

ABSTRACT

Mobile app development is the act or process by which a mobile app is developed for mobile devices, such as personal digital assistants, enterprise digital assistants or mobile phones. These applications can be pre-installed on phones during manufacturing platforms, or delivered as web applications using server-side or client-side processing to provide an “application like” experience within a web browser. As part of development process, mobile user interface design is also essential in the creation of mobile apps.

Attendance System project is a mobile application which is developed in android platform. The mobile attendance system is built to eliminate the time and effort wasted in taking attendances in colleges. It also greatly reduces the amount of paper resources needed in attendance data management. It is a system developed in android studio through which faculty can register the number of students in a particular class and then register the number of subjects in that class and can mark the attendance of students. There is no need for laptop or computer in every class to run the system as the system is run on mobile so no need of extra resources

TABLE OF CONTENT

CONTENT	PAGE.NO
ACKNOWLEDGEMENT	I
ABSTRACT	II
1. INTRODUCTION	
1.1 Overview	1
1.2 Problem Statement	1
1.3 Mobile Application Development	1
1.4 Android Studio	3
2. SYSTEM REQUIREMENTS	
2.1 Hardware and Software Requirements	4
3. SYSTEM DESIGN	
3.1 XML Design	5
3.2 XML Code	7
4. IMPLEMENTATION	
4.1 Description	18
4.2 Java Code	19
5. RESULTS	34
6. CONCLUSION AND FUTURE ENHANCEMENT	44

LIST OF FIGURES

FIGURE NO	FIGURE NAME	PAGE.NO
1.1	Advantages of Mobile Application Development	2
3.1	XML Design activity_main.xml	5
3.2	XML Design login.xml	5
3.3	XML Design for add_attendance.xml	6
3.4	XML Design for view_attendance_list_per_student.xml	6
5.1	Home Page	34
5.2	Login page	34
5.3	Options available after logging in	35
5.4	Adding student to the system	35
5.5	Message displayed after registering student	36
5.6	Data submitted to view students of particular branch	36
5.7	Result page displaying data of students	37
5.8	Data submitted to view number count of attendance	37
5.9	Result sheet displaying data	38
5.10	Registering faculty	38
5.11	Message displayed after adding faculty	39
5.12	Page displaying the list of faculties	39
5.13	Logging in of new faculty	40
5.14	Options available for faculty	40
5.15	Data submitted to view attendance	41
5.16	To view attendance on particular date	41
5.17	Result page displaying the attendance status	42
5.18	Adding attendance on particular date	42
5.19	Data getting updated	43
5.20	Page displaying the attendance status	43

CHAPTER 1

INTRODUCTION

1.1 Overview

Mobile app development is rapidly growing from retail, telecommunications and e-commerce to insurance, healthcare and government, organizations across industries must meet user expectations for real-time, convenient ways to conduct transactions and access information. To stay relevant, responsive and successful, organizations need to develop the mobile applications that their customers, partners and employees' demand.

Like web application development, mobile development has its roots in more traditional software development. One critical difference, however, is that mobile apps are often written specifically to take advantage of the unique features of a particular mobile device.

1.2 Problem Statement

To develop the attendance system which stores the attendance data of students. There will be an admin and faculties who can login to the system and view the information like for how many days the students and faculties were present along with the dates in which they were absent, also separate data is maintained for every subject.

1.3 Mobile Application Development

Mobile application development is the set of processes and procedures involved in writing software for small, wireless computing devices, such as smartphones and other hand-held devices. In early years of mobiles apps, the only way to ensure an app could perform optimally on any device was to develop the app natively. This meant that new code had to be written specifically for each device's specific processor. Today, the majority of mobile applications developed are device-agnostic.

In the past, if an app needed to be cross-platform and run on multiple operating systems there was little, if any, code that could be reused from the initial development project. Essentially, each device required its own mobile app development project with its own code base. Modern cross-platform tools use common languages such as C# and JavaScript to share code across projects; more importantly, they integrate well with application lifecycle management tools, such as Jenkins. This enables developers to use a single codebase for android and progressive web apps.

A mobile application development platform is a suite of tools, services and technologies. It allows anyone to assemble various features and elements. Also, allows to design, develop, test, deploy and maintain mobile applications across multiple platforms, devices and networks. By using a MADP, we have to maintain 1 codebase to enable compatibility with the other platforms, devices and networks.



