James River Runners

River Runners Technologies

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MIS 4173 Information Systems Development & Implementation

Dr. Eric Kisling

Milestone 6

Contents

Executive Summary

Our project team for the capstone MIS 4173 project have been given the task of updating the delivery system for James River Runners, owned by David McCallum. For this portion of our report we looked at the specifics of how we train the owner who will be using the account to help him gain more advantage within the market he competes in. Below, we have screenshots that we have gathered from our website that we made for the company. At the end of this section of the report we have added technical documentation and customer analytics for the owner to use.

Section 1: Project Description

Executive Summary

In Milestone 1, James River Runner Technologies selected an outside organization to work with for our capstone project requirement. James River Runners, a legal document delivery service that operates out of central Virginia. After selecting an organization, we began working with project stakeholders on analyzing the current business environment, discussing major business needs and areas for business process improvements. It slowly became clear exactly where our team can make a difference and that our project would be a business process automation endeavor.

Current Environment

When we look at the current environment of James River Runners, everything on the business process aspect of the company is completed manually and orders are made completely in accordance with the cellphone of David McCallum. They currently have no information systems in place and all parts of the company including accounting, logistics, and ordering are subject to manual labor either done by the owner or completed by the members of Dave's team.

Working with Dave McCallum has given our team a wonderful chance to set up the first BPA system that will not only benefit for Dave but will benefit for the entire company to have their first system put in place. Because there are no current systems, our team was able to set a system of free of current system integration.

System Objectives & Constraints

Working with James River Runners to solve their business need, our team is creating a Business Process Automation System that will convert his manual, paper-based business processes and documentation in to an easy-to-use information system. The business objectives of this system include processing orders through the company's first website and creating a system that alerts the owner to instances such as new accounts created, orders, and inquiries. Runners will be notified of new orders as soon as they are processed. Customers will be notified on the status of their order from initial confirmation alerts to electronic invoices and receipts after

delivery. A customer will create an account and view order history through the website. In addition, individual customer and order data as well as total statistics will be available for owner Dave McCallum to view. While the company's "runners" will still be transporting legal documents from one location to another via physical transport, the entire system around them will be automated. Upon consulting with company owner Dave McCallum about his goals for the project, we have determined the expected system benefits as follows:

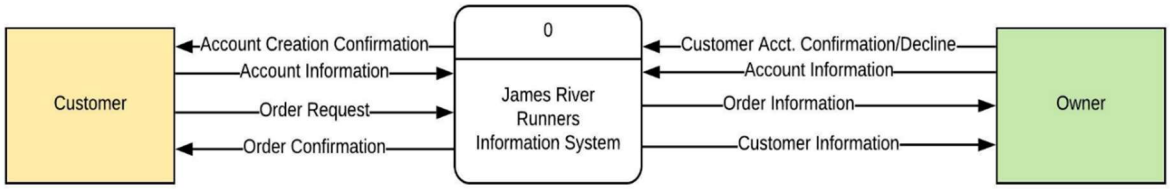
Expected Benefits

Overcoming our constraints is vital to project success and we are extremely confident that we will be able to overcome them while maintaining all functional and non-functional requirements. There are a variety of benefits that will James River Runners will gain from upon implementation of our system. First, the automation will eliminate the need for the owner to manually fill out orders using pen and paper. Now, instead of customers having to get in direct contact with Mr. McCallum via phone, they will make orders online. This allows them to request legal documents any time of day regardless of company operating hours. No longer required to man the telephone, this system frees the owner to focus on other work-related endeavors while the runners transport documents. Runners who will no longer carry physical documentation or receipts to confirm the delivery and payment, only the legal documents requested. Order status and data being updated in real-time means that ownership can make business decisions faster than ever. Furthermore, we believe that giving James River Runners a web presence for the first time will give them the ability to significantly increase their profits now that they have a true website and can be contacted in more ways than simply via telephone.

Stakeholders

The legal document carrier company James River Runners located in central Virginia, has various stakeholder's that will be affected by our new system and will have to transition with the ways of our system we are putting in place. The first being the Owner, David McCallum. Then we have the costumers located in Richmond and its surrounding areas requesting a delivery, our project team that is working on this system and of course the runners who deliver the requested order at specific times throughout the year.

