An Android Application for Data Sharing Between Student and Teachers at Department Level

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Abstract

The project is to share the data between the college faculty and the students.The system consists of individual login to faculty and students. The faculty can upload the notifications, e-notes, syllabus, timetable and any other important information through the faculty login. This project will work on android operating system and will be a great system for sharing the information between the documents. Student Faculty Document Sharing Android Project is based upon java technology. This project is designed for the sake of reducing efforts between both the students and the faculty.

Keywords: Android, Project, Document Sharing, e-notes, Operating System.

1. Introduction

This project is an online portal between students and faculty. This innovative system allows college faculty to share important data as well as notifications with engineering students. It consists of a faculty login along with student login. Since college faculty operate through PC and document uploading is simpler through a pc, the faculty login is to be performed through a computer. Faculty may upload documents of subject syllabus, timetable document, notifications, e notes etc through their provided login. The documents are uploaded by faculty to different corresponding departments. We propose to build this system on an online server that allows faculty to upload data and students may view search and download required documents through their android device. Here students only see and download data of their particular semester. Rest data is hidden. Faculty may access and upload/edit documents to any semester or add any notice as desired.

2.System Analysis

2.1Existing System

Only registered users can access the system. The user cannot view or add any information in the system when the server is down. The students can view only the data related to the particular semester. The remaining data is hidden to them. Also, at some organization even the above mentioned existing system is not even exist and faculty and students share the information or documents via papers and files only, which may sometimes lead to loss of any documents or important information too.

Disadvantage

The android mobile user will not be able to insert or view details if the server goes down. Thus there is disadvantage of single point failure.

2.2 Proposed System

The server allows the faculty to upload the data and the students can opt to download the required documents through the Android device. The faculty can upload or modify the documents to any semester as desired.The proposed system is worked on the server and all the files and documents are uploaded in the server. The students just need to add their account into the android project and then they can surf each and every detail related to the document very easily. Proposed system saves a lot of time of both the students and faculty members

Advantages

- This application can be used by all engineering/non engineering colleges
- The application can prove very beneficial in to the institutes, classes as the requirement is very high in such places.
- This project has a login page which allows only the registered user to login and thereby preventing unauthorized access.
- This system can be used to view all the syllabus, updates details.
- The android mobile user will be able make quick download from anywhere using internet
- Usage of this application will greatly reduce time in engineering document sharing.

3. System Requirement Specification (SRS)

3.1 Hardware Specifications

Table 1. Minimum Hardware Requirements

Processor	Dual Core
RAM	2GB DDR2
Hard disk	500 GB
Monitor	LCD, Color
Processor Speed	2.0GHz
Keyboard	Standard Keyboard

3.2 Software Specifications

Table 2. Minimum Software Requirements

Operating System	Windows XP, 7
Technology	Android SDK
Database	SQL Lite
Scripting Language	Java Script
Coding Language	Java
IDE	Android Studio
Server	Android Debug Bridge

4. System Design

Student Faculty Document Sharing Android Project involves the following modules

4.1 Student Module

This module is designed for students. In this module, students can get registered themselves via making new accounts and can share their views and documents through this module.

4.2 Admin / Faculty Module

Admin do take care of all the uploading and De-uploading related techniques through this module. Admin can have the rights to access both the profiles of the faculty members and the students account simultaneously without any need of password or user ID.

This module is exclusively works for the faculty members of the organization and faculty can upload important documents in this module which the students can then download very easily. Faculty can upload or share documents using this system to a particular group of students on some particular interest and choice basis.

4.3 Document Module

All the documents which are uploaded can be saved in this module. And the updates will be send to all the students and the faculty member into their mobiles whenever a new document is being uploaded on to the server.

