Design Documentation

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Contents

1. Introduction

1.1 Purpose of Document

The purpose of this document is to provide the framework and methodology used to create the website of the company, Mile High Aviation.

1.2 Mission Statement

Our goal is to be a leader in delivering high-quality and reliable aviation products to our customers. Additionally, we aim to build relationships with our valued customers and ensure complete customer satisfaction with every purchase. Our company, Mile High Aviation, strives to take our customers to where they need with speed, safety and comfort.

1.3 Executive Summary

Mile High Aviation is a web-based e-commerce site that allows aviation enthusiasts to purchase the airplane of their dreams. Through this website, we aim to facilitate the purchase of airplanes with free shipping without having our customers need to go to a physical store to purchase our products. Our products will be broken down into categories as well as price in order to enhance our customers experience when purchasing our high-end transportation products. Our store has a large inventory of airplanes to choose from, whether you prefer vintage, luxurious, or a desire for supersonic speeds, we've got what you need.

All data used (images, description & names) for our website were gathered from https://www.airliners.net/aircraft-data.The Mile High Aviation website allows users to choose from a vast variety of airplanes through simple navigation. While shopping, customers can search for any known products or filter by category such as the country/countries where the airplanes where manufactured. All products are listed with a description, price and an image.

To order the airplane(s) a user has to have an account on our website. To create an account, a user must provide their full name, email, phone number, full address, a username and a password. The username and password will be used to enter the website. Once the customer has selected the airplane(s) it is then added to their cart. Customers can checkout by adding a payment method and then using the payment method to purchase the product(s).

Only administrators can access the isolated portion of the website. Here administrators can view a list of all customers and orders, add new products to the database and restore the database to default. Here administrators can also be customers for the website.

2. System Features

2.1 Implemented Features

Final Overall System Features	Category	Possible Points	Points	Comments / Code Files
Documentation (10 total points)				
Executive Summary (up to 1 page)	Core	2	2	
System Features (2 pages)	Core	2	2	
Walkthrough with screenshots (up to 10 pages)	Core	6	6	
Main/Home Page (up to 14 total points)				
Search for a product by name	Core	1	1	listprod.jsp
Browse products by category	Core	1	1	listprod.jsp
List products (by search/browse)	Core	1	1	listprod.jsp
List products with image	Core	1	1	product.jsp
Page header with menu	Basic	1	1	index.jsp
Page header shows current logged in user	Basic	1	1	userHeaderNav.jsp
Dynamic products on page based on sales	Basic	2	2	order.jsp
Improved UI (user-friendly, images, etc.)	Basic	2	2	● Implemented css using clarity ● Easy to navigate with links to listprod.jsp, showart.jsp, & login.jsp ● All logged in users will have their usernames displayed
Product recommendation based on user	Advanced	4	0	
Hosting (10 points)				
Running on cloud server	Advanced	10	10	http://138.197.159.162/shop/index.jsp, http://www.milehighaviation.net/ (might not be up there yet depending on the date this is marked)
Shopping Cart (up to 8 total points)				
Add to shopping cart	Core	1	1	addcart.jsp
View shopping cart	Core	1	1	showcart.jsp
Update quantity (with data validation)	Basic	1	1	showcart.jsp
Remove item from shopping cart	Basic	1	1	showcart.jsp
Improved formatting/UI (e.g. in header bar)	Basic	1	1	● showcart.jsp ● Implemented css using clarity, added buttons such as remove item and update quantity, continue shopping and checkout

