5 INTERFACE DESCRIPTION A list of error messages [Emsg\_\*], success messages [Smsg\_\*] and communication messages [CCmsg\_\* and SCmsg\_\*] used on the DFD’s can be seen in Appendix-A. All of the communication messages are character strings. The communication of the messages shall be done by using Transmission Control Protocol (TCP) sockets. Some of the details regarding the format of the communication messages are not specified in order to prevent duplication, these details can be found in Appendix-D The complete description for the user interfaces is specified in subsection 3.1.1 of the SRS of ION-CHAT SYSTEM [2].

5.1 Module Interface

5.1.1 Module 1 Chat Client

5.1.1.1 Module 1.1 Client Site User Authentication Identification: Module 1.1 Client\_Site\_User\_Authentication Function: This module shall allow the user to enter the User\_id and Password. These inputs are checked according to the requirements specified in subclauses “Data format” and “Valid range” in section 3.1.1.1.a of [2]. If the check succeeds then inputs (CCmsg\_1) shall be sent to the module 2.1, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_1 or SCmsg\_2) shall be waited. If the login failed Emsg\_11 shall be displayed.

Interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_1 | To send user\_id and password of the user to the server software to authenticate the user. | None | SCmsg\_1, |
|  |  |  | SCmsg\_2 |
| SCmsg\_1a | To authenticate the user to enter to the COMPANY MANAGEMENT SYSTEM for whom the system group is none | CCmsg\_1 | None |
| SCmsg\_1b | To authenticate the user to enter to the COMPANY MANAGEMENT SYSTEM for whom the system group is instructor | CCmsg\_1 | None |
| SCmsg\_1c | To authenticate the user to enter to the COMPANY MANAGEMENT SYSTEM for whom the system group is customer. Also, to specify the room that the customer is allowed to enter | CCmsg\_1 | None |
| SCmsg\_1d | To authenticate the user to enter to the IONCHAT SYSTEM for whom the system group is student. Also, to specify the rooms that the student is allowed to enter | CCmsg\_1 | None |
| SCmsg\_2 | To indicate the failed authentication of the user to enter to the ION-CHAT SYSTEM | CCmsg\_1 | None |
|  |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_1 | login:user\_id:password: |
| SCmsg\_1a | login:root: |
| SCmsg\_1b | login:instructor |
| SCmsg\_1c l | login:customer:room\_name: |
| SCmsg\_1d | login:student:room\_name\_as\_reviewie\_group: room\_name\_as\_reviewer\_group: |
| SCmsg\_2 | login:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_1 | login: static string |
| SCmsg\_1a | login: static string root: static string |
| SCmsg\_1b | login: static string instructor: static string |
| SCmsg\_1c | login: static string customer: static string |
| SCmsg\_1d | login: static string student: static string |
| SCmsg\_2 | login: static string failed: static string |

5.1.1.2 Module 1.2 Client Site Root Functions 5.1.1.2.1 Module 1.2.1 Client Site Root Console Identification: Module 1.2.1 Client\_Site\_Root\_Console Function: This module shall allow the root to select a basic operation and to enter User\_id, Room\_name, or Chat\_group\_name. This input is checked according to the requirements specified in sublcauses “Data format” and “Valid range” in section 3.1.1.2.a of [2]. If check succeeds then inputs can be the following: • CCmsg\_2 shall be sent to the module 2.2.1, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_3 or SCmsg\_4) shall be waited for basic operations of user. Then if succeeds o User\_id is sent to module 1.2.2, else Emsg\_13 shall be displayed for user addition. o User\_id Password, Real\_name and System\_group are sent to module 1.2.3, else Emsg\_14 shall be displayed for user deletion. o User\_id Password, Real\_name and System\_group are sent to module 1.2.4, else Emsg\_14 shall be displayed for user update. • CCmsg\_3 shall be sent to the module 2.2.1, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_5 or SCmsg\_6) shall be waited for basic operations of room. Then if succeeds o Room\_name is sent to module 1.2.5, else Emsg\_15 shall be displayed for room addition. o Room\_name, Reviewie Group, Reviewer Group and User\_id of Customer are sent to module 1.2.6, else Emsg\_16 shall be displayed for room deletion. o Room\_name, Reviewie Group, Reviewer Group and User\_id of Customer are sent to module 1.2.7, else Emsg\_16 shall be displayed for room update. • CCmsg\_4 shall be sent to the module 2.2.1, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_7 or SCmsg\_8) shall be waited for basic operations of chat group. Then if succeeds

