for the system for providing a multi-party chat service 100 according to the present disclosure is stored, and it can be understood that there are no restrictions on the physical space.
- [63] .In addition, information related to a specific patient and treatment records of the specific patient may be matched and stored in the storage unit 120. For example, the information related to the specific patient and the treatment records of the specific

patient may include at least one of i) chart number information matched with the treatment records, ii) name information of the specific patient, iii) gender information of the specific patient, iv) age information of the specific patient, v) information on a medical practitioner who treats the specific patient, vi) information on the date of treatment on which the specific patient is treated, and vii) treatment data related to a patient.

[64] Furthermore, the storage unit 120 may store prosthesis order information requested through a medical staff account . For example, the prosthesis order information may include at least one of: i) the name, gender, and age information of a specific patient, ii) information on plurality of dental formulas (or tooth charts) corresponding to teeth of the specific patient, iii) prosthesis information reflected in a specific dental formula among the plurality of dental formulas, iv) shade information of prosthesis reflected in the specific dental formula, and v) additional information (e.g., oral 3D scanner data, treatment chart, etc.) related to a prosthesis order, and memo information.

[65] Meanwhile, the storage unit 120 may store the information on the medical staff who have subscribed to a service (e.g., multi-party chat service) provided by the system 100 for providing a multi-party chat service according to the present disclosure. For example, the information on the medical staff may include at least one of: i) information on a name of a medical staff, ii) information on a date of birth of a medical staff, iii) information on a phone number of a medical staff, iv) information on an email address of a medical staff, v) order history information of a medical staff, vi) payment history information of a medical staff, and vii) information on a hospital in which a medical staff works. The information on the medical staff may further include information on a medical staff account (e.g., identification (ID)). The medical staff may use the multi-party chat service provided by the present disclosure by logging in

to the system 100 for providing a multi-party chat service according to the present disclosure using a medical staff account.

[66] In addition, the storage unit 120 may store information on a technician who has subscribed to the service (e.g., multi-party chat service) provided by the system 100 for providing a multi-party chat service according to the present disclosure. For example, the information on the technician may include at least one of: i) information on a name of a technician, ii) information on a date of birth of a technician, iii) information on a phone number of a technician iv) information on an email address of a technician, and v) information on a laboratory in which a technician works. The information on the technician may further include information on a technician account (e.g., identification (ID)). The technician may use the multi-party chat service provided by the present disclosure by logging in to the system 100 for providing a multi-party chat service according to the present disclosure using a technician account.

[67] Meanwhile, the control unit 130 may serve to control the overall operation of the system 100 for providing a multi-party chat service related to the present disclosure. The control unit 130 may process signals, data, information, etc., input or output through the components described above, or may perform a series of data processing to provide or process appropriate information and functions to a user.

[68] Hereinafter, a method for providing a multi-party chat service according to the present disclosure will be described in more detail based on the configuration of the system 100 for providing a multi-party chat service described above. FIG. 2 is a flowchart for describing a method for providing a multi-party chat service according to the present disclosure. FIGS. 3A and 3B are conceptual diagrams for describing various interfaces constituting a chat session provided by the present disclosure, and FIGS. 4A to 4E and 5A to 5F are conceptual diagrams for describing a method for transmitting

a chat message according to a conversation mode of a chat session. Furthermore, FIGS. 6A to 6F are conceptual diagrams for describing various functions provided in the multi-party chat service according to the present disclosure.

[69] In the present disclosure, a process of generating a chat session based on a case with the first user account, the second user account, and the manager account as participants may be performed (S210, see FIG. 2).

[70] As described above, the case in the present disclosure may be related to order information of a dental prosthesis required for tooth treatment of a specific patient. For example, upon receiving a specific prosthesis order request from the first user account U1, the control unit 130 may generate order information related to the specific prosthesis order. In this case, a chart number may match each piece of order information, and a chat session may be configured to be generated for each chart number (or for each piece of order information).