Cart stored in database between sessions	Basic	3	3	
Checkout (up to 9 total points)				
Checkout with customer id	Core	1	1	checkout.jsp
Checkout with payment/shipment info	Basic	2	2	paymentMethod.jsp, shippingMethod.jsp
Checkout with data validation	Basic	2	2	order.jsp
Multiple shipments per order supported	Advanced	2		Note: Requires DB change.
Calculate taxes/shipping (by items/state)	Advanced	2		Note: Requires DB change.
Product Detail Page (up to 2 total points)				
Product detail page and item description	Core	1	1	product.jsp
Product detail has an image from database	Core	1	1	product.jsp
User Accounts/Login (up to 12 total points)				
Create user account page	Basic	2	2	newCustomer.jsp
Create account with data validation	Basic	2	2	newCustomer.jsp
Edit user account info (address, password)	Basic	2	2	changeCustomer.jsp, changeShippingAddress.jsp
Login/logout	Core	1	1	login.jsp, logout.jsp
Register user/Forgot password email	Advanced	4	0	
Page listing all orders for user	Core	1	1	listorder.jsp
Product Reviews (up to 5 total points)				
Ability to enter a review on a product	Basic	2	2	product.jsp, newReview.jsp, registerReview.jsp
Display product review on product detail page	Basic	1	1	product.jsp
Restrict to one review per user on item purchased	Advanced	2	2	registerReview.jsp
Warehouses/Inventory (up to 5 total points)				
Display item inventory by store/warehouse	Basic	2	2	listprod.jsp
Edit item inventory by store/warehouse	Advanced	3	0	
Administrator Portal (up to 19 total points)				
Secured by login	Core	1	1	auth.jsp, admin.jsp
List all customers	Core	1	1	listcustomer.jsp
List report showing total sales/orders	Core	1	1	admin.jsp, listorder.jsp
Report with a graph	Advanced	3	0	

Add new product	Basic	2	2	registerProduct.jsp
Update/delete product	Basic	2	2	manageDB.jsp, updateProduct.jsp, deleteProduct.jsp
Change order status/ship order	Basic	1	0	
Upload a photo to file system for product	Advanced	2	0	
OR: Upload a photo to database for product	Advanced	4	0	
Database restore with SQL script	Basic	2	2	manageDB.jsp, loaddata.jsp
Add/update warehouse, customer	Basic	2	1	
Database System/General				
Implement some validation using triggers	Advanced	2	Maybe?	
Use AJAX for some pages	Advanced	4	Maybe?	
User interface and navigation/usability		Up to 5	5	● Easy site navigation using the header on the website. ● Multiple buttons and links on the navigation bar on the website increases the user's mobility and flexibility in where they want to go on the site. ● Colour/features of the website are aesthetically pleasing in its own simple way. ● All front end development was learnt on the spot from our hardworking team member(s).
Others (your suggestions)		Up to 5	4	● Implementation of a very large database, airplane_sql.ddl ● When displaying the Order summary ,(listorder.jsp and order.jsp) the shipping address is displayed. ● Users can leave a review of a product by inputting the star grade (out of 5 Stars). The product list page, listprod.jsp shows the star grade of a product by computing the average of all reviews of that product.
Total: (out of 50 with maximum of 10 bonus marks. i.e. 60 points out of 50 is max.)				

3. Site Walk-through

To access the site please use http://127.0.0.1/shop/index.jsp
Cloud Server Access: http://138.197.159.162/shop/index.jsp , http://www.milehighaviation.net/

Admin Login: username: admin, password: 123
Non-Admin Login: username: bobby, password: bobby

