A PROJECT REPORT
ON

"PU-LABS"

Submitted to
UNIVERSITY OF PUNE

In Partial Fulfilment of the Requirement for the

EMPLOYABILITY SKILLS LABORATORY
COMPUTER ENGINEERING

BY

PREM MOTGI 305130
SONALI BHOKATE 305106

UNDER THE GUIDANCE OF
PROF. K.R.PATHAK

DEPARTMENT OF COMPUTER ENGINEERING
SINHGAD COLLEGE OF ENGINEERING
PUNE - 411041

2015 - 2016

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Department of Computer Engineering
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CERTIFICATE

This is certify that the project entitled

"PU-LABS"

submitted by

PREM MOTGI	**305130**
SONALI BHOKATE	**305106**

is a record of bonafide work carried out by them, in the partial fulfilment of the requirement for the award of Degree of Bachelor of Engineering (Computer Engineering) at NAME OF COLLEGE, Pune under the University of Pune. This work is done during year 2015-2016, under our guidance.

Date: / /

(Prof.K.R.PATHAK)
Project Guide

(Prof. K.R.PATHAK)
Project Coordinator

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External Examiner

Acknowledgements

We are profoundly grateful to **Prof. K.R.PATHAK** for his expert guidance and continuous encouragement throughout to see that this project rights its target since its commencement to its completion.

We would like to express deepest appreciation towards **Dr.**, S.D.LOKHANDE, SINHAGAD COLLEGE OF ENGINEERING, **Prof.P.R.FUTANE** , Head of Department of Computer Engineering and **Prof.K.R.PATHAK**, Project Coordinator whose invaluable guidance supported us in completing this project.

At last we must express our sincere heartfelt gratitude to all the staff members of Computer Engineering Department who helped me directly or indirectly during this course of work.

PREM MOTGI
SONALI BHOKATE

ABSTRACT

The mobile and internet technologies are rapidly converging. In todays world, each and every person has an easy access to internet. Students now a days choose to study online instead of using traditional method of paper and pen. Considering these factors , our team came up with an idea of developing an Android App providing easy access to Savitribai Phule Pune University students with all study material needed to excel their score. App consists of all study material required by the students. Documents including mcqs, question papers, and sample programs are been included in the app.

The prime objective behind programming the app is to provide all syllabus related material to students just a click away! The prime objective behind programming the app is to provide all syllabus related material to students just a click away! The user not only finds academic data but he can also study other programming language basics. Other programming languages include C, C++, Java, .etc. He could find sample programs as well some basic questionnaire for the same. The project is developed on Android Studio Manager a tool consisting of custom tools that help us to develop a mobile app on Android platform. MySql and website is used as back end for the project. While the android app is used at front end.

Keywords: *Android app, C, C++, Java, Android Studio Manager, MySql.*

Contents

Chapter 1

Introduction

1.1 Introduction

World is contracting with the growth of mobile phone technology. As the number of users is increasing day by day, facilities are also increasing. Starting with simple regular handsets which were used just for making phone calls, mobiles have changed our lives and have become part of it. Now they are not used just for making calls but they have innumerable uses and can be used as a Camera , Music player, Tablet PC, T.V. , Web browser etc . And with the new technologies, new software and operating systems are required. So we have an idea of using these magnificent features of android to fulfill the need of students while they do the programming and studies of engineering.Many times it apperas that when the students do the programming they stuck at some point they dont get of what to do at that time so here comes the idea of our app (PU-Labs), out app will then guide the students in such situations.its really mundane that the students use internet for their entertainment purposes so if they spend such a time using our app then it becomes much lucrative for them .Pu-Labs is containing all of the data for e.g.Syllabus ,programs,MCQ's and miscellaneous.Android makes efficient use of database for apps by using queries that fetch the data from the databse and view that data in organized manner to user.overall our app is a study guide that directs the students while their studies.

