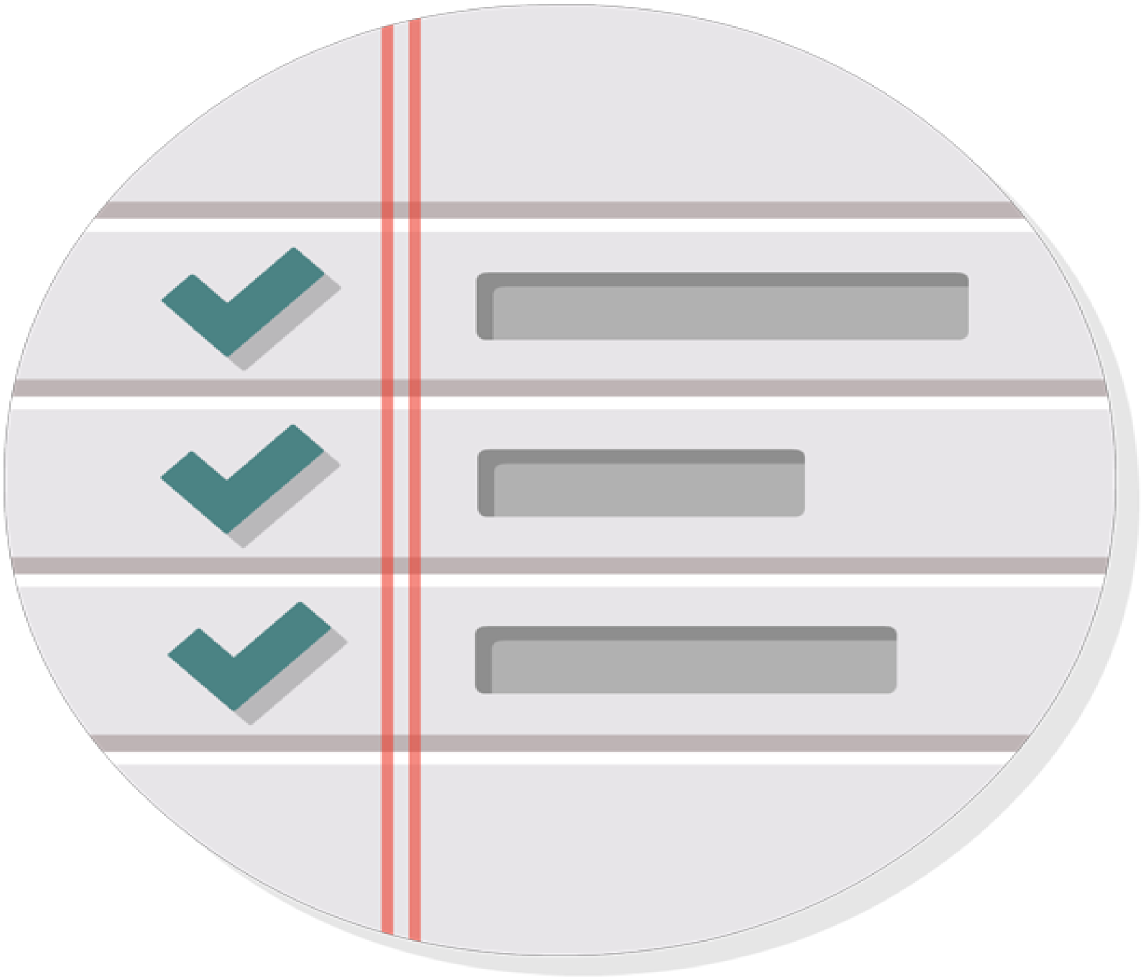

9TABLE

9TABLE

A Mini-Project Report
Under
Project Workshop

Submitted by

Kartikeya Lakhanpal

Harpratap Singh Layal

Siddhesh Manjrekar

Thomson Palamattam

Under The Guidance Of
Ratnesh Chaturvedi

in partial fulfillment for the award of the degree

of

B.Tech

IN

Computer Engineering

at

MPSTME,NMIMS UNIVERSITY, MUMBAI

April,2015

CERTIFICATE

This is to certify that the project entitled “ 9TABLE ”is the bonafide work carried out by Kartikeya Lakhanpal,Harpratap Singh Layal,Siddhesh Manjrekar,Thomson Palamattam off B.Tech (Computer Engineering), MPSTME (NMIMS), Mumbai, during the IV SEMESTER of the academic year 2015, in partial fulfillment of the requirements for the award of the Degree of Bachelors of Technology as per the norms prescribed by NMIMS. The mini-project work has been assessed and found to be satisfactory.

Ratnesh Chaturvedi

Internal Mentor

Examiner 1

Examiner 2

Dean

DR Sharad Mhaiskar

DECLARATION

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Name: Kartikeya Lakhanpal,Harpratap Singh Layal,Siddhesh Manjrekar,Thomson Palamattam

Roll No. E004,E005,E007,E021

Place:MPSTME,MUMBAI

Date:22/4/15

ACKNOWLEDGEMENT

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We express our special thanks to our H.O.D. Prof. Dr. Dhirendra Mishra for introducing the course of android application development, on which our knowledge is based.

We will be failing in our duty if we do not express our sincere thanks to all staff members, classmates and colleagues of Computer Science and Engineering Department.

Last but not the least; we thank all those who helped us directly or indirectly in completing this project work.

ABSTRACT

Even though the scheduling of a class time table is an extremely computerized process, the accessing of a time table is not. Today, hundreds of students and teachers in our college rely on the trivial process of referring to poor quality images or relying on memory for knowing their own class schedule. Our application “9table” is intended to abolish such medieval practices and introduce modernization in this process.