[71] In the present disclosure, the chat session may be generated based on a chat session generation request received from any one of the first user account U1, the second user account U2, and the manager account U3. As another example, the system 100 for providing a multi-party chat service may generate a chat session based on specific prosthesis order information (or a case) according to specific prosthesis order information related to a specific prosthesis order. Hereinafter, for convenience of description, the above-described cases will be described below without distinction.

[72] When the generation of the chat session is completed, the control unit 130 may provide a graphical user interface (GUI) with a different structure to each of the first user account U1, the second user account U2, and the manager account U3.

[73] The structure of the GUI provided to the first user account U1 and the second user account U2 may be configured to have a single chat structure. In the case of the GUI

having the single chat structure, it may be possible to transmit a chat message to a chat target, or to receive a chat message input from the chat target. In this case, the chat target may be at least one of a user account different from a specific user account that transmits the chat message and the manager account U3. Accordingly, each of the plurality of user accounts U1 and U2 may transmit a chat message to at least one of other user accounts and the manager account U3 through the GUI having the single chat structure, or may receive a chat message transmitted from at least one of the other user accounts and the manager account U3.

[74] In addition, the GUIs of the first user account U1 and the second user account U2 may include at least one of a graphic object linked to a reminder function, case information that serves as a basis for chat session generation, a chat area for displaying transmitted or received chat messages, and an input area for receiving a transmission-target chat message to be transmitted.

[75] On the other hand, the structure of the GUI 31 provided to the manager account U3 may have a dual chat structure. The GUI having the dual chat structure may be configured to transmit the chat message to at least one of the first user account U1 and the second user account U2, or receive the chat message transmitted from at least one of the first user account U1 and the second user account U2. In addition, the GUI of the manager account U3 may be provided with a graphic object for selecting any one of a first conversation mode and a second conversation mode from the manager account U3. Accordingly, the manager account U3 may transmit the chat message to at least one of the first user account U1 and the second user account U2 through the GUI having the dual chat structure, or receive the chat messages transmitted from at least one of the first user account U1 and the second user account U2. Furthermore, the manager account U3 may manage the conversation mode of the chat session

through the graphic object for selecting any one of the conversation modes, and may manage the chat between the first user account U1 and the second user account U2. More specific contents of the GUI of the manager account U3 will be described below.

[76] Meanwhile, the control unit 130 may receive a chat request for a specific case from the terminal 30 of the manager account U3.

[77] Here, "receiving a chat request for a specific case" may also be understood as receiving a request to output (or provide) a chat session generated based on a specific case with the plurality of user accounts U1 and U2 and the manager account U3 as participants. As another example, it may also be understood as receiving a request to activate the chat session for chatting between the first user account U1, the second user account U2, and the manager account U3.

[78] Meanwhile, as illustrated in FIG. 3A, the control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that a graphic object 501 corresponding to a specific case is provided to the terminal 30 of the manager account U3.

[79] Here, the selection of the graphic object 501 corresponding to the specific case may also be understood as the chat request for the specific case. For example, the control unit 130 may receive the chat request for the specific case based on the selection of the graphic object 501 from the terminal 30 of the manager account U3.

[80] In response to the chat request, the control unit 130 may provide the graphic user interface (GUI) for providing the multi-party chat service. For example, as illustrated in FIG. 3B, the control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that a GUI 500 including a plurality of areas 510, 520, and 530 is provided to the terminal 30 of the manager account U3.

