ET1446: SOFTWARE DEVELOPMENT FOR TELECOMMUNICATION SYSTEMS

This document (SRS) is a description of our software system to be developed, laying out functional and non-functional requirements, and including a set of use cases that describe interactions the users will have with the software.

SOFTWARE REQUIREMENTS SPECIFICATION V1.0

Group: SWAT Kats

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SOFTWARE REQUIRMENTS SPECIFICATION

1. PREFACE

This document contains a software requirements specification to create a chat client called "**LetsTalk**" for XtremeSecurity. The document is specifying the software requirements and use case which are to be executed by our team "**SWAT Kats**".

In the following we will first provide a glossary with a list of abbreviation in chapter 2. After that, we develop the system architecture that we are going to follow in section 3. Lastly, we analyse the software requirements for our project.

VERSION HISTORY OF THIS DOCUMENT:

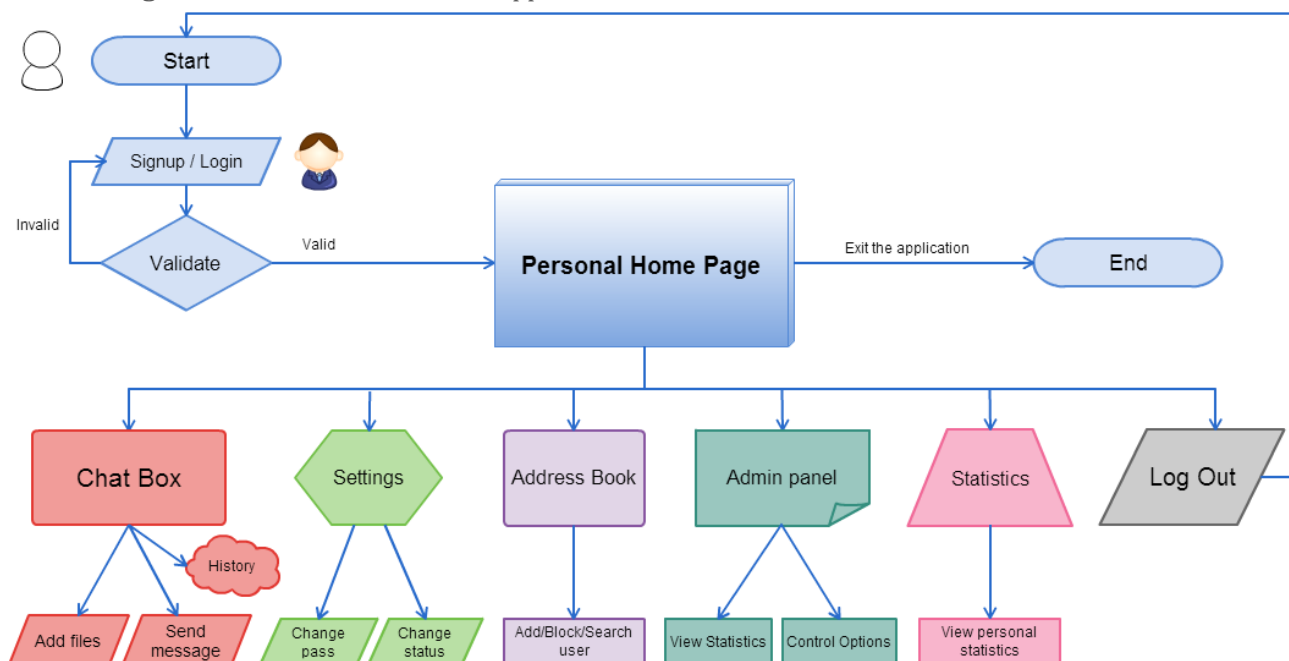*Release v1.0 on 2015-04-27*

- Initial release

2. GLOSSARY AND ABBREVIATIONS

In this section are defined technical terms that are in this document in alphabetical order.

