AIRLINE BOOKING PROGRAM

A PROJECT REPORT

Submitted by

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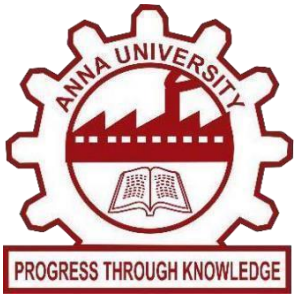

BONAFIDE CERTIFICATE

Certified that this project report is the bonafide work of GEORGE BRITTO J **(312322205047)** who carried out the project under my supervision.

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SEMESTER II

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The report of the project work submitted by the above students in partial fulfillment for the award of Bachelor of Technology Degree in INFORMATION TECHNOLOGY of Anna University was confirmed to be report of the work done by the above students and then evaluated.

Submitted to Project and Viva Examination held on_____.

INTERNAL EXAMINER **EXTERNAL EXAMINER**

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Abstract:

Airline reservation System is a computerized system used to store and retrieve information and conduct transactions related to air travel. The project is aimed at exposing the relevance and importance of Airline Reservation Systems.

It is projected towards enhancing the relationship between customers and airline agencies.

The system allows the airline passenger to search for flights that are available between the two travel cities, namely the "Departure city" and " Arrival city" for a particular departure and arrival dates.

Then the system checks for the availability of seats on the flight. If the seats are available then the system allows the passenger to book a seat. Otherwise it asks the user to choose another flight.

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INTRODUCTION :

An airline is a company that provides air transport services for traveling passengers and/or freight. Airlines use aircraft to supply these services and may form partnerships or alliances with other airlines for codeshare agreements, in which they both offer and operate the same flight.

Generally, airline companies are recognized with an air operating certificate or license issued by a governmental aviation body.

The notion of airline booking is based on making and canceling flight bookings. The system does not have a login function. Users may simply book flights, cancel reservations, and look up information.

Airline Reservation System" main aim is to provide the online ticket & seat reservation of National and International Flights and also give us the information about flight departures. The system allows the airline passenger to search for flights that are available between the two travel cities, namely the " Departure city" and " Arrival city" for a particular departure and arrival dates.

The system displays all the flight' s details such as flight no, name, price and duration of journey etc.After search the system display list of available flights and allows customer to choose a particular flight.

Then the system checks for the availability of seats on the flight. If the seats are available then the system allows the passenger to book a seat. Otherwise it asks the user to choose another flight.To book a flight the system asks the customer to enter his details such as name, address, city, state, and credit card number and contact number.

Then it checks the validity of card and book the flight and update the airline database and user database.

The system also allows the customer to cancel his/her reservation, if any problem occurs.

The main purpose of this software is to reduce the manual errors involved in the airline reservation process and make it convenient for the customers to book the flights as when they require such that they can utilize this software to make reservations, modify reservations or cancel a particular reservation

2) Design:

The design of the Airline Booking program focuses on achieving efficiency, accuracy, and user-friendliness. The program is structured to collect and store passengers passport information, passengers name, destination, seat number and emailand provide a seamless user experience. The design encompasses the program's architecture, data structures, and key algorithm.

2.1) Code Structure:

The code structure of the Airline Booking program follows a modular approach, with clear separation of responsibilities and functions for specific tasks. The program is organised into different sections to facilitate readability, maintainability, and reusability. Here is a description of the code structure..

- **Header Files:**
  The program starts by including necessary header files, such as '<stdio.h>' , which provides input/output functionality, and any other relevant header files specific tothe program's requirements. These header files define the necessary functions and structures used in the program.

- **Structure Definition:**
The 'Mufti_ airline' structure is defined to represent each Airline Ticket information. Includes attributes like 'passenger name', 'destination', 'seat number' and 'email'. The structure definition encapsulates the data related to mufti airline allows for organised storage and access of passengers information.

- **Function Prototypes:**
After the structure definition, function prototypes are declared. This section lists the functions that will be defined later in the program. Function prototypes provide information about the function's name, return type, and input parameters, enabling the compiler to check for correct usage and allow functions to be called before they are defined
.

- **Function Definitions:**
The program proceeds with the definition of various functions used in the program. These functions include the 'Airline Booking Information' function, which displays the Booking Information on the console, and the 'main' function, which serves as the entry point of the program.