To explain in brief, our application will have an extensive database of all streams and class’ time table and the user will be able to access their own schedule via this application. The application will be interactive and it will interact via notifications and pop ups. Now while we realize that the student community is varied with a lot of user specific demands, the teacher community is one that has been largely ignored by mainstream app developers; our app intends to bridge that gap.

“9Table” will not only be limited to only user classes but will strive for the complete experience a student/teacher usually goes through during a normal day. Our app will notify the user about empty class rooms and teacher free slots too.

We developed a systematic approach to create the application, we developed a time bound schedule which included tackling all the possible aspects and dimensions of creating such an application.All the concepts of Data Base Management Systems (DBMS) were recalled,also we decided to use the Google backed android development software *android studio* because of its comprehensiveness and efficiency.Our application’s design are a key component to our project,considering that a massive amount of data will be instantly available to our users.However since the data is already pre-defined there is no need for any algorithms to regulate the flow of data or quality of data.

There is a massive scope for improvement on such an application and we analyzed all the rival applications in the Google Play Store, and we realized that while a lot of features such as notification declaration,or animations or instant messaging could be implemented down the line,the key aspect that makes our application competitive is our design and simplicity.The method in which we blend all the existing features while making way for more is what will allow the user to feel comfortable in using the application.Our recommendation to any future developers developing such similar applications will be that lay emphasis on the design and efficiency.

We also faced a lot of difficulties during the entire process,some of them being linking the data base of the time tables of various classes to the main application,because of the lack of such abilities on the free SQL servers present in the market.Another issue we faced was the coding for the sql language,we tackled this issue by developing an excellent piece of coding material to enable us to overcome the basic problems.These were just some of the mentioned problems.

After the development of the application we can positively confirm the following :

I. There is a need for a comprehensive time table app specifically for educational purpose in the markets today.
II. The designing and the layout of the application are of utmost importance if you want to develop a competitive application.
III. The choice of SQL server must be made according the needs and requirements of the programmer.

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No abbreviations were used in this report

Chapter 1: Methodology and requirements

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Another major component which was essential in the development of this application is **Android Studio** .Android Studio is developed by google and really eases the process of creating Java based applications.

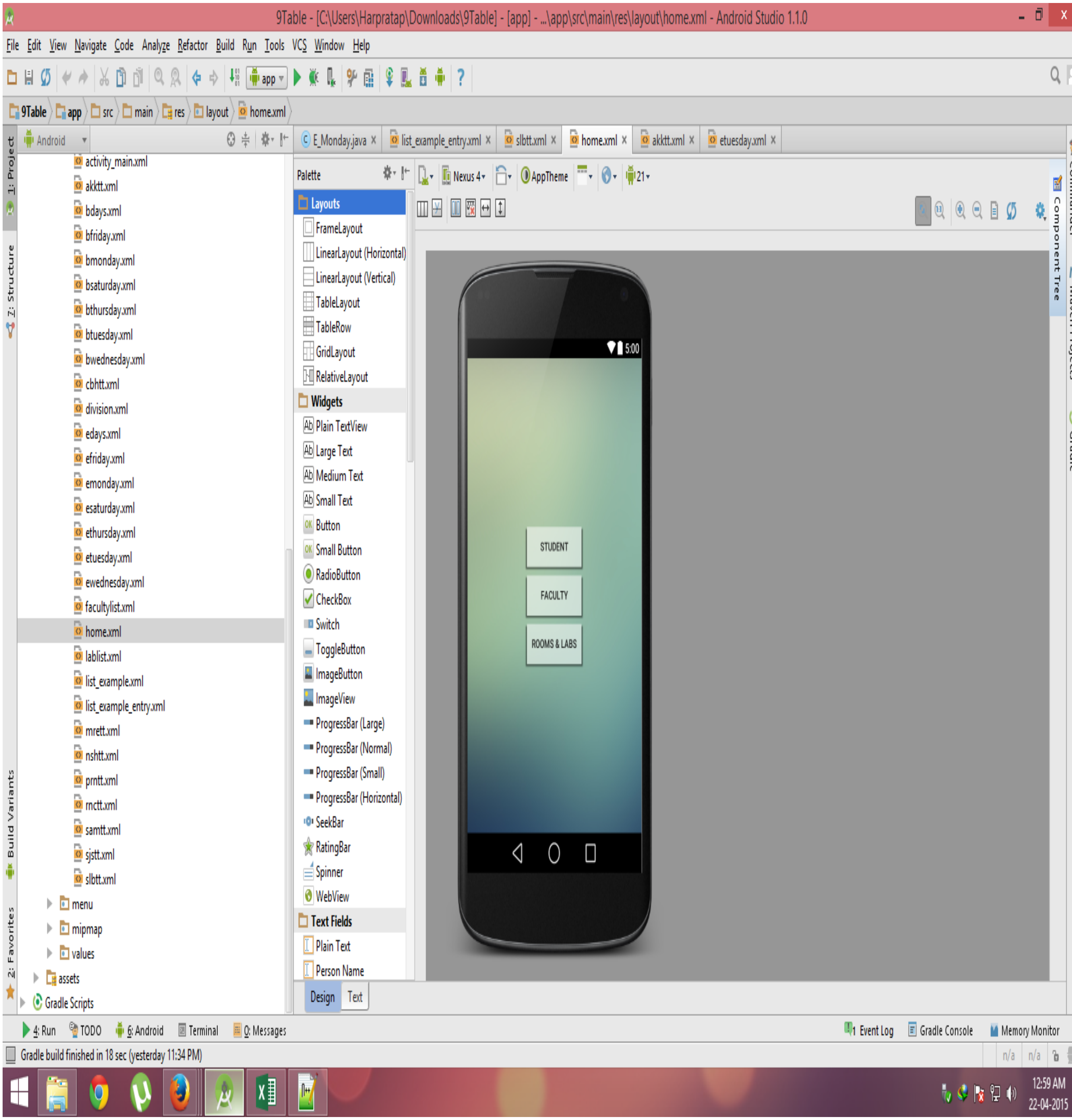
(Fig 1.1)

Android Studio is an integrated development environment (IDE) for developing on the Android platform. It was announced on May 16, 2013 at the Google I/O conference by Google's Product Manager, Ellie Powers. Android Studio is freely available under the Apache License 2.0.