o Chat\_group\_name is sent to module 1.2.8, else Emsg\_17 shall be displayed for chat group addition. o Chat\_group\_name and User\_id\_list are sent to module 1.2.9, else Emsg\_18 shall be displayed for chat group deletion. o Chat\_group\_name and User\_id\_list are sent to module 1.2.10, else Emsg\_18 shall be displayed for chat group update.

Interface:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Code** | **use** | | **Predecessor** | | **Successor** |
| CCmsg\_2 | To query the existence of a username | | None | | SCmsg\_3, SCmsg\_4 |
| SCmsg\_3 | To send the information (specified in format of SCmsg\_3) about the user whose user\_id is taken from the client software | | CCmsg\_2 | | None |
| SCmsg\_4 | To indicate the non-existence of the user. | | CCmsg\_2 | | None |
| CCmsg\_3 | To query the existence of a room name | | None | | SCmsg\_5, SCmsg\_6 |
| SCmsg\_5 | To send the information (specified in format of SCmsg\_5) about the room whose room\_name is taken from the client software | | CCmsg\_3 | | None |
| SCmsg\_6 | To indicate the non-existence of the room. | | CCmsg\_3 | | None |
| CCmsg\_4 | To query the existence of a chat group | | None | | SCmsg\_7, SCmsg\_8 |
| SCmsg\_7 | To send the information (specified in format of SCmsg\_7) about the chat group whose chat\_group is taken from the client software | | CCmsg\_4 | | None |
| SCmsg\_8 | To indicate the non-existence of the chat group. | | CCmsg\_4 | | None |
|  |
| **Code** | | | **Format Detail** | |
| CCmsg\_2 | | | askuser:user\_id: | |
| SCmsg\_3 | | | askuser:user\_id:password:real\_name:system\_group: | |
| SCmsg\_4 | | | askuser:failed: | |
| CCmsg\_3 | | | askroom:room\_name: | |
| SCmsg\_5 | | | askroom:room\_name:reviewie\_group:reviewer\_group: | |
|  | | | customer\_user\_id: | |
| SCmsg\_6 | | | askroom:failed: | |
| CCmsg\_4 | | | askchatgroup:chat\_group: | |
| SCmsg\_7 | | | askchatgroup:chat\_group:user\_id\_list: | |
| SCmsg\_8 | | | askchatgroup:failed: | |

|  |  |
| --- | --- |
| Code Format Detail | Code Format Detail |
| CCmsg\_2 | askuser: static string |
| SCmsg\_3 | askuser: static string |
| SCmsg\_4 | askuser: static string  failed: static string |
| CCmsg\_3 | askroom: static string |
| SCmsg\_5 | askroom: static string |
| SCmsg\_6 | askroom: static string  failed: static string |
| CCmsg\_4 | askchatgroup: static string |
| SCmsg\_7 | askchatgroup: static string user\_id: semicolon seperated user\_id list |
| SCmsg\_8 | askchatgroup: static string failed: static string |

5.1.1.2.2 Module 1.2.2 Client Site User Addition

Identification: Module 1.2.2 Client\_Site\_User\_Addition Function: This module shall allow the root to enter the User\_id, Password, Confirm\_password, Real\_name, System\_group. These inputs are checked according to the requirements specified in subclauses “Data format” and “Valid range” in section 3.1.1.2.b of [2]. If the check succeeds then inputs (CCmsg\_5) shall be sent to the module 2.2.2 else Emsg\_1 shall be displayed. Then the server response (SCmsg\_9 or SCmsg\_10) shall be waited. If the add succeeds Smsg\_3, else Emsg\_4 shall be displayed.

