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Android Application for Training and Placement Cell

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Abstract: Training and Placement Cell is an important part of any educational institute, in which most of the work till now is being done manually. The training and placement officer has to inform around thousands of students about every single training and placement related activity. So to make the placement process easy and effective for the training and placement department as well as the students, an Android application can be developed. This application can help the placement officers to provide the details of upcoming companies. The students will be alerted via a notification. Once the recruitment process is completed, a list of placed students will be uploaded in the application by the administrator using Firebase. It would be easy for the students to view the details of those who have been recruited. The number of students placed in a particular company can be viewed by students when required. If any changes is need to be made in the student details the student can make a request to the placement officer. This project will be helpful in faster management of the placement related activities in the college campus.

I. INTRODUCTION

The Placement Cell plays a crucial role in locating job opportunities for Under Graduates and Post Graduates passing out from the college by keeping in touch with reputed firms and industrial establishments.

The Placement Cell operates round the year to facilitate contacts between companies and graduates.

The number of students placed through the campus interviews is continuously rising. On invitation, many reputed industries visit the institute to conduct interviews.

We have been successful in maintaining our high placement statistics over the years and the fact that our students bear the recession blues with record breaking placements itself is a testimony to our quality. Our ingenious alumnae have set new standards in the corporate world through their estimable contributions and it is my firm conviction that we will continue that legacy in the years to come.

The Placement Cell organizes career guidance programmes for all the students starting from first year.

The cell arranges training programmes like Mock Interviews, Group Discussions, Communication Skills Workshop etc and it also organizes Public Sector Exam Training for students who are interested to join.

Government Sectors. It also invites HR Managers from different industries to conduct training programmes for final year students.

TATA CONSULTANCY SERVICES has accredited our college in the year 2011, from which they are visiting our college every year for conducting Placement Training programmes and Campus Interviews.

II. SYSTEM ANALYSIS

2.1 Existing System:

In various colleges, training and placement officers have to manage the data of all students manually.

If TPO want to communicate about any job he needs to use third party applications like WhatsApp, Gmail and etc.

Maintaining such data on papers and excel sheets is not secure and there is a chance of data loss as data is stored locally.

2.2 Proposed System:

The proposed system is fully digitalized, which removes all the drawbacks of the existing system. Proposed system is an online application that can be accessed throughout the organization and outside as well with proper login provided.



This system can be used as an application for the TPO of the college to manage the student information with placement and can be used by students to get the upcoming drive details.

2.3 Requirements:

Hardware Requirements:

Smart Phone

Software Requirements:

Operating System: Android

Android API level 21 or above, JAVA

2.4 Features:

Features for TPO:

- Post a job
- Add Student
- Latest Drive Details
- Upload Drive Selection Details
- Student Details

Features for Student:

- View Job posts
- Ask Placement Faculty
- Latest Drive Details
- Branch Wise Statistics
- Reference Materials
- Company Wise Statistics

III. SYSTEM DESIGN

3.1 Use Case Diagram:

A UML use case diagram is the primary form of system/software requirements for a new software program under development. Use cases specify the expected behavior (what), and not the exact method of making it happen (how). Use cases once specified can be denoted both textually and visually (i.e. use case diagram).

A key concept of use case modeling is that it helps us design a system from the end user's perspective. It is an effective technique for communicating system behavior in the user's terms by specifying all externally visible system behavior.

A use case diagram is usually simple. It does not show the detail of the use cases:

- It only summarizes some of the relationships between use cases, actors, and systems.
 - It does not show the order in which steps are performed to achieve the goals of each use case.
- As said, a use case diagram should be simple and contains only a few shapes. If yours contain more than 20 use cases, you are probably misusing use case diagram.
- Use cases represent only the functional requirements of a system. Other requirements such as business rules, quality of service requirements, and implementation constraints must be represented separately, again, with other UML diagrams.