- [81]** Hereinafter, various interfaces constituting the GUI of the manager account U3 will be described in more detail.
- [82]** As illustrated in FIG. 3B, the control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that the GUI 500 in which different information (or functions) is included in each of the plurality of areas 510, 520, and 530 is provided to (or output to or displayed on) the terminal 30 of the manager account U3.
- [83]** First, a first area 510 among the plurality of areas 510, 520, and 530 may include at least one of a graphic object 511 linked to a reminder function, information 512 on the first and second user accounts, and case information 513.
- [84]** The graphic object 511 linked to the reminder function included in the first area 510 may be configured to be activated or deactivated by the manager account U3. For example, as illustrated in FIGS. 6B and 6C, when the reminder function is activated from the terminal 30 of the manager account U3, the control unit 130 may control the chat sessions generated based on a specific case in the manager account U3 to be matched and stored. The control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that a graphic object 810 corresponding to the stored chat session is provided to the terminal 30 of the manager account U3.
- [85]** In addition, the first area 510 may display the information 512 on the first user account and the second user account. For example, the information 512 on the first user account and the second user account may include at least one of name information, email information, and contact information of the first user account and the second user account.
- [86]** Furthermore, the first area 510 may display the case information 513 that serves as a basis for generating the chat session. For example, the case information 513 may

include at least one of chart number information, name information of a specific patient, dental formula information corresponding to a tooth of the specific patient, prosthesis information reflected in a specific dental formula, and treatment (or visit) date information of the specific patient.

- [87]** In addition, the case information 513 may be configured to be linked to the output of order information corresponding to the case information 513. For example, as illustrated in FIGS. 3B and 8A, when the case information 513 displayed in the first area 510 is selected from the terminal 30 of the manager account U3, the control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that order information 800 related to an order of a specific prosthesis corresponding to the case information 513 is provided to the terminal 30 of the manager account U3.
- [88]** Next, among the plurality of areas 510, 520, and 530, the second area 520 may include at least one of a first chat area 521 corresponding to the first user account U1 and a second chat area 522 corresponding to the second user account U2.
- [89]** Specifically, the first chat area 521 may be associated with the GUI provided to the first user account U1, and the second chat area 522 may be associated with the GUI provided to the second user account U2. The control unit 130 may control the GUI corresponding to the first user account U1 to be displayed in the first chat area 521, and the GUI corresponding to the second user account U2 to be displayed in the second chat area 522.
- [90]** As an example, the first chat area 521 and the second chat area 522 included in the second area 520 may be windows separated from each other. According to an embodiment described above, the first chat area 521 and the second chat area 522 may each pop up and be provided to the terminal 30 of the manager account U3.

- [91] Meanwhile, among the plurality of areas 510, 520, and 530, the third area 530 may include at least one of a graphic object 531 for selecting one of the plurality of conversation modes (a first conversation mode and a second conversation mode) and an input area 532 for receiving a transmission-target chat message to be transmitted to at least one of the first user account and the second user account.
- [92] The graphic object 531 included in the third area 530 may be configured to select any one of the plurality of conversation modes of the chat session from the manager account U3. That is, switching between the first conversation mode and the second mode may be performed based on the selection of the graphic object 531.
- [93] In this regard, the input area 532 included in the third area 530 may include at least one of the single input area and the plurality of input areas, according to the conversation mode selected from the manager account U3.
- [94] Specifically, the third area 530 in the first conversation mode may include the plurality of input areas, including a first input area for receiving a transmission-target chat message transmitted to the first user account U1 and a second input area for receiving a transmission-target chat message transmitted to the second user account U2.
- [95] In addition, the third area 530 in the second conversation mode may include a single input area composed of a third input area for receiving a transmission-target chat message commonly transmitted to the first user account U1 and the second user account U2.
- [96] More specific contents of the third area 530, which includes different input areas according to the conversation mode, will be described later.
- [97] Hereinafter, a different data processing method for controlling a target to which a chat message is transmitted differently according to the conversation mode of the chat session configured by the manager account U3 will be described.

