

Flight It Your Way

Project Proposal



Juan Uriarte

Table of Contents

Abstract	2
1.0 Introduction	3
1.1 Background	3
1.2 Motivation	4
1.3 Related Work	4
2.0 Problem Statement	5
3.0 Proposed Project & Significance	6
3.1 Proposed Project	6
3.2 Significance	6
4.0 Objectives	7
4.1 Project Objectives	7
4.1.1 Project Objective 1	7
4.1.2 Project Objective 2	7
4.1.3 Project Objective 3	7
4.2 Functional Objectives	8
4.2.1 Function Objective 1	9
4.2.2 Function Objective 2	10
4.2.3 Function Objective 3	11
4.3 Function Objective 4	12
4.3.1 Function Objective 5	13
4.3.2 Function Objective 6	14
4.3.3 Function Objective 7	15
4.3.4 Function Objective 8	16
5.0 Activities	17
5.1 Phases	17
5.4 Phases	18
6.0 Development Environment	19
7.0 Reports and Products	19
8.0 Schedule	20
9.0 References	21

Abstract

Customer Service has always been a necessity for businesses to grow from other competitors. The Flight It Your Way brings a customer satisfaction guarantee that will bring revenue and enhance the flight experience to another level. This system offers a wide range of options to customers, with the option to choose a variety of flights, prices, routes, streaming services, variety of meals, and seat environments. The system has been designed to provide an easy-to-use interface, allowing customers to book their flight with the options of their choosing quickly and efficiently. This paper proposes the creation of software that can be used to help enhance the flight experience for our customers. The system is connected with multiple airlines to add more flexibility to the customer including having the accessibility of booking a flight either on your web browser or mobile app. Overall, Flight It Your Way is in the process of being a powerful system that simplifies the booking process and adds more options for customers to choose in order to enhance their flight experience.

1.0 Introduction

1.1 Background

Airline reservations systems have been around since the 1940s with the modern computerized reservation systems emerging in the 1960s. Both of these systems were used to manage reservations and inventory. The growth of commercial air travel began to emerge in the 1970s and 1980s. As a result, airlines began to enhance their reservations capability. The creation of the computerized reservation system revolutionized the travel industry. The travel industry was now involved for travel agents to book flights, hotels, and rental cars on a single system. These implementations increased the efficiency and the flexibility for the customer. During the 1990s, the transition of information flow to the web browser affected everyone including the booking process. This enabled customers to book their flight directly online. Currently, airline reservation systems have evolved into providing customers with a range of options including seat selection, baggage allowances, and loyalty programs.

Our mission with our project Flight It Your Way is to enhance the flight experience to our customers that are involved in our numerous airlines. Our objective is to add more options to our customers such as what streaming services they would want to watch during their flight. We include a variety of streaming services such as Netflix, Hulu and more. The type of seat environment a customer would want. Many customers have very busy lives and we would want to make their lives easier by having the option of choosing an office type of environment that will increase productivity and in a flight. Next we have food and dessert, while the customer books their flight, they have the option of choosing any delicious meal and dessert to further enhance their experience with us. Our main goal in this project Flight It Your Way is to enhance the flight experience towards our customers because it will bring revenue and satisfaction.

1.2 Motivation

My motivation for working on this project is to provide the best customer service possible because it plays a critical role in the success of any business. My goal is to own a business that will bring customer satisfaction due to the software that was implemented. A type of software that will bring customer loyalty, increased revenue, competitive advantage, improved reputation and increased employee satisfaction. Most people I know dislike being on a flight due to the discomfort and the fear of flying. With the changes I want to implement, the variety of options a customer can choose will increase their flight experience to a more comfortable and enjoyable experience. Creating this project will further enhance my knowledge of creating robust software and will further understand what I am capable of.