Fig 1.1 Advantages of Mobile Application Development

1.4 Android Studio

Android studio is the official Integrated Development Environment (IDE) for android application development. Android studio provides more features that enhance our productivity while building Android apps. Android studio was announced on 16th May 2013 at Google I/O conference as an official IDE for Android app development. It started its early access preview from version 0.1 in May 2013. The first stable built version was released in December 2014, starts from version 1.0.

Android studio supports all the same programming languages of IntelliJ and CLion like Java, C++ and more with extensions such as Go and Android Studio 3.0 or later supports Kotlin.

The features of Android Studio are as follows:

- Gradle-based build support
- Android-specific refactoring and quick fixes
- Lint tools to catch performance, usability, version compatibility and other problems
- ProGuard integration and app-signing capabilities
- Template-based wizards to create common Android designs and components
- A rich layout editor that allows users to drag-and-drop UI components, option to preview layouts on multiple screen configurations
- Support for building Android Wear apps
- Built-in support for Google Cloud Platform, enabling integration with Firebase cloud Messaging and Google App Engine
- Android virtual device (emulator) to run and debug apps in the Android studio

CHAPTER 2

SYSTEM REQUIREMENTS

2.1 Hardware and Software Requirements

Hardware Requirements

- **Processor:** Intel® Core™ i5-8265U CPU @ 1.60GHz 1.80 GHz
- **RAM:** 4GB RAM minimum; 8GB RAM recommended
- **Free digital storage:** 2GB of available digital storage minimum, 4GB recommended
- **Minimum screen resolution:** 1280 X 800
- **System Type:** 64-bit Operating System, x64-bases processor

Software Requirements

- **OS:** Microsoft Windows 10
- **Minimum required JDK version:** Java Development Kit 8
- **Software used:** Android Studio

