Airline Ticket System

By: Arturo Bramasco

Table of Contents

System Requirements

Problem statement

Customer Problem Statements & System Requirements

An Airline ticket purchase system is used for addressing issues to online purchasing services where it is widely used around the world for travel. It can be a problem for people constantly purchasing tickets and having to face difficulty of navigating through the pages. It can be hectic as there are many buttons to go through. This is something that I have been dealing with personally and believe there are many features than can be minimized for the better experience.

The objective of the airline ticket purchase system is intended to allow for various implementation for a better navigation system for all to use without having to deal with too many buttons and pages. For users and airports, they can minimize the time they spend trying to figure out what to do when it comes to simply buying a ticket. The system would give more options on the online portion such as navigation through the airport, specific to the flight that you have and how to purchase the ticket. You will be able to simply click a few buttons to find the best deal and buy tickets to where you need to go. There are many services out there to use but this system simplifies the navigation through the system. When it comes to purchasing the product, there will be an addition of apple pay to quickly pay if possible and other options of payment.

Glossary of Terms

1. Refund
    - The process by which a customer gets their money back from a ticket that has not been used.
2. Booking Class
    - A code that represents the type of seat class which determines the price and privileges of a ticket
    - (Economy, business, first class)
3. Passenger
    - A person who buys an airline ticket
4. Carry-on Baggage
    - Luggage that passengers bring into the aircraft
5. Miles or Points
    - Flying program which adds up based on the miles flown or money spent
6. Flight Change:
    - Changing the flight from what was previously booked
7. Upgrade

- Upgrading their ticket to a higher class

8. Direct flight
    - A flight that travels from point A to point B without stopping
9. Layover
    - A stop between a flight where the passenger changes flights
10. Boarding Pass
    - A document given to a passenger after checking in to allow them to board.
11. Seat Assignment
    - The seat selected or assigned to a passenger
12. Ticket Price
    - The cost of the ticket

System Requirements

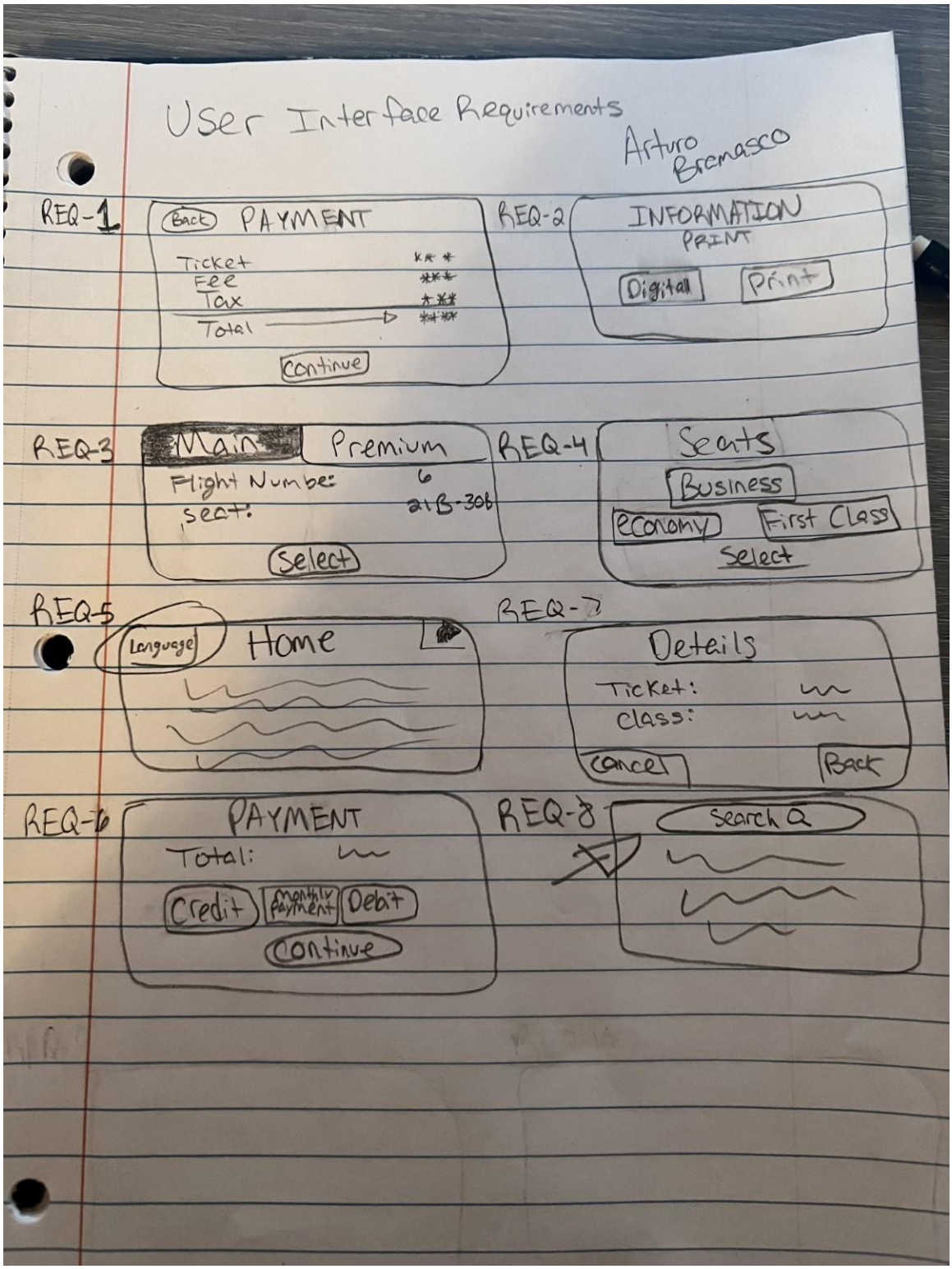
No.	Priority Weight	Description
REQ-1	High	The system should add up and display the cost of the ticket based on flight, class, and number of passengers.
REQ-2	High	Issue passenger digital or ability to print ticket after payment.
REQ-3	High	The system should display the flight details like the flight number, seat, and availability.
REQ-4	High	Passengers to select between fare classes
REQ-5	Low	Multi Language
REQ-6	High	Passengers to select payment methods.
REQ-7	Medium	Customers to cancel their flight.
REQ-8	High	The system should allow passengers to search for flights, destination, date, and the time.

