



# Chat Application

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**Abstract:** The purpose of the chat application is to allow users to be able to 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, group chatting also developed. The chat application will be written in Angularjs, while developing the application, practicing techniques with Angularjs and working on it as much as possible will help some Angularjs skills and be more ready to develop the application. For the scope of the project, 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 done, more testing is done in order to make it less buggy or more user friendly.

## I. INTRODUCTION

Teleconferencing or Chatting, is a method of using technology to bring people and ideas "together" despite of the geographical barriers. The technology has been available for years but the acceptance it was quit recent. Our project is an example of a chat server. It is made up of 2 applications the client application, which runs on the user's Pc and server application, which runs on any Pc on the network. To start chatting client should get connected to server where they can practice two kinds of chatting, group chat (message is broadcasted to all particular group members) and private one (between any 2 users only) and during the last one security measures were taken.

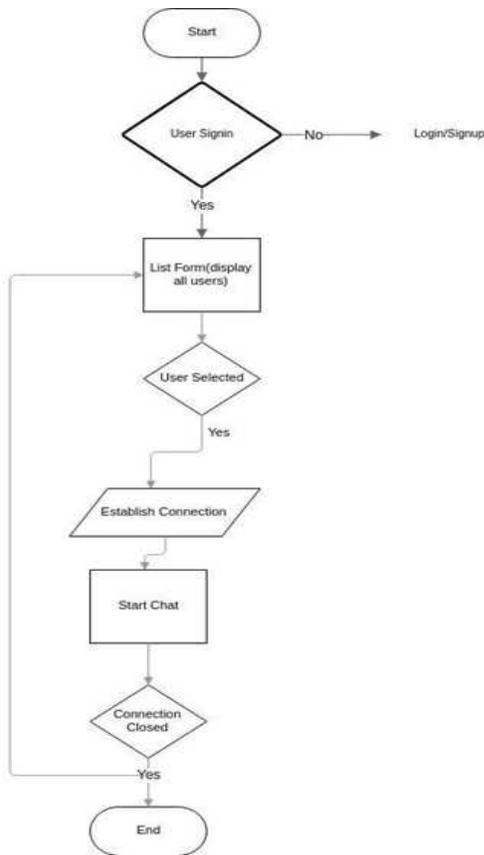
## II. SYSTEM ANALYSIS

Communication over a network is one field where this tool finds wide ranging application. Chat application establishes a connection between 2 or more systems connected over an internet. This tool can be used for large scale communication, thus increasing the standard of co-operation. In addition it converts the complex concept of firebase to a user friendly environment. This software can have further potentials, such as photo sharing. This tool

helps in two major aspects - Resolving the names of all the system connected in a network and enlisting them.

Used for communication between multiple systems enlisted in the resolved list. The app has been designed using Ionic Framework (Ionic Framework is the free, open source mobile UI toolkit for developing high-quality cross-platform apps for native iOS, Android, and the web—all from a single codebase). The user interacts with the tool using a GUI. The GUI operates in two forms, the List form & the chat form. The List form contains the names of all the systems connected to a network. The chat form makes the actual communication possible in the form of text.

The chat application works in two forms. When the client wants to see the chat history, the user will be able to do so. The user will be able to clear the history if the user wants to. Contains a rich textbox which cannot be edited but only displays the messages from one user to another, including the self sent message, as in any chat application. Contains a textbox for messages to be written that is sent across the network. Contains a Send button. When the sent button is clicked, in the background, the text in the textbox is encoded and sent as a text over the network to the client machine.



Operation of the application based on the inputs given by the user. When initialized, returns a list containing the names of all the system registered in a network. Contains one button: Send Icon. When the Send icon is clicked, the chat page is initialized with a connection between the host and the client machine. Contains a rich textbox which cannot be edited but only displays the messages from one user to another, including the self-sent message, as in any chat application. Contains a textbox for messages to be written that is sent across the network. Contains a Send button. When the sent button is clicked, in the background, the text in the textbox is encoded and sent as a text over the network to the client machine. Here this message is decoded and is shown in the rich textbox. To make it more realistic, the self-sent message is shown in the right side textbox as well. Both the messages is differentiated by the help of the identifier name at the beginning of each message in the rich text box.

### III. SYSTEM SPECIFICATION

In hardware requirement we require all those components which will provide us the platform for the development of the project. The minimum hardware required for the development of this project is as follows—  
Ram- minimum 1 GB.

Space Required—minimum 10 MB Any latest processor Software's can be defined as programs which run on our computer .It act as petrol in the vehicle. It provides the relationship between the human and a computer. It is very important to run software to function the computer. Various software's are needed in this project for its development. Following software using for this chat application.

### IV. SOFTWARE ARCHITECTURE

Firebase is a mobile and web application development platform developed by Firebase, Inc. in 2011, then acquired by Google in 2014. As of October 2018, the Firebase platform has 18 products, which are used by 1.5 million apps. Firebase evolved from Envolv, a prior startup founded by James Tamplin and Andrew Lee in 2011. Envolv provided developers an API that enables the integration of online chat functionality into their websites. After releasing the chat service, Tamplin and Lee found that it was being used to pass application data that weren't chat messages. Developers were using Envolv to sync application data such as game state in real time across their users. Tamplin and Lee decided to separate the chat system and the real-time architecture that powered it. They founded Firebase as a separate company in September 2011 and it launched to the public in April 2012.