CHAPTER 3

SYSTEM DESIGN

3.1 XML Design

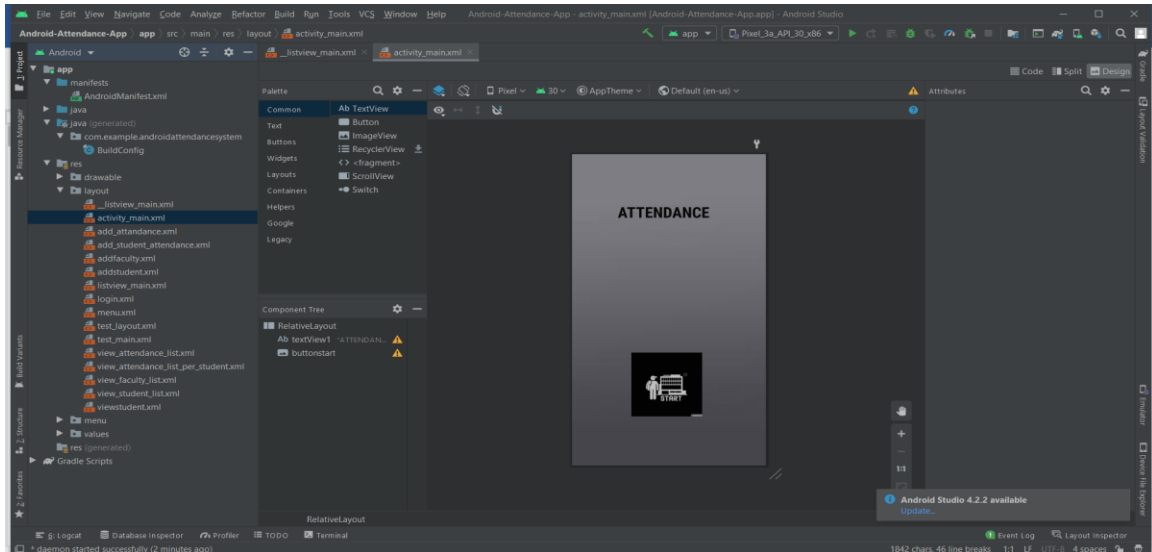


Fig 3.1 XML Design for activity_main.xml

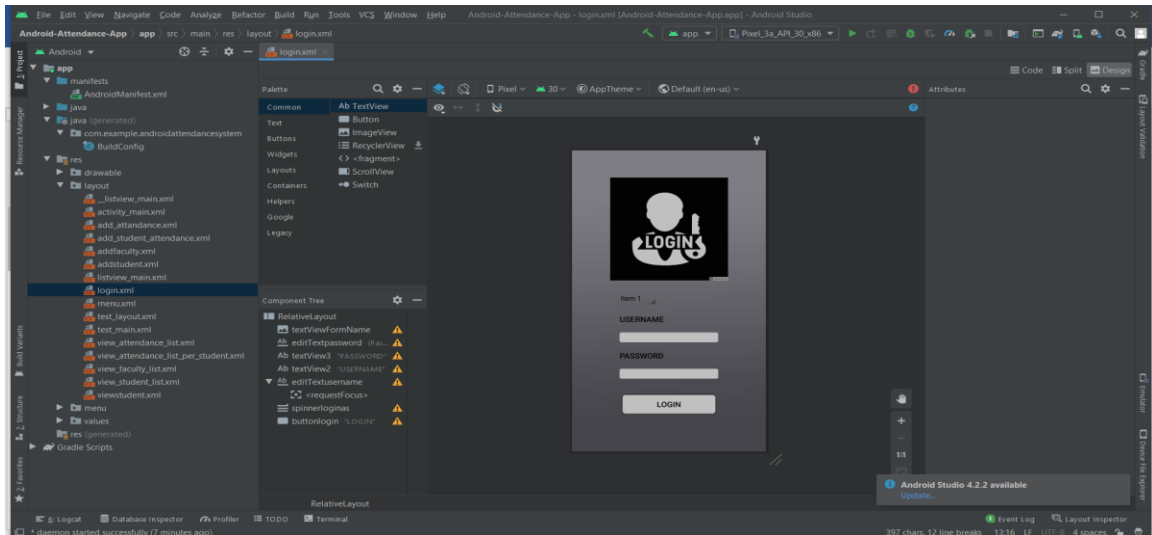


Fig 3.2 XML Design for login.xml

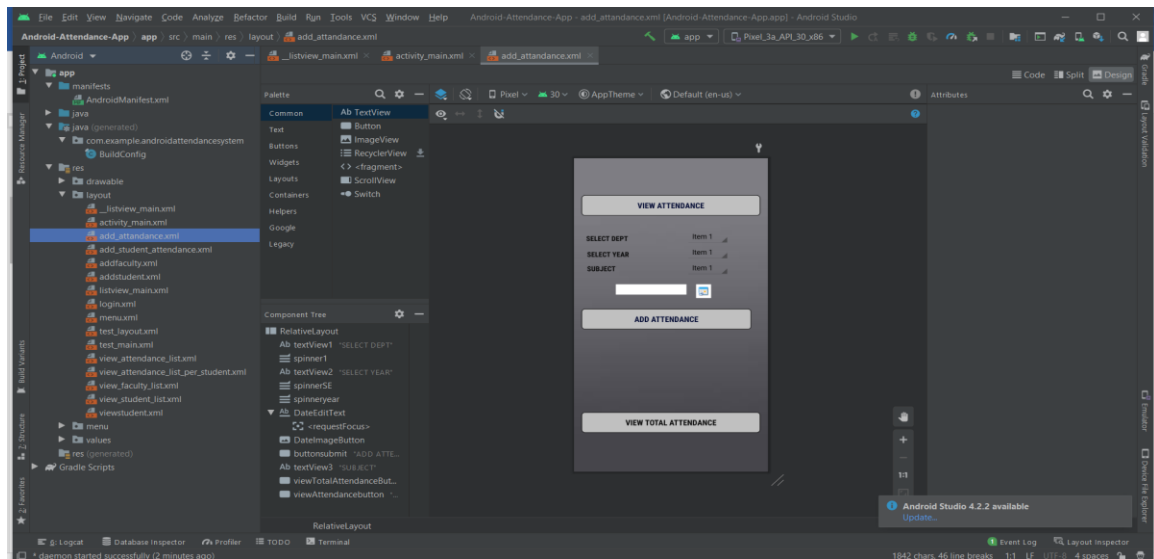


Fig 3.3 XML Design for add_attendance.xml

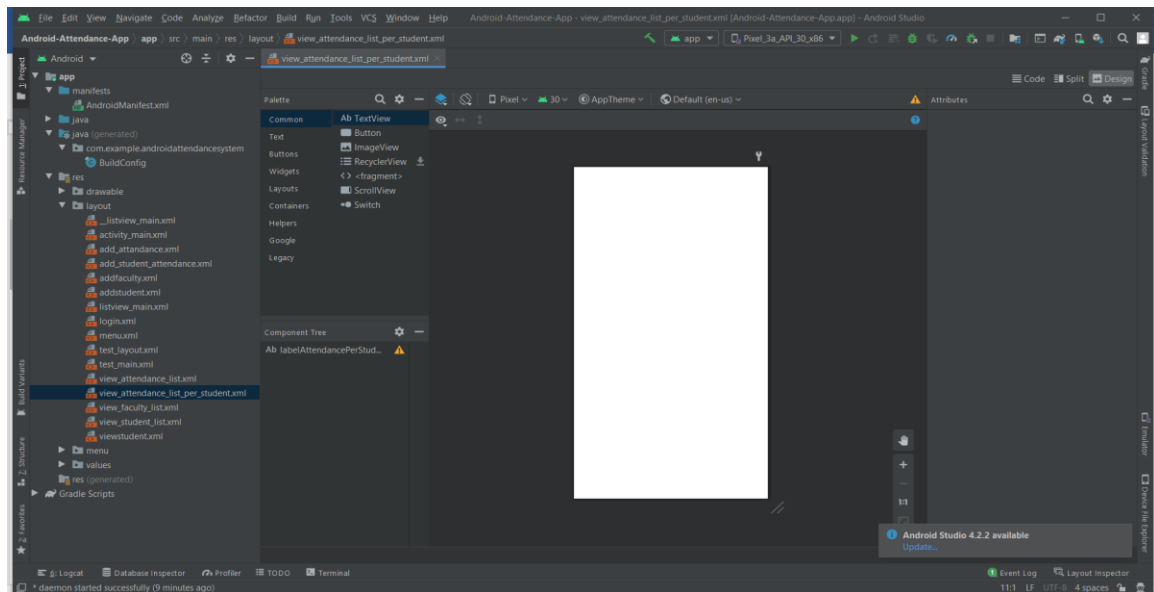


Fig 3.3 XML Design for view_attendance_list_per_student.xml

3.2 XML Code

activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:background="@drawable/clg"
    tools:context="com.android.attendance.activity.MainActivity">
    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_alignParentTop="true"
        android:layout_marginLeft="81dp"
        android:layout_marginTop="96dp"
        android:text="ATTENDANCE"
        android:textAppearance="?android:attr/textAppearanceLarge"
        android:textColor="#070707"
        android:fontFamily="sans-serif-condensed-medium"
        android:textSize="35sp"
        android:textStyle="bold"/>
```

```
<ImageButton
    android:id="@+id/buttonstart"
    android:layout_width="150dp"
    android:layout_height="150dp"
    android:scaleType="fitCenter"
    android:layout_marginLeft="110dp"
    android:layout_marginTop="450dp"
    android:src="@drawable/logo"
    android:text="Start" />
</RelativeLayout>
```

login.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:background="@drawable/clg"
    tools:context=".MainActivity">
    <ImageView
        android:id="@+id/textViewFormName"
        android:layout_width="250dp"
        android:layout_height="250dp"
        android:scaleType="centerCrop"
```

```
    android:layout_marginLeft="65dp"
    android:layout_marginTop="50dp"
    android:src="@drawable/login"/>
<EditText
    android:id="@+id/editTextpassword"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/textView3"