- **ID**: identification
- **ER diagram**: Entity Relationship diagram

3. SYSTEM ARCHITECTURE

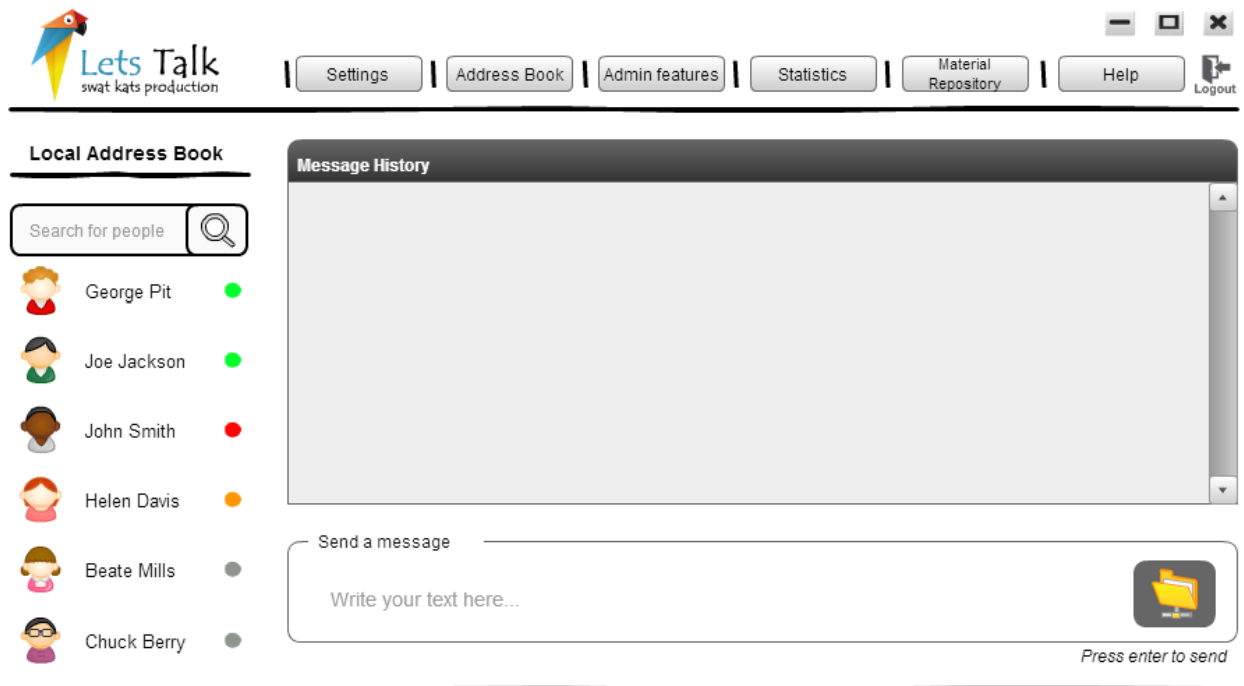Here is a **general flowchart** on how our application works:

3.1 USER CASES DIAGRAM

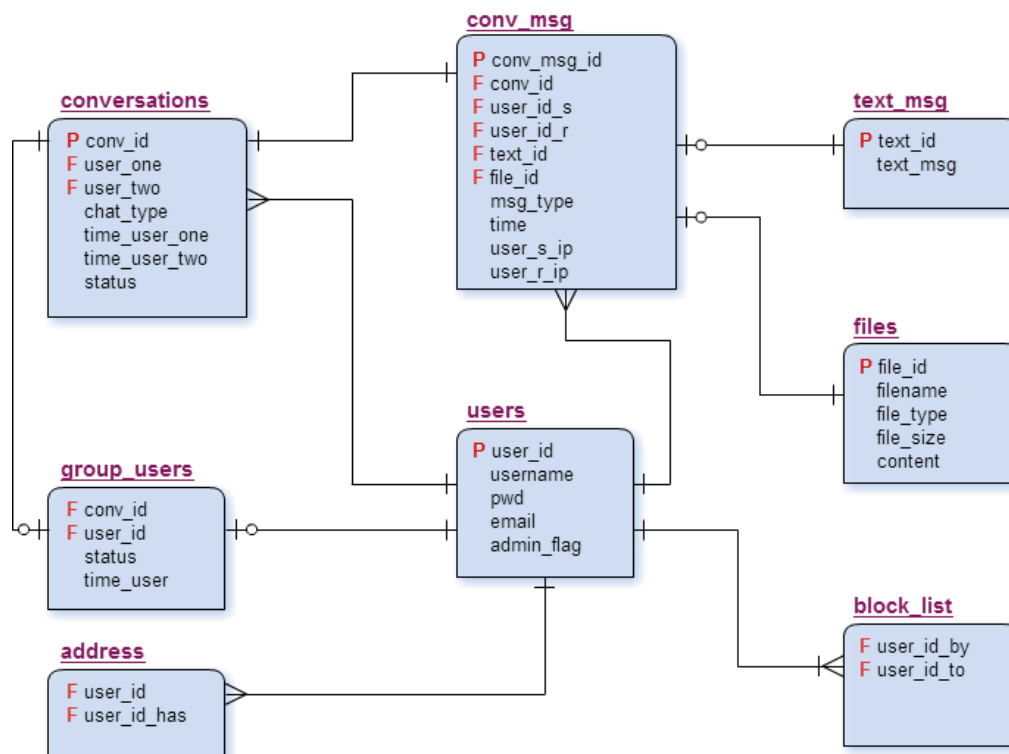Here we present the user cases, showing the activities that each user (and admin) can do with our software.