5. Methodology Used

5.1 About Java

Java is a computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere" (WORA), meaning that code that runs on one platform does not need to be recompiled to run on another. Java applications are typically compiled to byte code (class file) that can run on any Java virtual machine (JVM) regardless of computer architecture. Java is, as of 2014, one of the most popular programming languages in use, particularly for client-server web applications, with a reported 9 million developers. Java was originally developed by James Gosling at Sun Micro systems (which has since merged into Oracle Corporation) and released in 1995 as a core component of Sun Micro systems' Java platform. The language derives much of its syntax from C and C++, but it has fewer low-level facilities than either of them.

One characteristic of Java is portability, which means that computer programs written in the Java language must run similarly on any hardware/operating-system platform. This is achieved by compiling the Java language code to an intermediate representation called Java byte code, instead of directly to platform-specific machine code. Java byte code instructions are analogous to machine code, but they are intended to be interpreted by a virtual machine (VM) written specifically for the host hardware. End-users commonly use a Java Run time Environment (JRE) installed on their own machine for standalone Java applications, or in a Web browser for Java applets.

Standardized libraries provide a generic way to access host-specific features such as graphics, threading, and networking. A major benefit of using byte code is porting. However, the overhead of interpretation means that interpreted programs almost always run more slowly than programs compiled to native executable would. Just-in-Time (JIT) compilers were introduced from an early stage that compile byte code to machine code during run time.

5.2 About Android

Android is an operating system based on the Linux kernel, and designed primarily for touchscreen mobile devices such as smart phones 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 smart phone 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 accelerometer, 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.

5.3 About SQL Lite

SQL lite is a relational database management system contained in a C programming library. In contrast to other database management systems, SQL lite is not a separate process that is accessed from the client application, but an integral part of it. SQL lite is ACID-compliant and implements most of the SQL standard, using a dynamically and weakly typed SQL syntax that does not guarantee the domain integrity. SQL lite is a popular choice as embedded database for local/client storage in application software such as web browsers. It is arguably the most widely deployed database engine, as it is used today by several widespread browsers, operating systems, and embedded systems, among others. SQL lite has many bindings to programming languages. The source code for SQL lite is in the public domain.

5.4 Black Box and White Box Testing

In black box testing a software item is viewed as a black box, without knowledge of its internal structure or behavior. Possible input conditions, based on the specifications(and possible sequences of input conditions), are presented as test cases.In white-box testing knowledge of internal structure and logic is exploited. Test cases are presented such that possible paths of control flow through the software item are traced. Hence more defects than black box testing are likely to be found.The disadvantages are that exhaustive path testing is in feasible and the logic might not conform to specification. Instrumentation techniques can be used to determine the structural system coverage in white box testing. For this purpose tools or compilers that can insert test probes into the programs can be used.

5.5 Code Coverage

The way to make sure that you have got all the control flow covered is to cover all the paths in the program during the testing (via white-box testing). This implies that both branches are exercised for and if' statement, all branches are exercised for a case statement, the loop is taken once or multiple times as well as ignored for a while statement, and all components of complicated logical expressions are exercised. This is called Path Testing. Branch Testing reports whether entire Boolean expression tested in control structures evaluated to both true and false.Additionally it includes coverage of switch statement cases, exception handlers and interrupts handlers. Path testing includes branch testing as it considers all possible combination of individual branch conditions. A simpler version is Statement Testing,which determines if each statement in the program has been executed at least once. The coverage via Path Testing includes the coverage via Statement Testing. Since Path Testing is extremely comprehensive it is costly, hence a viable minimum should be measuring Statement Testing coverage.

6. Conclusion

The Faculty-Student Document Sharing Application is intended to download the All documents in android App only . With this Android App solution user or student can now easily get the all information on the click of a button. This application will make the download much easier than before. This interface provided is so simple that anyone can also learn to use it. This Document sharing app will also make the students happy because they need not to go and see the notice board on colleges. The Faculty can easily passes the notifications or any other announcements. The students need not to disturbing while faculty busy in some other work. All the documents will be upload by faculty and all the records will be saved so the management of the sharing documents is made easy.

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