3.1 User Walkthrough
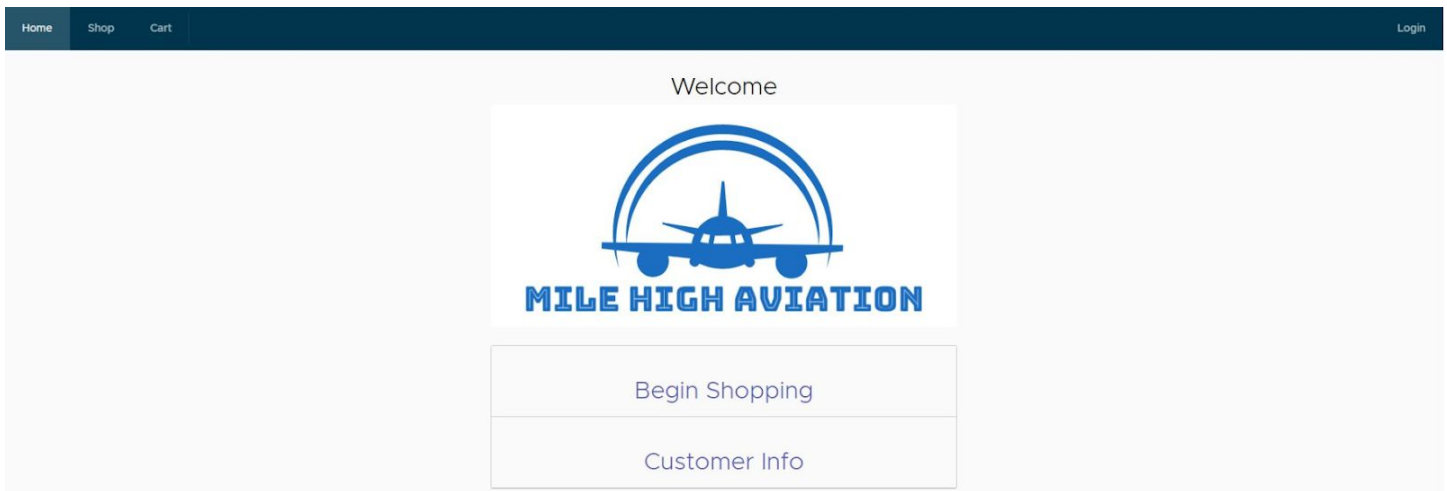
1) Welcome to the Mile High Aviation homepage. Here users can login or create an account by pressing on the 'Login' button in the navigation bar. Non logged in users can still visit the product page by clicking "Begin Shopping" but cannot order without a valid login information. Non logged in users will also be able to view the 'Customer info' page.

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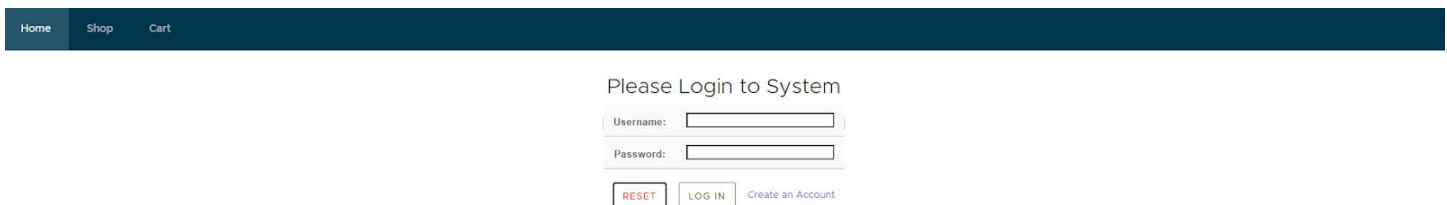
2) The login page may be accessed through the 'Login' button on the navigation bar or during checkout. A user will be prompted to log in during checkout if they have not done so already. To login as a user, use the username and password created during registration.

Create your account

User Info

First name: John
Last name: Doe
Email: example@mha.ca
Phone number: 1234567890
Address: 123 Richter Street
City: Kelowna, Kamloops, etc . . .
State/Province: BC, AB, etc . . .
Postal Code/Zip Code: V1Z 2A3, 54130, etc . . .
Country: Canada, United States, etc . . .

Pick a Username and Password

Username: Enter a username
Password: Enter a password

GO BACK   SUBMIT

3) The registration page can be accessed from the 'Create Account' button in the 'Login' page. A user will need to fill the necessary fields to create the new account. If the user picks a 'Username' already in use, they will be immediately notified by a small prompt.

You successfully registered! Welcome to MHA

HOME   START SHOPPING

4) After successful registration the user can go back to the homepage to login again or start shopping. Note: the new user still has to login with their username and password to successfully checkout.