- [98]** Meanwhile, the control unit 130 may perform different data processing to differently control the target to which the chat message is transmitted, according to which of the plurality of conversation modes (the first conversation mode and the second conversation mode) the conversation mode of the chat session corresponds to.
- [99]** First, among the plurality of conversation modes described in the present disclosure, the first conversation mode may be related to the chat message transmitted from the first user account U1 or the second user account U2 being received only by the manager account U3. In addition, the first conversation mode may be related to the chat message transmitted from the manager account U3 being transmitted to any one of the first user account U1 and the second user account U2.
- [100]** Next, among the plurality of conversation modes, the second conversation mode may be related to the chat message transmitted from any one of the first user account U1 and the second user account U2 being received by both the other account and the manager account U3. In addition, the second conversation mode may be related to the chat message transmitted from the manager account U3 being transmitted to both the first user account U1 and the second user account U2.
- [101]** The switching of the conversation mode between the first and second conversation modes may be determined based on selection information received from the manager account U3. The control unit 130 may perform first data processing when the conversation mode is the first conversation mode and second data processing when the conversation mode is the second conversation mode.
- [102]** Hereinafter, the first data processing performed in the first conversation mode will be described.
- [103]** The control unit 130 may receive the chat message from any one of the first user account U1 and the second user account U2 (S220, see FIG. 2).

- [104] Furthermore, the control unit 130 may control the transmission and processing of the chat messages differently according to the conversation mode of the chat session (S230, see FIG. 2).
- [105] When the chat message is transmitted from a specific user account of any one of the first user account U1 and the second user account U2 while the first conversation mode is selected in the manager account U3, the control unit 130 may perform the first data processing to control the chat message transmitted from the specific user account to be received only by the manager account U3.
- [106] Specifically, when the chat message is transmitted from a specific user account of any one of the first user account U1 and the second user account U2 while the first conversation mode is selected in the manager account U3, the control unit 130 may control the chat message to be displayed only in the chat area of the manager account U3 and the chat area of any one of the user accounts, and the chat message not to be displayed in the chat area of the other user account.
- [107] That is, when the chat message is transmitted from the specific user account while the first conversation mode is selected in the manager account U3, the control unit 130 may perform the first data processing to control the chat message to be transmitted only to the manager account U3 and the chat message not to be transmitted to other user accounts.
- [108] Meanwhile, when the chat message is transmitted from the specific user account of any one of the first user account U1 and the second user account U2 while the first conversation mode is selected in the manager account U3, the control unit 130 may perform the first data processing to control a first chat message 601 to be transmitted only to the manager account U3 and not to the second user account U2 which is different from the first user account U1. For example, as illustrated in FIG. 4A, it is

assumed that the first chat message 601 is received from the terminal 10 of the first user account U1 while the first conversation mode is selected. The control unit 130 may control the first chat message 601 transmitted from the first user account U1 to be transmitted to the manager account U3.

[109] In this case, when the chat message is transmitted from the specific user account of any one of the first user account U1 and the second user account U2 while the first conversation mode is selected, the control unit 130 may control the chat message to be displayed only in the chat area of the manager account U3 and the chat area of any one specific user account, and the chat message not to be displayed in the chat area of the user account other than the specific user account. For example, as illustrated in FIG. 4A, it is assumed that the first chat message 601 is received from the terminal 10 of the first user account U1 while the first conversation mode is selected. The control unit 130 may control the display unit of the terminal 10 of the first user account U1 such that the first chat message 601 transmitted from the first user account U1 is displayed in the chat area included in the GUI 600 of the first user account U1. In addition, the control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that the first chat message 601 is displayed in a first chat area 611 corresponding to the first user account U1 among a plurality of chat areas 611 and 612 included in a GUI 610 of the manager account U3. In this case, since the first conversation mode is selected in the manager account U3, the first chat message 601 may not be displayed in the second chat area 612 corresponding to the second user account U2 among the plurality of chat areas 611 and 612 included in the GUI 610 of the manager account U3.

[110] Furthermore, the control unit 130 may provide guide information for enabling the first chat message 601 to be shared with the second user account U2, based on a selection

of a graphic object 601a linked to a sharing function which is displayed in a surrounding area of the first chat message 601 from the terminal 30 of the manager account U3. For example, as illustrated in FIG. 4B, the control unit 130 may provide guide information 620 configured to enable the first chat message 601 to be shared with the second user account U2, based on the selection of the graphic object 601a linked to the sharing function from the terminal 30 of the manager account U3. In addition, the control unit 130 may control the first chat message 601 to be transmitted to (or shared with) the second user account U2 based on a selection of a graphic object 620a included in the guide information 620 from the terminal 30 of the manager account U3.

