1.1 System Requirements

Use Case Model:

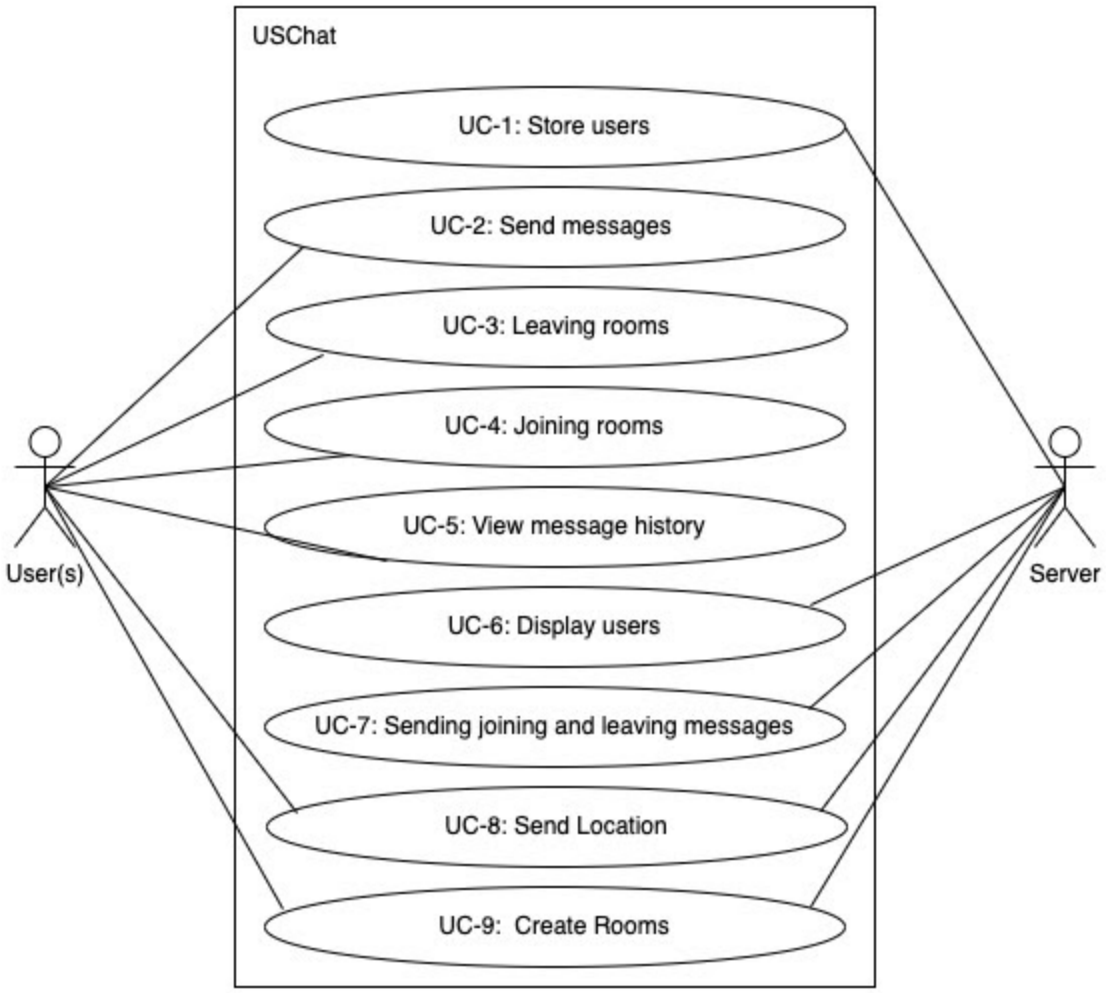

Figure 1.1 *Use case model for the FCAPS system*

Quality Attributes Scenarios:

ID	Quality Attribute	Scenario	Associated
QA-1	Scalability	Create a user and send it to be stored within the server, with an ever-expanding user base.	UC-1, UC-9
QA-2	Usability	Users are able to send messages and the timestamps are recorded.	UC-2
QA-3	Security	Send location coordinates, however, the coordinate will not be exact as it will be moved to protect privacy.	UC-8

QA-4	Performance	The ability to perform all tasks without comprising real-time functionality. Where messages are seen within a second of being sent.	All
QA-5	Availability	Users are able to see other users as well as the admin.	UC-6

Constraints:

ID	Constraints
CON-1	A minimum of 10 users must be supported by the system.
CON-2	Messages should be sent and displayed in less than 1 second on either end.
CON-3	Users should be authenticated before joining the room, and after through continuous checking.
CON-4	Network connection between user and server must have low bandwidth and be reliable.
CON-5	The system must be accessed through a web browser such as Chrome, Firefox Safari, etc.
CON-6	Large amount of messages will have to be stored in a single session.
CON-7	An existing relation database server must be used. This server must hold the user and room information that will be used to fetch information.

Architectural Concerns:

ID	Concern
CRN-1	Establishing an overall initial system structure.
CRN-2	Leverage the team’s knowledge about JSON and dependencies, including handlebars, and socket.io.
CRN-3	Allocate work to members of the development team.