Context Diagram



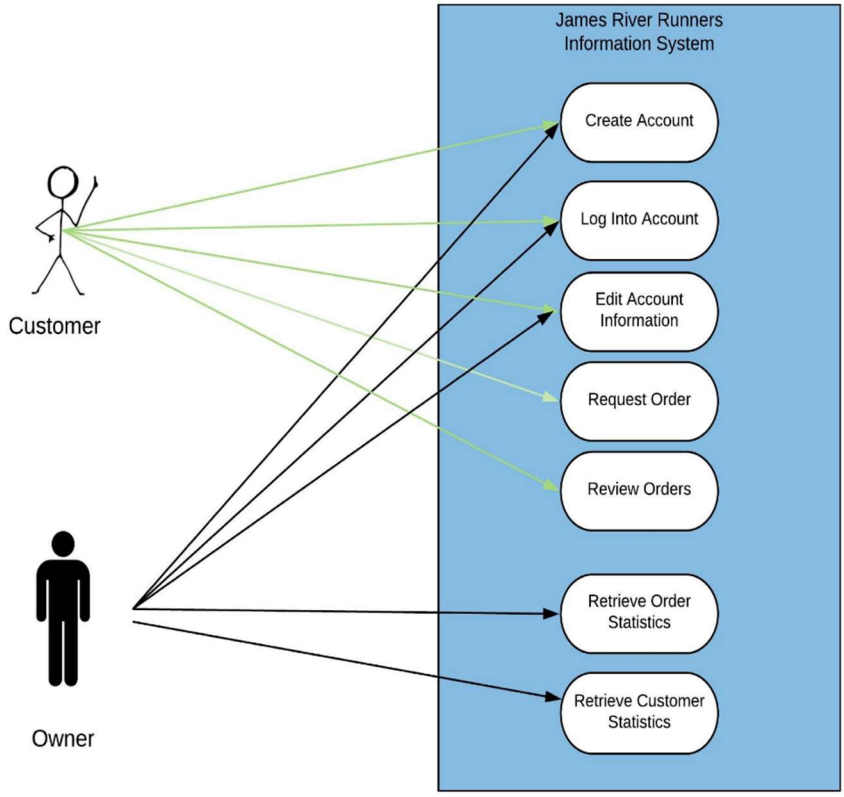
Section 2: Analysis

Executive Summary

James River Runners a legal document carrier company located in Richmond, Virginia has grown exponentially since the beginning of the company back in 1999. As the company has

grown more and more responsibility has been put on the owner, David McCallum. With the growth of the company there has been a growing need for advancements in the process of how the business is run. After talking many times with the owner David, we were able to decide that there are two main issues that needed to be solved for the company to have continued competitive advantage in the market. The first was to set up an alert system that allowed the owner to receive messages based off when the customer needs a document delivered. the next problem we were able to solve was to set up an online form through a website we made, that allowed the costumer to fill out order forms online to take away the pressure of constant phone contact, which is currently how the company operates.

Use Case Diagram



Fully Detailed Use Case Specifications

Use Case Specification - Create Account

Use Case Name: Create Account	**ID:** UC-1	**Priority:** High
Actor: Customer/Owner		
Description: Unregistered User goes through account registration process		
Trigger: Customer selects "Sign Up" button from Drop-down menu **Type:** ☒ External ☐ Temporal		
Preconditions: 1. User is not logged into an account. 2. User is at website's homepage.		

Normal Course:	**Information for Steps:**
1.0 Customer selects "Create Account" button from drop-down menu.	
1.1 Customer enters required information. →	Client Information: LName, FName, Address, City, Zip, email, phone number
2.0 System processes request & sends verification request to owner. →	Account Request notification email
4.0 Confirmed Customer account is generated; ← relevant data fields stored	Client Information: LName, FName, Address, City, Zip, email, phone number

Alternative Courses:	**Information for Alt. Course Steps:**
1.0 User input is missing a required field. →	
1.1 User receives notice to complete required fields. ←	Notice of required fields
2.0 The user provides invalid input. →	Notice of invalid input
2.1 User receives notice of invalid input provided. ←	
3.0 The account registration request is denied by owner. →	Decline of Account Request

3.1 Account request is deleted with no notice given to user.	Decline of Account Request

Postconditions:

1. A customer now has an account saved in our system and can log in.
2. Our database has customer account saved and is ready to store order data.