Interface:

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_7 | To get the user\_id for deletion of an existing user from the root and send it to server software | None | SCmsg\_13, SCmsg\_14 |
| SCmsg\_13 | To indicate the successful deletion of the user | CCmsg\_7 | None |
| SCmsg\_14 | To indicate the failed deletion of the user. |  | None |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_7 | deleteuser:user\_id: |
| SCmsg\_13 | deleteuser:successful: |
| SCmsg\_14 | deleteuser:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_7 | deleteuser: static string |
| SCmsg\_13 | deleteuser: static string  successful: static string |
| SCmsg\_14 | deleteuser: static string  failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| Code of Method | Method Name | Method Interface | Method Belongs To |
| f3 | method3 | method3(String user\_id, String password, String real\_name, String system\_group) | Module 1.2.3 |

5.1.1.2.4 Module 1.2.4 Client Site User Update

Identification: Module 1.2.4 Client\_Site\_User\_Update Function: This module shall allow the root to enter the new Password, Confirm\_password, Real\_name, System\_group. These inputs are checked according to the requirements specified in subclauses “Data format” and “Valid range” in section 3.1.1.2.d of [2]. If the check succeeds then inputs (CCmsg\_6) shall be sent to the module 2.2.4, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_11 or SCmsg\_12) shall be waited. If the add succeeds Smsg\_2, else Emsg\_3 shall be displayed.

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_6 | To get the necessary inputs (specified in format of CCmsg\_6) for update of an existing user from the root and send them to server software | None | SCmsg\_11, SCmsg\_12 |
| SCmsg\_11 | To indicate the successful update of the user. | CCmsg\_6 | None |
| SCmsg\_12 | To indicate the failed update of the user. | CCmsg\_6 | None |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_6 | updateuser:user\_id:password:real\_name:system\_group: |
| SCmsg\_11 | updateuser:successful |
| SCmsg\_12 | updateuser:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_6 | updateuser: static string |
| SCmsg\_11 | updateuser: static string successful: static string |
| SCmsg\_12 | updateuser: static string failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| Code of Method | Method Name | Method Interface | Method Belongs To |
| f3 | method3 | method3(String user\_id, String password, String real\_name, String system\_group) | Module 1.2.3 |

5.1.1.2.5 Module 1.2.5 Client Site Room Addition

Identification: Module 1.2.5 Client\_Site\_Room\_Addition Function: This module shall allow the root to enter the Room\_name, Reviewie Group, Reviewer Group and User\_id of Customer. These inputs are checked according to the requirements specified in subclauses “Data format” and “Valid range” in section 3.1.1.2.e of [2]. If the check succeeds then inputs (CCmsg\_8) shall be sent to the module 2.2.5 else Emsg\_1 shall be displayed. Then the server response (SCmsg\_15 or SCmsg\_16) shall be waited. If the add succeeds Smsg\_6, else Emsg\_7 shall be displayed

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_8 | To get the necessary inputs (specified in format of CCmsg\_8) for addition of a new room from the root and send them to server software. | None | SCmsg\_15, SCmsg\_16 |
| SCmsg\_15 | To indicate the successful addition of the room | CCmsg\_8 | None |
| SCmsg\_16 | To indicate the failed addition of the room | CCmsg\_8 | None |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_8 | addroom:room\_name:reviewie\_group:reviewer\_group: customer\_user\_id: |
| SCmsg\_15 | addroom:successful: |
| SCmsg\_16 | addroom:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_8 | addroom: static string |
| SCmsg\_15 | addroom: static string successful: static string |
| SCmsg\_16 | addroom: static string failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| Code of Method | Method Name | Method Interface | Method Belongs To |
| F5 | Method5 | method5(String room\_name)String system\_group) | Module 1.2.5 |

**5.1.1.2.6 Module 1.2.6 Client Site Room Deletion**

Identification: Module 1.2.6 Client\_Site\_Room\_Deletion Function: This module shall allow the root to see the information related to the room to be deleted. The room information shall be composed of Room\_name, Review Group, Reviewer Group, User\_id of Customer parts. The approval message (CCmsg\_10) shall be sent to the module 2.2.6 and the server response (SCmsg\_19 or SCmsg\_20) shall be waited. If the delete succeeds Smsg\_4, else Emsg\_5 shall be displayed.

Interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_10 | To get the room\_name for deletion of an existing room from the root and send it to server software. | None | SCmsg\_19, SCmsg\_20 |
| SCmsg\_19 | To indicate the successful deletion of the room. | CCmsg\_10 | None |
| SCmsg\_20 | To indicate the failed deletion of the room. | CCmsg\_10 | None |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_10 | deleteroom:room\_name: |
| SCmsg\_19 | deleteroom:successful: |
| SCmsg\_20 | deleteroom:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_10 | deleteroom: static string |
| SCmsg\_19 | deleteroom: static string  successful: static string |
| SCmsg\_20 | deleteroom: static string  failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| Code of Method | Method Name | Method Interface | Method Belongs To |
| f6 | method6 | method6(String room\_name, String reviewie\_group, String reviewer\_group, String user\_id\_of\_customer) | Module 1.2.6 |

**5.1.1.2.7 Module 1.2.7 Client Site Room Update**

Identification: Module 1.2.7 Client\_Site\_Room\_Update Function: This module shall allow the root to enter the new Review Group, Reviewer Group, User\_id of Customer. These inputs are checked according to the requirements specified in subclauses “Data format” and “Valid range” in section 3.1.1.2.g of [2]. If the check succeeds then inputs (CCsmg\_9) shall be sent to the module 2.2.7, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_17 or SCmsg\_18) shall be waited. If the add succeeds Smsg\_5, else Emsg\_6 shall be displayed.

Interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_9 | To get the necessary inputs (specified in format of CCmsg\_9) for update of an existing room from the root and send them to server software. | None | SCmsg\_17 SCmsg\_18 |
| SCmsg\_17 | To indicate the successful update of the room. | CCmsg\_9 | None |
| SCmsg\_18 | To indicate the failed update of the room. | CCmsg\_9 | None |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_9 | updateroom:room\_name:reviewie\_group: reviewer\_group:customer\_user\_id: |
| SCmsg\_17 | updateroom:successful: |
| SCmsg\_18 | updateroom:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_9 | updateroom: static string |
| SCmsg\_17 | updateroom: static string successful: static string |
| SCmsg\_18 | updateroom: static string failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| Code of Method | Method Name | Method Interface | Method Belongs To |
| F7 | Method7 | method7(String room\_name, String reviewie\_group, String reviewer\_group, String user\_id\_of\_customer) | Module 1.2.7 |

**5.1.1.2.8 Module 1.2.8 Client Site Chat Group Addition**

Identification: Module 1.2.8 Client\_Site\_Chat\_Group\_Addition Purpose: To provide an interface, where the root shall enter the necessary inputs in order to add a new Chat\_Group to the ION-CHAT SYSTEM, and to send the inputs entered to the server software. Function: This module shall allow the root to enter the Chat Group Name and User\_id List. These inputs are checked according to the requirements specified in subclauses “Data format” and “Valid range” in section 3.1.1.2.h of [2]. If the check succeeds then inputs (CCmsg\_11) shall be sent to the module 2.2.8 else Emsg\_1 shall be displayed. Then the server response (SCmsg\_21 or SCmsg\_22) shall be waited. If the add succeeds Smsg\_9, else Emsg\_10 shall be displayed.

Interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_11 | To get the necessary inputs (specified in format of CCmsg\_11) for addition of a new chat group from the root and send them to server software.. | None | SCmsg\_21, SCmsg\_22 |
| SCmsg\_21 | To indicate the successful addition of the chat group. | CCmsg\_11 | None |
| SCmsg\_22 | To indicate the failed addition of the chat group. | CCmsg\_11 | None |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_11 | addchatgroup:chat\_group:user\_id\_list |
| SCmsg\_21 | addchatgroup:successful: |
| SCmsg\_22 | addchatgroup:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_11 | addchatgroup: static string user\_id: semicolon seperated user\_id list |
| SCmsg\_21 | addchatgroup: static string successful: static string |
| SCmsg\_20 | deleteroom: static string  failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| Code of Method | Method Name | Method Interface | Method Belongs To |
| F8 | Method8 | method8(String chat\_group\_name) | Module 1.2.8 |