[111] When the first chat message 601 is transmitted to the second user account U2 through the manager account U3, the control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that the first chat message 601 is displayed in a second chat area 612 corresponding to the second user account U2 among the plurality of chat areas 611 and 612 included in the GUI 610 of the manager account U3.

[112] In addition, the control unit 130 may control the display unit of the terminal 20 of the second user account U2 such that the first chat message 601 is displayed in the chat area of the second user account U2 in which the first chat message 601 is received. For example, as illustrated in FIG. 4C, the first chat message 601 transmitted through the manager account U3 may be displayed in the chat area included in a GUI 630 of the second user account U2.

[113] Meanwhile, the control unit 130 may control the chat message transmitted from the manager account U3 to be transmitted to any one of the first user account U1 and the

second user account U2 while the first conversation mode is selected in the manager account U3.

[114] When the chat message is transmitted from the manager account U3 while the first conversation mode is selected in the manager account U3, the control unit 130 may perform the first data processing to control the chat message transmitted from the manager account U3 to be transmitted to only any one of the first user account U1 and the second user account U2.

[115] In this case, when the first conversation mode is selected in the manager account U3, the third area included in the GUI of the manager account U3 in the first conversation mode may include a plurality of input areas composed of the first input area for receiving the transmission-target chat message to be transmitted to the first user account U1 and the second input area for receiving the transmission-target chat message to be transmitted to the second user account. For example, as illustrated in FIG. 4D, the control unit 130, based on a state in which the first conversation mode is selected at the manager account U3, may control a plurality of input areas composed of a first input area 641a for receiving the transmission-target chat message to be transmitted to the first user account U1 and a second input area 641b for receiving the transmission-target chat message to be transmitted to the second user account U2 to be provided to the third area included in the GUI 610 of the manager account U3. Here, among the plurality of input areas 641a and 641b, the first input area 641a may match the first chat area 611, and the second input area 641b may match the second chat area 612.

[116] The control unit 130 may receive the chat message of the manager account U3 input through any one of the plurality of input areas 641a and 641b. For example, as illustrated in FIG. 4D, the control unit 130 may receive a chat message 642 of the

manager account U3 input through the second input area 641b, based on a selection of a graphic object 641c linked to the transmission of the chat message included in the second input area 641b from the terminal 30 of the manager account U3.

[117] In addition, the control unit 130 may perform the first data processing to control the chat message 642 to be transmitted to the second user account U2 corresponding to the second chat area 612, based on the matching of the second input area 641b to the second chat area 612.

[118] Furthermore, when the transmission of the chat message 642 of the manager account U3 to the second user account U2 is completed, the control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that the chat message 642 of the manager account U3 is displayed in the second chat area 612 corresponding to the second user account U2 among the plurality of chat areas 611 and 612 included in the GUI 610 of the manager account U3.

[119] In addition, the control unit 130 may control the display unit of the terminal 20 of the second user account U2 such that the chat message 642 is displayed in the chat area of the second user account U2 to which the chat message 642 of the manager account U3 is transmitted. For example, as illustrated in FIG. 4E, the chat message 642 transmitted from the manager account U3 may be displayed in the chat area included in the GUI 630 of the second user account U2.

[120] Hereinafter, the second data processing performed in the second conversation mode will be described.

[121] When the chat message is transmitted from the specific user account of any one of the first user account U1 and the second user account U2 while the first conversation mode is switched to the second conversation mode from the manager account U3, the control unit 130 may perform the second data processing to control the chat message

transmitted from the specific user account to be received by both the other user account and the manager account U3.

[122] Specifically, based on the conversation mode selection information received from the manager account U3, when the chat message is transmitted from the specific user account of any one of the plurality of user accounts U1 and U2 while the first conversation mode is switched to the second conversation mode, the control unit 130 may control the chat message to be displayed in both the chat area of the manager account U3 and the chat area of the other user account.