No.	Priority	Description

System Requirements

1	Medium	Functionality: system allows searching, booking, and payment.
2	High	Reliability: system is available without issues.
3	High	Performance: Should handle lots of users using the system.
4	Medium	Supportability: Allow for updates.
5	Medium	Usability: easy navigation using the system.

System Requirements



System Requirements

System Sequence Diagram

Payment

States

- Initial State: The customer begins the payment process for the selection seat process
- Final State:
    1. The customer receives a confirmation receipt for purchasing the seat.
    2. The purchased seat is taken away from the seat inventory for the flight scheduled.
    3. The customer receipt is denied, and they receive a message that displays error.
    4. The customer rejects the seat details.
    5. The customer's card is denied and a message displays error.

Actions

The payment process begins when the customer confirms their ID. The system allows or denies the ID provided. The customer will confirm the details of the selected seat. The customer will attempt to enter payment information, and the system will approve or deny the card. The system will then assign the customer ID to the seat and the seat is removed from inventory for the scheduled flight. The customer receives ID of the purchased seat.

Select Seat

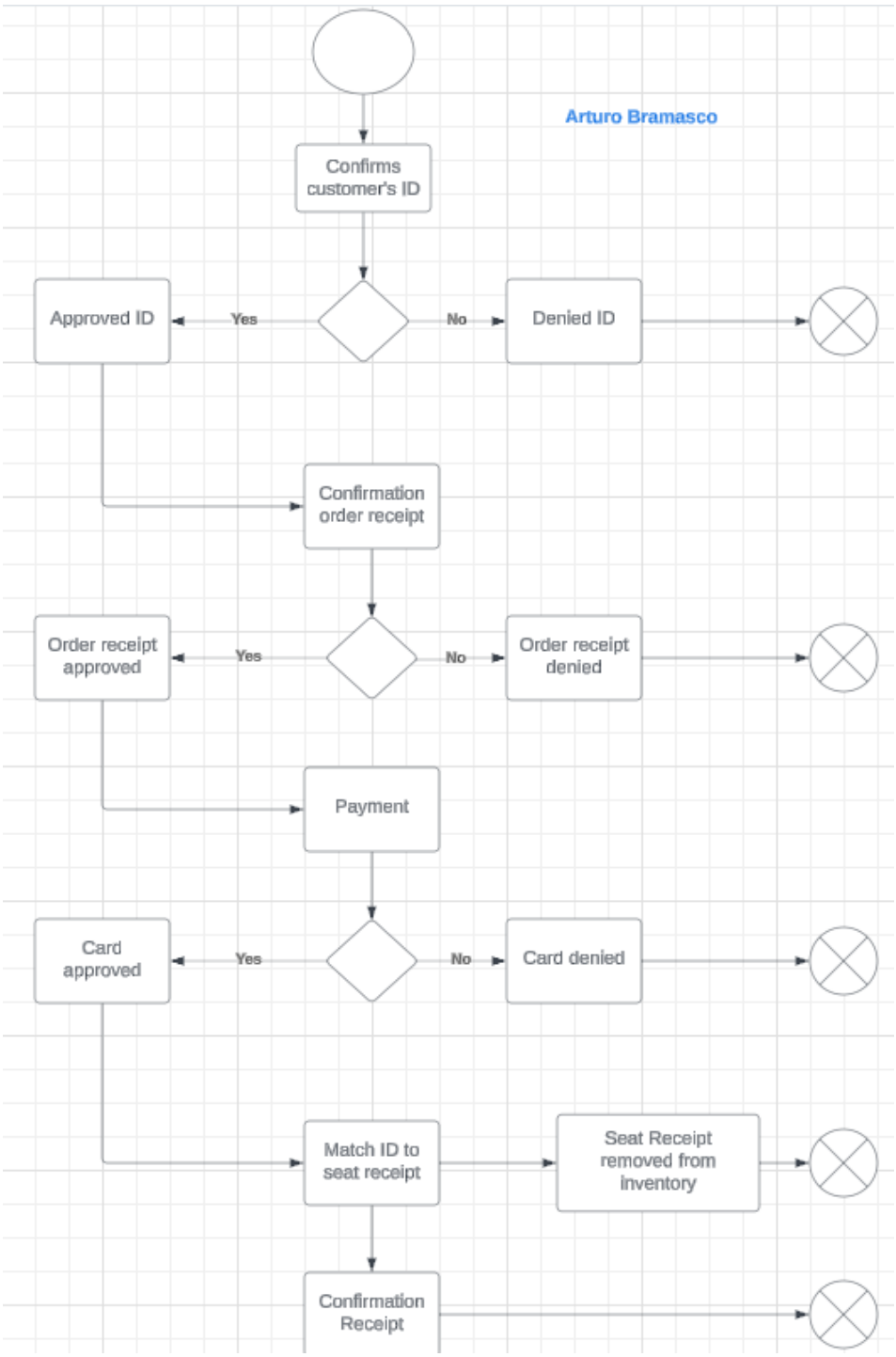
States

- Initial State: The customer selects a seat on a flight
- Final State:
    1. Customer will confirm the selected seat and proceed to purchase.
    2. Customer will not confirm the selected seat and exit the system.

Actions

Customer selects a seat for a flight and view the seats available whether that is a window, aisle, economy, first class seat. The system tells the customer about the seat that is available and the total cost. The system will bring up the total cost for the seat and the customer will be able to confirm the selected seat. The customer will then be able to checkout.