1.3 Related Work

- Reference: CHI EA '99: CHI '99 Extended Abstracts on Human Factors in Computing Systems May 1999 Pages 306–307 <https://doi-org.libproxy.fullerton.edu/10.1145/632716.632903>
- Reference: Z. Wei, R. Dong, X. Luo and F. Liu, "Model Checking Airline Tickets Reservation System Based on BPEL," 2009 Third International Conference on Genetic and Evolutionary Computing, Guilin, China, 2009, pp. 248-251, doi: 10.1109/WGEC.2009.86.
- Reference: S. Rao and L. Zhang, "The Algorithms That Make Instacart Roll: How Machine Learning And Other Tech Tools Guide Your Groceries From Store To Doorstep," in IEEE Spectrum, vol. 58, no. 3, pp. 36-42, March 2021, doi: 10.1109/MSPEC.2021.9370062.

2.0 Problem Statement

The system focused on booking flights is more accessible to the public but there are still challenges associated with this system that hurts the customers' positive experience. Flights are overbooked to ensure they fill as many seats as possible, the leftover customer would then be bumped to another flight. There are numerous prices for flights and add ons available. This problem can make it difficult for a customer to trust and pay for a flight when there are numerous prices listed. Sensitive information can be lost or stolen due to the variety of websites that can help the customer book a flight. Some of these websites can have a security breach and it would hurt the customer's experience and loyalty to book a flight.

With that being said, there needs to be an effective way of handling bookings. A way to mitigate this problem is by using Flight It Your Way. My goal is to take all these problems away from the customer. There shouldn't be numerous prices towards a flight because some of the websites hosting these bookings are not well trusted and could potentially steal sensitive information. The objective of this project is to solve the problem that exists for many customers and hopefully could further enhance the flexibility and experience of customers that would want to book a flight.

3.0 Proposed Project & Significance

3.1 Proposed Project

For this project, I am proposing an application that can focus on the customer first rather than the airline company. This will be done in allowing the customer to have more options to choose to enhance their flight experience. This will be done in three parts. The first part will allow the customer to choose their streaming option such as Netflix, Hulu, and more. The second part will allow the customer to choose what type of setting they would like to sit in. Options range from a work study environment to an area of kids sitting in the environment. The third option is allowing the customer to choose what type of lunch or dinner they would like to devour from a large list of options in the food menu. The goal of these three parts is to favor the customer's experience on a flight and at the same time make it at an affordable price. For many people flights seem to be a burden to experience, with the creation of this application I want to change that burden to a more positive experience.

3.2 Significance

Most people don't understand the importance of having a robust airline reservation system with the focus on the customer. It's a critical component and a service to customers needs because airlines are used for a variety of reasons such as for work, vacation, travel and more. The amount of exposure to the public is instrumental and with the availability of more options that would increase the customer's experience, it's a perfect way to improve customer experience and to increase revenue. The amount of exposure from the outside such as companies who are willing to contribute will see growth in their own respective companies because of their dedication to enhance the customer's flight experience.

4.0 Objectives

4.1 Project Objectives

4.1.1 Project Objective 1

Develop an application platform to perform all functions that this project will consist of. This objective will take around 3-4 months.

4.1.2 Project Objective 2

Write readable code that will create a database to record flights and have all three options for the customer to choose from. This will be the focus of our project.

4.1.3 Project Objective 3

Create a paper documenting everything over the course of this project and adding any issues that arise or functionalities that were not created.

