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STUDENT FUTURE PREDICTION SYSTEM UNDER FILTERING MECHANISM

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Abstract - *Data is increasingly getting used to form lifestyle easier and better. Applications like waiting time estimation, traffic prediction, and parking search are good samples of how data from different sources are often wont to facilitate our lifestyle. We consider an under-utilized data set: university ID cards. Such cards are used on many campuses to get food, allow access to different areas, and even take attendance in classes. In this paper, we use data from our university to research usage of the university fitness center and build a predictor for future visit volume. The work makes several contributions: it demonstrates the richness of the data source, shows how the knowledge are often leveraged to increase the intensity of student services, discovers interesting trends and behavior, and is a case study illustrating the whole data science process.*

Key Words: **Collaborative Filtering**, **ARIMA Model, Student Recreation Center**

1. INTRODUCTION

Information Resource is increasingly being used to make everyday life easier and better. The knowledge of waiting time estimation, traffic prediction, and parking Searches are good examples of how data from different sources can be used to facilitate our daily life. In this study, we use the resource by carrying university ID Cards. Such cards are used on many campuses to purchase food, and even take attendance in classes. The Student Recreation Center (SRC) is among the most frequently visited campus in the university. Entry to the SRC is monitored through the use of an official university ID card, the Cougar Card; users swipe the card upon entry. Data harvested from these card swipe activities are rich and can be used to gain valuable insights into campus life and exercise behaviors. However, little attention has been paid in the past to this potential. One of the broader goals of this is work is to demonstrate how harm this potential via careful analysis and to incentive additional studies on campus-focused knowledge discovery.

2. PROPOSED SYSTEM

First, the existing model can be further improved with more in-depth of Student nature and behavior Finally Our field of interest will be generated and based on that job notifications and suggestions will be made to enhance our future in a proper way. This System also used in tracking of students illegal activities at the college campus and they can take necessary actions on the spot in order to secure his future. Our work is similar in spirit to a few existing applications that are built on knowledge discovered by collecting and analyzing activity (often secondarily-related) data. This application gathers real-time facility usage information at the Orlando Disney World and estimates waiting time so that tourists can plan their tours more efficiently.

3. HARDWARE AND SOFTWARE SPECIFICATION

3.1 Hardware Requirements

Hard Disk	:	80GB and Above
RAM	:	4GB and Above
Processor	:	P IV and Above

3.2 Software Requirements

Windows 7 and above

JDK 1.7

J2EE

Tomcat 7.0

MySQL

3.3 Technologies Used

J2EE (JSP, Servlet)

JavaScript

HTML

CSS

AJAX

JDBC

4. APACHE TOMCAT SERVER

Apache Tomcat is a web container which is first developed at the Apache Software Foundation. Tomcat implements the servlet and the JavaServer Pages specifications with the detailed description from Sun Microsystems, providing an environment for Java in terms of code to run in cooperation with a web server. It adds tools for configuration and

management but can also be configured by editing the information with configuration of files that are normally XML-formatted. Tomcat includes its own HTTP server internally, it is also considered a standalone web server key to perform. Tomcat is a web server that supports both the servlets and JSPs. Tomcat comes with the Jasper compiler that compiles JSPs into servlets to predict the results. The Tomcat servlet engine is often used in combination of Apache web server or other web servers. Tomcat can also function as an independent web server and web client. Earlier in its development, the perception existed that standalone Tomcat was only suitable for developing a source of information in the given environments and other environments with minimal requirements for speed and transaction handling. However, that perception no longer exists with an given data. Tomcat is increasingly used as a standalone web server mostly in high-traffic, high-availability environments.

4.1 PROJECT PURPOSE AND PROJECT PERSPECTIVE

4.1.1 Purpose

The purpose of the project is to explore and visualize patterns of student workout activity in terms of time and demographics. We interpret and compared the predictive accuracy of a seasonal naive model, an ARIMA model, and a random forest model, and found that the random forest model fits our dataset the best. The visit volume at the SRC for a given time interval was accurately estimated by the random forest model. The establishment of webpage has assisted the SRC employees in terms of daily operations such as staff scheduling. We hope this work will serve as a case study illustrating the entire data science process, providing useful insights on how data could be collected, processed, explored, and leveraged to create a user-facing data product.

