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COMPUTER SCIENCE

SYNOPSIS OF PROJECT FILE

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CLASS: XII **SECTION: D**

ROLL NO: 5

EXAM ROLL NO:

ACADEMIC YEAR : 2021-22

CERTIFICATE

This is to certify that **Ananya Arora** of class **XII-D** has successfully completed the **Computer Science** project on the topic **Bus Ticket Reservation and Management** under the guidance of **Mr. Amit Dua** during the academic year 2021-22.

INTERNAL EXAMINER

PRINCIPAL

DATE

EXTERNAL EXAMINER

ACKNOWLEDGEMENT

I am happy to express my profound sense of gratitude to Ms. Sunita Tanwar, Principal, Delhi Public School, Dwarka , for the encouragement she has given me throughout the course and for the successful completion of the project.

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I also take this opportunity to place on record the deep gratitude to Lord Almighty for the countless blessings showered on me while doing the work and complete it.

Last but not the least I thank my parents and friends for their encouragement and support in my humble venture.

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TOPIC OF THE PROJECT

BUS TICKET RESERVATION AND MANAGEMENT

2021-22

Group Members:

1)HITARTH KHURANA - XII-D

2)ANANYA ARORA - XII-D

BACKGROUND OF THE PROJECT

We all know that time is the most valuable thing in this world. An online bus reservation system helps people to book bus tickets or seats from anywhere. An online booking system mainly helps people who are busy with their ongoing profession.

People don’t need to travel to the bus counter physically for booking bus seats or tickets especially in this COVID situation. Instead, they can book bus tickets or seats instantly using an online platform.

The main objective of this program is to automate the existing system of issuing tickets, at present tickets are issued only at selected outlets.This can be made available online, so that each customer can book a ticket at his/her own place.Apart from this, a customer would also be able to check the timings and schedules of the buses.

FUNCTIONS AND MODULES

FUNCTIONS

1 . connect() This function establishes connection between Python and MySQL.

2. cursor() It is a special control structure that facilitates the row-by-row processing of records in the result set.

3. execute() This function is used to execute the sql query and retrieve records using python.

4. fetchall() This function will return all the rows from the result set in the form of a tuple containing the records.

5.commit() This function provides changes in the database physically.

6. sleep()
The sleep() function suspends execution of the current thread for a given number of seconds.

7. rowcount()
returns the number of rows affected by the last execute method for the same cur object

8.parser()
a command for dividing the given program code into a small piece of code for analyzing the correct syntax.

9. capitalize()
The capitalize() method returns a string where the first character is upper case, and the rest is lower case.

10. IntegrityError()
This exception is raised when the relational integrity of the data is affected.

MODULES

1.time —This package provides time access and conversions

2.re — Regular expression operations module to specify a set of strings that matches it

3.dateutil - This package powerful extensions to the standard datetime module

4.tabulate- This package is used to generate the table easily in text mode and in many formats and print the tuple in a tabular form we got from our database

5. Mysql-connector- This package is used to connect Python Script to the MySQL database

6. Random: this package is used to generate or select random numbers within a specified range

FLOW OF PROJECT

Our project is based on Bus ticket reservation and management.

The menu of the project consists of 3 modules:-
1) Ticket Booking
2) Manage Booking
3) Exit

In the **ticket-booking module** you have the following options

1. **Register yourself**:
   This option can be used by the user to register himself/herself by entering NAME, AGE, GENDER,DATE OF TRAVEL.

2. **Routes:**
   This option is used to display a list of available routes and the user can choose a suitable route according to his/her own convenience.

3. **Timings:**
   This option is used to provide a list of available timings as per the chosen route.

4. **Type of seat :**
   This option displays the choice of seats. It initially provides two options, WINDOW SEAT and OTHER.

5. **Seat Number:**
   After choosing your type of seat, a list of available seats is displayed and the user can pick one of them.

A message is displayed at the end containing the ticket number if booking is successful.

In the **manage booking module** you have the following three options:

1. **Check Booking status:**
   This option displays a ticket in the form of a table containaing a single record with the fields-TICKET NUMBER,NAME,AGE,SEX,DATE OF TRAVEL,ROUTE, TIMING , BUS NUMBER, TICKET NUMBER

2. **Change booking date/Cancel/ Refund:**

   This nested module provides us with the following options:

   A. **Cancel booking/Refund:** This option is used to cancel the booking and displays a refund policy. Users can cancel the booking by entering their ticket number and confirming cancellation .

   B. **Change booking date:** This option is used to change the DATE OF TRAVEL by entering the ticket number and the desired date.

   C. **Change seat :** This option directs us to TYPE OF SEAT AND SEAT NUMBER MODULES to make the necessary changes

3. **Exit** :This option is used to end the nested module.

The final module, **exit module,** helps us to terminate the program.

USE OF TECHNOLOGY

MySQL

MySQL is a relational DBMS that can run virtually all platforms, including Linux, Unix and Windows. Popular for web-based applications and online publishing, MySQL is a part of open-source enterprise stack LAMP (Linux, Apache, MySQL, PHP). MySQL is a freely available open source RDBMS that uses Structured Query Language (SQL). It is down-loadable from the site www.mysql.org MySQL is a fast, reliable, scalable alternative to many of the commercial RDBMs available today. MySQL provides you with a rich set of features that support a secure environment for storing, maintaining, and accessing data.

MySQL was created and supported by MySQL AB, a company based in Sweden. This company is now a subsidiary of Sun Microsystems, which holds the copyright to most of the codebase. On April 20th, 2009 Oracle Corp., which develops and sells the proprietary Oracle database, announced a deal to acquire Sun Microsystems. SQL provides many different types of commands used for different purposes. SQL commands can be divided into following categories: i. Data Definition Language (DDL) ii. Data Manipulation Language (DML) iii. Transaction Control Language (TCL) iv. Session Control Commands v. System Control Commands

PYTHON

Python is a high-level, interpreted, interactive and object-oriented scripting language. Python is designed to be highly readable. It uses English keywords frequently whereas other languages use punctuation, and it has fewer syntactic constructions than other languages.

- Python is Interpreted − Python is processed at runtime by the interpreter. You do not need to compile your program before executing it. This is similar to PERL and PHP.
- Python is Interactive − You can actually sit at a Python prompt and interact with the interpreter directly to write your programs.
- Python is Object-Oriented − Python supports Object-Oriented style or technique of programming that encapsulates code within objects.
- Python is a Beginner's Language − Python is a great language for the beginner-level programmers and supports the development of a wide range of applications from simple text processing to WWW browsers to games.

HARDWARE AND SOFTWARE REQUIREMENTS

●**Modern Operating System**:

○Windows 7 or 10

○Mac OS X 10.11 or higher, 64-bit

○Linux: RHEL 6/7, 64-bit (almost all libraries also work in Ubuntu)

●**x86 64-bit CPU (Intel / AMD architecture)**

●**4 GB RAM**

●**5 GB free disk space**

CONCLUSION

Online bus booking is not only cheap but it is also safe. You feel relaxed as you don’t have to rush to the bus stand and stand in a queue to get a bus booking done.

Booking tickets online is very simple and you get an overview of the entire process. You get to choose a seat of your choice from the seating arrangement and pay only what you should pay and nothing more.

So, travel hassle free with an online bus booking system.

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REMARKS

THANKYOU