3.2 GUI ARCHITECTURE

Here is the home page architecture design:

3.3 ER DIAGRAM FOR DATABASE

Explains what will be the tables and links among them. The whole database architecture:

conv_msg
- P conv_msg_id
- F conv_id
- F user_id_s
- F user_id_r
- F text_id
- F file_id
- msg_type
- time
- user_s_ip
- user_r_ip

conversations
- P conv_id
- F user_one
- F user_two
- chat_type
- time_user_one
- time_user_two
- status

text_msg
- P text_id
- text_msg

files
- P file_id
- filename
- file_type
- file_size
- content

users
- P user_id
- username
- pwd
- email
- admin_flag

group_users
- F conv_id
- F user_id
- status
- time_user

block_list
- F user_id_by
- F user_id_to

address
- F user_id
- F user_id_has

4. REQUIREMENTS

4.1 USER REQUIREMENTS

1. **Requirement ID**: REQ_USR_1
   Requirement: Registered user should be able to login by inputting his information in login page.
   Module: General
   Type: functional
   Test ID: TST_USR_1
   Test: User should be on home page after login.
   Assignee: Sokratis Papadopoulos (GUI), Johannes (Database Connection), Jibraan Chahal (Database)

2. **Requirement ID**: REQ_USR_2
   Requirement: Registered user should be able to add/block another registered users in his address book by browsing and then clicking on their name.
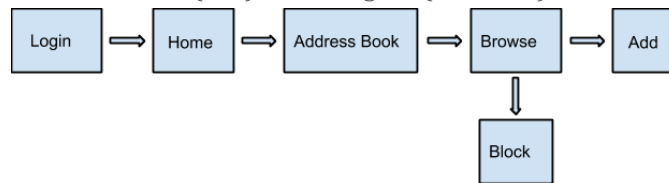   **Module**: General
   Type: functional
   Dependencies: REQ_USR_1
   Test ID: TST_USR_2
   Test: If a contact is added, then it should appear in user's address book and they should be able to chat with each other. If a contact is blocked then it should not appear in address book and they should not be able to chat with each other.

Assignee: David Alacron Prada (GUI) ,Rohit Raghav (Database)
Description:

3. **Requirement ID**: REQ_USR_3
   Requirement: System shall allow a user to change his status online/busy by clicking on status field.
   Module: General
   Type: functional
   Dependencies: REQ_USR_1
   Test ID: TST_USR_3
   Test: Status of user should be changed and other contacts should see the same status which he sets.
   Assignee: David Alarcon Prada (GUI), Akanksha Gupta (Texting / File transfer)

4. **Requirement ID**: REQ_USR_4
   Requirement: System shall allow a user to configure his account, eg changing password.
   Module: General
   Type: functional
   Test ID: TST_USR_4
   Test: If password is successfully changed then user should be able to log in with new password.
   Assignee: Sokratis Papadopoulos (GUI), Inanc Gurkan (Database)

5. **Requirement ID**: REQ_USR_5
   Requirement: System shall allow a user to send text/files to his contacts.
   Module: General
   Type: functional
   Dependencies: REQ_USR_2
   Test ID: TST_USR_5
   Test: Messages should appear on both users' screen. Users must be allowed to exchange files with each other and the GUI must show statistics on the used and remaining time for upload/download and a time estimate for completion.
   Assignee: Jyoti(texting/transfer) , Gautam Vij (Database) , David Alacron Prada(GUI)

4.2 SYSTEM REQUIREMENTS

1. **Requirement ID**: REQ_SYS_1
   Requirement: For secure file and text exchange encryption of password, messages and files
   Module: System
   Type: Non Functional
   Test ID: TST_SYS_1
   Test: Encrypted password, messages should be saved to the database
   Description: All the data sent from the client to the central database gets encrypted and saved in the database.
   Assignee: Johannes Grohmann

2. **Requirement ID**: REQ_SYS_2
   Requirement: Central database for user authentication information,messages,white papers etc
   Module: Database
   Type: Non Functional
   Test ID: TST_SYS_2
   Test: Run tests for data (message, authentication information etc) insertion, message history, add or block users and check for changes made in the database
   Description: Insert in the database. Data access permissions and retrieve data quickly
   Assignee: Jibraan Chahal (Database), Sokratis Papadopoulos (GUI), Akanksha Gupta

3. **Requirement ID**: REQ_SYS_3
   Requirement: Connections to Central Server
   Module: System
   Type: Non Functional
   Test ID: TST_SYS_3
   Test: Access to information on central server
   Description: Users should be able to connect with the server
   Assignee: Jyoti

4. **Requirement ID**: REQ_SYS_4
   Requirement: Connecting email and chat
   Module: System
   Type: Non Functional
   Test ID: TST_SYS_4
   Test: Test in a scenario with the unread message and offline user to check the email notification service.
   Dependencies: REQ_SYS_3
   Description: For offline chat, based on the message status (ie. if the message is unread and the user is offline ,the user should be informed via email . This needs a connection between chat and email and the access to email account.
   Assignee: Johannes Grohmann