System Requirements



System Requirements

Sequence Diagrams

Process Credit Card

Actor: Customer

Objects: Payment, Credit Card

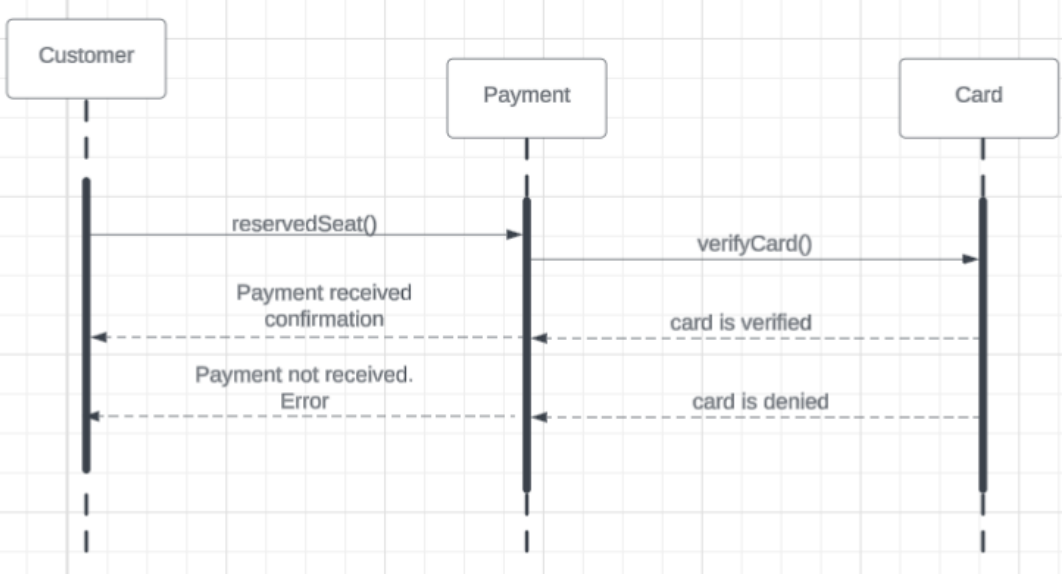
1. Customer enters credit card information.
2. Payment receives card information and send message to card for verification.
3. If the card is verified, the customer receives pay confirmation ID for seat.
4. If the card is denied, the customer receives an error.