3.2 Objectives

- Developing the students to meet the Industries recruitment process
- To motivate students to develop Technical knowledge and soft skills in terms of career planning, goal setting
- To motivate students, aspire for higher studies and guiding them to take competitive exams such as CAT, GATE, TOEFL, GRE, IES, UPSC, TNPSC etc
- Aiming to Place the maximum number of students through campus & off-campus interviews conducted by the top companies.

3.3 Career Development Programs organized by Training and Placement Cell

- Personality Development Program
- Communication Skills Program
- Group Discussion Practice



- Entrepreneurship Development Program

3.4 Placement Training:

The students are trained to attain placement through a variety of programmes run by the Placement & Training Cell such as:

- Industry to Institute Programmes – Corporate leaders from leading industries are invited regularly to interact with students
- Various Training Programmes are organized to train the students in the areas of Aptitude, Quantitative Reasoning, Logical Reasoning and Verbal through the Reputed External Training centers and IIM Alumni's
- Technical training programmes are being conducted by Technical experts
- Language learning programmes to train students in developing their communication skills and foreign language skills such as Japanese
- Training through Mock Interviews for students to perform well in the professional interviews as per the expectations of the corporate world
- Public Sector Exams Training

Training Partners

S. No Company Name Details

1FACE (Focus Academy for Career

Enhancement) Placement Training for

Aptitude, Logical and Communication Skills Placement Training for Aptitude, Logical and Communication Skills.

2Alwin academy for Excellence Placement

Training for Aptitude, Logical and Communication Skills Placement Training for Aptitude, Logical and Communication Skills

3 Tran staff Solutions, Chennai Placement Training for Aptitude, Logical and Communication Skills

4 Public Sector Exams Training TNPSC, UPSC, IBPS, IES exams etc.

5 B. Tech Guru Online Placement Training.

IV. SOFTWARE ENVIRONMENT

4.1 Java Technology

Java technology is both a programming language and a platform.

The Java Programming Language

The Java programming language is a high-level language that can be characterized by all of the following buzzwords:

- Simple
- Architecture neutral
- Object oriented
- Portable
- Distributed
- High performance

With most programming languages, you either compile or interpret a program so that you can run it on your computer. The Java programming language is unusual in that a program is both compiled and interpreted. With the compiler, first you translate a program into an intermediate language called Java byte codes the platform-independent codes interpreted by the interpreter on the Java platform.

The interpreter parses and runs each Java byte code instruction on the computer. Compilation happens just once; interpretation occurs each time the program is executed.

The following figure illustrates how this works.

You can think of Java byte codes as the machine code instructions for the Java Virtual Machine (Java VM). Every Java interpreter, whether it's a development tool or a Web browser that can run applets, is an implementation of the Java VM. Java byte codes help make "write once, run anywhere" possible. You can compile your program into byte codes on any platform that has a Java compiler.

The byte codes can then be run on any implementation of the Java VM. That means that as long as a computer has a Java VM, the same program written in the Java programming language can run on Windows 2000, a Solaris workstation, or on an iMac.



The Java Platform

A platform is the hardware or software environment in which a program runs. We've already mentioned some of the most popular platforms like Windows 2000, Linux, Solaris, and platform gives you the following features:

- The essentials: Objects, strings, threads, numbers, input and output, data structures, system properties, date and time, and so on.
- Applets: The set of conventions used by applets.
- Networking: URLs, TCP (Transmission Control Protocol), UDP (User Datagram Protocol) sockets, and IP (Internet Protocol) addresses.
- Internationalization: Help for writing programs that can be localized for users worldwide. Programs can automatically adapt to specific locales and be displayed in the appropriate language.
- Security: Both low level and high level, including electronic signatures, public and private key management, access control, and certificates.

The Java platform also has APIs for 2D and 3D graphics, accessibility, servers, collaboration, telephony, speech, animation, and more. The following figure depicts what is included in the Java 2 SDK.