4.1.2 Project Perspective

The best-fit model for each method was used to generate forecast results. Overall, all models were able to encapsulate usage trends at the SRC. There is a weekly pattern where the peak number of visits is on Mondays then drops during the weekdays. Moreover, all models could identify that the SRC was very crowded at the beginning of a semester (early September and January) and was almost empty during winter break (late December). We would like to point out that the seasonal naïve model works surprisingly well. Even though this method presents the highest RMSE during modeling, it is visually very similar estimated to the actual data. For example, there was a peak during the first week in September. The seasonal naive model gave the closest predicted value in comparison with the actual value (color gray) while ARIMA and RF failed to reach the peak visiting volumes during that week. From this insight, we suggest that for data that presents strong seasonality, a seasonal naive model could be a simple yet effective candidate model to use.

5. DATA FLOW DIAGRAM

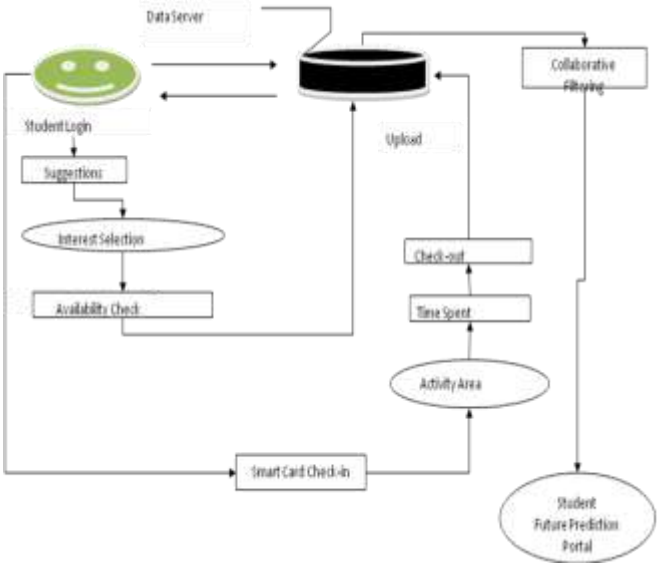

Fig-1: Data flow diagram

6. MODULES

Student Id Generation.

Activity Allocation.

Student Activities Monitoring.

Predictions based on Interests.

7. DESIGN AND IMPLEMENTATION CONSTRAINTS

7.1 Constraints in Analysis

Constraints as Informal Text

Constraints as Operational Restrictions

Constraints Integrated in Existing Model Concepts

Constraints as a Separate Concept

Constraints Implied by the Model Structure

7.2 Constraints in Design

Determination of the Involved Classes

Determination of the Involved Objects

Determination of the Involved Actions

Determination of the Require Clauses

Global actions and Constraint Realization

7.3 Constraints in Implementation

A hierarchical structuring of relations may end in more classes and a more complicated structure to implement. Therefore it's advisable to rework the hierarchical relation structure to an easier structure like a classical flat one. it's rather straightforward to rework the developed hierarchical model into a bipartite, flat model, consisting of classes on the one hand and flat relations on the opposite . Flat relations are preferred at the planning level for reasons of simplicity and implementation ease. There's no identity or functionality related to a flat relation. A flat relation corresponds with the relation concept of entity-relationship modeling and lots of object oriented methods.

8. CONCLUSION

In this article, we explored and visualized patterns of student workout activity in terms of your time and demographics. We analyzed and compared the predictive accuracy of a seasonal naive model, an ARIMA model, and a random forest model, and located that the random forest model fits our dataset the best. The visit volume at the SRC for a given interval was accurately predicted by the random forest model. The deployed webpage has assisted the SRC employees in terms of daily operations like staff scheduling. We hope this work will serve as a case study illustrating the entire data science process, providing useful insights on how data could be collected, processed, explored, and leveraged to create a user-facing data product.

9. REFERENCES

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