1.2 Software Environment Used

1. Programming Language- Java
2. Application Type-Mobile Application
3. Database- SQLite
4. Latex- Documentation

5. Freecharts- Charts
6. Calenders - calenders to select date

1.3 Minimum System Requirements

- Microsoft Windows 8/7/Vista/2003 (32 or 64-bit)
- 2 GB RAM minimum, 4 GB RAM recommended
- 400 MB hard disk space
- At least 1 GB for Android SDK, emulator system images, and caches
- 1280 x 800 minimum screen resolution
- Java Development Kit (JDK) 7
- Optional for accelerated emulator: Intel processor with support for Intel VT-x, Intel EM64T (Intel 64), and Execute Disable (XD) Bit functionality
- one android phone with android version at least 3.0

Chapter 2

Project Planning and Management

2.1 Java in Android studio

If you want to get started with application development, Google provides a Java API to get started and compiles your files into classes. Why did Android prefer Java for its development platform? There are multiple reasons such as; Java is a commonly used language and many programmers know it, it can run on a virtual machine (VM) so no need to recompile for different phones, better security, many development tools available for Java, and Java is a known industry language with most phones compatible with it.

Though Google provides the Java API, Android does not use JVM to execute class files. Rather, it uses Dalvik Virtual Machine (DVM). The class files are compiled into Dalvik Executable (DEX) format, and bundled as Android Package (APK) along with other resources.

With Java, if you are aware of object-oriented programming principles, creating applications for android will be much simpler than iOS app development.

2.1.1 xml

XML stands for Extensible Mark-up Language.XML is a very popular format and commonly used for sharing data on the internet. This chapter explains how to parse the XML file and extract necessary information from it.

Android provides three types of XML parsers which are DOM,SAX and XMLPull-Parser. Among all of them android recommend XMLPullParser because it is efficient and easy to use. So we are going to use XMLPullParser for parsing XML

The first step is to identify the fields in the XML data in which you are interested in.

2.2 SQLite

SQLite is a opensource SQL database that stores data to a text file on a device. Android comes in with built in SQLite database implementation.

SQLite supports all the relational database features. In order to access this database, you don't need to establish any kind of connections for it like JDBC,ODBC e.t.c Database - Package

The main package is android.database.sqlite that contains the classes to manage your own databases Database - Creation

In order to create a database you just need to call this method openOrCreate-Database with your database name and mode as a parameter. It returns an instance of SQLite database which you have to receive in your own object.Its syntax is given below

SQLiteDatabse mydatabase = openOrCreateDatabase("your database name",MODE$_PRIVAT$

Apart from this , there are other functions available in the database package , that does this job

2.3 Connections

A connection represents a link from a Java application to a database. All SQL statements and results are returned within the context of a connection. Database statements that are executed within this context form a database session which forms one or more closed transactions. Especially in distributed applications, multiple concurrent connections may exist accessing the same values of the database. which may lead to the following phenomena (referred to as transaction isolation levels):

dirty reads: reading values from table rows that are not committed. non-repeatable reads: reading table rows more than once in a transaction but getting back different data because other transactions have altered the rows between the reads. phantom reads: retrieving additional "phantom" rows in the course of repeated table reads because other transactions have inserted additional rows that satisfy an SQL WHERE clause.

Chapter 3

Analysis and Design

3.1 Design

Material design is a comprehensive guide for visual, motion, and interaction design across platforms and devices. To use material design in your Android apps, follow the guidelines described in the material design specification and use the new components and functionality available in Android 5.0 (API level 21).

3.2 Access

Every time you install an app in Android, you're presented with the list of permissions the app requires in order to work. If you're not reviewing that list before you click "Install," start nowyou'll get a better understanding of what information an app really needs and what functions of your device the app has access to just by reading that list. It's tempting to just skip past it, but resist: you should at least look them over so you're aware.