Welcome

MILE HIGH AVIATION

Begin Shopping

Customer Info

4.1) Once logged in the 'Customer Info' is now viewable alongside the 'Begin Shopping'. To view user information visit 'Customer Info'.

4.2) The customer information contains all specific information the user entered during creating a new account. To change any information the user can press the 'Change Customer Info' button. Users can also add a payment method by pressing the 'Add new payment method' button.

4.3) After pressing the 'Change Customer Info' button, the user will be directed to the update customer information page where they can change any fields they previously entered. Note: the user can also change their password on this page.

Add Payment Method

Payment Info

Payment Type   ○ Visa   ○ Master Card

Card Number: 1234 5678 9876 5432

Expiry Date: yyyy-mm-dd   📅

GO BACK   CONFIRM

4.4) After pressing the 'Add New Payment Method' (**as stated in 4.2**), the user can add their desired payment method. A user can choose between 'Visa' or 'Mastercard' as their payment type. Once payment info is filled in, the user must press 'Confirm' to add the payment method. Note: Adding a payment method can also be done during checkout.

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Search for the Aircrafts you want to buy or filter by Category:

All ▾   Leave blank for all products   SUBMIT   RESET

Name	Country Origin	Price	Rating	
AASI Jetcruzer	United States of America	$72,155,436.00	★★★★★	ADD TO CART
AEA Explorer	Australia	$66,959,116.00	★★★★★	ADD TO CART
Aermacchi F-260	Italy	$32,981,967.00	★★★★★	ADD TO CART
Aeronca 11 Chief	United States of America	$37,373,559.00	★★★★★	ADD TO CART
Aerospatiale Alouette II & Lama	France	$16,661,610.00	★★★★★	ADD TO CART
Aerospatiale Alouette III	France	$74,491,318.00	★★★★★	ADD TO CART
Aerospatiale SA-330 Puma	France	$56,229,483.00	★★★★★	ADD TO CART

5) To begin shopping for airplanes, users can view the list of airplanes available to purchase by clicking on 'Shop' or 'Begin Shopping'. All listed airplanes include a country of origin, price, category type(country) and a review star based out of 5. To add a desired product to your cart, press 'Add to cart'

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Search for the Aircrafts you want to buy or filter by Category:

All ▾   Leave blank for all products   SUBMIT   RESET

	All				
Name	Australia	Country Origin	Price		
	Austria				
AASI Jetcruzer	Brazil	United States of America	$721,554,365.00	★★★★★	ADD TO CART
	Canada				
AEA Explorer	China	Australia	$669,591,160.00	★★★★★	ADD TO CART
	Czech Republic				
Aermacchi F-260		Italy	$329,819,672.00	★★★★★	ADD TO CART
	European consortium				
Aeronca 11 Chief	France	United States of America	$373,735,596.00	★★★★★	ADD TO CART
	Germany				
Aerospatiale Alouette II & Lama	India	France	$166,616,107.00	★★★★★	ADD TO CART

6) To sort by a specific name, use the search bar above the product list table. Users may also filter by country by pressing the 'All' dropdown menu and choosing a country.

7) We have selected the country France. Here are some of the airplanes manufactured in France. For more information on any product, click on any product to be redirected to the product details page.

8) The product details page can be accessed by pressing any product. The details page includes the chosen product: name,price description,an image, average ratings and review(s) left by any previous user. A user can add this product to their cart by pressing 'Add to Cart', leave a review by clicking 'Add Review' or return to the products page by pressing 'Return To Product Page'.

Wrtie a review for: Boeing 787-8 Dreamliner

Tell us what you think...

Rating:

○★ ○★★ ○★★★ ○★★★★ ○★★★★★

GO BACK   CONFIRM

8.1) The logged in user will also have an option to review the airplane by clicking the 'Add a Review' button in the product description page (**as stated in 8**). Note: Users must be logged in to add a review and every logged in user can only review a product once.