Exceptions:

Summary Inputs:	**Source:**	**Outputs:**	**Destination:**
Client Information, Confirmation or Deletion of Account Request	Customer/Owner	Account Request to Owner, Confirmation email for Customer	Customer Data Store

Use Case Specification: Log Into Account

Use Case Name: Log Into Account	**ID:** UC-2	**Priority:** High
Actor: Customer/Owner		
Description: Customer or Owner logs into respective account		
Trigger: Log-in Attempt **Type:** ☒ External ☐ Temporal		
Preconditions: 3. User is at website and not logged in. 4. User has a registered account username/email & password.		

Normal Course:	**Information for Steps:**
1.2 Select "Log-In" from Drop-down Menu 4.0 User inputs account username & password. → 4.1 System logs Customer into their account or Owner ← into Admin account.	Username & password Log-in Confirmation
Alternative Courses:	**Information for Alt. Course Steps:**
1.2 The username or password does not match a registered account. → 1.3 User is asked to re-enter username & password or ← contact Owner for assistance. 2. The owner provides Admin username & password. → 2.1 System logs Owner into Admin account. ←	Invalid username/password Notification of Denial Admin username & password Log-in Confirmation
Postconditions: 3. System now allows Customer to access request orders, view orders or edit account information. 4. System now allows Owner to retrieve order statistics or customer statistics.	
Exceptions:	

Summary Inputs:	**Source:**	**Outputs:**	**Destination:**
Username & password Invalid Username/password Admin Username & password	Customer Owner	Log-in Confirmation, Notification of Denial	Webpage

Use Case Specification: Request an Order

Use Case Name: Request Order	**ID:** UC-3	**Priority:** High
Actor: Customer		
Description: Logged in customer requests a document delivery.		
Trigger: Customer requests a delivery through website. **Type:** ☒ External ☐ Temporal		
Preconditions: 5. User is already logged into verified customer account.		

Normal Course:	**Information for Steps:**
1.3 Customer selects "Place an order" from drop-down menu → 1.4 Customer enters required fields & submits order 2. Order Request email is sent to Owner ←	Order Information: Pickup & drop-off location, date & time, number of documents, package type, extra notes. Order Request email

2.1 Owner confirms order or denies order →	Confirmed Order processed
2.2 Order Confirmation email is sent to Customer ←	Order Confirmation email
3.0 Order Information stored in Customer Data Store →	Customer Data Store updated with latest order
Alternative Courses:	**Information for Alt. Course Steps:**
2.0 Owner denies order →	Order is not processed
2.0 Customer enters invalid input for required field	Invalid Input notice
2.1 Customer receives Invalid Input notice ←	

Postconditions:

5. Order Information is confirmed and stored in Customer Data Store.
6. Order Information is accessible both by Owner & Client.

Exceptions:

Summary Inputs:	**Source:**	**Outputs:**	**Destination:**
Order Information	Customer	Confirmed Order, Updated Customer Data Store	Customer Data Store

Use Case Specification: Edit Account Information

Use Case Name: Edit Account Information	**ID:** UC3	**Priority:** Medium
Actor: Customer, Owner		
Description: The customer and owner are logged into the system. They want to change some previously entered information of their account. The customer also wants to delete his account if he decides that he doesn't want to work with the company any more or he wants to create a new account later.		
Trigger: The customer wants to edit his/her account information. **Type:** ☒ External ☐ Temporal		
Preconditions: 1. The customer and owner (C&O) are logged in and their IDs are identified by the system.		