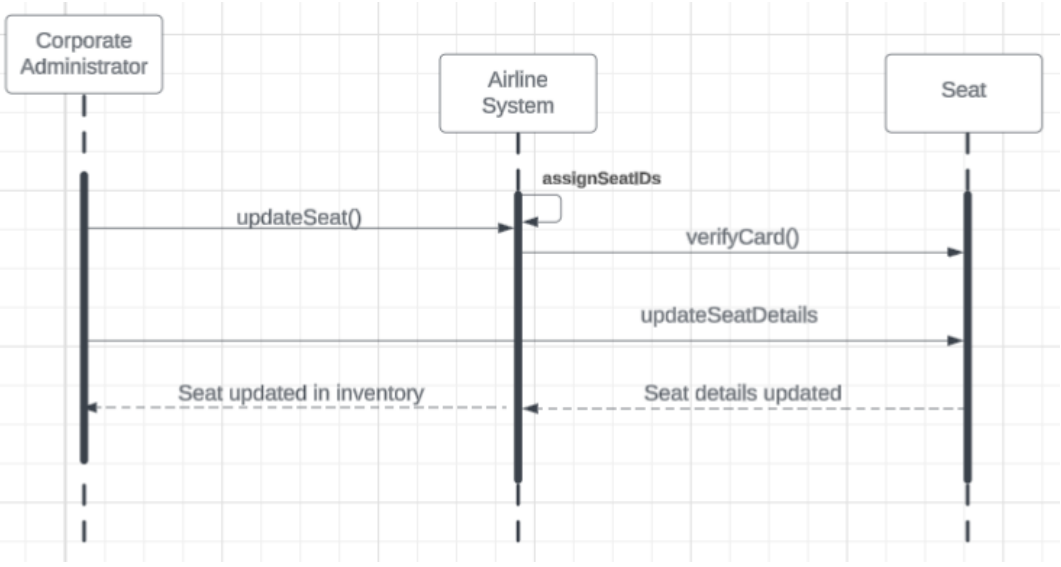
Update the Seat Inventory

Actor: Airline Administrator

Objects: Airline System, Seat Inventory

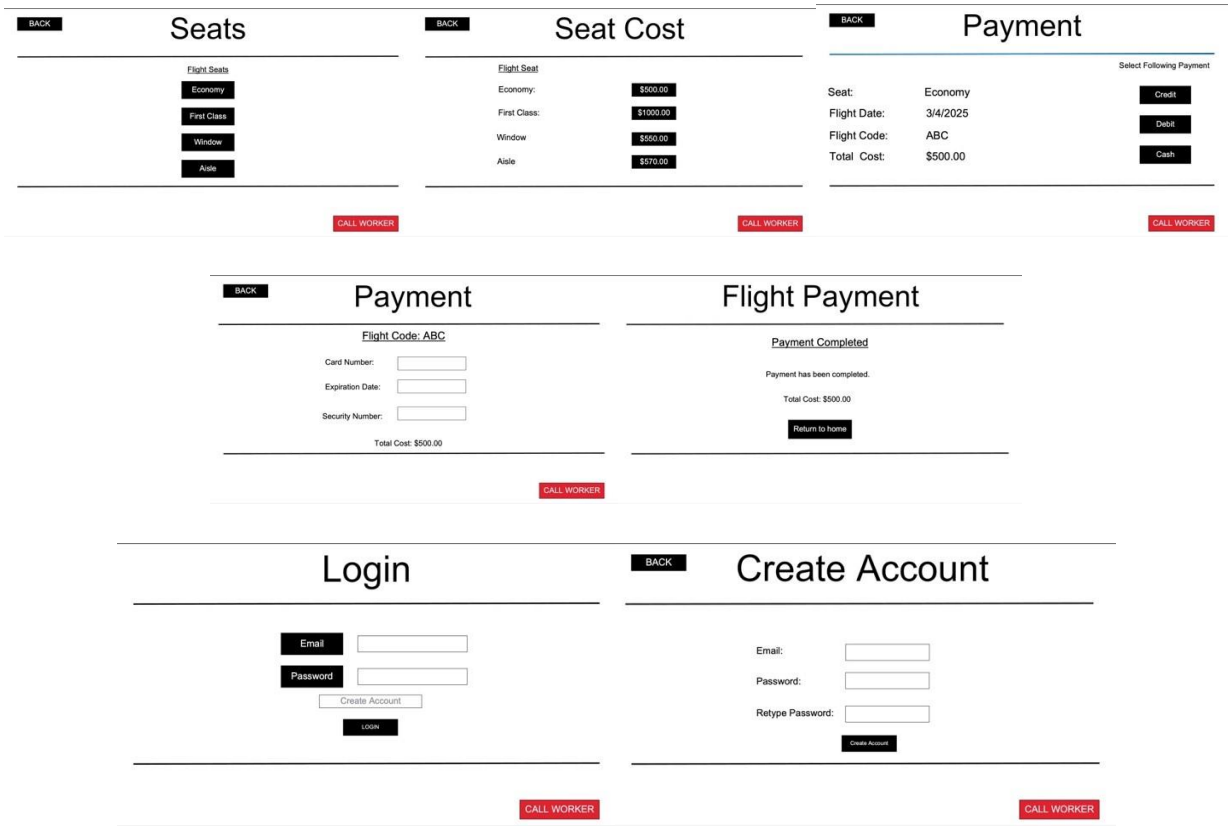
1. Airline Administrator requests update on the seat inventory.
2. The system assigns seat IDs.
3. The Airline Administrator updates the seat details.
4. A message is sent to the system and administrator that the inventory is updated.





System Requirements

User Interface



Usage Scenario	Navigation	Clicks	Keystrokes
Select Seat and see cost	economy, $500.00, credit	3	0
Enter card and pay	Card number, exp. Date, ssn, completed payment	4	<10
create account	Create account, email, password, retype, create account	4	<10

System Requirements

Project Plan

No.	Priority Weight (1-5: 1 low, 5: highest)	Description
REQ 1	High	The system should add up and display the cost of the ticket based on flight, class, and number of passengers.
REQ 2	High	Issue passenger digital or ability to print ticket after payment.
REQ 3	High	The system should display the flight details like the flight number, seat, and availability.
REQ 4	High	Passengers to select between fare classes
REQ 5	Low	Multi Language
REQ 6	High	Passengers to select payment methods.
REQ 7	Medium	Customers to cancel their flight.
REQ 8	High	The system should allow passengers to search for flights, destination, date, and the time.
REQ 9	Low	Managers change the system

Use Cases

No.	Description
UC1	Passengers to search flights by destination, time, and date
UC2	Display flight details. Flight number, availability, and seat.
UC3	Passengers to choose fare classes.
UC4	Calculate and show ticket cost.
UC5	Passengers to choose their payment method.
UC6	Print or have digital ticket once paid.
UC7	Customers to cancel their flight.
UC8	Users to switch language for multi-language feature.
UC9	Managers to change the system if necessary.

Traceability Matrix

System Requirements

Requirement	PW	UC1	UC2	UC3	UC4	UC5	UC6	UC7	UC8	UC9
REQ1	5				x					
REQ2	5						x			
REQ3	5		x							
REQ4	5			x						
REQ5	1								x	
REQ6	5					x				
REQ7	3							x		
REQ8	5	x								
REQ9	1									x
Max PW		5	5	5	5	5	5	3	1	1
Total PW		5	5	5	5	5	5	3	1	1

Reference

Arturo Bramasco