Course: EECS 3461
Professor: Melanie Baljko
Assignment #: 02

Student 1: Akalpit Sharma (212650628)
Student 2: Phuc Pham (213839436)
Component #: 02

AIR-LINE RESERVATION SYSTEM

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Component 2: Establishing Requirements

There are two kinds of requirements, functional and non-functional. The functional requirements are done by the system and the system will check whether only authorized personal is trying to login or not. It will throw an error message if someone else tries to login. The non-functional requirements are the constraints and since this is a java application it can run on multiple platforms. Java is platform independent and same code can be used for all the platforms. The flight details are gathered from a single airway and the price is also moderated as per our needs.

From	To	Price	Time
Tanzania	Johannesberg	312	16:30
Tanzania	Cairo	322	19:00
Tanzania	Cape Town	142	08:30
Tanzania	Casablanca	102	09:50
Tanzania	Lagos	152	11:00
Tanzania	Tunis	382	05:30
Tanzania	Alexandria	3025	05:30
Tanzania	Durban	172	12:00
Tanzania	Abuja	372	19:00

From	To	Price	Time
Tanzania	Bali	2148	06:20
Tanzania	Bangkok	900	20:45
Tanzania	Cairo	2297	10:25
Tanzania	CapeTown	4250	16:45
Tanzania	Chicago	3500	06:30
Tanzania	Dubai	1200	08:15
Tanzania	Frankfurt	18500	06:50
Tanzania	HongKong	2084	12:00
Tanzania	Istanbul	2200	10:45
Tanzania	London	2260	14:35
Tanzania	LosAngeles	3500	22:00

An interactive system is designed for the user to deal with the flight system details and the two points of view are one who wish to book the ticket and another one who just want to look at the flight cost, arrival and departure details. For ticket booking login needs to be done first to check the availability and only after that booking is done. There might be some who just visit the application to check whether the ticket cost is low or not.

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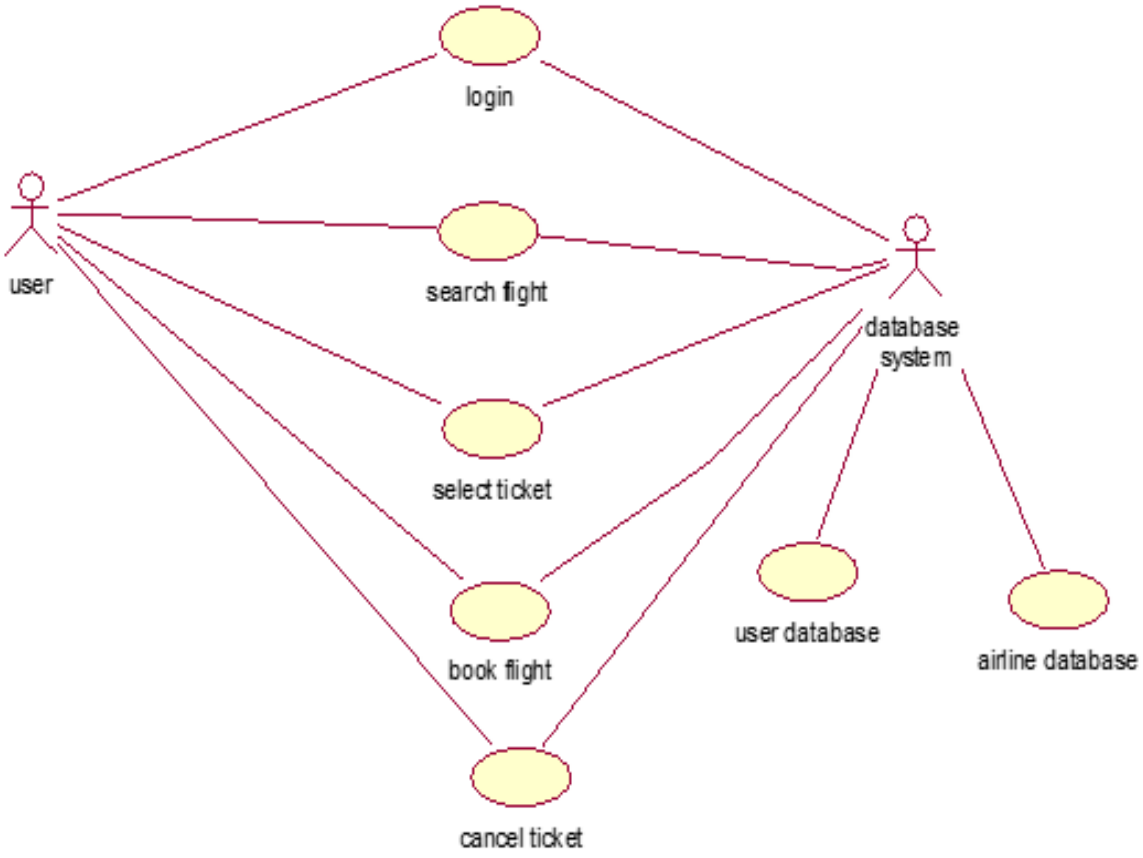
A basic view of the interaction with the system is shown below.