Android Studio was in early access preview stage starting from version 0.1 in May 2013, then entered beta stage starting from version 0.8 which was released in June 2014.The first stable build was released in December 2014, starting from version 1.0

Based on JetBrains' IntelliJ IDEA software, Android Studio is designed specifically for Android development.It is available for download on Windows, Mac OS X and Linux,[1] and replaced Eclipse Android Development Tools (ADT) as Google's primary IDE for native Android application development.The build process involves many tools and processes that generate intermediate files on the way to producing an .apk. If you are developing in Android Studio, the complete build process is done every time you run the Gradle build task for your project or modules. The build process is very flexible so it's useful, however, to understand what is happening under the hood since much of the build process is configurable and extensible. Modules are a "discrete unit of functionality that can be run, tested, and debugged independently" and are somewhat similar to an Eclipse project with a few key differences. Each Module needs to have it's own Gradle build file(generally automatically generated for you when you create a new one, otherwise you can generate them if you are exporting a project from Eclipse). These Gradle files contain important details such as supported Android version ranges, dependencies and other meta-data about your Android project.

Like Eclipse, you will often need to link to JAR files created by 3rd parties. However, you will now need to get used to adding these .jar dependencies to your Gradle build file. Just like Eclipse, you will keep these .jar files in a "libs" folder at the root of your module (e.g. project) directory.



9Table - [C:\Users\Harpratap\Downloads\9Table] - [app] - ...\app\src\main\res\layout\home.xml - Android Studio 1.1.0

Gradle build finished in 18 sec (yesterday 11:34 PM)

The above is our screenshot ,of our app in development in the studio.(FIG1.3)

Another major issue we faced was that of connectivity and coordination, one persons coding could not be updated to the main application which was in use by the others.To solve this problem we used an exceptional online tool which was an instant remedy.We used an online portal called **Github.**

(FIG 1.2)

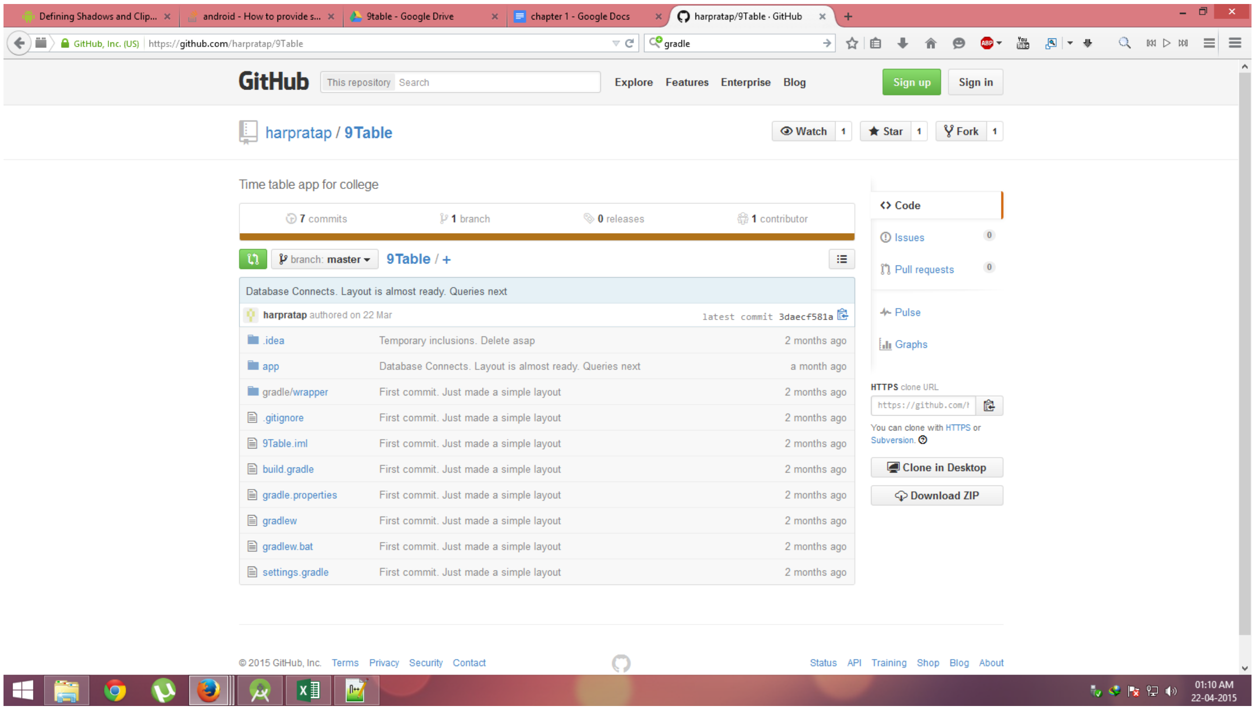
Github enabled us to share and run different codes in trial modes.Linking Github to Android studio is very simple and is a practice that is used by a lot of programmers.

Git is a “version control system,” what’s that mean? When developers are creating something (an application, for example), they are making constant changes to the code and releasing new versions, up to and after the first official (non-beta) release.

Version control systems keep these revisions straight, and store the modifications in a central repository. This allows developers to easily collaborate, as they can download a new version of the software, make changes, and upload the newest revision. Every developer can see these new changes, download them, and contribute.

Similarly, people who have nothing to do with the development of a project can still download the files and use them. Most Linux users should be familiar with this process, as using Git, Subversion, or some other similar method is pretty common for downloading needed files, especially in preparation for compiling a program from source code (a rather common practice for Linux geeks).