The goals that were set for JDBC are important. They will give you some insight as to why certain classes and functionalities behave the way they do. The eight design goals for JDBC are as follows:

1. SQL Level API

The designers felt that their main goal was to define a SQL interface for Java.

Although not the lowest database interface level possible, it is at a low enough level for higher-level tools and APIs to be created. Conversely, it is at a high enough level for application programmers to use it confidently. Attaining this goal allows for future tool vendors to "generate" JDBC code and to hide many of JDBC's complexities from the end user.

Profile 1: K Java

K Java is Sun's proprietary profile and contains the K Java API. The K Java profile is built on top of the CLDC configuration. The K Java virtual machine, KVM, accepts the same byte codes and class file format as the classic J2SE virtual machine. K Java contains a Sun specific API that runs on the Palm OS. The K Java API has a great deal in common with the J2SE Abstract Windowing Toolkit (AWT). However, because it is not a standard J2ME package, its main package is com.sun.KJava. We'll learn more about the K Java API later in this tutorial when we develop some sample applications.

Profile 2: MIDP

MIDP is geared toward mobile devices such as cellular phones and pagers. The MIDP, like KJava, is built upon CLDC and provides a standard run-time environment that allows new applications and services to be deployed dynamically on end user devices. MIDP is a common, industry-standard profile for mobile devices that is not dependent on a specific vendor. It is a complete and supported foundation for mobile application development. MIDP contains the following packages, the first three of which are core CLDC packages, plus three MIDP-specific packages.

- * java.lang
- * java.io
- * java.util
- * javax.microedition.io
- * javax.microedition.lcdui
- * javax.microedition.midlet
- * javax.microedition.rms

4.2 JAVASCRIPT

JavaScript is a script-based programming language that was developed by Netscape Communication Corporation. JavaScript was originally called Live Script and renamed as JavaScript to indicate its relationship with Java. JavaScript supports the development of both client and server components of Web-based applications. On the client side, it can be used to write programs that are executed by a Web browser within the context of a Web page. On the server side, it can be used to write Web server programs that can process information submitted by a Web browser and then updates the browser's display accordingly.

Even though JavaScript supports both client and server Web programming, we prefer JavaScript at Client-side programming since most of the browsers supports it. JavaScript is almost as easy to learn as HTML, and JavaScript statements can be included in HTML documents by enclosing the statements between a pair of scripting tags



Here are a few things we can do with JavaScript:

- Validate the contents of a form and make calculations.
- Add scrolling or changing messages to the Browser's status line.
- Animate images or rotate images that change when we move the mouse over them.
- Detect the browser in use and display different content for different browsers.
- Detect installed plug-ins and notify the user if a plug-in is required.

We can do much more with JavaScript, including creating entire application.

JavaScript Vs Java:

JavaScript and Java are entirely different languages. A few of the most glaring differences are:

- Java applets are generally displayed in a box within the web document; JavaScript can affect any part of the Web document itself.
- While JavaScript is best suited to simple applications and adding interactive features to Web pages; Java can be used for incredibly complex applications.

There are many other differences but the important thing to remember is that JavaScript and Java are separate languages. They are both useful for different things; in fact they can be used together to combine their advantages.

ADVANTAGES

- JavaScript can be used for Server-side and Client-side scripting.
- It is more flexible than VBScript.
- JavaScript is the default scripting language at Client-side since all the browsers support it.

4.3 Hyper Text Markup Language

Hypertext Markup Language (HTML), the languages of the World Wide Web (WWW), allows users to produce Web pages that include text, graphics and pointer to other Web pages (Hyperlinks).