Main Function:

The ‘main’ function is where the program execution begins. It starts by declaringlocal variables, such as ‘reserve’, 'cancel', 'save' to store user inputs.

It prompts the user to enter the choice, reservation, cancel and reads this input using the ‘scanf’ function.

● Array Declaration: This array provides a container to store the Booking information.

● Return Statement: Finally, the ‘main’ function concludes with a return statement, usually returning 0 to indicate successful program execution.

The code structure ensures modularization of tasks, making it easier to understand and modify specific sections of the program independently.

It follows best practices such as function prototypes, encapsulation with structures, and theuse of loops for iteration. This promotes code reusability, readability, and maintainability, allowing for futureenhancements or modifications to be integrated smoothly

2.2 Data Structure:

The data structure used in the AIRLINE BOOKING program is a structure called 'Mufti_airline'. This structure encapsulates the information about each passenger participating in Booking .Here is thedefinition of the 'Mufti_airline' structure:

```
struct mufti_  airline;
{
char passport[6]
char name[15];
char destination [15];
int seat_  num;
char email[15];
}
```

The mufti_ airline structure consists of five attributes:

1. passport: This attribute is a character array (char passport[6]) that stores the passport information of the passengers. It can hold up to 6 characters, providing sufficient space to accommodate most passengers info.

2) name: This attribute is a character array (char name[15]) that stores the name of the passengers. It can hold up to 15 characters, providing sufficient space to accommodate most passengers name.

3) destination: This attribute is a character array (char destination [15]) that stores the destination information of the passengers. It can hold up to 15 characters, providing sufficient space to accommodate most passengers destination info.

4) seat_ num: This attribute is an integer (int seat_ num) that represents the seat numbe of the passengers . It stores the total seats accomodated by the passengers.

5) email: This attribute is a character array (char email[15]) that stores the email of the passengers. It can hold up to 15 characters, providing sufficient space to accommodate the email info of the passengers.

By utilising the mufti_ airline structure, the program can organise and store passengers information in a structured manner. The use of a structure allows for easy access, manipulation, and retrieval of passengers information throughout the program

2.3) Error Handling:
Error handling is an integral part of the program's design. The program incorporates input validation to ensure that user inputs adhere to the expected format and range.

For example, the program can check if the seats entered is valid and within the desired range.

If an invalid input is detected, appropriate error messages are displayed, guiding the user to correct their input.The program's design also promotes extensibility and future enhancements.

For instance, additional functionalities such as booking desired seats or sorting the seats can be easily incorporated into the existing code structure.

The modular design and use of appropriate data structures allow for the seamless integration of new features without disrupting the program's core functionality.

3.Requirements:

A C compiler: You need a C compiler installed on your system to compile and executethe C source code.

Operating System: The program can be compiled and run on various operating systems, including Windows, macOS, and Linux.

Development Environment: You can use any text editor or integrated development environment (IDE) to write the C code.

C Standard Library: The program uses the standard C library, which is typically available by default with the C compiler.

4) Implementation:

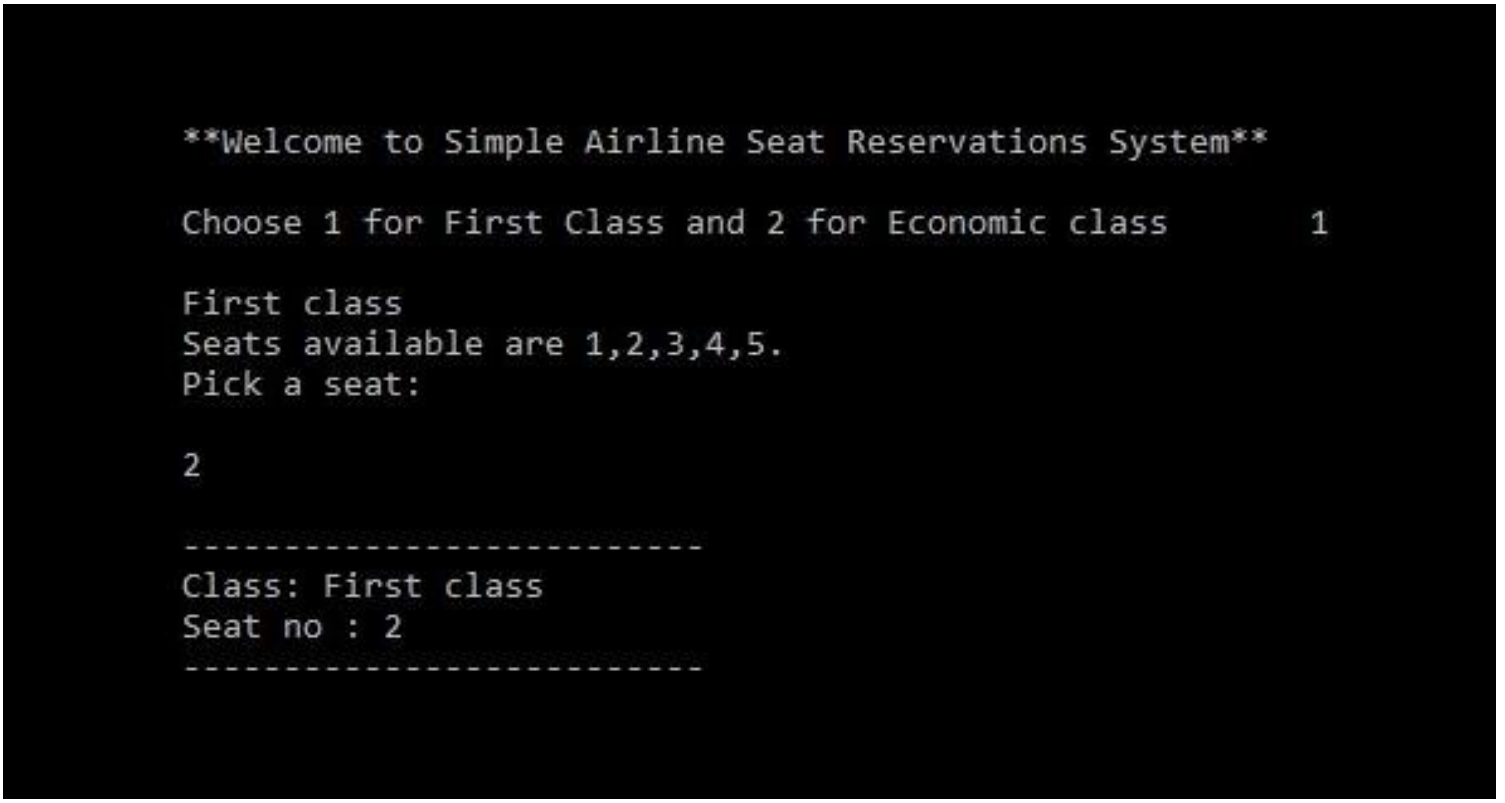
```
#include<stdio.h>
#include<stdlib.h>
#include<conio.h>
#include<string.h>
struct mufti_  airline
{
char passport[6];
char name[15];
char destination[15];
int seat_  num;
char email[15];
struct mufti_  airline *following;
}
*begin, *stream;
struct mufti_  airline *dummy;
void main()
{
void reserve(int x), cancel(), display(), savefile(); //function prototypes
int choice;
begin = stream = NULL;  //initialize  the struct pointers to NULL
int num = 1;
do
{
printf("\n\n\t\t **********************************************************");
printf("\n\t\t  welcome to simple airline booking system  ");
printf("\n\t\t   **********************************************************");
printf("\n\n\n\t\t Please enter your choice from below (1-4):");
printf("\n\n\t\t 1. Reservation");
printf("\n\n\t\t 2. Cancel");
printf("\n\n\t\t 3. DISPLAY RECORDS");
printf("\n\n\t\t 4. EXIT");
printf("\n\n\t\t feel free to contact ");
printf("\n\n\t\t Enter your choice :");
scanf("%d", &choice); fflush(stdin);
system("cls");
switch (choice)
{
case 1:
reserve(num);
num++;
break;
case 2:
cancel();
break;
case 3:
display();
break;
```

```
case 4:
{
savefile();
break;
}
default:
printf("\n\n\t SORRY INVALID CHOICE!");
printf("\n\n\t PLEASE CHOOSE FROM 1-4");
printf("\n\n\t Do not forget to chose from 1-4");
}
getch();
} while (choice != 4);
// **********************GOOD LUCK MUFTI************************
void details()
{
printf("\n\t Enter your passport number:");
gets(stream->passport); fflush(stdin);   //reads a    line from stdin and stores it into the
string pointed
printf("\n\t Enter your name:");
gets(stream->name); fflush(stdin);
printf("\n\t Enter your email address:");
gets(stream->email); fflush(stdin);
printf("\n\t Enter the Destination : ");
gets(stream->destination); fflush(stdin);
}
// **********************GOOD LUCK MUFTI************************
void details();
void reserve(int x)
{
stream = begin;
if (begin == NULL)
{
// first user
begin = stream = (struct mufti_  airline*)malloc(sizeof  (struct mufti_  airline));
stream->following = NULL;
printf("\n\t Seat booking successful!");
printf("\n\t your seat number is: Seat A-%d", x);
stream->seat_  num = x;
return;
}
else if (x > 15) // FULL SEATS
{
printf("\n\t\t Seat Full.");
return;
}
else
{
stream = stream->following;
stream->following = (struct mufti_  airline *)malloc(sizeof  (struct mufti_  airline));
```

```
stream = stream->following;
details();
stream->following = NULL;
printf("\n\t Seat booking succesful!");
printf("\n\t your seat number is: Seat A-%d", x);
stream->seat_  num = x;
return;
}
}
// **********************GOOD LUCK MUFTI*****************************
void savefile()
{