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Req No	Brief explanation	Req-Type	Need
1	The user will be able to look at all the domestic and international flights in the first page.	Functional Req	Compulsory
2	If any error occurs the all the actions will stop to display a error message.	Non-Functional Req	Compulsory
3	User can be able to see the cost, duration of travel, number of adults, children and infants.	Functional Req	Compulsory
4	The authorized person can only login and can do necessary actions.	Non-Functional Req	Compulsory
5	The time taken for the airline - reservation system should be less than 3 seconds most of time.	Non-Functional Req	Not compulsory
6	The user can be able to provide the flight class which will be corresponding to the flight chosen.	Functional Req	Could have
7	The user will be able to choose the seats from the list of available seats of particular flights.	Functional Req	Compulsory
8	The user must finish all mandatory steps to book flight to be guaranteed and authorized.	Functional Req	Compulsory

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Requirement #: 1 **Requirement Type**: 9 **Event/use case #**: 1,2
Description: The product will display all the available international and domestic flights.
Rationale: To view all the choices that are available and to compare.
Originator: Developer
Fit Criteria: The flight details will be displayed in the first screen and only takes 2 minutes to search for anything.
Customer Satisfaction: 4 **Customer Dissatisfaction:** 2
Dependencies: None **Conflicts:** None
Supporting Materials: Other websites showing flight details

Requirement #: 2 **Requirement Type:** 15 **Event/use case #:** 1,2
Description: The product will display an error if any wrong is done.
Rationale: To make sure nothing wrong gets through the system.
Originator: Developer
Fit Criteria: Within seconds the error message will be displayed, and further actions cannot be done.
Customer Satisfaction: 3 **Customer Dissatisfaction:** 2
Dependencies: None **Conflicts:** None
Supporting Materials: System with proper authorization and security

Requirement #: 3 **Requirement Type:** 8 **Event/use case #:** 1,2
Description: The user can also see the duration of travel and can select the number of adults, children and infants
Rationale: An idea can be get from duration to plan accordingly
Originator: Developer
Fit Criteria: It is much easier to segregate adults and children and infants
Customer Satisfaction: 3 **Customer Dissatisfaction**: 3
Dependencies: None **Conflicts**: None
Supporting Materials: The census that always records everything about people

Requirement #: 4 **Requirement Type**: 17 **Event/use case #:** 3
Description: The authorized person can only login and others are restricted.
Rationale: More security is added with this addition.
Originator: Developer
Fit Criteria: Not everyone can scramble through the system.
Customer Satisfaction: 4 **Customer Dissatisfaction**: 1
Dependencies: None **Conflicts**: None
Supporting Materials: Every authorized page.

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Requirement #: 5 **Requirement Type:** 12 **Event/use case #**: 2,3,8
Description: The response time is less than 5 seconds.
Rationale: The faster the system the easier it is work and more satisfaction.
Originator: Developer
Fit Criteria: Speed is always a crucial factor in any system.
Customer Satisfaction: 4 **Customer Dissatisfaction**: 2
Dependencies: None **Conflicts**: None
Supporting Materials: Movie and other fast working websites.