4.2 Functional Objectives

4.2.1 Function Objective 1

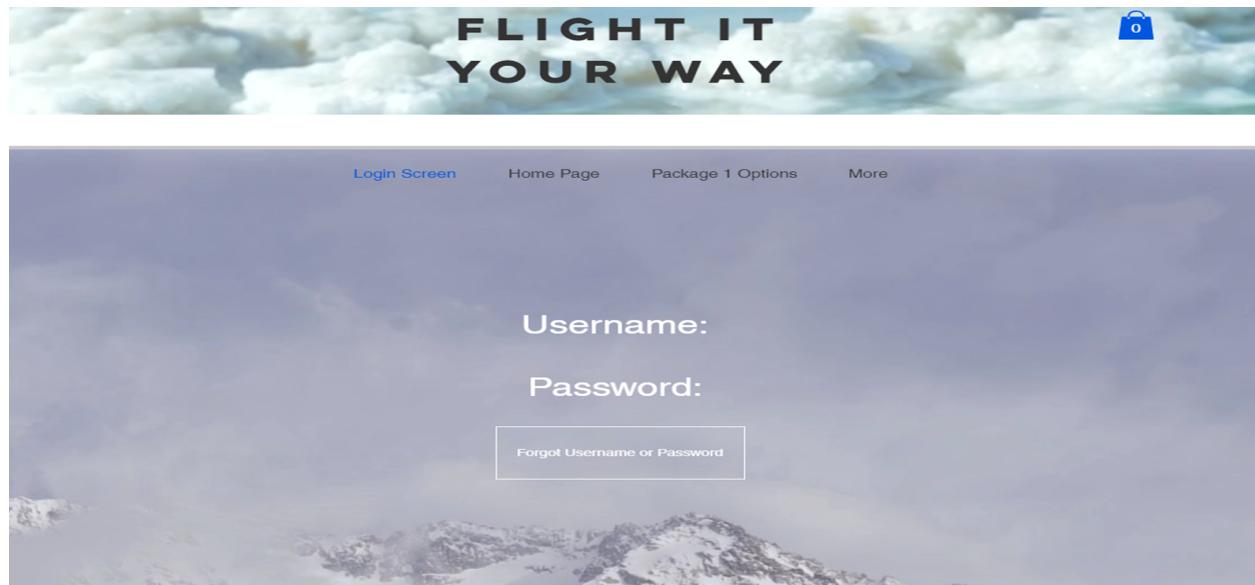


Figure 4.1: Home Screen

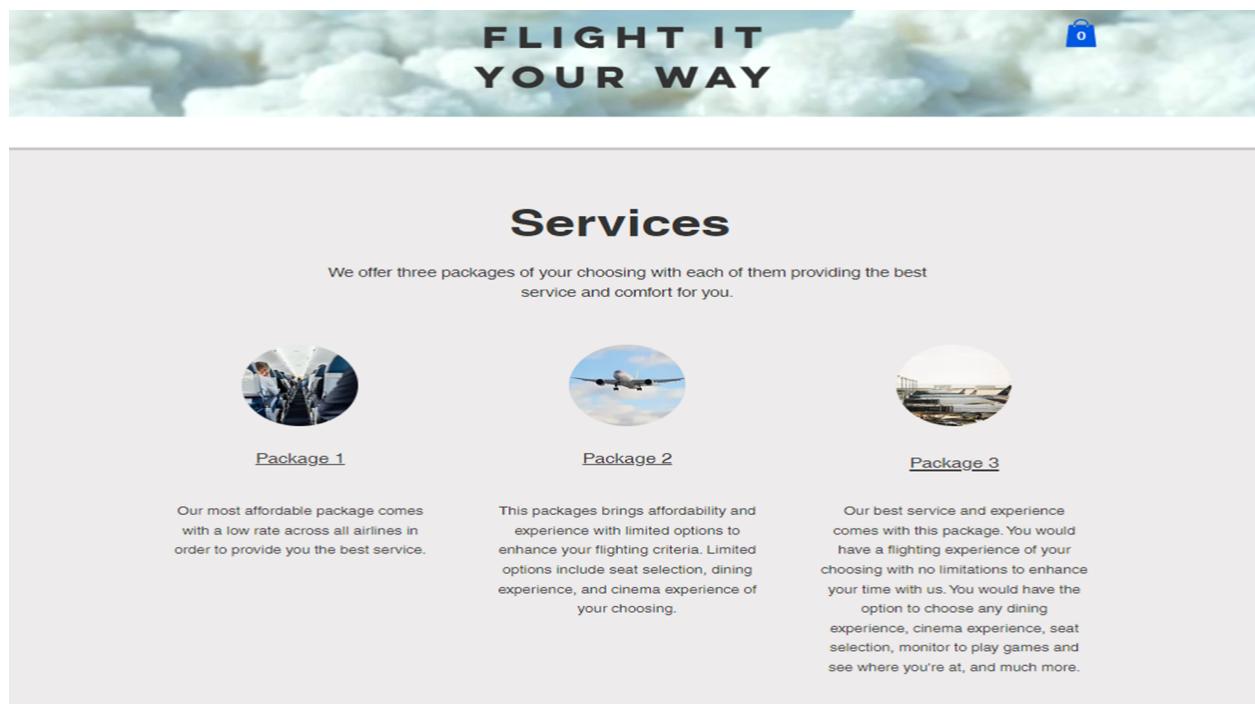
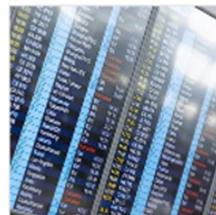