**5.1.1.2.9 Module 1.2.9 Client Site Chat Group Deletion**

Identification: Module 1.2.9 Client\_Site\_Chat\_Group\_Deletion Purpose: To provide an interface, where the root shall approve deleting an existing Chat\_Group from the COMPANY MANAGEMENT SYSTEM, and to send the delete approval message to the server software. Function: This module shall allow the root to see the information related to the Chat\_Group to be deleted. The Chat\_Group information shall be composed of Chat Group Name and User\_id List. The approval message (CCsmg\_13) shall be sent to the COMPANY MANAGEMENT SYSTEM Software Design Description Version 2.0 33 module 2.2.9 and the server response (SCmsg\_25 or SCmsg\_26) shall be waited. If the delete succeeds Smsg\_7, else Emsg\_8 shall be displayed.

Interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_13 | To get the chat\_group for deletion of an existing chat group from the root and send it to server software. | None | SCmsg\_25, SCmsg\_26 |
| SCmsg\_25 | To indicate the successful deletion of the chat group. | CCmsg\_13 | None |
| SCmsg\_26 | To indicate the failed deletion of the chatgroup. | CCmsg\_13 | None |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_13 | deletechatgroup:chat\_group: |
| SCmsg\_25 | deletechatgroup:successful: |
| SCmsg\_26 | deletechatgroup:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_13 | deletechatgroup: static string |
| SCmsg\_25 | deletechatgroup: static string successful: static string |
| SCmsg\_26 | deletechatgroup: static string failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| **Code of Method** | **Method Name** | **Method Interface** | **Method Belongs To** |
| F9 | Method9 | method9(String chat\_group\_name, String user\_id\_list) | Module 1.2.9 |

**5.1.1.2.10 Module 1.2.10 Client Site Chat Group Update**

Identification: Module 1.2.10 Client\_Site\_Chat\_Group\_Update Function: This module shall allow the root to enter the new User\_id List. This input is checked according to the requirements specified in subclauses “Data format” and “Valid range” in section 3.1.1.2.j of [2]. If the check succeeds then inputs (CCmsg\_12) shall be sent to the module 2.2.10, else Emsg\_1shall be displayed. Then the server response ION-CHAT SYSTEM Software Design Description Version 2.0 34 (SCmsg\_23 or SCmsg\_24) shall be waited. If the add succeeds Smsg\_8, else Emsg\_9 shall be displayed.

Interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_12 | To get the necessary inputs (specified in format of CCmsg\_12) for update of an existing chat group from the root and send them to server software. | None | SCmsg\_23, SCmsg\_24 |
| SCmsg\_23 | To indicate the successful update of the chat group. | CCmsg\_12 | None |
| SCmsg\_24 | To indicate the failed update of the chat group. | CCmsg\_12 | None |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_12 | updatechatgroup:chat\_group:user\_id\_list: |
| SCmsg\_23 | updatechatgroup:successful: |
| SCmsg\_24 | updatechatgroup:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_12 | updatechatgroup: static string user\_id: semicolon seperated user\_id list |
| SCmsg\_23 | updatechatgroup: static string successful: static string |
| SCmsg\_24 | updatechatgroup: static string failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| **Code of Method** | **Method Name** | **Method Interface** | **Method Belongs To** |
| F10 | Method10 | method10(String chat\_group\_name, String user\_id\_list) | Module 1.2.10 |

**5.1.1.3 Module 1.3 Client Site Chat**

Identification: Module 1.3 Client\_Site\_Chat Function: This module shall allow the user to enter the message to the User\_area text box. This input is checked according to the requirements specified in subclauses “Data ION-CHAT SYSTEM Software Design Description Version 2.0 35 format” and “Valid range” in section 3.1.1.3.a of [2]. If the check succeeds then inputs can be the following four option

• CCmsg\_14 shall be sent to the module 2.3, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_27) shall be waited. Then if succeeds the message of the user shall be shown in the General\_area text box.

• CCmsg\_15, shall be sent to the module 2.3, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_28) shall be waited. Then if succeeds the message of the user shall be shown in the General\_area text box. • CCmsg\_16, shall be sent to the module 2.3, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_29 and SCmsg\_30 or SCmsg\_31) shall be waited. Then if succeeds the message of the user shall be shown in the General\_area text box.