In case you are wondering why Git is the preferred version control system of most developers, it has multiple advantages over the other systems available, including a more efficient way to store file changes and ensuring file integrity.


Defining Shadows and Clip...
android - How to provide s...
9table - Google Drive
chapter 1 - Google Docs
harpratap/9Table · GitHub
GitHub, Inc. (US) https://github.com/harpratap/9Table
gradle
GitHub
This repository Search
Explore Features Enterprise Blog
Sign up Sign in
harpratap / 9Table
Watch 1 Star 1 Fork 1
Code
Issues 0
Pull requests 0
Pulse
Graphs
HTTPS clone URL
https://github.com/t
You can clone with HTTPS or Subversion.
Clone in Desktop
Download ZIP
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Status API Training Shop Blog About
01:10 AM
22-04-2015

Time table app for college

7 commits · 1 branch · 0 releases · 1 contributor

branch: master 9Table / +

Database Connects. Layout is almost ready. Queries next

harpratap authored on 22 Mar · latest commit 3daecf581a

.idea	Temporary inclusions. Delete asap	2 months ago
app	Database Connects. Layout is almost ready. Queries next	a month ago
gradle/wrapper	First commit. Just made a simple layout	2 months ago
.gitignore	First commit. Just made a simple layout	2 months ago
9Table.iml	First commit. Just made a simple layout	2 months ago
build.gradle	First commit. Just made a simple layout	2 months ago
gradle.properties	First commit. Just made a simple layout	2 months ago
gradlew	First commit. Just made a simple layout	2 months ago
gradlew.bat	First commit. Just made a simple layout	2 months ago
settings.gradle	First commit. Just made a simple layout	2 months ago

(FIG1.4)

the above image is our github profile of this application.

This application relies extensively on database managements and thus we needed a proper SQL language client to help us code and utilize the data according to us.Thus we used the **SQLite3** client and we coded using its queries

fficial SQLite3 was command-line and tiresome to use. We used this GUI based SQLite3 software for easy database management. **SQLiteManager** is a powerful database management system for sqlite databases, it combines an easy to use interface with blazing speed and advanced features. **SQLiteManager** allows you to work with a wide range of sqlite 3 databases (like plain databases, in memory databases, AES 128/256/RC4 encrypted databases, SQLCipher encrypted database and also with cubeSQL server databases).

You can perform basic operations like create and browse tables, views, triggers and indexes in a very powerful and easy to use GUI. **SQLiteManager**'s built-in Lua scripting language engine is flexible enough to let you generate reports or interact with sqlite databases in just about any way you can imagine.

