Requirements and Analysis Document for CEYMChat

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date
version

1 Introduction

This document will analyze and discuss the project ”CEYMChat” created by group 21. The problem that the ”CEYMChat” application tries to solve lies within human communication. By creating a simple chat application with an understandable Graphical User Interface (GUI), human interaction and communication will flourish. Anyone who wishes to communicate via online chat with friends or other users can easily do so using ”CEYMChat”. The application requires less personal data than other existing chat applications on the market. ”CEYMChat” is a lightweight chat application developed using the java.net library. It requires no installation of software on the users device and requires minimal personal information during sign-up. No files need to be saved on the users device.

1.1 Definitions, acronyms and abbreviations

”Group 21” refers to Erik Gunnarsson, Carl stling, Yazan Ghafir and Mohamad Almasri.
”CEYMChat” refers to the application built by group 21 during this project.
”GUI” refers to a Graphical User Interface.
”.net” refers to the java.net library used for network connections in the project.
”Multithreading” refers to the usage of multiple threads in a program in order to execute several tasks at the same time.

1.2 Definitions, acronyms, and abbreviations

2 Requirements

2.1 User Stories

Story Identifier: CEYMCHAT001
Story Name: Send a message

Description
As a user, I would like to be able to send a message to another user of choice so that I can communicate with him/her.

Confirmation
- Message is sent to the server.
- Message is received by another user.
- Message is received by the correct user.
- Code well documented.
- Tests passed.

Functional
- Can I ...
- If I click ...

Non-functional: (exemple)
- Availability:
  - Can I place an order at any time (24 hours per day or 24/7/365)?
  - Can I view the order at any time (24 hours per day or 24/7/365) up to and including delivery?
- Security:
  - Are unauthorised persons and other customers prevented from viewing my order?

Story Identifier: CEYMCHAT002
Story Name: Server handles a coming message

Description
As a server, I would like to receive messages to distribute them to the appropriate recipient.

Confirmation
- received to the Server-

- Redistribution of a message.
- Message is sent to the correct client/recipient.
- Code well documented.
- Tests passed.

Functional

- Can I ...
- If I click ...

Non-functional: (exemple)

- Availability:
  - Can I place an order at any time (24 hours per day or 24/7/365)?
  - Can I view the order at any time (24 hours per day or 24/7/365) up to and including delivery?
- Security:
  - Are unauthorised persons and other customers prevented from viewing my order?

Story Identifier: CEYMCHAT003

Story Name: Chat on a GUI

Description

As a user, I want to have a GUI so that I can use the program outside a command line

Confirmation

- The client has got a working GUI interface.
- Code well documented.
- Tests passed.

Functional

- Can I ...
- If I click ...

Non-functional: (exemple)

- Availability:
  - Can I place an order at any time (24 hours per day or 24/7/365)?
  - Can I view the order at any time (24 hours per day or 24/7/365) up to and including delivery?
- Security:
  - Are unauthorised persons and other customers prevented from viewing my order?

Story Identifier: CEYMCHAT004
Story Name: Register as a user

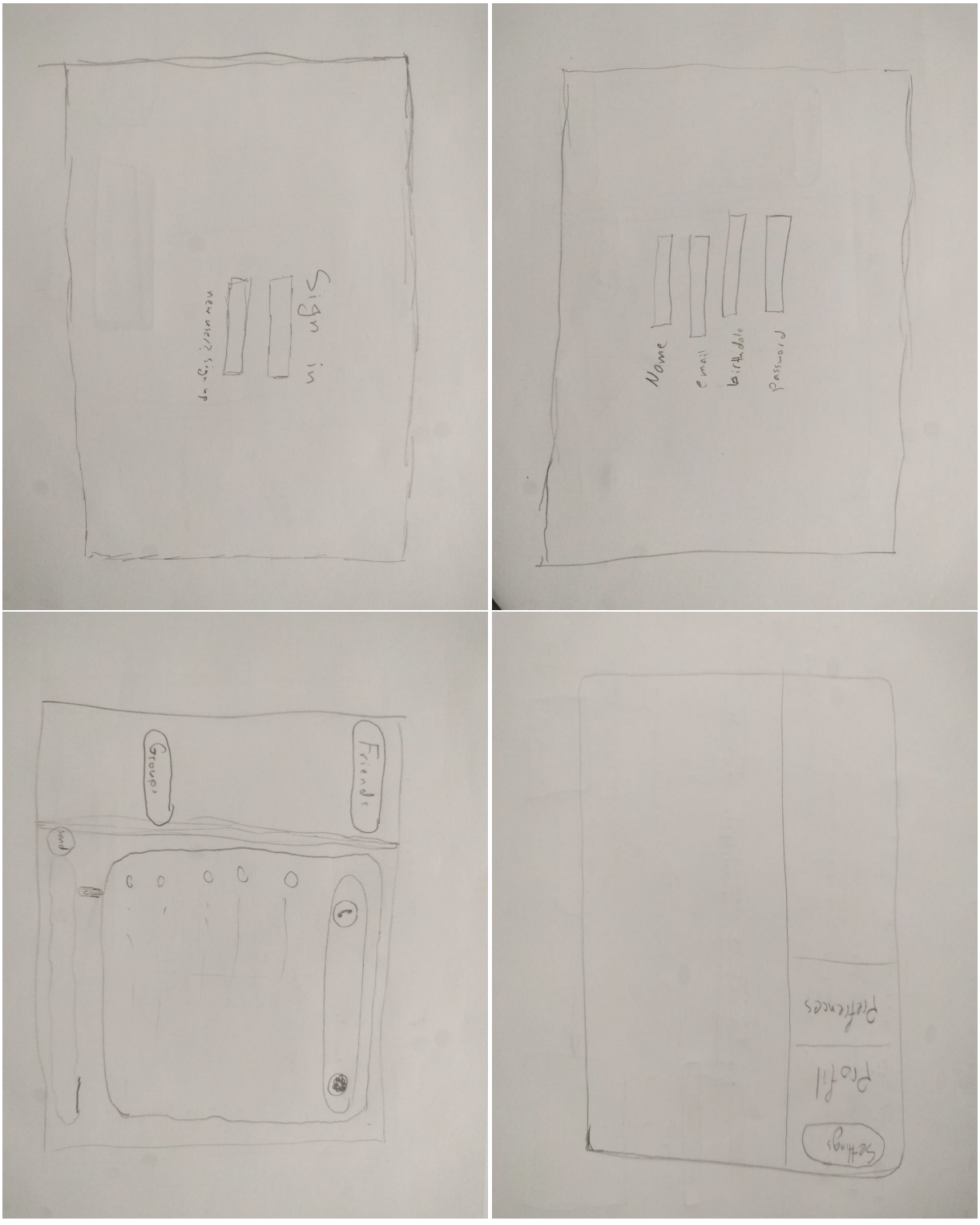
Description
As a user, I want to register as a user with my e-mail account so I can have my own profile.