Figure 4.2: Package Options



Package 1 Options



Fly at a low price

We always seek to bring you the best possible flight money can buy by adjusting our prices to your needs.



Enjoy our Airlines

Our Airlines cover most destinations in a timely manner.



Great Customer Service

We have exceptional flight attendants that will take care of you while you reach your destination.

Figure 4.2.1: Package 1 Options

FLIGHT IT YOUR WAY



Package 2 Options



Seat Selection

We provide the best seating possible to improve your experience.



Affordability

Our flights are always in the focus of our customers affordability with the best customer service.



Adventure

We are proud to help you with your adventure and help you achieve a flight without delays.

Figure 4.2.2: Package 2 Options

FLIGHT IT YOUR WAY



Package 3 Options



Dining Experience

We take care of our value customers with tasty options to eat. Options include steak, lobster, pizza, pasta, and much more.



Seat Selection

We value our customers time and space. In order to prove that we offer you any seat of your choosing with specific areas such as a work environment, areas that are quiet, karaoke, and much more.



Streaming Services

Pick any streaming service of your choosing to enhance your experience. Every option is included in your package.

Figure 4.2.3: Package 3 Options

FLIGHT IT YOUR WAY

Our Services



Package 1

1 hr

\$150

[Book Now](#)



Package 2

1 hr

\$250

[Book Now](#)



Package 3

1 hr

\$350

[Book Now](#)

Figure 4.3: Booking Page



Package 1

Check out our availability and book the date and time that works for you

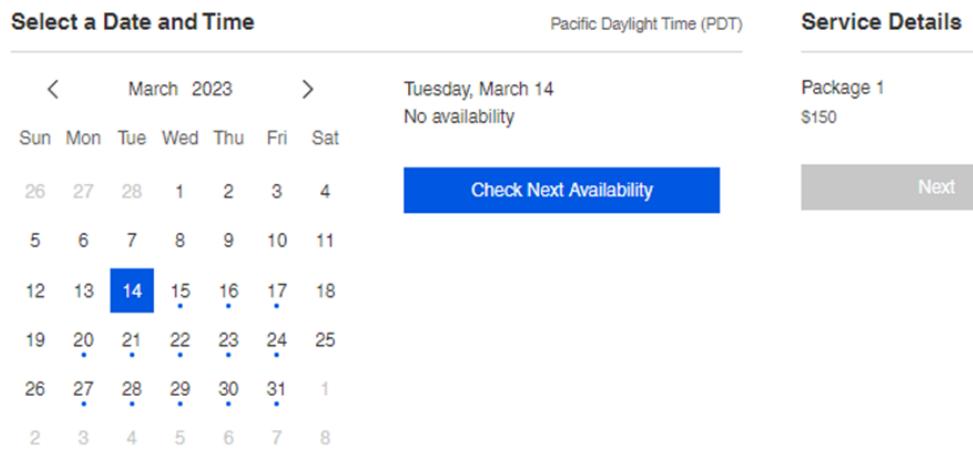


Figure 4.3.1: Booking Calendar



< Back

Fill out your details

You can edit this form or create custom ones for each service in Booking Settings of your Dashboard.

