Project Report

for

'SUP – CHAT APPLICATION

(ANDROID PROJECT)

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BONAFIDE CERTIFICATE

Certified that this project report " 'SUP - Online Chat Application " is the bonafide work of "Shivam Beri, Utkarsh Srivastava, Pranjit Bharali, Sahil Chaudhary" who carried out the project work under my supervision.

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<u>ABSTRACT</u>

This is the Project Report of 'Sup - A Basic Chat Application. 'Sup provides the platform for chatting with friends. Features included are creating an account, adding friends, setting status and chatting with the list of friends. The unique feature of the application is "Anonymous Chatting".

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<u>Acknowledgement</u>

We take the opportunity to thank our mentor **Muneendra Ojha Sir** for assigning us this project. This project had been very educative as it introduced us to the basics of **Android Programming**. This project helped us to learn how to work as a team.

However, it would not have been possible without the kind support and help of many individuals whom we might not have mentioned here. We would like to extend our sincere thanks to all of them.

INTRODUCTION

PURPOSE:

This project uses the Google Android platform to build an application where users can be presented with the service of chatting over the Internet. The overall concept is where a user would create an account and then can converse with his/her friend, also available on the platform. Also the user has the option to chat anonymously without revealing the identity to the other person.

The basic functionality of this application is:

1) Creating an account

2) Adding a friend (based on the user name)

3) Setting the Status

4) Chatting with user in friend list

5) Anonymous Chatting

SYSTEM REQUIREMENTS

We support all Android phones that meet the following requirements:

1. Your Android phone is running **Android 2.1 or later**.
2. Your Android phone is **able to receive SMS or calls** during the verification process.

The Android Device needs to be connected to a Wi-Fi zone for proper sending and receiving of messages.

You will also need an adequate data plan in order to receive messages when outside the range of a Wi-Fi network.

Hardware

RAM : 512 MB

Resolution : 1024 x 760

TECHNICAL DETAILS

'Sup focuses mainly on providing a simple and interactive platform for creating an account, adding a friend and chatting.

TECHNOLOGIES USED:

This section focuses on technologies used in Web interface and Mobile Interface.

JAVA:

As the android platform understands Java the application was built on it.

XML:

XML is a simple, very flexible text format which was designed to carry data, not to display data.

MySQL Server:

Microsoft SQL Server is a **relational database management system** (RDBMS). In our application, to store and to retrieve the data from the database we use this technology.

Android:

The Android platform is a software stack for mobile devices including an operating system, middleware and key applications. Developers have full access to the same framework APIs used by the core applications. The application architecture is designed to simplify the reuse of components; any application can publish its capabilities and any other application may then make use of those capabilities. Developers can create applications for the platform using the Android SDK. Applications are written using the Java programming language and run on Dalvik, a custom virtual machine designed for embedded use, which runs on top of a Linux kernel.
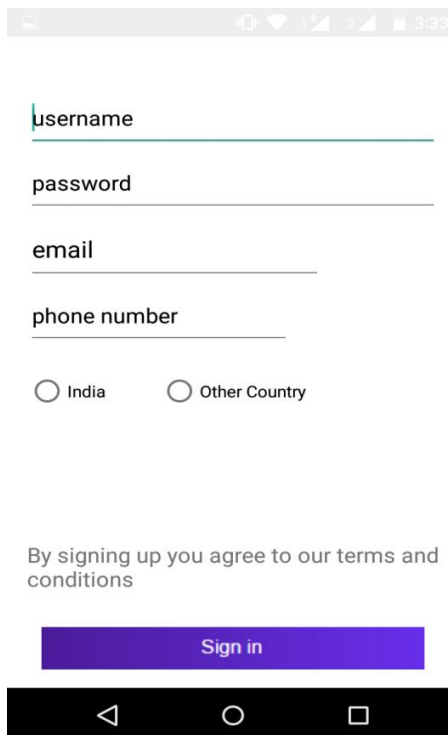
FUNCTIONALITIES:

The basic functionality of this application is:

1) **Creating an account:**

   A user can register which is stored in the online database of Parse. He has to give the details:

   a) Name
   b) Email
   c) Phone number
   d) Gender
   e) Country

2) Adding a friend (based on the user name):

A user can search another user in the database and add him to the chat list. On doing this, the other user gets a notification using the push notification service of parse.
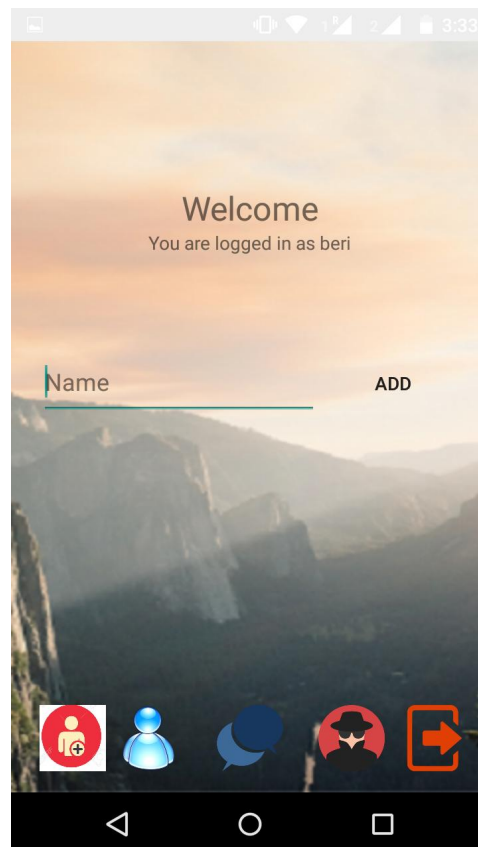
3) **Setting the Status:**

- All the past status are stored in the online data base.

- Later the status can be retrieved in a view list.

- The status list is loaded using Query service.

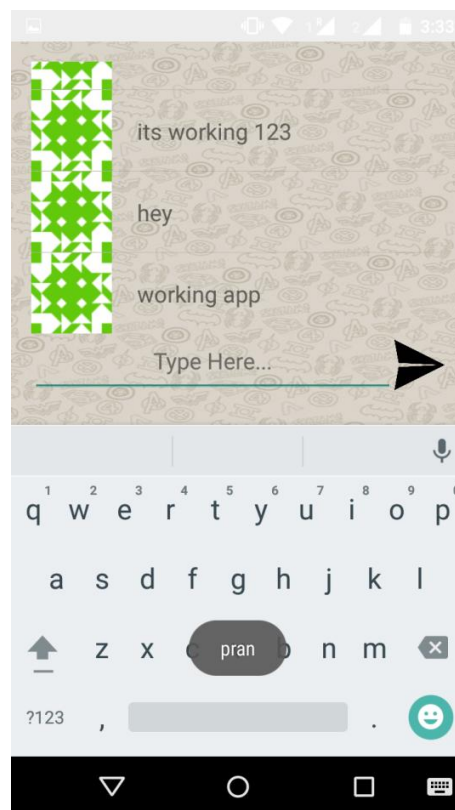- New status can be added to the database.
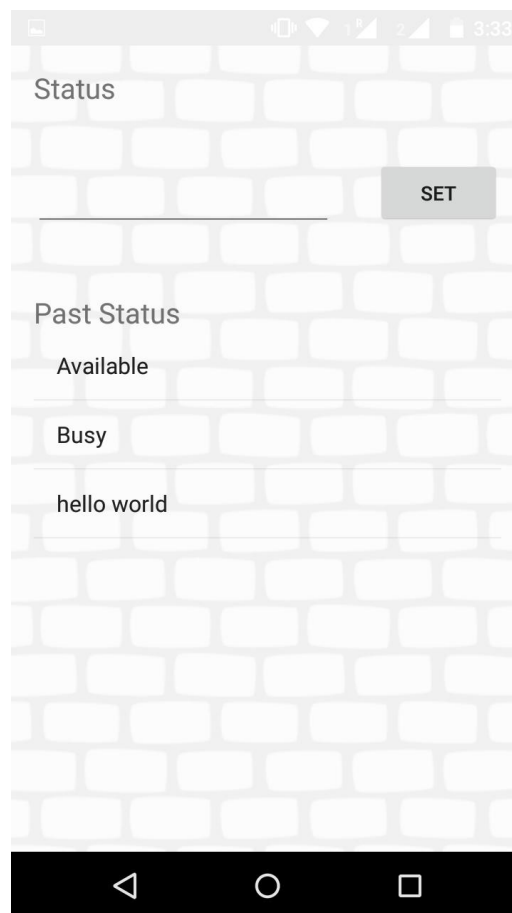
4) **Chatting with user in friend list:**

