

OOP Python PROJECT

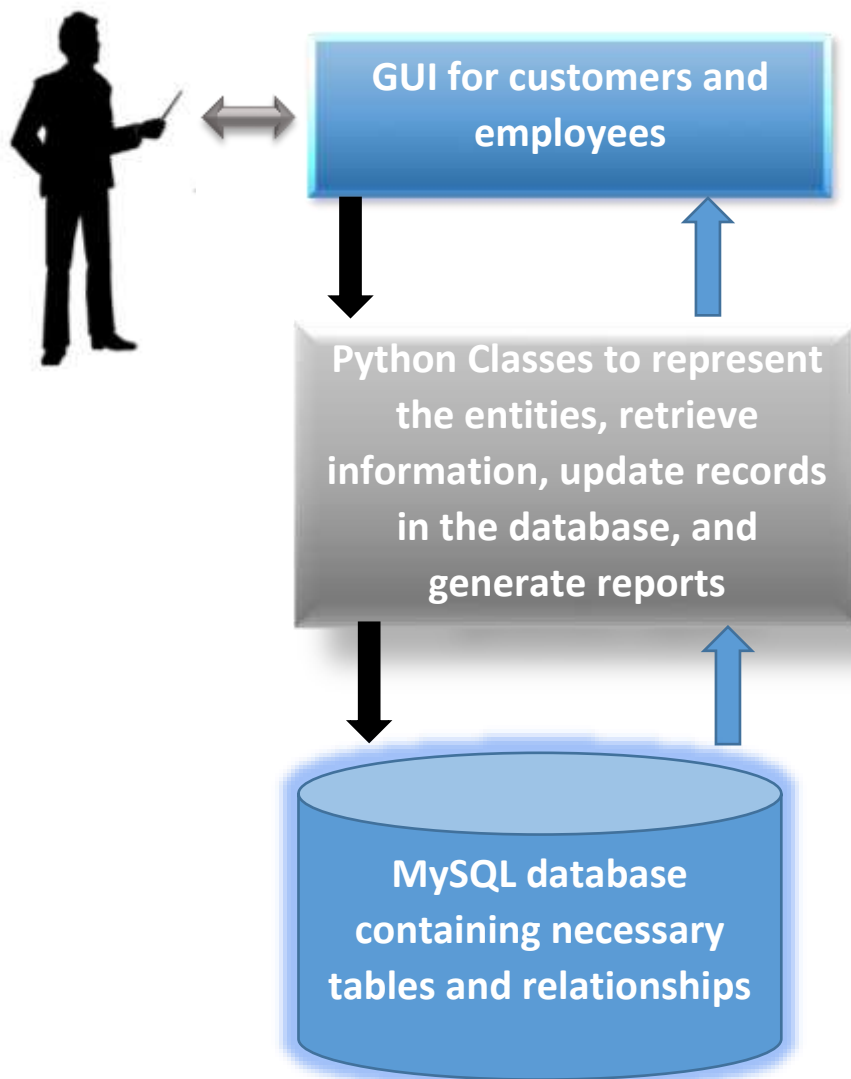
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Airline ticket reservation project

Goal:

The goal of the project is to write an airline ticket booking application which will enable the customer to book the tickets for their journey. The application will also support the airline to maintain its records for sale and customers.



Program Description:

In this program you will write a set of supporting classes for air ticket booking application. Here is an example of GUI.

[Log in to earn and spend Skywards Miles](#)

[Advanced search: multi-city, promo codes, partner airlines >](#)

Departure airport 📍 London (LHR) x	Arrival airport	Departing - Returning
Passengers 1 Adult v ⓘ	Class Economy Class v	Search flights

The application should allow the customer/s to browse the available flights. The user should be able to choose the flight and book the required number of tickets. The customers can be of two types. Guest customers and Member customers. Guest customers will not require a login and will be able to book the tickets without any discounts offered.

The member customers could be regular, senior and children. The member customers will require a login and will be able to book the tickets with discount offered based on the type of the member.

You are expected to create a dummy screen to indicate the processing of payments.

The application primarily involves details of the available flights, their departure and arrival cities and timings, ticket prices as well as customer orders generated and maintained.

The application should be developed for two types of users:

1. Customers – Purchase air tickets, Bill calculation with/without discounts, browsing the availability, reviewing booking history etc.
2. Employees – Update the currently available flights, introducing various discount offers, maintain the customer records, view the analysis of the sale etc.

You are expected to design and develop the database for this application along with the Python classes necessary to implement the application.

Implementation requirements

- Necessary classes, methods and attributes should be designed using UML diagram notation. All the classes, methods and attributes should be

explained in your documentation. Please discuss the design with me before you start implementation.

- You should be able to identify and introduce inheritance relationship wherever applicable
- Necessary GUI screens should be added for successful execution.
- Records should be maintained in the database. Your Python code is expected to read and write to multiple tables as required.
- Every table must be populated with **at least 6 records** at the time of demonstration of the project.

Guidance for structured development of project

Step 1: Relationship model

Review all possible requirements of the database and the search criteria. Identify the possible entities, attributes in the database. It is important to carefully recognize the role of each attribute and then decide the datatype of the attribute. It will also play a key contribution towards determining the primary and foreign key attributes. Document the relationships between the entities.

Step 2: Creating database

Based on the relationship model above, create tables and relationships using MySQL. Insert the records into the tables.

Step 3: Information Finder

Review the user requirements to identify the possible range of information you need to retrieve from the database. Specifically in the case of business organizations, it is important for the employees to analyse the sales. For example:

- The amount of sale for a particular flight
- The number of tickets purchased by customer in last three months
- The discount offers which availed a great response

It is equally essential for the customers to analyse their past purchases.

Develop the necessary classes to represent entities, which will enable the user to query the database.

Step 4: GUI & Reporting

A welcome window will allow the user to connect to the database by entering their EMAIL and PASSWORD. These information, if stored in the USER table, will give him access or / and update rights to certain data of the schedule.

Your graphical interface will display in an ergonomic, clear and fluid way all the relevant information. It will allow you to navigate intuitively from one page to

another. For example, a page of your interface graph can contain menus with menu items, or tabs if you prefer.

Deliverables

The deliverable should be a zipped file per team containing the following:

1. A PowerPoint presentation including
 - a. Title
 - b. Name of the team members
 - c. Summary
 - d. Class diagram
 - e. Database design
 - f. GUI screen samples
 - g. Your own evaluation of the project
 - h. Bibliography
2. Python code: All the folders including the files developed for the project.