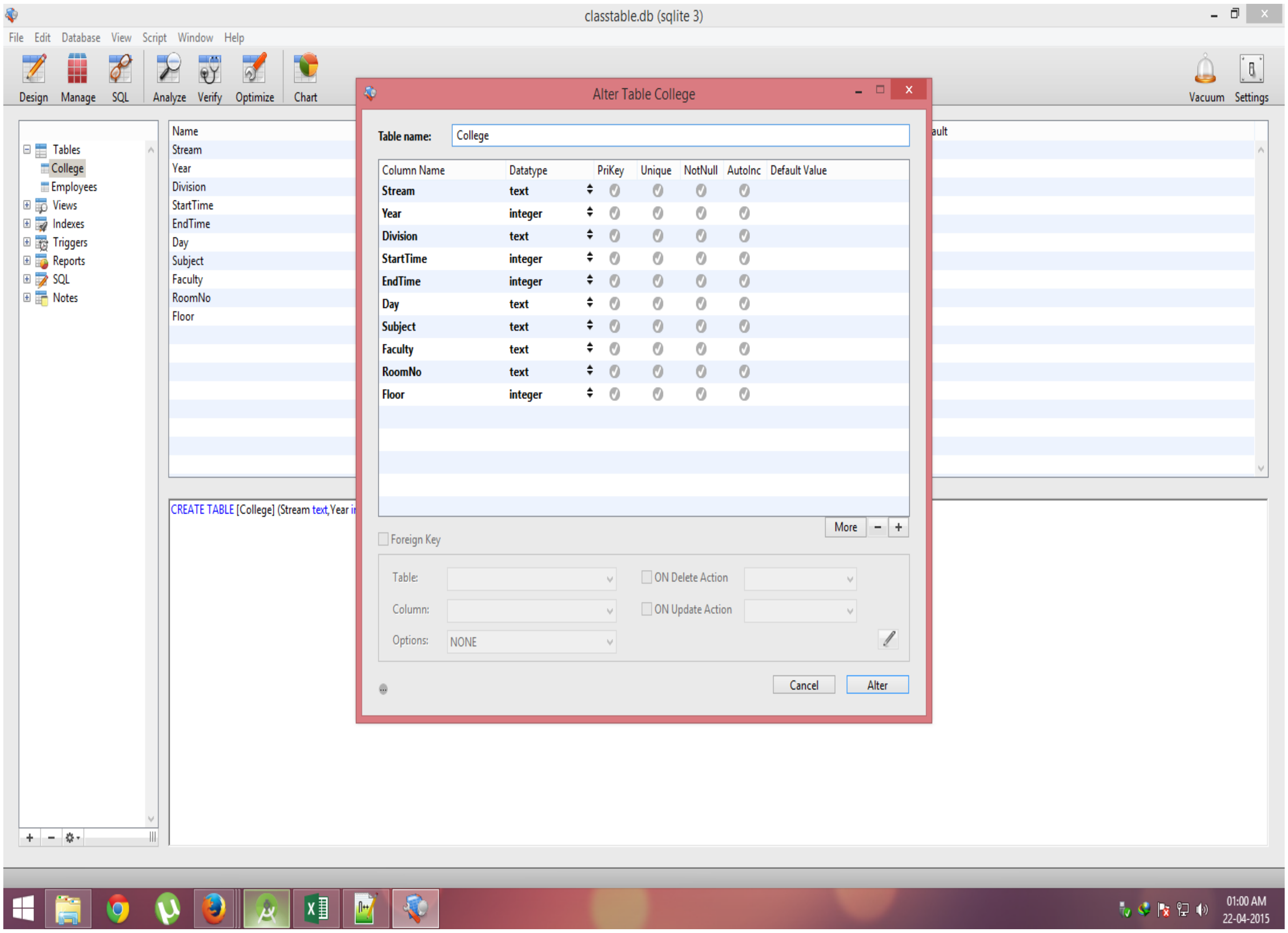


Table name: College

Column Name	Datatype	PriKey	Unique	NotNull	AutoInc	Default Value
Stream	text					
Year	integer					
Division	text					
StartTime	integer					
EndTime	integer					
Day	text					
Subject	text					
Faculty	text					
RoomNo	text					
Floor	integer					

Options: NONE

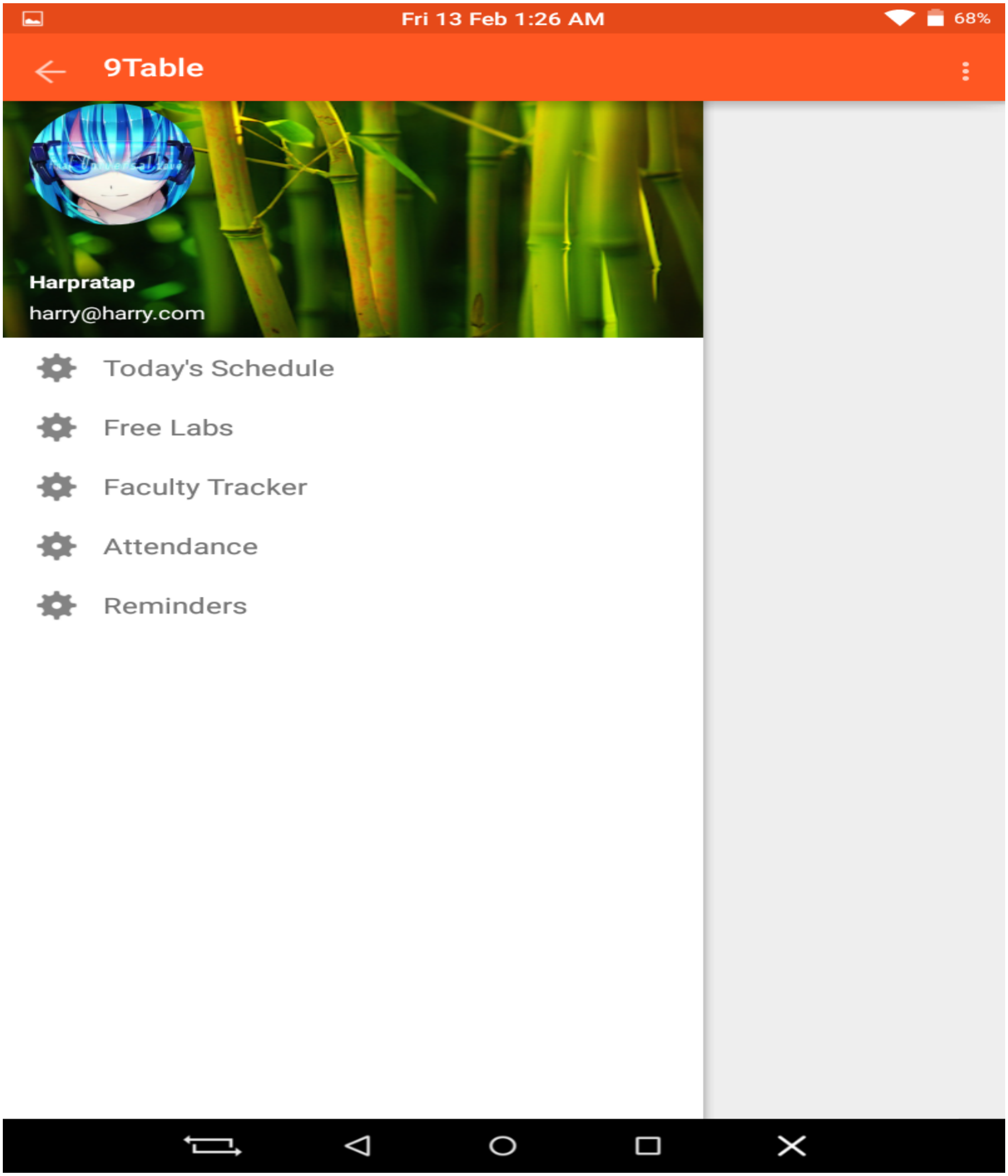
```
CREATE TABLE [College] (Stream text, Year i
```

(FIG1.5)