[123] That is, when the chat message is transmitted from the specific user account while the second conversation mode is selected in the manager account U3, the control unit 130 may perform the second data processing to control the chat message to be transmitted to both the manager account U3 and the other user account.

[124] Meanwhile, when the chat message is transmitted from the specific user account of any one of the first user account U1 and the second user account U2 while the first conversation mode is selected in the manager account U3, the control unit 130 may perform the second data processing to control the chat message transmitted from the specific user account to be received only by both the other user account and the manager account U3. For example, as illustrated in FIGS. 5A to 5C, it is assumed that a second chat message 701 is received from the terminal 20 of the second user account U2 while the first conversation mode is switched to the second conversation mode by the selection of the manager account U3. The control unit 130 may control the second chat message 701 transmitted from the second user account U2 to be transmitted to the manager account U3 and the first user account U1.

[125] In this case, when the chat message is transmitted from the specific user account of any one of the first user account U1 and the second user account U2 while the second

conversation mode is selected, the control unit 130 may control the chat message to be displayed in all of the chat area of the manager account U3, the chat area of any one specific user account, and the chat area of the other user account. For example, as shown in FIGS. 5A to 5D, it is assumed that the second chat message 701 is received from the terminal 20 of the second user account U2 while the second conversation mode is selected. The control unit 130 may control the second chat message 701 to be displayed in all of the chat area included in the GUI 700 of the second user account U2, the plurality of chat areas 711 and 712 included in the GUI 710 of the manager account U3, and the chat area included in the GUI 730 of the first user account U1.

[126] Meanwhile, the control unit 130 may perform the second data processing to control the chat message transmitted from the manager account U3 to be transmitted to both the first user account U1 and the second user account U2 while the second conversation mode is selected in the manager account U3.

[127] When the chat message is transmitted from the manager account U3 while the second conversation mode is selected in the manager account U3, the control unit 130 may perform the second data processing to control the chat message transmitted from the manager account U3 to be transmitted to both the first user account U1 and the second user account U2.

[128] In this case, when the second conversation mode is selected in the manager account U3, the third area included in the GUI of the manager account U3 in the second conversation mode may include a single input area composed of a third input area for receiving the transmission-target chat message to be commonly transmitted to the first user account U1 and the second user account U2. For example, as illustrated in FIG. 5E, based on the state in which the second conversation mode is selected in the manager account U3, the control unit 130 may control a single input area composed of

a third input area 741a for receiving the transmission-target chat message to be commonly transmitted to the first user account U1 and the second user account U2 to be provided to the third area 741 included in the GUI 710 of the manager account U3. Here, the third input area 741a may match the plurality of chat areas 711 and 712. That is, the chat message input to the third input area 741a may be simultaneously transmitted to the plurality of chat areas 711 and 712 and processed.

[129] The control unit 130 may receive the chat message of the manager account U3 input through the third input area 741a. For example, as illustrated in FIG. 5E, the control unit 130 may receive a chat message 742 of the manager account U3 input through the third input area 741a, based on a selection of a graphic object 741b linked to the transmission of the chat message included in the third input area 741a from the terminal 30 of the manager account U3.

[130] In addition, based on the matching of the third input area 741a with the first chat area 711 and the second chat area 712, the control unit 130 may perform the second data processing to control the chat message 742 to be transmitted to the first chat area 611 and the second chat area 612 corresponding to the third input area 741a.

[131] Furthermore, the control unit 130 may control the display unit of the terminal 30 of the manager account U3 such that the chat message 742 transmitted from the manager account U3 is displayed in the plurality of chat areas 711 and 712 of the manager account U3.

[132] In addition, as illustrated in (a) and (b) of FIG. 5F, the control unit 130 may control the display units of the terminal 10 of the first user account U1 and the terminal 20 of the second user account U2 such that the chat message 742 transmitted from the manager account U3 is displayed in the chat area included in the GUI 730 of the first

user account U1 and the chat area included in the GUI 700 of the second user account U2.

