

Attendances System for College Students

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Abstract: - Android has now been considered one of the top most platforms for mobile app development. It has gained remarkable popularity across the globe in the field of mobile applications. The key reason behind this popularity is the convenience offered by this platform to design stylish and wonderful utility applications.

Since mobile devices have become more and more powerful and distributive, mobile computing has greatly changed our daily life. As one of the most popular mobile operating systems, Android provides the tools and API for Android developer to develop Android applications.

In this work the aims is to build an Android application on the phone to help students for knowing their absences were easily and quickly using the android language (eclipse-IDE) where the application has been linked to database (MySQL) by using (json language) and send it to database as json object to add and receive information and comparing whether the student has absence or not.

We will create a Web Service in PHP, read from the MySQL database, and let the Android connect with the Web Service and send data, and the Web Service will save it and another Web Service will read data from MySQL and send it to the Android app. This paper propose an new program for student attendances.

I. INTRODUCTION

At the beginning, we will talk in general about android, his features and his architecture and the development of the android application then we will talk about eclipse ADT that we will use it in programming this application.

we will obtain and explain the tools that we will use in this project to build this application such as (MySQL database, php wampserver ,json object) and how this tool work to run the application and then in the last we will obtain how can run this application.

II. WHAT IS ANDROID?

Android is an operating system based on the Linux kernel, and designed primarily for touchscreen mobile devices such as smartphones and tablet computers. Initially developed by Android, Inc., which Google backed financially and later bought in 2005 Android was unveiled in 2007 along with the founding of the Open Handset Alliance—a consortium of hardware, software, and telecommunication companies devoted to advancing open standards for mobile devices. The first publicly available smartphone running Android, the HTC Dream, was released on October 22, 2008.

The user interface of Android is based on direct manipulation, using touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching, and reverse pinching to manipulate on-screen objects. Internal hardware—such as accelerometers, gyroscopes, and proximity sensors—is used by some applications to respond to additional user actions, for example adjusting the screen from portrait to landscape depending on how the device is oriented. Android allows users to customize their home screens with shortcuts to applications and widgets, which allow users to display live content, such as emails and weather information, directly on the home screen. Applications can further send notifications to the user to inform them of relevant information, such as new emails and text messages. Despite being primarily designed for phones and tablets, it also has been used in televisions, consoles, digital, and other electronics.

In terms of market share, Android is the most popular mobile OS and as of 2013; its devices also sell more than Windows, iOS and Mac OS devices combined. In the third quarter of 2013, Android's share of the global smartphone shipment market was 81.3%, the highest ever. As of July 2013 the Google Play store has had over 1 million Android apps published, and over 50 billion apps downloaded. A developer survey conducted in April–May 2013 found that Android is used by 71% of mobile developers. The operating system's success has made it a target for patent litigation as part of the so-called "smartphone wars" between technology companies.

As of September 2013, one billion Android devices have been activated.

Android's source code is released by Google under open source licenses, although most Android devices ultimately ship with a combination of open source and proprietary software.

Android is popular with technology companies which require a ready-made, low-cost and customizable operating system for high-tech devices Android's open nature has encouraged a large community of developers and enthusiasts to use the open-source code as a foundation for community-driven projects, which add new

features for advanced users or bring Android to devices which were officially released running other operating systems.

III. IMPLEMENTING A USER INTERFACE

The user interface for an activity is provided by a hierarchy of views—objects derived from the View class. Each view controls a particular rectangular space within the activity's window and can respond to user interaction. For example, a view might be a button that initiates an action when the user touches it.

Android provides a number of ready-made views that you can use to design and organize your layout. "Widgets" are views that provide a visual (and interactive) elements for the screen, such as a button, text field, checkbox, or just an image. "Layouts" are views derived from ViewGroup that provide a unique layout model for its child views, such as a linear layout, a grid layout, or relative layout. You can also subclass the View and ViewGroup classes (or existing subclasses) to create your own widgets and layouts and apply them to your activity layout.

The most common way to define a layout using views is with an XML layout file saved in your application resources. This way, you can maintain the design of your user interface separately from the source code that defines the activity's behavior. You can set the layout as the UI for your activity with setContentView(), passing the resource ID for the layout. However, you can also create new Views in your activity code and build a view hierarchy by inserting new Views into a ViewGroup, then use that layout by passing the root ViewGroup to setContentView(). For information about creating a user interface, see the User Interface documentation.

