

Student Tracking System

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Abstract: *This paper is written to introduce and make the people familiar with that organization can store the data of students and get the call alerts for students as per the student timeline.*

Keywords: Alert, Student Details, Call Alerts, Student Data

I. INTRODUCTION

JAVA was developed by Sun Microsystems Inc in 1991, later acquired by Oracle Corporation. It was developed by James Gosling and Patrick Naughton. It is a simple programming language. Writing, compiling and debugging a program is very fast and easy in java. It helps to create modular programs and reusable code.

1.1 Java Keywords

A. Java Virtual Machine (JVM)

This is generally referred as JVM. Before, we discuss about JVM lets see the phases of program execution. Phases are as follows: we write the program, then we compile the program and at last we run the program.

Writing of the program is of course done by java programmer like you and me.

- Compilation of program is done by javac compiler, javac is the primary java compiler included in java development kit (JDK). It takes java program as input and generates java bytecode as output.
- In third phase, JVM executes the bytecode generated by compiler. This is called program run phase.

So, now that we understood that the primary function of JVM is to execute the bytecode produced by compiler. Each operating system has different JVM, however the output they produce after execution of bytecode is same across all operating systems. That is why we call java as platform independent language.

B. Bytecode

As discussed above, java compiler of JDK compiles the java source code into bytecode so that it can be executed by JVM. The bytecode is saved in a .class file by compiler.

C. Java Development Kit (JDK)

While explaining JVM and bytecode, I have used the term JDK. Let's discuss about it. As the name suggests this is complete java development kit that includes JRE (Java Runtime Environment), compilers and various tools like JavaDoc, Java debugger etc. In order to create, compile and run Java program you would need JDK installed on your computer.

D. Java Runtime Environment(JRE)

JRE is a part of JDK which means that JDK includes JRE. When you have JRE installed on your system, you can run a java program however you won't be able to compile it. JRE includes JVM, browser plugins and applets support. When you only need to run a java program on your computer, you would only need JRE.

1.2 Reasons to Choose JAVA

JAVA has significant advantages over other languages and environments that make it suitable for just about any programming task. The advantages of Java are as follows:

- Java is easy and quick to learn.
- Java was designed to be easy to use and is therefore easy to write, compile, debug, and learn than other programming languages.

- Java is object-oriented. This allows you to create modular programs and reusable code.
- Java is platform-independent.

One of the most significant advantages of Java is its ability to move easily from one system to another. The ability to run the same program on many different systems is crucial to World Wide Web software, and Java succeeds at this by being platform-independent at both the source and binary level. Because of Java's robustness, ease of use, cross-platform capabilities and security features, it has become a language of choice for providing worldwide Internet solutions.

1.3 Python (Programming Language)

Python is a high-level, interpreted, general-purpose programming language. Its design philosophy emphasizes code readability with the use of significant indentation.

Python is dynamically-typed and garbage-collected. It supports multiple programming paradigms, including structured (particularly procedural), object-oriented and functional programming. It is often described as a "batteries included" language due to its comprehensive standard library. Guido van Rossum began working on Python in the late 1980s as a successor to the ABC programming language and first released it in 1991 as Python 0.9.0. Python 2.0 was released in 2000 and introduced new features such as list comprehensions, cycle-detecting garbage collection, reference counting, and Unicode support. Python 3.0, released in 2008, was a major revision that is not completely backward-compatible with earlier versions. Python 2 was discontinued with version 2.7.18 in 2020. Python consistently ranks as one of the most popular programming languages.

1.4 MySQL

MySQL is written in C and C++. Its SQL parser is written in yacc, but it uses a home-brewed lexical analyzer. MySQL works on many system platforms, including AIX, BSDi, FreeBSD, HP-UX, ArcaOS, eComStation, IBM i, IRIX, Linux, macOS, Microsoft Windows, NetBSD, Novell NetWare, OpenBSD, OpenSolaris, OS/2 Warp, QNX, Oracle Solaris, Symbian, SunOS, SCO OpenServer, SCO UnixWare, Sanos and Tru64. A port of MySQL to OpenVMS also exists. The MySQL server software itself and the client libraries use dual-licensing distribution. They are offered under GPL version 2, or a proprietary license.

