1. Title of your Group Project :-

**SECURE CHAT APPLICATION**

2. Team members (Name & Roll Number) :-

| Aryan Patel - 201901021 | Kanishk Patel - 201901035 |
| --- | --- |
| Meet Panchal - 201901040 | Dharmik Desai - 201901101 |
| Malav Gajjar - 201901129 | Piyars Kakadiya - 201901305 |

3. Name of the reporting TA

Kavan Hajare

4. Date

25/03/2022

5. Version number

V1

6. Start Date:

28-02-2022, End Date: 13-05-2022 (Approx. 11 weeks)

7. Objectives of the Project

This project’s objective is to create a chat application with a server and users which will enable users to communicate with each other. The chat application can be used for messaging, sharing updates and photos, enhancing local socializing in English language.

Below are the main objectives of the chat application named SYPHER :

MESSAGING :

One of the primary uses of SYPHER is messaging. Just like other social apps, you have a list

of conversations that you’re engaged in. This feature is pivotal as you can add people in a

variety of ways aside the conventional way of details collection. Users of SYPHER can use a phone number to add a person to their contact list and even search for people nearby. With inbuilt plugins that allow individuals to upload media and their contacts can make comments about them, then the barrier of environmental distance will be broken.

SOCIAL BARRIER BREAKER :

With English being the common language in use for the application SYPHER, it is intended to ensure we all socialize within our limits and create more friends irrespective of our ranks and file. SYPHER hopes to rekindle the spirit of humanity in her natural state devoid of privileges some individuals have over others. In conceptualizing this app, careful thought and study has been given to a methodology of really defining the peaceful co-existence of human and, SYPHER will really serve as a means of promoting and forestalling unity as it helps in defining the place of equality of the human race devoid of sentiment, religion and ethnicity.

USER FRIENDLINESS

The project should be very easy to use, enabling even a novice person to use it.

SIMPLE AND INTERACTIVE GUI:

System facilitates simple and interactive Graphical User Interfaces for the user while handling the system.

8. Functionalities (briefly, maximum limit is two pages)

1 Registration

Every new user will have to make an account on the SYPHER to use the functionalities.

Users can register using his/her email address.

2 Login

Once a user successfully registers his/her account, he/she can login into the account providing the email address and password of the account.

3 User Profile

In SYPHER every user has its own account profile. In which he/she can have his/her profile photo. SYPHER allows users to change his/her profile photo as well.

4 Chatting

Chatting is the central functionality of SYPHER. It will allow authorized users to chat with the people from his/her contact list.

5 Add Friend

A user will have his/her friends/contact list with whom he/she wants to chat with. SYPHER allows users to add a new contact or friend in his/her contact profile.

6 Remove Friend

A user can remove the contact from his/her contact list with whom he/she dont want to chat with..

7 Find Friend

Users can have a very long list of contacts so SYPHER provides a searching option to the user so that he/she can find the contact from the contact list.

8 Logout

User can logout from his/her account once he/she finishes the use of SYPHER.

9. Project Deliverables

(a) Milestones (with intermediate milestones at two weeks) :-

??????????????????????????????????????????????

(b) List of final deliverables

i. Complete documentation (internal included)

DELIVERABLES FOR WEBSITE DEVELOPMENT

Customer requirement specification (external link)

Web design proposal (as PDF)

Website content

User training session

Project Scope and features

1. Broadcasting chat server application is going to be a text communication software,

it will be able to communicate between two computers using point to point

communication.

2. There is a limitation on live chat as it does not support audio communication.

3. The easy usability breaks the complexity syndrome.

Project Workability

The user interacts with the tool using GUI. The GUI operates in two forms, which are contacts

forms and chat forms. The contacts forms contain the list of all friends and the chat form will

be used to chat with friends.

4.3.2 Project Deliverables

1. An Android app

2. Documentation

3. Readme file

ii) Report for audit :

???????????????????????????????????????????????????????

iii) USER GUIDE :

Processes

Installing the SYPHER on an android PC/Laptop is as simple as accessing a website.

Registration for new Members

To register a new user, the SYPHER app requires the user to provide their email. It checks if the email already has a user in the database, if it doesn’t the user is then taken to a screen where they fill in their details which include full name, date of birth and a short description of themselves. The user is then asked to confirm their email through the email message sent to them which contains a verification code link to their account. The user will now have a

full active account.