[133] Meanwhile, based on the selection information received from the manager account U3, even if the second conversation mode is switched back to the first conversation mode, the specific chat message transmitted from any one specific user account may continue to be displayed in the chat area of the other user account. For example, even if the second conversation mode is switched to the first conversation mode by the selection of the manager account U3, the control unit 130 may control the second chat message transmitted from the second user account U2 to be continuously displayed in the chat area of the first user account U1.

[134] Meanwhile, the system 100 for providing a multi-party chat service according to the present disclosure may provide various functions to the user through various interface elements.

[135] For example, as illustrated in (a) of FIG. 6D, the control unit 130 may provide a graphic object 820a linked to a chat message pinning function to the surrounding area of the specific chat message. When the graphic object 820a is selected, the control unit 130 may activate the chat message pinning function linked to the graphic object 820a, and control a visual appearance of the graphic object 820a to change to a visual appearance corresponding to the activated state.

[136] For another example, as illustrated in (b) of FIG. 6D, the control unit 130 may provide a graphic object 820b linked to a chat message like function to the surrounding area of THE specific chat message. When the graphic object 820b is selected, the control unit 130 may activate the chat message pinning function linked to the graphic object 820b, and control a visual appearance of the graphic object 820a to change to a visual appearance corresponding to the activated state.

- [137] For another example, as illustrated in FIG. 6E, the control unit 130 may provide a graphic object 830a linked to a function capable of sharing conversation content to an external messenger and a graphic object 830b linked to a function capable of transmitting an attached file.
- [138] Furthermore, as another example, as illustrated in FIG. 6F, the control unit 130 may control a manufacturing progress status of a specific prosthesis linked to order information for the specific prosthesis to be displayed in one area of at least one of the GUI of the first user account U1, the GUI of the second user account U2, and the GUI of the manager account U3.
- [139] As described above, according to a method and system for providing a multi-party chat service according to the present disclosure, it is possible to provide a chat service that may perform fast and smooth communication between dental clinics and laboratories. As a result, it is possible to allow technicians to quickly manufacture well-crafted dental prostheses, and dental clinics to receive dental prostheses suitable for each case. In addition, it is possible to reduce the inconvenience of patients who need to visit the dental clinics frequently and to lessen the financial burden borne by patients during the dental treatment process.
- [140] Furthermore, according to the method and system for providing a multi-party chat service according to the present disclosure, by managing chats between dental clinics and laboratories through various conversation mode functions, it is possible to filter inappropriate languages to enhance the overall quality of communication and prevent potential conflicts between users in advance. In addition, by preventing an unnecessary conversation and providing an efficient communication environment, it is possible to facilitate smooth communication between dental clinics and laboratories and contribute to increasing accuracy and efficiency in tasks.

- [141] Furthermore, according to a method and system for providing a multi-party chat service according to the present disclosure, by centrally controlling chats between dental clinics and laboratories on a platform that connects the dental clinics and the laboratories, it is possible to enhance the quality of the platform and guide the dental clinics and the laboratories to use the platform provided by the present disclosure.
- [142] Meanwhile, as described above, the present disclosure may be implemented as a program that is executed by one or more processes on a computer and stored on a computer-readable medium (or recording medium).
- [143] Furthermore, as described above, the present disclosure may be implemented as computer-readable codes or instructions on a medium recording the program. In other words, the present disclosure may be provided in the form of the program.
- [144] Meanwhile, the computer readable medium may include all kinds of recording devices in which computer system-readable data is stored. An example of the computer readable medium may include a hard disk drive (HDD), a solid state disk (SSD), a silicon disk drive (SDD), a read only memory (ROM), a random access memory (RAM), a compact disk read only memory (CD-ROM), a magnetic tape, a floppy disk, an optical data storage, and the like.
- [145] Furthermore, the computer-readable medium may be the server or cloud storage that includes storage and may be accessed by the electronic device via communication. In this case, the computer may download the program according to the present disclosure from the server or cloud storage via wired or wireless communication.
- [146] Furthermore, in the present disclosure, the computer described above is an electronic device equipped with a processor, i.e., a central processing unit (CPU), and there are no particular limitations on its type.