Normal Course:	**Information for Steps:**
1.0 The customer and owner enter my account section	
1. The C&O select my account →	My Account Page
2. The system displays the current account information of C&O ←	Current Account Information (Name. E-mail, Password, Address)
2.0 The C&O edit existing account information	
1. The C&O edit the desired fields →	Editing of Fields (Account Information)
2. The C&O select Submit →	Submit
3. The system asks for confirmation of changes ←	Confirmation Request
4. The C&O confirm changes in their account data →	Confirmation, New Account Information
5. The system displays confirmation message ←	Confirmation Message
6. The system displays the logged in homepage ←	Logged in Homepage
3.0 The customer wants to delete her/his account	
1. In the My Account section the customer selects Delete Complete Account →	Delete Complete Account
2. The system asks for confirmation of deletion ←	Confirmation Request
3. The customer confirms deletion of the account →	Confirmation
4. The system asks for password verification ←	Password Verification Request
5. The customer enters her/his password and verifies deletion →	Password
6. The system displays confirmation message ←	Confirmation Message
7. The system displays the logged off homepage ←	Logged Off Homepage

Alternative Courses:	Information for Alt. Course Steps:
2.1 The C&O submit the new account information without having filled out all required fields required data fields →	Missed Account Data
1. The system displays message that all required fields need to be filled out ←	Info Message
2. The system marks the required unfilled fields ←	Marked Fields
3. The C&O fill out all required fields →	Filled Required Fields
4. The system displays confirmation message ←	Confirmation Message
5. The system displays the logged in homepage ←	Logged in Homepage

Postconditions:

1. All updates in the account information are transferred correctly in the data storage.

Exceptions:

Summary Inputs:	Source:	Outputs:	Destination:
Updated Account Information	Customer	Updated Account Information	Customer, Customer Data Store

Use Case Specification: Review Orders

Use Case Name:	ID:	Priority:
Review Orders	UC5	Medium

Actor: Customer

Description: The customer is logged into the system. The Customer wants to see the document orders that she/he did with the company in the past.

Trigger: The customer wants to see the past orders.

Type: ☒ External ☐ Temporal

Preconditions:

2. The customer is logged in and her/his ID is identified by the system.

Normal Course:	**Information for Steps:**
1.0 The customer enters my orders section	
8. The Customers selects my orders →	My Orders Page
9. The system displays a summarized overview of all orders ←	All orders summarized
2.0 The customer wants to see all details about a specific past order	
10. The Customer selects All Details next to the order →	All Details
11. The system displays all details to the specific order ←	All Order Data (Doc. Type, Order & Delivery Date, Pick-Up & Delivery Location) Confirmation
3.0 The customer wants to see all orders together again	
12. The customer selects Back To All Orders →	Back To All Orders
13. The system displays a summarized overview of all orders ←	All orders summarized

Alternative Courses:	**Information for Alt. Course Steps:**
1.1 The customer wants to see past orders, but hasn't made any orders under the current account yet fields need to be filled out	
1. The Customers selects my orders →	My Orders Page
2. The system displays a blank page with a text information that no orders have been made yet ←	Blank page, text info

Postconditions:

1. All past orders for the specific account have been stored correctly in the data storage.

Exceptions:

Summary Inputs:	**Source:**	**Outputs:**	**Destination:**
My Orders request	Customer	Order overview & details	Customer, Order Data Store

Use Case Specification: Retrieve Customer Statistics

Use Case Name: Retrieve Customer Statistics	**ID:** UC6	**Priority:** Medium
Actor: Owner		
Description: The owner is logged into the system. He wants to see various statistics about the structure of his customer base.		
Trigger: The owner wants to see customer statistics. **Type:** ☒ External ☐ Temporal		
Preconditions: 3. The system is up to date and online. 4. The owner is logged in and his ID is identified by the system. 5. Multiple customers have already been entered in the customer database.		