    android:layout_below="@+id/textView3"
    android:layout_marginTop="20dp"
    android:background="@drawable/roundedtextview"
    android:ems="10"
    android:inputType="textPassword"/>
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/editTextusername"
    android:layout_below="@+id/editTextusername"
    android:layout_marginTop="20dp"
    android:fontFamily="sans-serif-light"
    android:textStyle="bold"
    android:text="PASSWORD"
    android:textAppearance="?android:attr/textAppearanceMedium"/>
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/editTextusername"
    android:layout_below="@id/spinnerloginas"
    android:fontFamily="sans-serif-light"
    android:textStyle="bold"
    android:text="USERNAME"
    android:layout_marginTop="20dp"
    android:textAppearance="?android:attr/textAppearanceMedium"/>
<EditText
    android:id="@+id/editTextusername"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textView2"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="20dp"
    android:background="@drawable/roundedtextview"
    android:ems="10">
<requestFocus/>
</EditText>
<Spinner
    android:id="@+id/spinnerloginas"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
        android:layout_below="@+id/textViewFormName"
        android:layout_marginLeft="75dp"
        android:layout_marginTop="25dp" />
    <Button
        android:id="@+id/buttonlogin"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_marginBottom="75dp"
        android:fontFamily="sans-serif-light"
        android:textStyle="bold"
        android:layout_marginLeft="90dp"
        android:background="@drawable/roundedbutton"
        android:text="LOGIN" />
</RelativeLayout>
```

add_attendance.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@drawable/clg"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".MainActivity">
```