Login features

SYPHER uses a login system which includes authentication and email verification. First the email ID is verified to belong to a user and then a verification is done if the email address was found to belong to a user. Next the user is asking to continue with the login process

by authenticating through a password.

Adding Friends

Adding friends through the SYPHER app can be done by clicking floating button at the bottom

right corner of the app which after giving the app permission brings a list of all your contact

list saved on your mobile phone.

Account Setting

Using the Account settings is very simple and clear, as there are not too many functions on

it. The Account settings allows you to logout, see your contact list count, view your details

and open the app settings and app info.

10. Estimated total time (unit: hours) (Please specify a breakdown of different project activities)

Research & Requirement Gathering :- 4 weeks (14 hours)

Design Period :- 3 weeks (12 hours)

Coding :- 2 weeks (10 hours)

Development Period :- 1 week (8 hours)

Testing Period :- 1 week (5 hours)

Product Release

11. H/W and S/W requirements (attach a separate document, if necessary)

H/W :-

PC/Laptop

256 MB minimum RAM required

Internet or LAN connections

Processor with speed of 500MHz & of Pentium or above.

The system must be connected to the internet

Users can access this web-app using mobile browsers.

Minimum two computers with two hard drives

Minimum of 20 GB Hard disk

S/W :-

> Operating system (windows xp/Linux etc.)

1. To use existing computer network:

The system has a capability to use existing computer networks for text communication.

2. Reliable communication:

To provide more reliable communication through text chat between users.

3. Portable website:

Robust application is needed which portably used for text communication for diverse

computer network.

4. Distance Communication:

Application needed for long distance communication through networks such as the Internet.

12. Technology / Architecture (attach a separate document, if necessary)

* Quality Planning
* Software QFD
* Product Innovation
* Software Analysis
* Design patterns
* UML tools and technique
* Database modeling tools
* Mongodb Compass, Mongoose, Mongodb Driver
* Software Development Methodology
* Agile, scrum
* Programming Languages
* NodeJS,
* ReactJS,
* MongodB,
* ExpressJS,
* Postman API,
* Firebase,
* Git
* Github

2.6 TECHNOLOGY USED

React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta (formerly Facebook) and a community of individual developers and companies. React can be used as a base in the development of single-page, mobile, or server-rendered applications with frameworks like Next.js. However, React is only concerned with state management and rendering that state to the DOM, so creating React applications usually requires the use of additional libraries for routing, as well as certain client-side functionality. As a database we have used MongodB database with the react.

2.6.1 Benefits of using ReactJS

1. Speed : The React basically allows developers to utilize individual parts of their application on both client-side and the server-side, which ultimately boosts the speed of the development process.
2. Flexibility: Compared to other frontend frameworks, the React code is easier to maintain and is flexible due to its modular structure. This flexibility, in turn, saves a huge amount of time and cost to businesses.
3. Performance: React JS was designed to provide high performance in mind. The core of the framework offers a virtual DOM program and server-side rendering, which makes complex apps run extremely fast.
4. Usability Deploying React is fairly easy to accomplish if you have some basic knowledge of JavaScript.

13. Standard to be followed throughout the project (teams need to fix a standard and follow the conventions recommended).

Standard - A standard is a technical publication created to ensure the reliability of the materials, products, methods, and/or services. They establish the technical requirements, specifications, guidelines, characteristics, and/or procedures designed.Standards are the minimally accepted professional practice and/or quality that must be observed.

All software development projects, including maintenance projects, must follow these standards. Objectives for application development include:

Clear definition of purpose, Simplicity of use Ruggedness (difficult to misuse, kind to errors encountered), Delivered on time and when needed, Reliability, Efficiency (fast enough for the purpose it was created), Minimum development cost, Conform to standards, Clear, accurate and precise user documentation Clear, accurate and precise technical documentation.

The production, development, and test environments must all be kept separate. This will ensure that the production system's security is rigorously maintained, while the development and test environments can maximize productivity with fewer security constraints.

Throughout the project, special attention must be paid to capturing and implementing security and privacy requirements on an ongoing basis. This must be reflected in the post-implementation review.