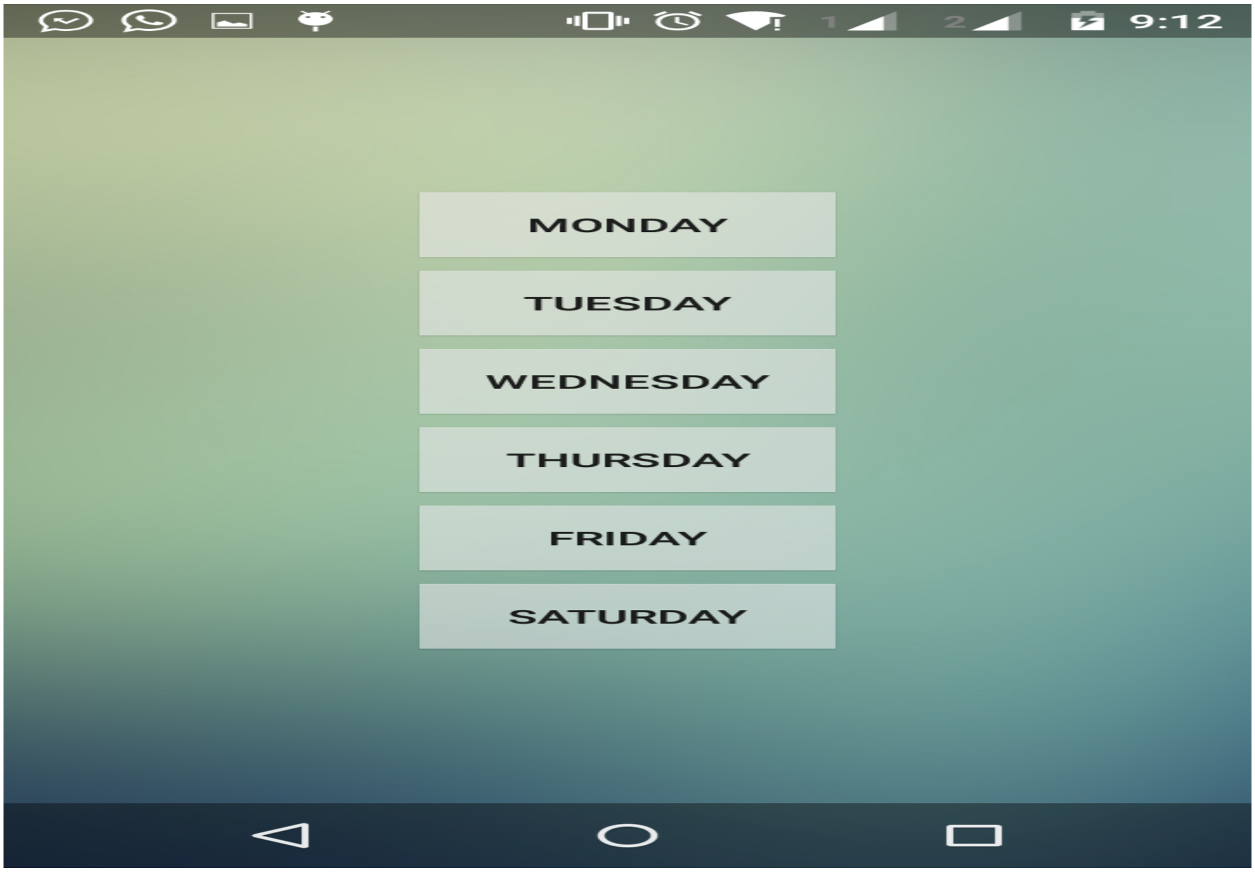
Chapter 2:Working and characteristics:

The layout of the app is as follows:

(FIG 2.1)



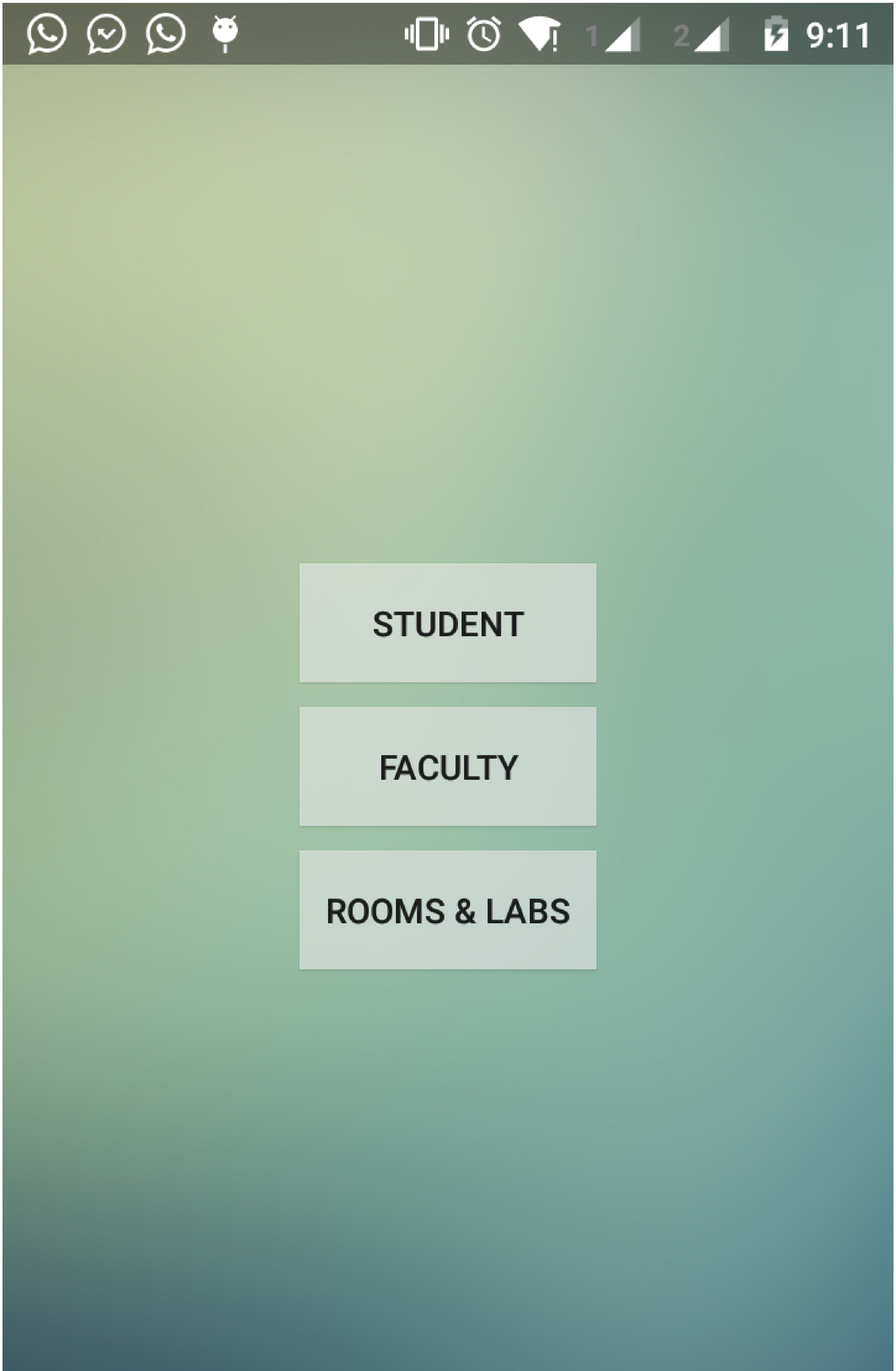
The above screenshot encapsulates all the intended features of our final application .Then when a user checks in, this is what the interface be designed like :(FIG 2.2)