Already have an account? [Log In](#) for faster booking.

Name *

Email *

Phone

Add a Message

Payment

When do you want to pay?

Pay now online

Service Details

Available Online

Service Name

Date and Time

Location

Staff

Payment Details

Total \$10

[Add to Cart](#)

[Book Now](#)

Figure 4.3.2: Booking Form



My cart

Cart is empty

[Continue Browsing](#)

Figure 4.3.3: My Cart

FLIGHT IT YOUR WAY



Thank you, Customer Name

You'll receive a confirmation email soon.

Order number: 10000

	Product Name \$0.00 Product option 1 Product option 2 Product option 3	Qty: 1	\$0.00
	Service Name \$0.00 Date and time Duration Staff member Location <input type="checkbox"/> Add to My Google Calendar		\$0.00
Note Your customer's note will show here.	Subtotal \$0.00	Shipping Free	
	Sales Tax \$10.00		
	Total \$10.00		

Shipping address	Billing address
Customer Name Street, City, State Zip Code, Country Phone number	Customer Name Street, City, State Zip Code, Country Phone number

[Continue Browsing](#)

Figure 4.3.3: Summary Page

5.0 Activities

5.1 Phases

Phase 1: Research, Modeling, and Outlining

- Conduct research on common issues that may exist in companies and personal computers
- Investigate other airline reservations system applications to acquire an idea on databases requirement and security of personal details
- Outline the foundation of the code and have key functions to better understand the creation of the project
- Have a basic model of what is required and potential issues

Phase 2: Development

- Test the application of VMs that are designed to have known vulnerabilities and figure out how to cease the problem
- Develop the three parts to enhance the customer experience and conduct numerous tests
- Create the resource section of the application

Phase 3: Documentation

- Write documentation on implementations, issues, research, performance, and efficiency compared to other applications

Phase 4: Additional Features

- The possibility of adding more options for the customer to choose is into consideration depending on the performance of the application

6.0 Development Environment

The majority of the code will be in Java to create data access objects such as creating new bookings, updating flight availability, package options and retrieving passenger information. My SQL will be used to identify entities and relationships involved on flights, passengers, and payments. Swing will be utilized as a UI framework to build a user interface that involves selecting seats, passenger information, and making payments.

7.0 Reports and Products

The end goal of this project is to create an application that can easily be downloaded to perform efficiently from a customer's point of view. The application services will have security measures to protect the customer's sensitive information. The widespread of options this application will have will enhance the customer's flight experience. By mass adoption of these new features, we can detect any issues we may face. The source code for this application will remain open source to allow others to add on or improve the application.

8.0 Schedule

	August					September				October				November				December			Totals		
Research	8 5 4 3 2																				22		
Modeling	7 4 3 6 4																				24		
Development						7	5	10	10	10	10	10	8								70		
Testing						4	4	4	2	2	2	2	2								22		
Modification													9	9	8								26
Final Report													9	9								18	
Demonstration																7	7				14		
Hours	8	12	8	6	15	9	14	14	14	12	12	10	11	11	17	9	7	7	0	0	392		

9.0 References

- Reference: CHI EA '99: CHI '99 Extended Abstracts on Human Factors in Computing Systems May 1999 Pages 306–307 <https://doi-org.libproxy.fullerton.edu/10.1145/632716.632903>
- Reference: Z. Wei, R. Dong, X. Luo and F. Liu, "Model Checking Airline Tickets Reservation System Based on BPEL," 2009 Third International Conference on Genetic and Evolutionary Computing, Guilin, China, 2009, pp. 248-251, doi: 10.1109/WGEC.2009.86.
- Reference: S. Rao and L. Zhang, "The Algorithms That Make Instacart Roll: How Machine Learning And Other Tech Tools Guide Your Groceries From Store To Doorstep," in IEEE Spectrum, vol. 58, no. 3, pp. 36-42, March 2021, doi: 10.1109/MSPEC.2021.9370062.