• CCmsg\_17) shall be sent to the module 2.3, else Emsg\_1 shall be displayed. Then the server response (SCmsg\_32 or SCmsg\_33) shall be waited. Then if succeeds the message of the user shall be shown in the General\_area text box. When user clicks to the Logout\_button to logout from the ION-CHAT SYSTEM and if succeeds the Smsg\_10, else Emsg\_12 shall be displayed.

Interface

|  |  |  |  |
| --- | --- | --- | --- |
| **Code** | **use** | **Predecessor** | **Successor** |
| CCmsg\_14 | To get the message from the user and send it to the server software. | None | SCmsg\_27 |
| SCmsg\_27 | To get the message from the client software and send it to the all client software which are in the same room. | CCmsg\_14 | None |
| CCmsg\_15 | To query the room list of COMPANY MANAGEMENT SYSTEM | None | SCmsg\_28 |
| SCmsg\_28 | To send the room\_list to the client software | CCmsg\_15 | None |
| SCmsg\_16 | To query the user list of COMPANY MANAGEMENT SYSTEM for a specific room name. | None | SCmsg\_29, SCmsg\_31 |
| SCmsg\_29 | To send the user\_list of a specific room to the client software | CCmsg\_16 | None |
| SCmsg\_30 | To send the active user\_list of a specific room to the client software when a new | None | None |
| SCmsg\_31 | To indicate the failed query of the user\_list of a specific room | CCmsg\_16 | None |
| CCmsg\_17 | To send user\_id of the user to the server software to logout the user. | None | SCmsg\_32, SCmsg\_33 |
| SCmsg\_32 | To indicate the successful logout of the user from the COMPANY MANAGEMENT SYSTEM | CCmsg\_17 | None |
| SCmsg\_33 | To indicate the failed logout of the user from the COMPANY MANAGEMENT SYSTEM | CCmsg\_17 | None |
|  |

|  |  |
| --- | --- |
| **Code** | **Format** |
| CCmsg\_14 | chatmsg:chat\_group:real\_name:chat\_message |
| SCmsg\_27 | chatmsg:chat\_group:real\_name:chat\_message |
| CCmsg\_15 | askroomlist: |
| SCmsg\_28 | askroomlist:room\_name\_list: |
| CCmsg\_16 | askalluserlist:room\_name: |
| SCmsg\_29 | askalluserlist:user\_id/chat\_group/real\_name:user\_id/ chat\_group/real\_name:user\_id/customer/real\_name: user\_id/instructor/real\_name: |
| SCmsg\_30 | askactiveuserlist:user\_id\_list |
| SCmsg\_31 | askalluserlist:failed |
| CCmsg\_17 | logout:user\_id: |
| SCm sg\_3 2 | logout:successful: |
| SCmsg\_33 | logout:failed: |

|  |  |
| --- | --- |
| **Code** | **Format Detail** |
| CCmsg\_14 | chatmsg: static string |
| SCmsg\_27 | chatmsg: static string |
| CCmsg\_15 | askroomlist: static string |
| SCmsg\_28 | askroomlist: static string room\_name\_list: semicolon seperated room\_name list |
| CCmsg\_16 | askalluserlist: static string |
| SCmsg\_29 | askalluserlist: static string user\_id/chat\_group/real\_name: semicolon seperated list for reviewie group members user\_id/chat\_group/real\_name: semicolon seperated list for reviewier group members user\_id/customer/real\_name: for the customer assigned to the room user\_id/instructor/real\_name: semicolon seperated list for all instructors |
| SCmsg\_30 | askactiveuserlist: static string user\_id: semicolon seperated user\_id list |
| SCmsg\_31 | askalluserlist: static string failed: static string |
| CCmsg\_17 | logout: static string |
| SCmsg\_32 | logout: static string successful: static string |
| SCmsg\_33 | logout: static string failed: static string |

|  |  |  |  |
| --- | --- | --- | --- |
| **Code of Method** | **Method Name** | **Method Interface** | **Method Belongs To** |
| F1 | Method1 | method1(String user\_id, String reviewie\_group\_room\_name, String reviewer\_group\_room\_name, String system\_group) | Module 1.3 |

**5.1.2 Module 2 Chat Server**

**5.1.2.1 Module 2.1 Server Site User Authentication**

Identification: Module 2.1 Server\_Site\_User\_Authentication Function: This module shall get the inputs (CCmsg\_1) from the module 1.1 to check the existence of the user form the User Information File. If the check succeeds then SCmsg\_1 else SCmsg\_2 shall be sent to the module 1.1.