Normal Course:	**Information for Steps:**
1.0 The owner enters the customer statistics section	
14. The owner selects on Customer Statistics →	Customer Statistics
15. The system displays a list with all customers and shows the total customer amount ←	Customer List
2.0 The owner wants to see his top five customers	
1. The owner selects Top 5 Customers →	Top 5 Customers
2. The system displays the top 5 customers and the amount of their orders ←	Top 5 Customer Names & Order Amounts
3.0 The owner wants to see a chart for location distribution (location of customers)	
1. The owner selects Location Distribution →	Location Distribution
2. The system displays a chart that shows distribution of locations by counties ←	Location Distribution Chart
4.0 The owner wants to see the monthly development of his customer bases	
1. The owner selects Monthly Development →	Monthly Development
2. The system displays a chart for the monthly customer development ←	Monthly Development Chart
Alternative Courses:	**Information for Alt. Course Steps:**

Postconditions:

1. The owner viewed his customer statistics successfully.

Exceptions:

Summary Inputs:	**Source:**	**Outputs:**	**Destination:**
Customer Statistics request	Owner	Customer Statistics Numbers & Charts	Owner, Customer Data Store, Order Data Store

Use Case Specification: Retrieve Order Statistics

Use Case Name: Retrieve Order Statistics	**ID:** UC7	**Priority:** Medium

Actor: Owner

Description: The owner is logged into the system. He wants to see various statistics about the past orders in his business.

Trigger: The owner wants to see the order statistics.

Type: ☒ External ☐ Temporal

Preconditions:

6. The system is up to date and online.
7. The owner is logged in and his ID is identified by the system.
8. Multiple orders have already been entered in the order database.

Normal Course:	**Information for Steps:**
1.0 The owner enters the order statistics section	
16. The owner selects on Order Statistics →	Order Statistics
17. The system shows the total amount of orders that were made this year. ←	Total Order Amount
2.0 The owner wants to see the monthly development of the orders	
3. The owner selects Monthly Development →	Monthly Development Monthly Development Chart

4. The system displays a chart for the monthly development of order amounts ←	
3.0 The owner wants to see the weekly development of the orders	Weekly Development
3. The owner selects Weekly Development →	Weekly Development Chart
4. The system displays a chart for the weekly development of order amounts ←	
Alternative Courses:	**Information for Alt. Course Steps:**

Postconditions:

1. The owner viewed his order statistics successfully.

Exceptions:

Summary Inputs:	**Source:**	**Outputs:**	**Destination:**
Order Statistics request	Owner	Order Statistics Numbers & Charts	Owner, Order Data Store