However as specified before this application is not just restricted to the Student demography,but also to faculty. Teaching and non teaching faculty to can benefit from this application, all they have to do is check in,identify themselves:as one of the following -

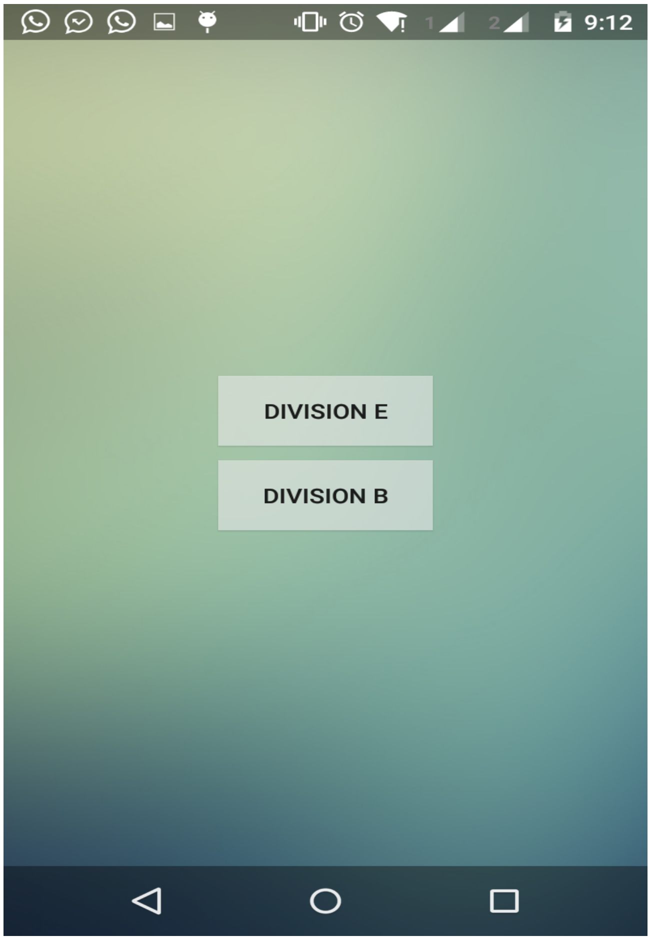
i.Student
ii.Faculty
iii.Someone who needs to access the schedule of rooms and labs.

The app is so designed that it will then redirect the user to the specialized page according to the users choice,then the user can access the required time table.Student time table will be different and so will be the class empty schedule.
The following is the layout:
:

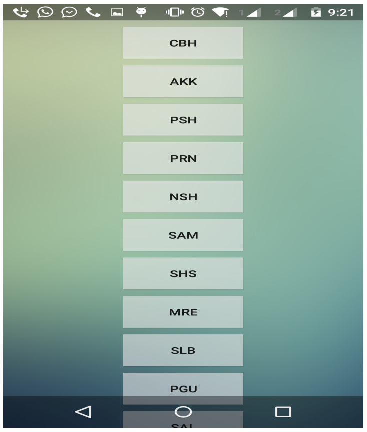

9:11
STUDENT
FACULTY
ROOMS & LABS

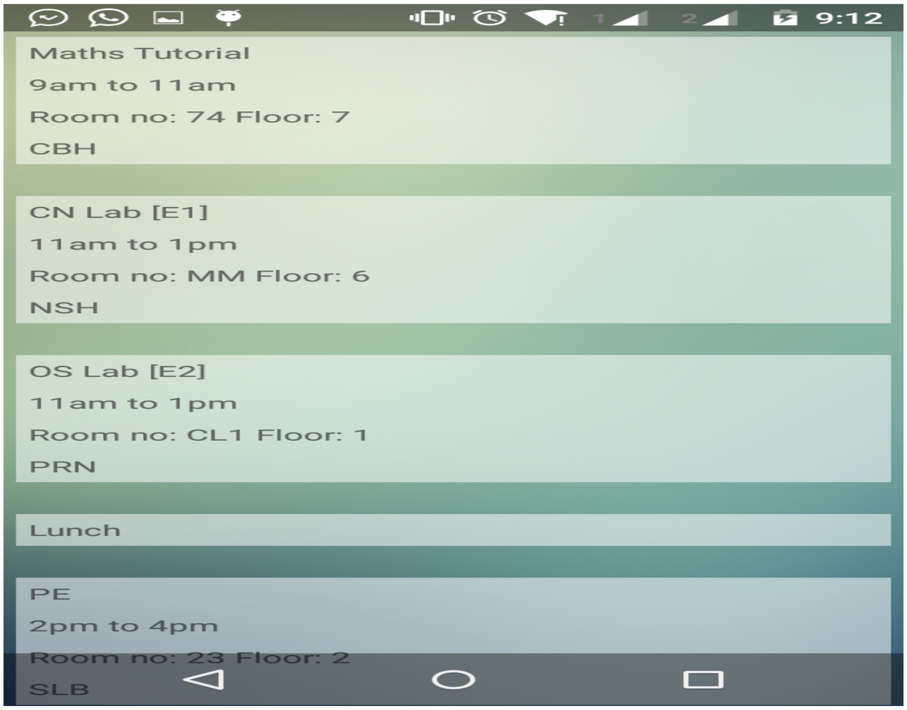
(FIG 2.3)