Chapter 4

Implementation and Coding

Intent- An Android Intent is an abstract description of an operation to be performed. It can be used with startActivity to launch an Activity, broadcastIntent to send it to any interested BroadcastReceiver components, and startService(Intent) or bindService(Intent, ServiceConnection, int) to communicate with a background Service.The intent itself, an Intent object, is a passive data structure holding an abstract description of an operation to be performed.For example, let's assume that you have an Activity that needs to launch an email client and sends an email using your Android device. For this purpose, your Activity would send an ACTION$_SENDalongwithappropriatechoose$

Expanded List View-

Android Expandable ListView simple Example in android. We are aware about android most powerful feature ListView. We can handle ListView click event e.g clicking on ListView row, we can start a new activity or what ever we want to do. But it some how strange to many developer, clicking on ListView row it should expand and show more details in spite of opening a new Activity and we can shrink row of ListView after reading details information. This is feature known as ExpandableListView in android. ExpandableListView is pre-define widget in android . and much similar to android ListView.So here we go for ExpandableListView Simple Example with source code at the end this article.ExpandableListView include some steps to create one simple sample Create one fresh project and Extends ExpandableListActivity inspite of Activity public class MainActivity extends ExpandableListActivity

ListView-

Android ListView is a view which groups several items and display them in vertical scrollable list. The list items are automatically inserted to the list using an Adapter that pulls content from a source such as an array or database. An adapter actually bridges between UI components and the data source that fill data into UI Component. Adapter holds the data and send the data to adapter view, the view

can takes the data from adapter view and shows the data on different views like as spinner, list view, grid view etc.The ListView and GridView are subclasses of AdapterView and they can be populated by binding them to an Adapter, which retrieves data from an external source and creates a View that represents each data entry.Android provides several subclasses of Adapter that are useful for retrieving different kinds of data and building views for an AdapterView (i.e. ListView or GridView). The common adapters are ArrayAdapter,Base Adapter, CursorAdapter, SimpleCursorAdapter,SpinnerAdapter and WrapperListAdapter. We will see separate examples for both the adapters.

4.1 Tables used in SQLite

Number of Tables

Table Index	Table Name
1	MCQ Table
2	Educational Links
3	Programs
4	Syllabus Table

MCQ Table

Column Name	Datatype	Size
Sem I	Varchar	255
Sem II	Varchar	255
Sem III	Varchar	255
Sem IV	Varchar	255

Educational Link

Column Name	Datatype	Size
C Programming	Varchar	255
C++ Programming	Varchar	255
Python Programming	Varchar	255
Java Programming	Varchar	255
Perl Programming	Varchar	255
Scripting	Varchar	255