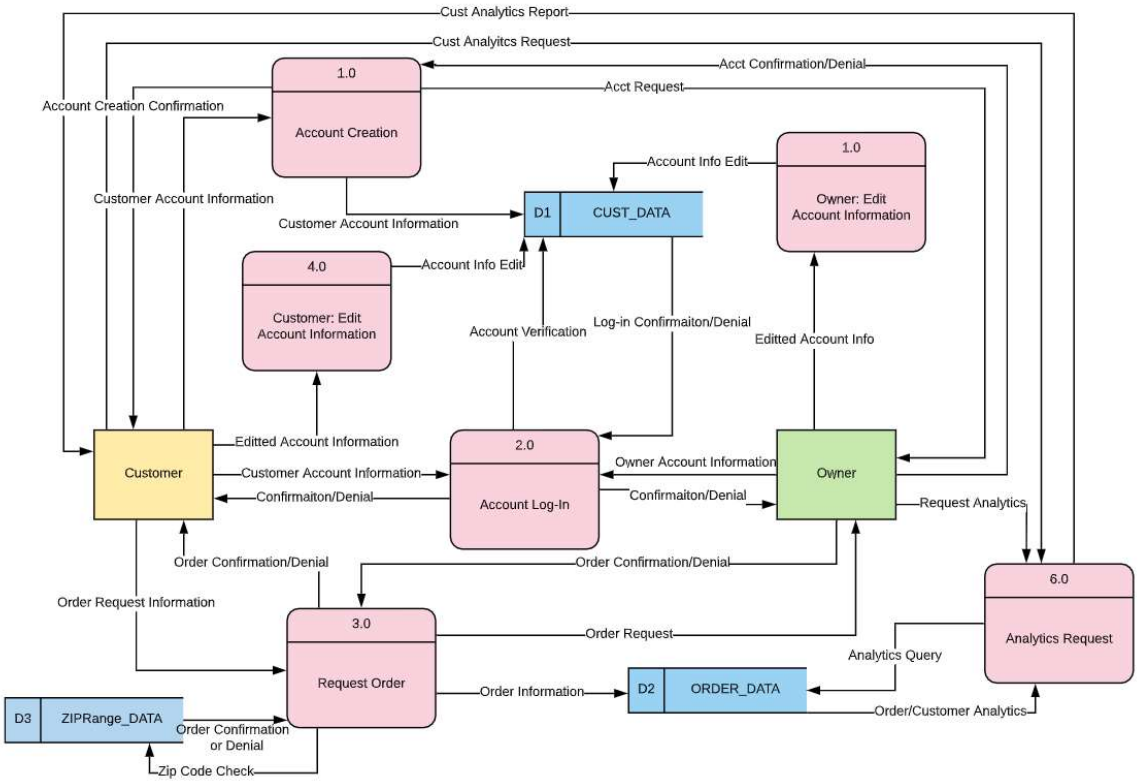
Section 3: Design

Executive Summary

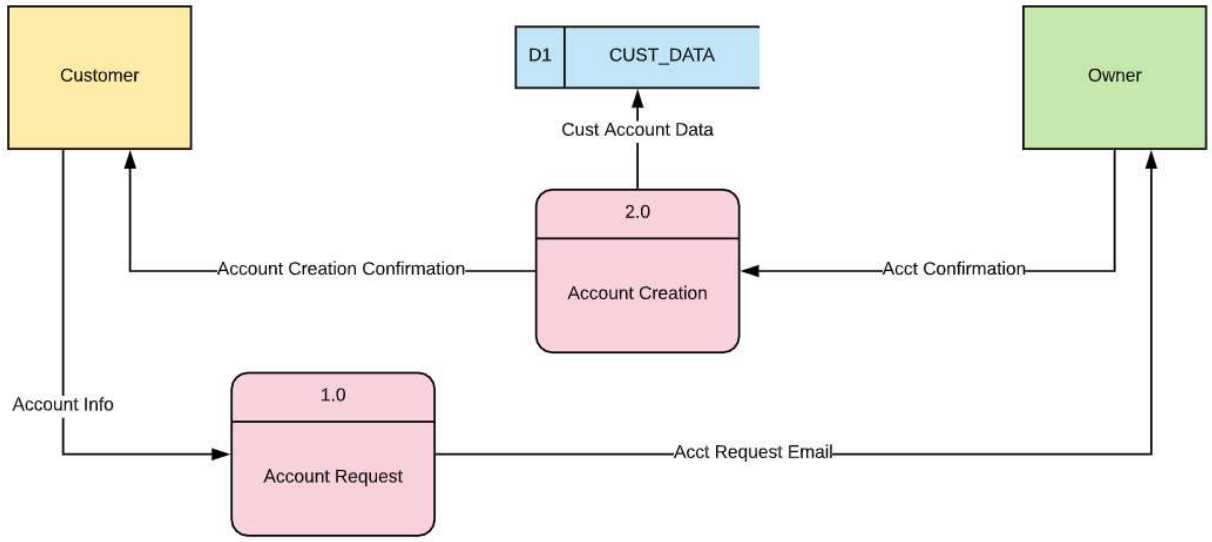
Our project team for the capstone MIS 4173 project have been given the tasks up updating the system for James River Runners, owned by David McCallum. After finishing up our analysis phase of the project, our team then moved onto the design phase. This is the first phase of our project in which we were able to develop various diagrams based on our BPA system that we have started to put into start with James River Runners. We developed a DFD Package, a Navigation diagram, a programming plan, an ERD and various other pieces for our design phase, that will help us to line up for the implementation phase will be in the coming months. In this design, we have made it available to work with two aspects of our system. The first being the alert system, which will alert the owner of when a package is to be delivered and the specific time and date of the delivery. The second part of the system, is to set up an online form through a website we made, that allows the costumer to fill out order forms online to take away the pressure of constant phone contact, which is currently how the company operates with its customers and employees. With these two specifications in mind, we have developed our system design to consider these specific aspects, that we will be implementing in the future.