Confirmation
- Client recognizes a user object.
- Client recognizes data in a user object in order to change its appearance.
- Code well documented.
- Tests passed.

Functional
- Can I ...
- If I click ...

Non-functional: (exemple)
- Availability:
  - Can I place an order at any time (24 hours per day or 24/7/365)?
  - Can I view the order at any time (24 hours per day or 24/7/365) up to and including delivery?
- Security:
  - Are unauthorised persons and other customers prevented from viewing my order?

2.2 User interface



3 Domain model

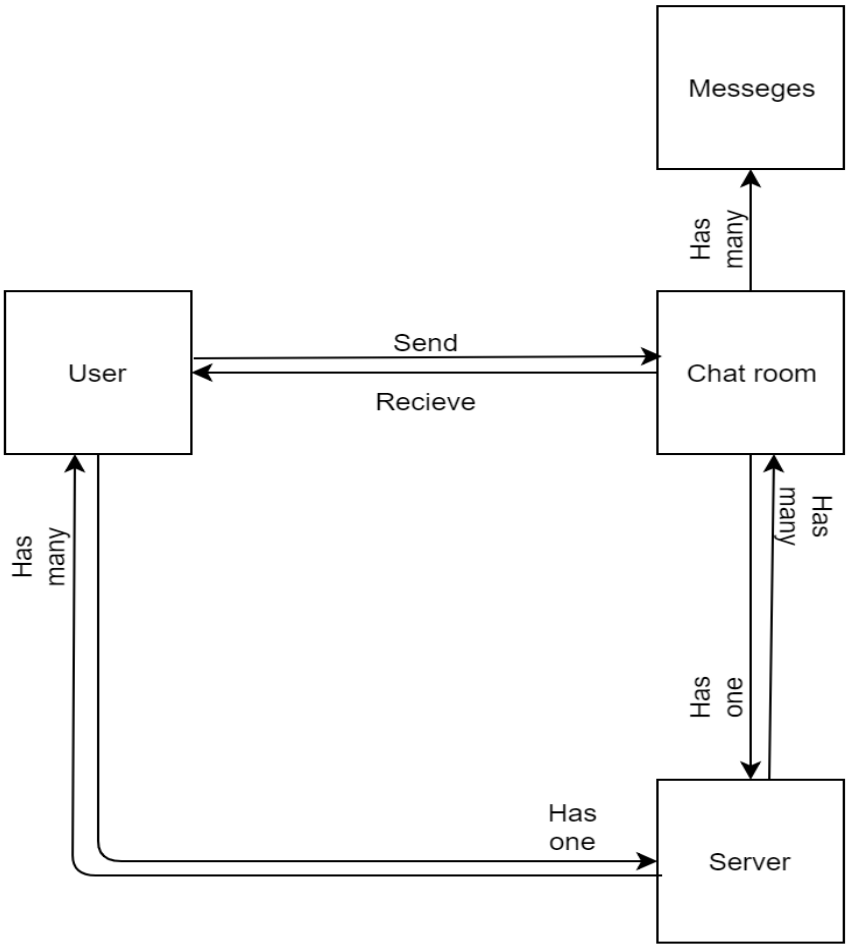


Figure 1: High-level UML-diagram of the application

3.1 Class responsibilities

Name	Module	Summary
ClientMain	Client	This is the runnable class of the Client. It launches the program.
ClientModel	Client	This class contains the model of the Client.
Connection	Client	Establishes a connection with the server and the
ClientController	Client	Controller class to function as input for model and to send updates to GUI.
FriendListItem	Client	Used to create a GUI element that displays a friend.
Message	model-lib	A generic class that encapsulates the data to be sent/received by the actors.
MessageFactory	model-lib	Factory for the Message-class. Narrows the generic element in Message to only be constructed with specified classes.
Command	model-lib	Can be sent by a client to the server to request the server to perform the issues command.
UserDisplayInfo	model-lib	Sent to the client containing information about other users.
SocketHandler	Server	Runs as a Thread to continously accept incoming client connection requests to establish connection between server and client.
ServerMain	Server	This is the runnable class of the server. It launches the server.
ServerModel	Server	This is the model for the server.
User	Server	A user object is created for each user in order to diffrentiate them and store relevant information.
Reader	Server	Every User has a Reader object. A Reader runs as a Thread to continously monitor and proccess incoming Messages from the user.
Writer	Server	Ever User has a Writer object. A Writer is used to send Messages to a Users client.

4 References