Friend list is loaded using Queries.

On clicking a friend the following things happen:

- Query is made to the online database to retrieve all the messages between the two users.
- The message are listed using List View.
- New messages can be posted that are stored in the online database.

5) **Anonymous Chatting:**

Anonymous Chatting is the unique feature of 'Sup. Once a user clicks on the button for anonymous chatting, he is redirected on a wait screen.

In the backend, the program searches for any other user who is also on the wait screen. Once a user is found, a connection is established between the 2 users and they can chat, without knowing who the other person is.

Its actual working:

1) There is a bit called Anon that is set to 1 when a user wants to do anonymous chatting. This bit is stored in the online database.
2) When a user wants to do anonymous chatting, that bit is set 1.
3) Now if another user wants to do anonymous chatting, a query is made to the database searching for another user whose anon bit is 1.
4) If he finds another user with anon bit 1, it notifies that user and initiates a chat between them.
5) A thread is run in the background that checks if another user is available for chatting.
6) The first user always a thread running in the background that queries the database and finds if another user has arrived.
7) They are redirected to a new chat screen without revealing identities.

Motivation

When we were given the project, coincidently the network of the campus was broke. As a result, several services went down.

WhatsApp was one of them. So we thought of making our own chat service which would be better than WhatsApp. So we integrated the feature of Anonymous chatting into it.

The idea of anonymous chatting was adopted by an anonymous social website start-up, BabbleNow. Babblenow is the platform where user can make anonymous acoounts and post in various private and public groups.

Challenges

1) Initially, the basic challenge was to learn Android Programming. Since no one among us had any idea about what is feasible to build, we couldn't decide what features our app would have.

2) After getting some basic idea about Android, our greatest problem was deciding how would we use online database and where would we host it.

3) Learning about different online database, and understanding their APIs.

4) The app used to crash and it was hard to debug the code because even a slight error in any of the code files would lead to a runtime error.

5) We tried to integrate a feature to allow the user to upload his Display Picture(DP). But we couldn't figure out the way to do it.

6) There is a limit to the query per second for the PARSE database.

Conclusion

7.1 IMPORTANCE OF RESEARCH:

We have used few technologies in our project, among them Android operating system is very important as our final application should run on this platform. We have spent many days learning Android as it was a new technology. Our application will be successfully built on this as we were able to use many built-in features of Android.

7.2. TEAM WORK:

By the end of this project we will end up as an effective and coordinating team as we understood the importance of the team work by the guidance of our mentor. Our team is a good combination of challenging and hardworking people. Throughout this project we have learnt a lot about team coordination, planning, presentation and developing personal attitude towards teamwork.

7.3. TIME MANAGEMENT:

To become successful, one must have good time management as it is considered as one of the important quality in the current competitive world. Keeping our seniors suggestions in mind we were able to implement and manage things in time. Meeting the various deadlines set by the instructor was tough and gave us a valuable experience of how to effectively manage time and as well the mentor's expectations were sometimes very challenging and finally our project timeline was nearly accurate and we were following that from the initial stages onwards.

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