Complete Dataflow Diagram Package

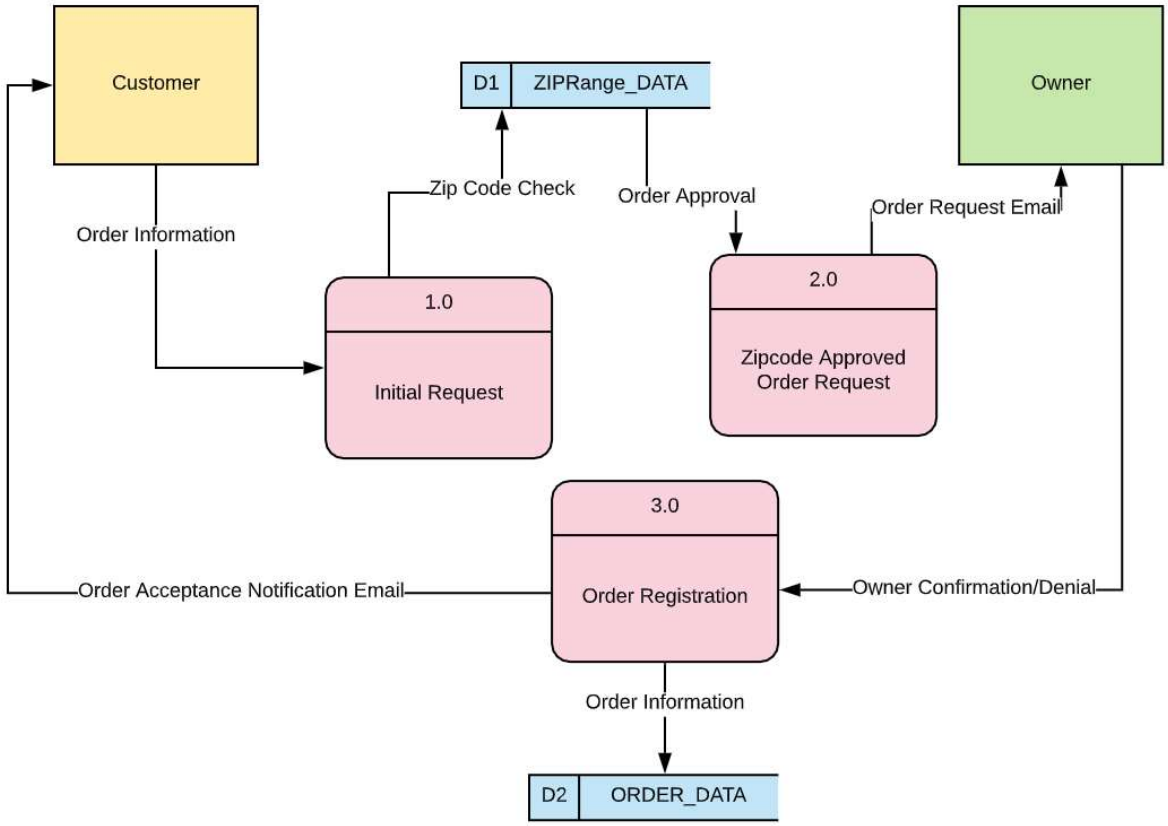
DFD Level 0



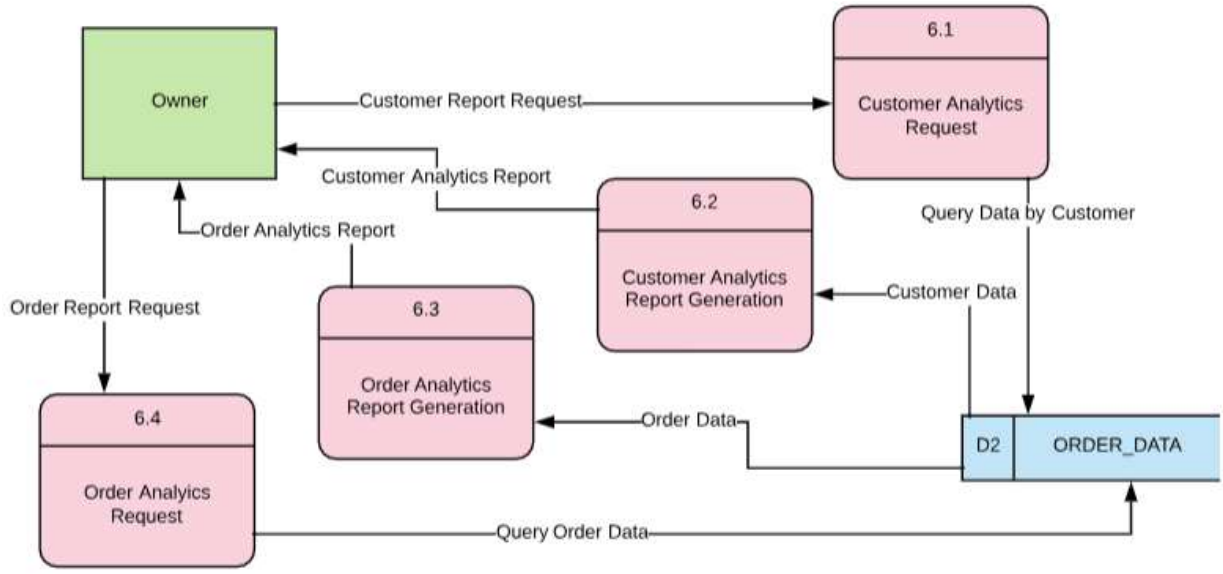
DFD Level 1: Account Creation