In our constrained data base,which includes the time table of the entire second year computer department, if the user is a student then our application will provide the user with the choice to select the division of the class too.The layout is as follows:(FIG 2.4)



The following are just an overview of the user interface we have thoroughly developed:





Maths Tutorial
9am to 11am
Room no: 74 Floor: 7
CBH

CN Lab [E1]
11am to 1pm
Room no: MM Floor: 6
NSH

OS Lab [E2]
11am to 1pm
Room no: CL1 Floor: 1
PRN

Lunch

PE
2pm to 4pm
Room no: 23 Floor: 2
SLB

(FIG 2.5)

So how does this application work?

After you have chosen the day ,of the time table that you want to call the database class is called.

i.This contains getDatabase() function which receives the queries.

ii.Then the query is ran through the database the output of which in the object type “cursor”

iii.The final stage involves amending this data onto a “listview” to show it to the user.

Appropriate listview is generated based on the choice of user.

The above steps explain in a nutshell what is the thinking of the code written by us. Also we created an **Entity -Relational diagram** for the convenience of creating an algorithm . The e.r diagram helped us connect the dots and we found it essentially helpful in figuring out the databse and managing all the data.

Chapter 3:Future Scope

The future scope of our Project '9Table' is vast. The various fields in which further improvements can be done include:

- Import/Export facility from various formats.

  Presently our app relies on SQLite3 and its queries for execution.
  We hope to implement such a system that is compatible with the most basic file storing formats.
  (FIG3.1).

- Notification of the upcoming lectures and labs.
- Notifications are a major part in todays day and age,an application must be able to inform the user and enable him to be aware of pending lectures at all times.

We wish to provide to the User an update as to what the next class is, what time it is at and where it is? Without the User having to browse through the app. We wish to provide the update on the notification panel.

But notifications on what? All the possible features we can implement will give notifications,

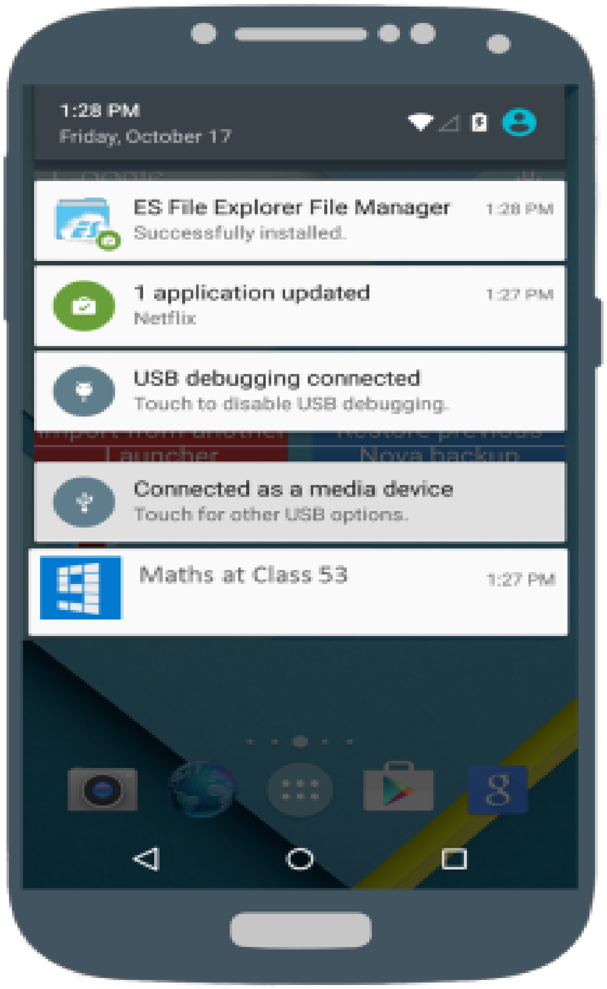
i.Free Lab alerts

ii.Free Teacher timings

iii.Low attendance warning

iv.Next lecture information

(FIG3.2)-



1:28 PM
Friday, October 17

ES File Explorer File Manager 1:28 PM
Successfully installed.

1 application updated 1:27 PM
Netflix

USB debugging connected
Touch to disable USB debugging.

Connected as a media device
Touch for other USB options.

Maths at Class 53 1:27 PM

- Drag and Drop dynamic Time-Table changes.

Change in Time-Tables is tedious, rescheduling is even more difficult. We wish to make this process easier by making changes made by the Faculty/ Admin to reflect in the student's app.

A vital essence to our vision,we intend to allow teachers and students to find ease and schedule their daily lives according to their own ease.Drag and drop facility will include

i.Lecture exchange

ii.Reminder

iii.Request to meet teacher schedule

iv.Request for rescheduling labs

(FIG 3.3)

References

Github library used for SQL Lite coding: “ https://github.com/jgilfelt/android-sqlite-asset-helper “

- Process of linking the android studio project with Github : “ http://stackoverflow.com/questions/26345407/how-to-connect-existing-android-studio-project-to-existing-github-repository “
- App making basics and design layout course : “Android Recipes: A Problem-Solution Approach” by Dave Smith and Jeff Frieson.
- SqlLite database used: “http://php.net/manual/en/book.sqlite3.php “
- Extensive Database collection : “ College class schedules”