Requirement #: 6 **Requirement Type**: 6 Event/**use case #:** 2,5
Description: The class of the flight is selected first.
Rationale: To compare the cost difference between business and economic.
Originator: Developer
Fit Criteria: Always two classes should be there in any travelling system.
Customer Satisfaction: 4 **Customer Dissatisfaction**: 2
Dependencies: None **Conflicts**: None
Supporting Materials: Train system having first class seats.

Requirement #: 7 **Requirement Type**: 9 **Event/use case #:** 7
Description: The user can select the number of seats from a drop-down list
Rationale: To know how many seats are available at that time
Originator: Developer
Fit Criteria: In a single transaction only, restricted number of seats can be booked so that the tickets could not be sold in black
Customer Satisfaction: 2 **Customer Dissatisfaction**: 3
Dependencies: None **Conflicts**: None
Supporting Materials: A proper use of all reservation systems.

Requirement #: 8 **Requirement Type**: 8 **Event/use case #:** 3,7,8
Description: All the necessary steps should be completed from the start.
Rationale: Preliminary actions are always needed in a system.
Originator: Developer
Fit Criteria: Not everyone can skip through the procedure and straightaway deal with everything.
Customer Satisfaction: 3 **Customer Dissatisfaction**: 3
Dependencies: None **Conflicts**: None
Supporting Materials: None

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Use Cases:

1. The system displays the available flights with their timings and prices.
2. The system will show accordingly whether if international or domestic is selected.
3. The system will check for valid user only to login.
4. The system will check if the details are correct and if not, error message is displayed.
5. The system will check for the class whether it is business or economic
6. The system will check the availability with respect to the date given.
7. The user will book the ticket with number of adults, children and infants.
8. The system will generate a ticket with total bill.

PROJECT DRIVERS:

The Purpose of the Product:

The purpose is to build a user interactive, easy going and user-friendly airline-reservation system so that it would not take much time to book a ticket for the need of the user. Anyone can wish to travel in plane for their personal need or professional matter. They should not strain that much to execute this plan. That is why a simple and sophisticated system is developed.

The Stakeholders:

If certain offers are made other ticket booking system for travel will be affected by this and if this system works perfectly without any errors users will wish to make more booking with this type or method.

PROJECT CONSTRAINTS:

Mandated Constraints:

It is mandatory to select any one of the flight travel plan. Either domestic or international flights. Also, the class should also be selected whether business or economic. Minimum one ticket

should be selected from the list box and maximum of 8 adults can be selected and nothing more than that is allowed.

Naming Conventions and Definitions:

The naming conventions are given specifically to be user readable and understandable. By definition business class flights will cost more, and usually rich people will opt this option only. A child ticket can be selected only if a minimum of one adult ticket is already selected.

Relevant Facts and Assumptions:

Since it is not safe to travel for a child alone it is mandatory for the child to travel with an adult. During season time the tickets rate will eventually increase since there will be more demand and during off-season the cost of the tickets will be much lesser in number.

FUNCTIONAL REQUIREMENTS:

The Scope of the Work:

People are always travelling around for their personal need or professional work. Their most preferable and best way of travel is through flight airlines. So as long as a new mode of transportation advancing the flying airline system is developed the flights will continue to travel everywhere. And for this purpose, they are needed to book the flight tickets and a booking system is required to achieve this.

The Scope of the Product:

The system is designed for airline-reservation and is used to book tickets for domestic and international flights and the business and economic classes are also provided for the user to select as per their need. The tickets are segregated into adults, children and infants.

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Functional and Data Requirements:

The details of the flight are required and the cost for local travel and internal travel. The functions done by the user should work properly and a ticket once booked should only be available to that user alone.

NON-FUNCTIONAL REQUIREMENTS:

Usability and Humanity Requirements:

The system is user friendly and humans who have good taste will enjoy using the system and can easily access to any flight and book with full flexibility.

Performance Requirements:

The actions performed are responded quickly by the system and the user does not have to wait around the system.

Security Requirements:

Only authorized person can be able to login and others will not have access to the entire functions of the system and cannot perform the ticket booking operation.