Firebase's first product was the Firebase Realtime Database, an API that synchronizes application data across iOS, Android, and Web devices, and stores it on Firebase's cloud. The product assists software developers in building real-time, collaborative applications.

### V. SYSTEM DESIGN

This module deals with the application's interface with the end user. All the user inputs (refreshing, connecting, and chatting) are captured here. Structured programming approach is used as the tool has been developed in Cordova platform. At a minimum, the following should be described. We develop the user interface for the application through which the user interacts with the tool. It consists of a main window and boxes which are displayed as per the menu selections made by the user. There are different controls such as edit, buttons etc which are used to get the user



inputs. Errors occurring because of connection problems.  
Errors occurring due to incorrect input by the user.

## VI. FUNCTIONAL REQUIREMENTS

This functional requirement is for prompting the user with the option to register for the chat application, logging in, or exit the program. It will take the form of a GUI. This aspect of the login menu will ask the user for the name, username, and password of the client. It will check if the username has been taken and will close if the username is not taken and will go back to the main login menu. This aspect will ask for the username and password. Errors will occur if a space is left blank, the username doesn't exist, or the password doesn't match with the username. If the username and password matches, you are online and able to message anyone else online.

## VII. SYSTEM IMPLEMENTATION AND MAINTENANCE

Implementation is a vital step in ensuring the success of new system even a well-designed system can fail if it is not a properly implemented. Implementation activities are needed to transform a newly developed information system into an operational system for end users. These resources acquired from many sources in the computer industry. Some sources are as follows a-hardware- IBM, HP, Apple computer etc. b-software- Microsoft, Oracle etc.

## VIII. TESTING

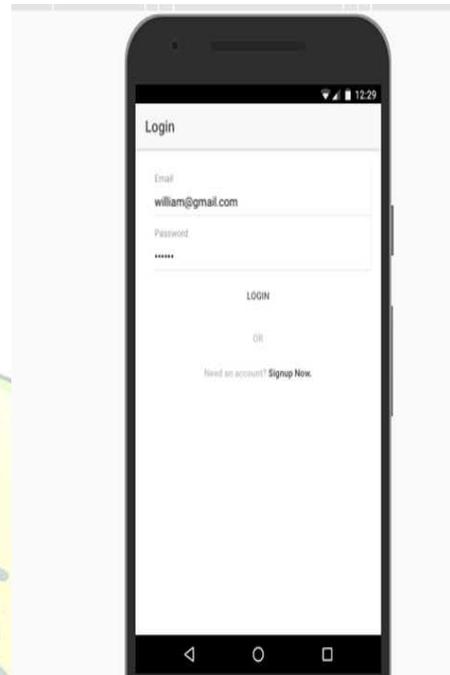
Glen Myers states a number of rules that can serve well as testing objectives. Testing is a process of executing a program with the intent of finding an error. We can test our project MNM Chat using various methods but the main objective is that when:- The first form displays all the systems connected to a network correctly.

A successful connection is created and communication is possible via text synchronously.

Unit testing is the testing of the individual components (units) of the software. Unit testing is conducted as part of a combined code and unit test phase of the software lifecycle, although it is not uncommon for coding and unit testing to be conducted as two distinct phases. When developing a strategy for unit testing, there are three basic organizational approaches that can be taken.

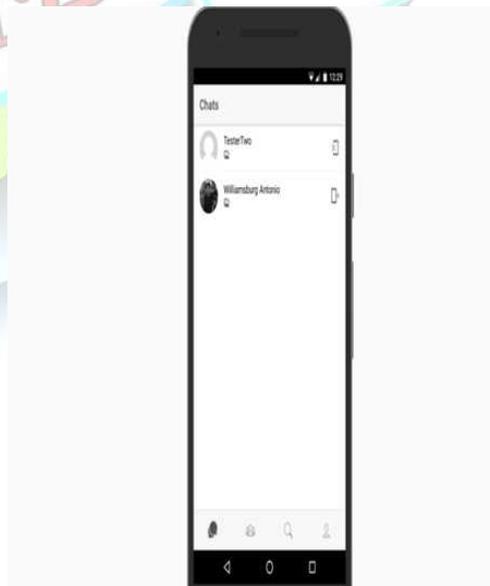
## IX. SCREENSHOTS

Here a user can login to goto the home page. User can register an account by clicking "Signup Now" button.



LOGIN PAGE

In this page user can see their older and recent chats with other peoples.



HOME PAGE



## X. CONCLUSION

There are mainly two limitations of the project and that are: Images with more than 3.5 MB can't be send. Other files can't be shared except image files. There is always a room for improvements in any software package, however good and efficient it may be done. But the most important thing should be flexible to accept further modification. Right now we are just dealing with text communication with only image sharing.

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