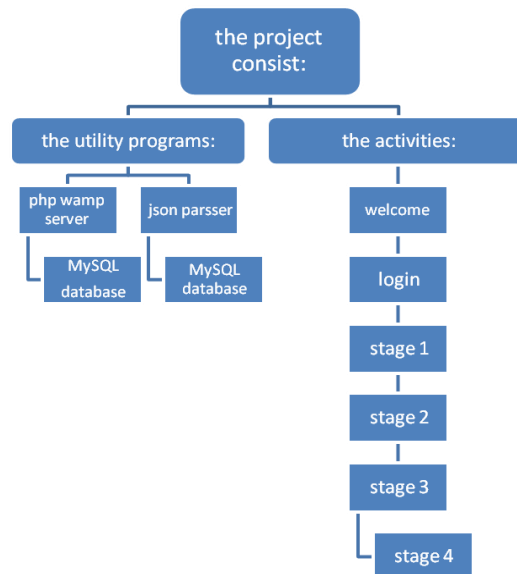


Fig 1: Work flow



Fig 2: welcome page

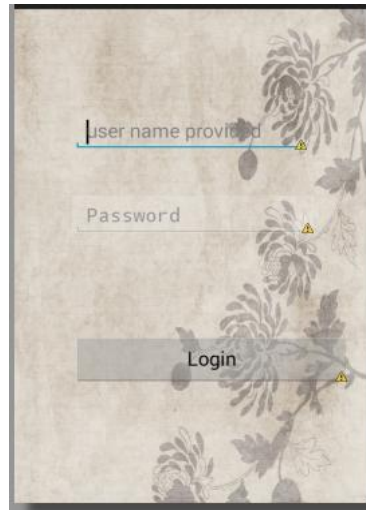


Fig 3: Login Page



Fig 4: Detail page

IV. THE UTILITY PROGRAMS TO RUN THE APPLICATION:

Php web service:

We should install the program wampserver to create web service to connect with the database so we will build programs writing by php language for each level to pass to database tables and get the information about each student. Example for level 1:

```

File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
level1.php
1  <?php
2
3      $user_id = $_POST['user_id'];
4
5      mysql_connect("127.0.0.1","root","bala");
6      mysql_select_db("database");
7      $sql=mysql_query("SELECT * FROM level1 WHERE user_id= $user_id");
8
9
10     $row=mysql_fetch_assoc($sql);
11     $output[]=$row;
12     print(json_encode($output));
13     mysql_close();
14
15     ?>
    
```

Fig 5: Server side PHP

Short for JavaScript Object Notation, JSON is a lightweight data-interchange format that is easy for humans to read and write, and for machines to parse and generate. JSON is based on the object notation of the JavaScript language. However, it does not require JavaScript to read or write because it is a text format that is language independent. JSON notation contains these basic elements:

Objects: Objects begin and end with curly braces ({}).

Object Members: Members consist of strings and values, separated by colon (:). Members are separated by commas.

Arrays: Arrays begin and end with braces and contain values. Values are separated by commas. Values: A value can be a string, a number, an object, an array, or the literals true, false or null.

Strings: Strings are surrounded by double quotes and contain Unicode characters or common backslash escapes.

In this application the role of json is to connect the application with the database to send and receive the information. And in the programming the json parser we will write the IP address of the computer that will consider it as server contain the important information about the student's absence. The method in json program is post that will sent information contain the username and password by using the web service that we create it by php language.

THE IMPORTANT THINGS BEFORE RUN APPLICATION

1. After install wamp server before run application we should run wamp server and check its icon color it must be green.
2. Check your computer IP address that written in your program that important because it may be cause error in implementation.
3. Check your table's entries in MySQL tables.

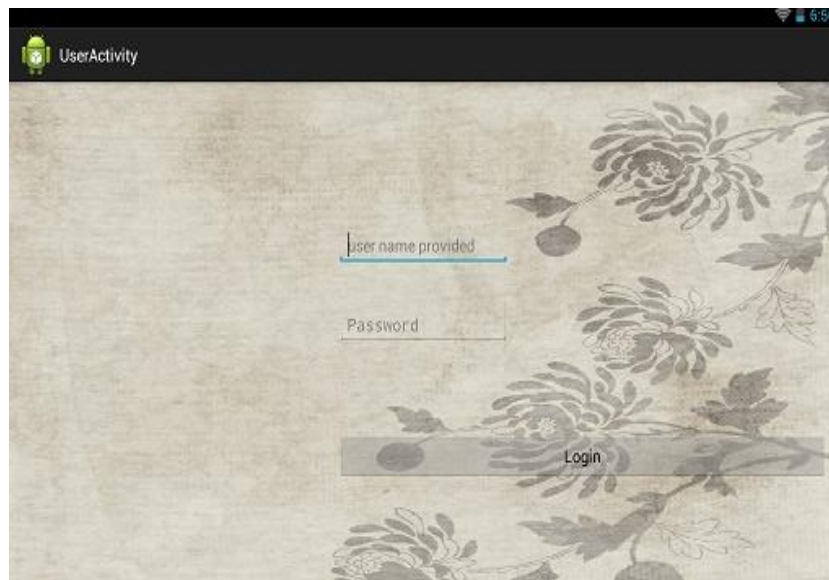


Fig 6: Login page with tablit

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We will enter the student's name: "wid", and then student's password

The next figure(4-3) show the student's absence result as show in the interface below that the level of student such as (level1 ,level2 ,level3 ,and level4) in the top of interface then the complete name of student, and show the name of subject in front of it the warning.

V. CONCLUSION

This program was really helpful for students and department for attendance because every student has started know how many leacture is attend and absent with having a look on their note board.

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