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Your Shopping Cart

Product Id	Product Name	Quantity	Price	Subtotal		
286	Boeing 787-8 Dreamliner	1	$409,937,120.00	$409,937,120.00	REMOVE ITEM	UPDATE QUANTITY
340	Airbus A380	1	$214,149,715.00	$214,149,715.00	REMOVE ITEM	UPDATE QUANTITY
	Order Total			$624,086,835.00		

CONTINUE SHOPPING   CHECKOUT

9) An airplane product can be added to the user's shopping cart via the product list or product details page by pressing the 'Add To Cart' button on both pages. Once an airplane has been added to your cart, the user will be immediately redirected to the shopping cart page.

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Your Shopping Cart

Product Id	Product Name	Quantity	Price	Subtotal		
286	Boeing 787-8 Dreamliner	2 ⬍	$409,937,120.00	$819,874,240.00	REMOVE ITEM	UPDATE QUANTITY
340	Airbus A380	1	$214,149,715.00	$214,149,715.00	REMOVE ITEM	UPDATE QUANTITY
		Order Total		$1,034,023,955.00		

CONTINUE SHOPPING   CHECKOUT

10) To change the quantity of the desired airplane, the user may change the value within the quantity field to their preference and press the 'Update Quantity' button to update the quantity of that airplane. The price of that airplane will be updated accordingly matching its quantity. The total of the shopping cart will also be updated.

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Your Shopping Cart

Product Id	Product Name	Quantity	Price	Subtotal		
340	Airbus A380	1	$214,149,715.00	$214,149,715.00	REMOVE ITEM	UPDATE QUANTITY
		Order Total		$214,149,715.00		

CONTINUE SHOPPING   CHECKOUT

11) To remove an airplane completely from the shopping cart, the user may click on the 'Remove Item' button. We can see this as the 'Boeing 787-9 Dreamliner' which had a quantity of 2 was removed completely by pressing the 'Remove Item' button.

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Log in to complete the transaction:

Customer ID: 2

Password: •••••

RESET   LOG IN

12) To complete the transaction the user has to sign in using their 'Customer id' and login password. The 'Customer ID' can be retrieved from the 'Customer info' page

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Choose your Payment method

Payment methods

Type	Card Number	Expiry Date	
Visa	1234 9876 0000 1234	2020-12-21	SELECT

RETURN TO CART   ADD NEW PAYMENT METHOD

13) After logging in the user can select the payment method made already made in the 'Customer Info' page (**4.4**) or they can add a new payment method by clicking the 'Add New Payment Method' option.

Your Shipping Address

Address	City	State	Postal Code	Country
222 Bush Avenue	Boston	MA	22222	United States

RETURN TO CART   CHANGE SHIPPING ADDRESS   CONFIRM ORDER

14) After selecting the payment method the user will be directed to the Shipping Address page where they can change their shipping address by clicking the 'Change Shipping Address' button , return to their shopping cart or confirm their order by clicking 'Confirm Order'.

Change Shipping Address

Shipping Info

Address: 123 Richter Street

City: Kelowna, Kamloops, etc . . .

State/Province: British Columbia, California, etc . . .

Postal Code/Zip Code: V1Z2A3, 54130, etc . . .

Country: Canada, United States, etc . . .

GO BACK   SUBMIT

14.1) Users can change their shipping address by changing their 'Shipping info'. After changing the 'Shipping info' fields the user must click 'Submit' to update the changes.

You Order Summary

Product ID	Product Name	Quantity	Price	Subtotal
340	Airbus A380	1	$21,414,971.00	$21,414,971.00
Order Total:				$21,414,971.00

Order completed. Will be shipped to: 3174-3212 University Way, Kelowna, BRITISH COLUMBIA, V1V 1V8, Canada

Order Charged to Master Card ending in: 0568

Your order reference number is: 1

Shipping to customer: 2 Name: Bobby Brown

RETURN SHOPPING   HOME PAGE

15) Once checkout is complete the user will be given the order summary. The ordinary summary will consist of product id, product name, quantity, price, subtotal, shipping address and the product recipient.