Interface:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Code** | **use** | | **Predecessor** | | **Successor** |
| CCmsg\_1 | To send user\_id and password of the user to the server software to authenticate the user | | None | | SCmsg\_1, SCmsg\_2 |
| SCmsg\_1a | To authenticate the user to enter to the IONCHAT SYSTEM for whom the system group is root | | CCmsg\_1 | | None |
| SCmsg\_1b | To authenticate the user to enter to the IONCHAT SYSTEM for whom the system group is instructor | | CCmsg\_1 | | None |
| SCmsg\_1c | To authenticate the user to enter to the IONCHAT SYSTEM for whom the system group is customer. Also, to specify the room that the customer is allowed to enter | | CCmsg\_1 | | None |
| SCmsg\_1d | To authenticate the user to enter to the IONCHAT SYSTEM for whom the system group is student. Also, to specify the rooms that the student is allowed to enter | | CCmsg\_1 | | None |
| SCmsg\_2 | To indicate the failed authentication of the user to enter to the ION-CHAT SYSTEM | | CCmsg\_1 | | None |
|  |
| **Code** | | | **Format** | |
| CCmsg\_1 | | | login:user\_id:password | |
| SCmsg\_1a | | | login:root: | |
| SCmsg\_1b | | | login:instructor: | |
| SCmsg\_1c | | | login:customer:room\_name: | |
| SCmsg\_1d | | | login:student:room\_name\_as\_reviewie\_group: room\_name\_as\_reviewer\_group: | |
| SCmsg\_2 | | | login:failed: | |
| **Code** | | | **Format Detail** | |
| CCmsg\_1 | | | login: static string | |
| SCmsg\_1a | | | login: static string  root: static string | |
| SCmsg\_1b | | | login: static string  instructor: static string | |
| SCmsg\_1c | | | login: static string  customer: static string | |
| SCmsg\_1d | | | login: static string  student: static string | |
| SCmsg\_2 | | | login: static string  failed: static string | |

**5.1.2.2 Module 2.2 Server Site Root Functions**

**5.1.2.2.1 Module 2.2.1 Server Site Root Console**

Identification: Module 2.2.1 Server\_Site\_Root\_Console Function: This module shall receive

• CCmsg\_2 from the module 1.2.1. User\_id\_list shall be taken from the User Information File to check the existence of the user. If the user exists SCmsg\_3 else SCmsg\_4 shall be sent to the module 1.2.1 for user addition.

• CCmsg\_2 from the module 1.2.1. User\_id, Password, Real\_name and System\_group shall be taken from the User Information File according to the specification given in subsection 3.3.1. If the operation succeeds SCmsg\_3 else SCmsg\_4 shall be sent to the module 1.2.1 for user deletion and user update.

• CCmsg\_3 from the module 1.2.1. Room\_name\_list shall be taken from the Room Information File to check the existence of the room. If the room exists SCmsg\_5 else SCmsg\_6 shall be sent to the module 1.2.1 for room addition.

• CCmsg\_3 from the module 1.2.1. Room\_name, Reviewie Group, Reviewer Group and User\_id of Customer shall be taken from the Room Information File according to the specification given in subsection 3.3.2. If the operation succeeds SCmsg\_5 else SCmsg\_6 shall be sent to the module 1.2.1 for room deletion and room update

• CCmsg\_4 from the module 1.2.1. Chat\_group\_name\_list shall be taken from the User Information File to check the existence of the chat group. If the chat group exists SCmsg\_7 else SCmsg\_8 shall be sent to the module 1.2.1 for chat group addition.

• CCmsg\_4 from the module 1.2.1. Chat\_group\_name and User\_id\_list shall be taken from the User Information File according to the specification given in subsection 3.3.1. If the operation succeeds SCmsg\_7 else SCmsg\_8 shall be sent to the module 1.2.1 for chat group deletion and chat group update.