ABSTARCT

In many organizations, machine learning techniques are used for analyzing large amount of available data and information for decision making process. In educational sector, Machine learning is used for wide variety of applications such as suggestion to the students based on 10^{th} mark and interest. One of the most important milestones in an individual's life involves self-analysis, critical thinking and finally decision making. This paper represent survey results on which academic decisions they concern and the variables involved in them. Using machine learning algorithms, it predicted courses/institutions in a real case study to support decision making. The choice of the career is influenced by views of your parents, friends, relatives, teachers and the media. Today with a wider choice and an ever increasing competition, you need to plan your career wisely and at the earliest. While choosing a stream after 10th, a training course or a career and 12^{th} groups you should know your abilities, interests, and personality. Besides these you should gather information regarding different career options, the eligibility criteria, the premier institutions/Schools, and other criteria of selection and the market demands. The present system undertaken by Education Department, on different educational and vocational courses available and the institutions through competitive examination after 10th and 12th aims at giving you the much needed information.

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LIST OF ABBREVATIONS

BL	Blended Learning
GUI	Graphical User Interface
KNN	K-Nearest Neighbour
ML	Machine Learning
MTBF	Mean Time Between Failures
OS	Operating system
RDBMS	Relational Database Management System
SQL	Structured Query Language
UML	Unified Modelling Language

CHAPTER 1
INTRODUCTION

1.1 OUTLINE OF THE PROJECT

Two imperatives for better use of data confront higher education. The first is driven by external factors while the second is driven internally by continuous quality improvement. Steep declines in financial and public support have driven efforts by governments to collect data that support the proposition that institutions are accountable for the revenue they receive. Working from a defensive posture, many colleges and universities have been able to waylay undesirable changes by satisfying external requests for data. At a higher level, however, those institutions that deliberately use data to improve overall performance meet compliance-based requirements while enacting a future that is informed by data. The proposition that higher education's approach to data use has changed very little may be disputed. At the same time, it also is clear that technology has made new conversations possible. New techniques including analytics or predictive analytics provide institutions new opportunities to use data to improve their efficiency while better serving students (see, for example, Bichsel, 2012 and WCET, n.d.). Colleges and universities are entering an era in which strategic information about student learning and success, budgeting, and efficiency can be united under the umbrella of big data. Higher education is now collecting more data than ever before. However, these efforts are most often directed at the first imperative, compliance reporting, rather than the second imperative, improving institutional strategy. Forward thinking institutions will quickly resolve this seeming dichotomy. They will seek opportunities to build capacity, remove constraints to span existing boundaries that determine data use and find ways to bring data and strategy together. The result can advance institutional mission, meeting external policy demands and improving student success. Strategic thinking and the data that serve those strategies come at a price. In this chapter, we review both opportunities and barriers associated with creating and using actionable strategic and operational

data. We also identify successful steps for data use based on our experiences in working with higher education institutions to facilitate strategic planning and to create cultures of inquiry and evidence. We also survey emerging technologies and their promise to help institutions help their students. This chapter is intended to provide practical advice and not to provide a theoretical overview of the tenets of strategic planning. Institutions sufficiently courageous to engage in a data journey require support. Toward that end, this chapter also provides advice drawn from personal experience and new developments in management science to help navigate these new pathways.

1.2 OBJECTIVES OF THE PROJECT

- One of the main objective of the recently developed policy for higher education regards the creation of a more diversified higher education system with flexible and adaptive institutions.
- In educational sector, machine learning is used for wide variety of applications such as suggestion to the students based on 10^{th} mark and interest.
- Hoping that it would help you in understanding what each course for career entails and help you introspect and analyze the required abilities to be successful, happy and content in the course/career you choose.
- While choosing a stream after 10th, a training course or a career and 12^{th} groups you should know your abilities, interests, and personality.
- Besides these you should gather information regarding different career options, the eligibility criteria, the premier institutions/Schools, and other criteria of selection and the market demands.

1.3 EXISTING SYSTEM

In existing system, three supervised classification algorithms are deployed to predict graduation rates from real data about undergraduate engineering students in South America. The analysis of receiver operating characteristic curve and accuracy are executed as measures of effectiveness to compare and

evaluate decision tree, logistic regression, and random forest, where this last one demonstrates the best outcomes.

DISADVANTAGE OF THE EXISTING SYSTEM

- Existing system miss the undesirable data for the students.
- And it may not check the social data for the student.

1.4 DOMAIN INTRODUCTION

Java is one of the world's most important and widely used computer languages, and it has held this distinction for many years. Unlike some other computer languages whose influence has weared with passage of time, while Java's has grown.

1.4.1 APPLICATION OF JAVA

Java is widely used in every corner of world and of human life. Java is not only used in software but is also widely used in designing hardware controlling software components. There are more than 930 million JRE downloads each year and 3 billion mobile phones run java.

Following are some other usage of Java:

1. Developing Desktop Applications
2. Web Applications like Linkedin.com, Snapdeal.com etc
3. Mobile Operating System like Android
4. Embedded Systems
5. Robotics and games etc.

1.4.2 FEATURES OF JAVA

The prime reason behind creation of Java was to bring portability and security feature into a computer language. Beside these two major features, there were many other features that played an important role in moulding out the final form of this outstanding language. Those features are;

1)Simple

Java is easy to learn and its syntax is quite simple, clean and easy to understand. The confusing and ambiguous concepts of C++ are either left out in Java or they have been re-implemented in a cleaner way.

Eg: Pointers and Operator Overloading are not there in java but were an important part of C++.

2) Object Oriented

In java everything is Object which has some data and behaviour. Java can be easily extended as it is based on Object Model.

3) Robust

Java makes an effort to eliminate error prone codes by emphasizing mainly on compile time error checking and runtime checking. But the main areas which Java improved were Memory Management and mishandled Exceptions by introducing automatic Garbage Collector and Exception Handling.

4) Platform Independent

Unlike other programming languages such as C, C++ etc. which are compiled into platform specific machines. Java is guaranteed to be write-once, run-anywhere language.

5) Secure

When it comes to security, Java is always the first choice. With java secure features it enable us to develop virus free, temper free system. Java program always runs in Java runtime environment with almost null interaction with system OS, hence it is more secure.

6) Multi-Threading

Java multithreading feature makes it possible to write program that can do many tasks simultaneously. Benefit of multithreading is that it utilizes same memory and other resources to execute multiple threads at the same time, like While typing, grammatical errors are checked along.

7) Architectural Neutral

Compiler generates byte codes, which have nothing to do with a particular computer architecture, hence a Java program is easy to interpret on any machine.

8) High Performance

Java is an interpreted language, so it will never be as fast as a compiled language like C or C++. But, Java enables high performance with the use of just-in-time compiler.

1.4.3 COLLECTION FRAMEWORK

Collection framework was not part of original Java release. Collections was added to J2SE 1.2. Prior to Java 2, Java provide classes such as Dictionary, Vector, Stack and Properties to store and manipulate groups of objects. Collection framework provides many important classes and interfaces to collect and organize group of alike objects.