Chat Application

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**Abstract**

The purpose of the chat application is to allow users be able to the chat with each other, like a normal chat application. The users will be able to chat with each other, most likely only from user to user, no group chatting will be developed, unless there is time to do so. The chat application will be written in Python. The project will be tested as the program is being developed. A database for the users registered will be developed and tested, a menu will be developed and tested, a client/server interface will be developed and tested, and GUI’s will be developed and tested, for the users’ benefits. When the chat application is near completion, more testing will be done in order to make it less buggy or more user friendly.

**1. Introduction**

The functionality of the chat application is to give the ability to chat with whoever is online on the application. The users and stakeholders will be a small group for now, The use cases will be what is available to the user, and the functional/nonfunctional requirements will be covered, as well as the milestones of the chat application. Chat Application is like WhatsApp but on Desktop. We are developing a GUI based Chat Application, which aims to provide an easy to use interface. All the registered users on the platform will be able to do a live chat. We will be using Websocket for server to client connection. For the database we will be using MySQL. Our chat application will be very useful for people who do not want to use their phone while using Desktop/Laptop. Since it's a very basic application it won’t support any type of file sharing system.

**2. Problem Domain**

Technology is evolving day by day, and to make it useful we are trying to create an application which will help people connect over the internet. Chat Application will use a network as a server to store its data and act as an intermediate connection between the users trying to chat. There will be few things to consider:

1. What about the user's data, privacy.
2. How we are going to maintain it.
3. What will be the design.
4. How we will connect users to server.
5. Where we are going to store their data.

**3. Solution Domain**

Chat Application will be ready to execute on Desktop with Python installed and nothing else, it can run on any desktop platform. Our app is using Websocket, which is a communication protocol for a persistent, bi-directional, full-duplex TCP Connection from user to a server. If required we will be using MongoDb for the database. Our app is a simple GUI application so users can just open and use it. For GUI we will be using the pyqt5 module. It's simple and easy to use. To make connection secure we will be exchanging information in base64 format. It will make messages non-visible if someone tries to break into the application.

**4. System Domain**

Hardware requirements:

1. Processor: Minimum 1 GHz; Recommended 2GHz or more.

2. Ethernet connection (LAN) OR a wireless adapter (Wi-Fi)

3. Hard Drive: Minimum 32 GB; Recommended 64 GB or more.

4. Memory (RAM): Minimum 1 GB; Recommended 4 GB or above.

Software requirements:

1. Operating System: Windows: 7 or newer, MAC: OS X v10.7 or higher, Linux: Ubuntu.

2. Python 3.x installed on the system.

Technologies: python.

**5. Application Domain**

Scope of this project is very broad in terms of others manually checking themselves. Few of them are:

1. This can be used by anyone with a Desktop having internet connection.
2. Can be used anywhere any time (user Location doesn’t matter).
3. No age restrictions. Anyone from any age group can use our Chat Application.

**6. Expected Outcome**

There are so many good features in our chat application

Registered Users will be able to get a complete secure and live chat platform.

Name of Guide: Prof. Sachin Malviya

Sign of Guide with Date: ……………………..