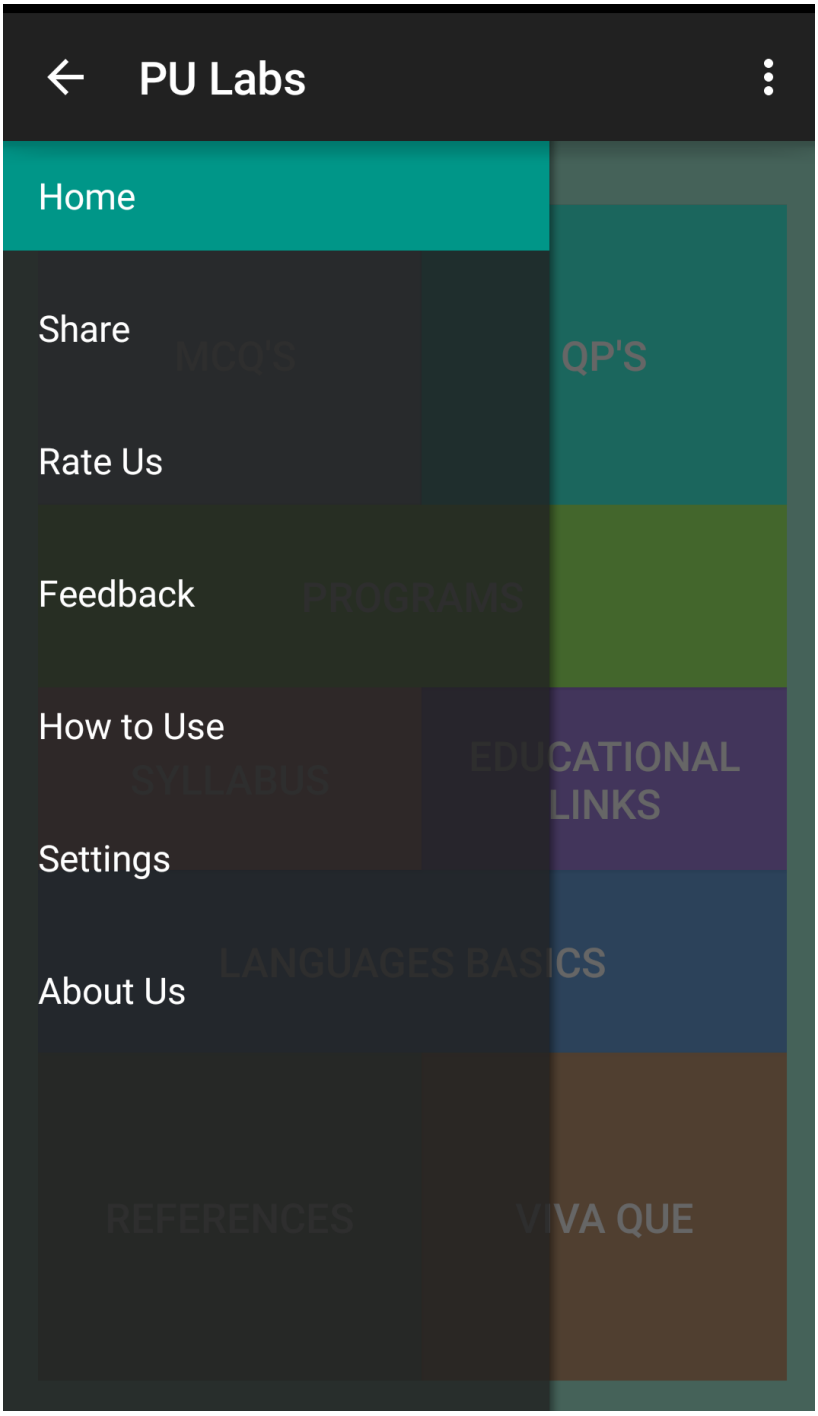
Programs

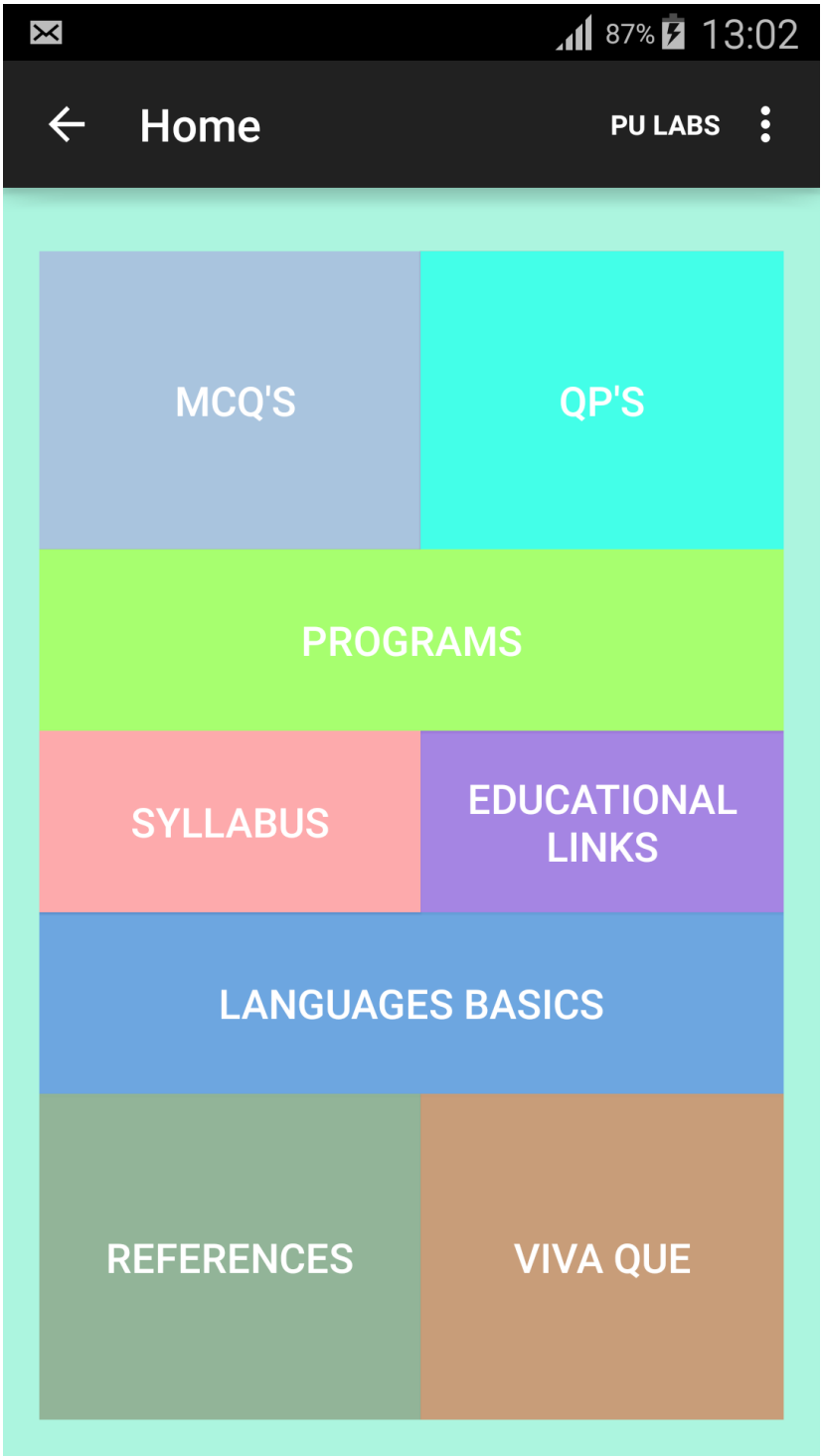
Column Name	Datatype	Size
Sem I	Varchar	255
Sem II	Varchar	255
Sem III	Varchar	255
Sem IV	Varchar	255
Sem V	Varchar	255
Sem VI	Varchar	255

Syllabus Table

Column Name	Datatype	Size
FE	Varchar	255
SE	Varchar	255
TE	Varchar	255
BE	Varchar	255

4.2 Screenshots




87% 13:02
Home
PU LABS
MCQ'S
QP'S
PROGRAMS
SYLLABUS
EDUCATIONAL LINKS
LANGUAGES BASICS
REFERENCES
VIVA QUE

Chapter 5

Conclusion and Future Scope

5.1 Conclusion

We have successfully completed the project with all of the listed features and the necessary requirements.All of the work is done in a proper manner within discipline and within time. We learnt so many new things under this project.This project was much more lucrative for our knowledge and our skills.

5.2 Future Scope

As a part of future scope we are about to give each down loader a particular userid and a password so they can have their own account under our app/website.They can add their other friends as their colleagues in the website.And there is a scope that it can be made to help the needy students acting as a social account under our site.For ex one will have his account and if one of his friend needs his help in program then other person will help rather than help from the site.This reduces much amount of the time and even its quick.

References

[1] http://developers.android.com

[2] http://www.tutorialspoint.com/androidstudio