Support can be obtained from the official manual. Free support additionally is available in different IRC channels and forums. Oracle offers paid support via its MySQL Enterprise products. They differ in the scope of services and in price. Additionally, a number of third party organisations exist to provide support and services.

MySQL has received positive reviews, and reviewers noticed it "performs extremely well in the average case" and that the "developer interfaces are there, and the documentation (not to mention feedback in the real world via Web sites and the like) is very, very good". It has also been tested to be a "fast, stable and true multi-user, multi-threaded SQL database server".

II. EXISTING PROBLEM

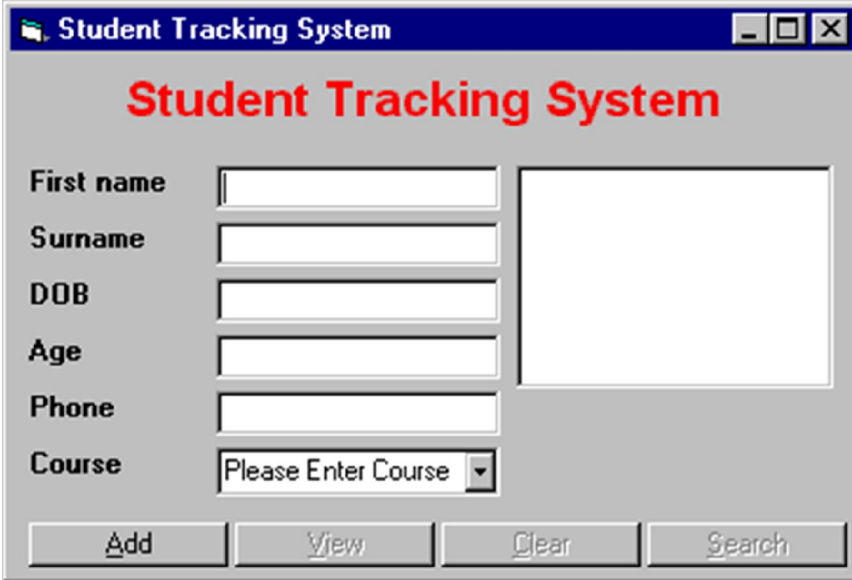
Organization can store/access the student data in excel sheet or can access the student data from database directly. But if they want to call student than they'll have to manually select the student that which student can take call (according to data present in the database or in excel sheet) means they'll have to search manually about the timeline of student. So, it is very time consuming as they have to select the student manually.

III. PROPOSED SYSTEM

I am creating an application for automate the selection of student according to their timeline. In my application organization gets an alert on screen before 10 minutes of schedule time of the student. So, that organization can contact the student.

3.1 Merits:

- Time Saving: It saves the time of the organization as well as the student.
- Convenient: Suitable for Tracking student details.
- Easy to Use: Interface is easy to use and easily understandable.



The screenshot shows a web browser window titled "Student Tracking System". The main heading is "Student Tracking System" in red. Below the heading are several input fields: "First name", "Surname", "DOB", "Age", "Phone", and "Course". The "Course" field is a dropdown menu with the text "Please Enter Course". To the right of these fields is a large empty rectangular box. At the bottom of the form are four buttons: "Add", "View", "Clear", and "Search".

IV. INTERPRETATION AND RESULTS

4.1 Software Specifications

Software's used are:

- PyCharm IDE
- MySQL
- Eclipse IDE
- Python programming language
- Java Programming language
- SQL queries

4.2 Hardware Specifications

We require a Computer running Windows 10 with PyCharm and Eclipse IDE configured and we also need MySQL server configured properly.

V. CONCLUSION

Student Management System is a basic application from which an organization can reach out to students according to their timeline. Organization gets an alert on their Screen before 10 mins. Of schedule time so that they'll directly contact the student.

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