HTML is not a programming language but it is an application of ISO Standard 8879, SGML (Standard Generalized Markup Language), but specialized to hypertext and adapted to the Web. The idea behind Hypertext is that instead of reading text in rigid linear structure, we can easily jump from one point to another point. We can navigate through the information based on our interest and preference. A markup language is simply a series of elements, each delimited with special characters that define how text or other items enclosed within the elements should be displayed. Hyperlinks are underlined or emphasized words that lead to other documents or some portions of the same document. HTML provides tags (special codes) to make the document look attractive. HTML tags are not case-sensitive. Using graphics, fonts, different sizes, color, etc., can enhance the presentation of the document. Anything that is not a tag is part of the document itself.

ADVANTAGES

- A HTML document is small and hence easy to send over the net. It is small because it does not include formatted information.
- HTML is platform independent.
- HTML tags are not case-sensitive.

V. SYSTEM TESTING

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub-assemblies, assemblies and/or a finished product. It is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test.

Each test type addresses a specific testing requirement.



5.1 TESTING METHODOLOGIES

The following are the Testing Methodologies:

- o Unit Testing.
- o Integration Testing.

5.1.1 Unit Testing

Unit testing focuses verification effort on the smallest unit of Software design that is the module. Unit testing exercises specific paths in a module's control structure to ensure complete coverage and maximum error detection. This test focuses on each module individually, ensuring that it functions properly as a unit. Hence, the naming is Unit Testing.

During this testing, each module is tested individually and the module interfaces are verified for the consistency with design specification. All-important processing path are tested for the expected results. All error handling paths are also tested.

5.1.2 Integration Testing

Integration testing addresses the issues associated with the dual problems of verification and program construction. After the software has been integrated a set of high order tests are conducted. The main objective in this testing process is to take unit tested modules and builds a program structure that has been dictated by design.

The following are the types of Integration Testing:

1) Top-Down Integration

This method is an incremental approach to the construction of program structure. Modules are integrated by moving downward through the control hierarchy, beginning with the main program module. The module subordinates to the main program module are incorporated into the structure in either a depth first or breadth first manner.

In this method, the software is tested from main module and individual stubs are replaced when the test proceeds downwards.

2) Bottom-up Integration

This method begins the construction and testing with the modules at the lowest level in the program structure. Since the modules are integrated from the bottom up, processing required for modules subordinate to a given level is always available and the need for stubs is eliminated. The bottom-up integration strategy may be implemented with the following steps:

- The low-level modules are combined into clusters into clusters that perform a specific Software sub-function.
- A driver (i.e.) the control program for testing is written to coordinate test case and output.
- The cluster is tested.

5.1.3 OTHER TESTING METHODOLOGIES

User Acceptance Testing

User Acceptance of a system is the key factor for the success of any system. The system under consideration is tested for user acceptance by constantly keeping in touch with the prospective system users at the time of developing and making changes wherever required.

The system developed provides a friendly user interface that can easily be understood even by a person who is new to the system.

Output Testing

After performing the validation testing, the next step is output testing of the proposed system, since no system could be useful if it does not produce the required output in the specified format.

Asking the users about the format required by them tests the outputs generated or displayed by the system under consideration. Hence the output format is considered in 2 ways – one is on screen and another in printed format.

Using Live Test Data:

Live test data are those that are actually extracted from organization files. After a system is partially constructed, programmers or analysts often ask users to key in a set of data from the normal activities. Then, the systems person uses this data as a way to partially test the system. In other instances, programmers or analysts extract a set of live data from the files and have the mentored themselves.



It is difficult to obtain live data in sufficient amounts to conduct extensive testing. And, although it is realistic data that will show how the system will perform for the typical processing requirement, assuming that the live data entered are in fact typical, such data generally will not test all combinations or formats that can enter the system. This bias toward typical values then does not provide a true system test and in fact ignores the cases most likely to cause system failure.

5.1.4 White Box Testing

White Box Testing is a testing in which in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is purpose.

It is used to test areas that cannot be reached from a black box level.

5.1.5 Black Box Testing

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document.

VI. CONCLUSION

Thus, we can conclude that this improves communication between TPO and student and ensure that there is no privacy issue of data because we are using our own app rather any other third-party applications.

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