```
<TextView
    android:id="@+id/textView1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentLeft="true"
    android:layout_marginTop="160dp"
    android:layout_marginLeft="10dp"
    android:fontFamily="sans-serif-condensed-medium"
    android:textStyle="bold"
    android:textSize="16sp"
    android:textColor="#070707"
    android:text="SELECTDEPT"
    android:textAppearance="?android:attr/textAppearanceSmall"/>

<Spinner
    android:id="@+id/spinner1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentTop="true"
    android:layout_marginLeft="124dp"
    android:layout_marginTop="148dp"
    android:layout_toRightOf="@+id/textView1"/>

<TextView
    android:id="@+id/textView2"
    android:layout_width="100dp"
    android:layout_height="wrap_content"
    android:layout_below="@+id/spinner1"
    android:layout_marginTop="12dp"
```

```
        android:layout_marginLeft="10dp"
        android:layout_marginRight="111dp"
        android:layout_toLeftOf="@+id/spinneryear"
        android:fontFamily="sans-serif-condensed-medium"
        android:text="SELECTYEAR"
        android:textAppearance="?android:attr/textAppearanceSmall"
        android:textColor="#070707"
        android:textSize="16sp"
        android:textStyle="bold"/>
<Spinner
    android:id="@+id/spinnerSE"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/spinneryear"
    android:layout_below="@+id/spinneryear"/>
<Spinner
    android:id="@+id/spinneryear"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignLeft="@+id/spinner1"
    android:layout_below="@+id/spinner1"/>
<EditText
    android:id="@+id/DateEditText"
    android:layout_width="150dp"
    android:layout_height="wrap_content"
    android:layout_alignTop="@+id/DateImageButton"
    android:layout_toLeftOf="@+id/spinnerSE"
```



```
        android:background="#ffffff"
        android:editable="false"
        android:ems="10">
</requestFocus/>
</EditText>
<ImageButton
    android:id="@+id/DateImageButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/spinnerSE"
    android:layout_alignLeft="@+id/spinnerSE"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="20dp"
    android:cropToPadding="true"
    android:src="@drawable/calendar_icon"/>
<Button
    android:id="@+id/buttonsubmit"
    style="?android:attr/buttonStyleSmall"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/DateImageButton"
    android:layout_alignParentRight="true"
    android:layout_marginTop="25dp"
    android:layout_marginRight="19dp"
    android:fontFamily="sans-serif-condensed-medium"
    android:textStyle="bold"
    android:textSize="18sp"
```

```
        android:textColor="#020A33"
        android:background="@drawable/roundedbutton"
        android:text="ADDATTENDANCE"/>
    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignLeft="@+id/textView2"
        android:layout_alignTop="@+id/spinnerSE"
        android:layout_marginLeft="0dp"
        android:layout_marginTop="9dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:text="SUBJECT"
        android:textAppearance="?android:attr/textAppearanceSmall"
        android:textColor="#070707"
        android:textSize="16sp"
        android:textStyle="bold"/>
    <Button
        android:id="@+id/viewTotalAttendanceButton"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_alignParentRight="true"
        android:layout_marginBottom="75dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:textStyle="bold"
```

```
        android:textSize="18sp"
        android:textColor="#020202"
        android:background="@drawable/roundedbutton"
        android:text="VIEWTOTALATTENDANCE"/>
    <Button
        android:id="@+id/viewAttendancebutton"
        style="?android:attr/buttonStyleSmall"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_above="@+id/button1"
        android:layout_alignParentLeft="true"
        android:layout_marginBottom="35dp"
        android:layout_marginTop="70dp"
        android:fontFamily="sans-serif-condensed-medium"
        android:textStyle="bold"
        android:textSize="18sp"
        android:textColor="#020A33"
        android:background="@drawable/roundedbutton"
        android:text="VIEWATTENDANCE"
        tools:ignore="UnknownIdInLayout"/>
</RelativeLayout>
```

view_attendance_list_per_student.xml

```
<?xml version="1.0" encoding="utf-8"?>
<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/labelAttendancePerStudent"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:padding="10dip"
    android:textSize="16dip"
    android:textStyle="bold" >
</TextView>
```