FILE *fpointer = fopen("mufti records", "w");
if (!fpointer)
{
printf("\n Error in opening file!");
return;
Sleep(800);
}
stream = begin;
while (stream)
{
fprintf(fpointer, "%-6s", stream->passport);
fprintf(fpointer, "%-15s", stream->name);
fprintf(fpointer, "%-15s", stream->email);
fprintf(fpointer, "%-15s", stream->destination);
fprintf(fpointer, "\n");
stream = stream->following;
}
printf("\n\n\t Details have been saved to a file (mufti records)");
fclose(fpointer);
}
void display()
{
stream = begin;
while (stream)
{
printf("\n\n Passport Number : %-6s", stream->passport);
printf("\n        name : %-15s", stream->name);
printf("\n      email address: %-15s", stream->email);
printf("\n      Seat number: A-%d", stream->seat_  num);
printf("\n     Destination:%-15s", stream->destination);
printf("\n\n++*=========================================*++");
stream = stream->following;
void cancel()
{
stream = begin;
system("cls");
char passport[6];
printf("\n\n Enter passort number to delete record?:");
```

```
gets(passport); fflush(stdin);
if (strcmp(begin->passport, passport) == 0)
{
dummy = begin;
begin = begin->following;
free(dummy);
printf(" booking has been deleted");
Sleep(800);
return;
while (stream->following)
{
if (strcmp(stream->following->passport, passport) == 0)
{
dummy = stream->following
stream->following = stream->following->following;
free(dummy);
printf("has been deleted ");
getch();
Sleep(800);
return;
}
stream = stream->following;
}
printf("passport number is wrong please check your passport");
}
```

5) OUTPUT:


Welcome to Simple Airline Seat Reservations System
Choose 1 for First Class and 2 for Economic class 1
First class
Seats available are 1,2,3,4,5.
Pick a seat:
2
Class: First class
Seat no : 2

6) CONCLUSION:

When it comes to the features of airline booking, the system requires information suchas the passenger's name, passport number, and email address.

A reservation is made once all of these steps have been completed. The system delivers aseat number as evidence of reservation.

To check tickets, the user must first submit a seat number, after which the system will search the database for the appropriate tickets and provide the results.

The technology makes canceling a flight reservation simple; the user only has to entertheir seat number.

Airline Booking was created with the help of the C programming language, as well as various variables and strings.

The simplest method for airplane bookings is provided by this little project .

7) Reference:

LearnProgramo:https://learnprogramo.com/50-interesting-programming-c-projects - download-with-source-code/

Book: Programming in C [Second Edition][Oxford]

OpenAI: https://chat.openai.com