[147] Meanwhile, the above-described detailed description is to be interpreted as being illustrative rather than being restrictive in all aspects. The scope of the present disclosure is to be determined by reasonable interpretation of the claims, and all modifications within an equivalent range of the present disclosure fall in the scope of the present disclosure.

【CLAIMS】

【Claim 1】

A method for providing a multi-party chat service, comprising:

generating a chat session based on a case with a first user account, a second user account and a manager account as participants;

receiving a chat message from any one of the first user account and the second user account; and

controlling transmission processing of the chat message differently according to a conversation mode of the chat session.

【Claim 2】

The method of claim 1, wherein the conversation mode includes:

a first conversation mode in which a chat message transmitted from the manager account is transmitted to any one of the first user account and the second user account; and

a second conversation mode in which a chat message transmitted from the manager account is transmitted to both the first user account and the second user account.

【Claim 3】

The method of claim 2, wherein,

in the first conversation mode, the chat message transmitted from the first user account or the second user account is received only by the manager account, and

in the second conversation mode, the chat message transmitted from any one of the first user account and the second user account is received by both the other account and the manager account.

【Claim 4】

The method of claim 2, wherein conversation mode switching between the first conversation mode and the second conversation mode is determined based on selection information received from the manager account.

【Claim 5】

The method of claim 4, wherein, when a first chat message is sent from any one of the first user account and the second user account while the first conversation mode is selected in the manager account,

the first chat message is displayed only in a chat area of the manager account and a chat area of the any one of the user accounts, and is not displayed in a chat area of the other user account, and

based on the selection information received from the manager account, when a second chat message is transmitted from any one of the accounts while the first conversation mode is switched to the second conversation mode,

the second chat message is displayed in all of the chat area of the manager account, the chat area of the any one of the user accounts, and the chat area of the other user account.

【Claim 6】

The method of claim 5, wherein, based on the selection information received in the manager account, even if the second conversation mode is switched back to the first conversation mode, the second chat message transmitted from the any one of the accounts continues to be displayed in the chat area of the other user account.

【Claim 7】

The method of claim 2, wherein a terminal of the manager account is provided with a graphical user interface (GUI) for providing the multi-party chat service, and

the GUI includes:

a first area in which the case information is displayed;

a second area in which the chat message is displayed; and

a third area for receiving a transmission-target chat message transmitted to at least one of the first user account and the second user account.

【Claim 8】

The method of claim 7, wherein the GUI further includes a graphic object for selecting any one of the first conversation mode and the second conversation mode from the manager account, and

switching between the first conversation mode and the second conversation mode is performed based on the selection of the graphic object.

【Claim 9】

The method of claim 7, wherein the third area in the first conversation mode includes a plurality of input areas composed of a first input area for receiving the transmission-target chat message transmitted to the first user account and a second input area for receiving the transmission-target chat message transmitted to the second user account, and

the third area in the second conversation mode includes a single input area composed of a third input area for receiving the transmission-target chat message commonly transmitted to both the first user account and the second user account.

【Claim 10】

A system for providing a multi-party chat service, comprising:

a communication unit communicating with a first user account, a second user account, and a manager account; and

a control unit controlling the multi-party chat service,

wherein the control unit generates a chat session based on a case with a first user account, a second user account and a manager account as participants,

receives a chat message from any one of the first user account and the second user account, and

controls transmission processing of the chat message differently according to a conversation mode of the chat session.

【Claim 11】

A program stored on a computer-readable recording medium, executed by one or more processes in an electronic device,

wherein the program includes instructions to perform:

generating a chat session based on a case with a first user account, a second user account and a manager account as participants;

receiving a chat message from any one of the first user account and the second user account; and

controlling transmission processing of the chat message differently according to a conversation mode of the chat session.