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3.2 Admin Walkthrough

1) The administrator portion of the website will only be accessible to administrators, who can login using the administrator username and password using the 'Login' button. Once the administrator is logged in, they will see a new homepage compared to the user homepage. The new homepage includes 'List all Customers', 'List All Orders', 'Administrators' and 'Manage Database'. Note: The logged in administrators can also be a customer and shop for airplanes.

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Customer List

Customer Id	First Name	Last Name	Userid
1	Arnold	Anderson	arnold
2	Bobby	Brown	bobby
3	Candace	Cole	candace
4	Darren	Doe	darren
5	Elizabeth	Elliott	beth
6	Admin	Istrator	admin
7	Felipe	Chalhub	felipe
8	Amer	Siddique	amer
9	Omar	Mourad	omar
10	Pawan	Bilkhu	pawan

2) The list of all customers can be accessed by pressing the 'Link All Customers' button on the navigation bar. The 'List All Customers' page includes the customer id, first name, last name and the userid.

Order List

Order Id	Order Date	Customer Id	Customer Name	Total Amount
1	2020-12-06 03:40:20.0	2	Bobby Brown	$21,414,971.00
Shipped to	3174-3212 University Way, Kelowna, BRITISH COLUMBIA, V1V 1V8, Canada			

Product ID	Quantity	Price
340	1	$21,414,971.00

Order Id	Order Date	Customer Id	Customer Name	Total Amount
2	2020-12-06 03:51:17.0	1	Arnold Anderson	$95,268,460.00
Shipped to	103 AnyWhere Street, Winnipeg, MB, R3X 45T, Canada			

Product ID	Quantity	Price
334	1	$27,575,109.00
341	1	$67,693,351.00

Order Id	Order Date	Customer Id	Customer Name	Total Amount
3	2020-12-06 03:52:55.0	4	Darren Doe	$97,090,121.00
Shipped to	444 Dover Lane, Kelowna, BC, V1V 2X9, Canada			

Product ID	Quantity	Price
3	1	$97,090,121.00

3) The order list list page can be accessed by clicking on the 'List All Orders' button on the navigation bar. The 'List All Orders' page includes the order id, order date, customer id, customer name, total amount of the order, product id, quantity, price and the shipping address.

Administrator Sales Report by Day

Order Date	Total Order Amount
2020-12-06	$213,773,552.00

4) By clicking on the 'Administrators' button on the navigation bar, the logged in administrator can view the total sales amount for all orders on a daily basis.

Reset Database from default

RELOAD

Add a Product to the Database

Product Name: AASI Jetcruzer, ATR ATR-72, etc . . .

Product Price: $0.00

Product Origin: Canada, United States, etc . . .

Description: Optional

ADD

Delete a Product from the Database

Product Name: AASI Jetcruzer, ATR ATR-72, etc . . .

DELETE

Update an Existing Product

Product Name: AASI Jetcruzer, ATR ATR-72, etc . . .

SEARCH

5) The 'Manage Database' page can be accessed via the 'Manage Database' button on the navigation bar. This page allows the administrator to reload the database from default ('Reload' button), add a new product to the database ('Add' button), delete a product from the database ('Delete' button) and update an existing product. To add a new product to the database, the administrator must fill the required fields which include the product name, price, origin, a description and then press 'Add'. To delete a product from the database, the administrator must specify the product name and press 'Delete', upon which the specified product will be immediately deleted from the product list page. To update an existing product, the product name must be specified by the administrator and then 'Search' should be pressed.

Update: Airbus A380

Product Name: Airbus A380

Product Price: 2.1414971E7

Product Origin: France, Germany, Spain, and United Kingdom

Description: The 555 seat, double deck Airbus A380 is the world's larg

GO BACK   UPDATE

6) To update an existing product (as stated in **5**) a specified product name: 'Airbus A380' was entered into the 'Product Name' field and then the 'Search' button was pressed. Any fields related to the 'Airbus A380' can be changed and then updated by clicking on the 'Update' button. The product will be immediately updated in the product list page.

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