DFD Level 1: Order Request



DFD Level 1: Owner Analytics Request

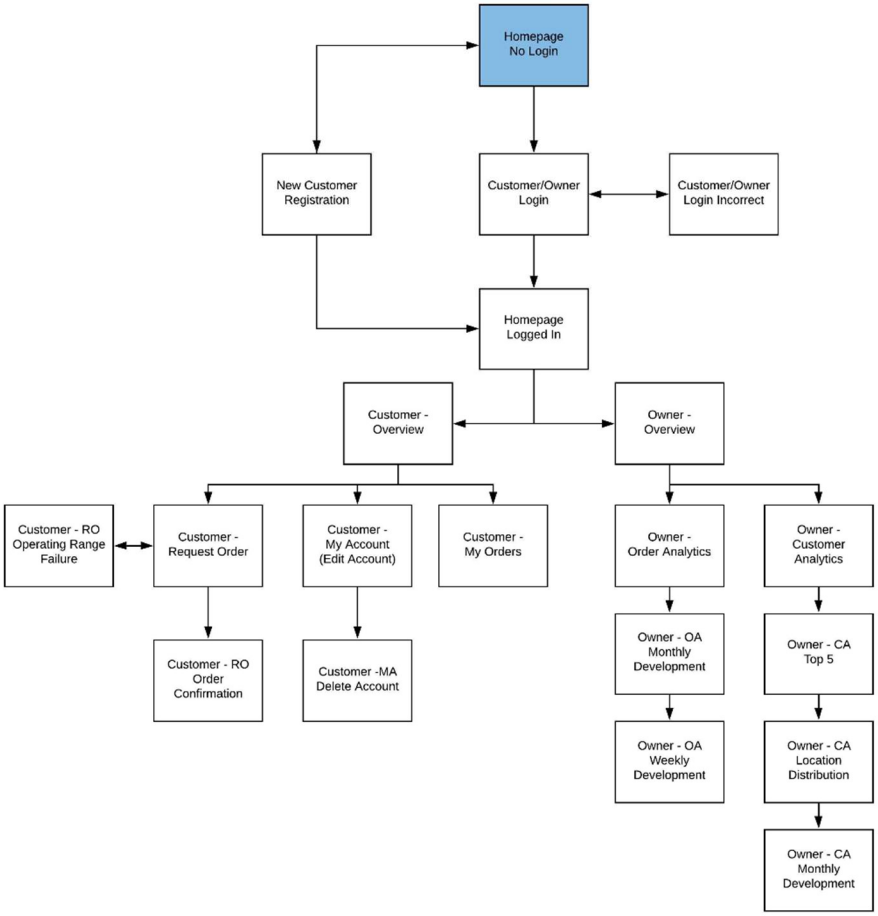


Hardware and Software Specification

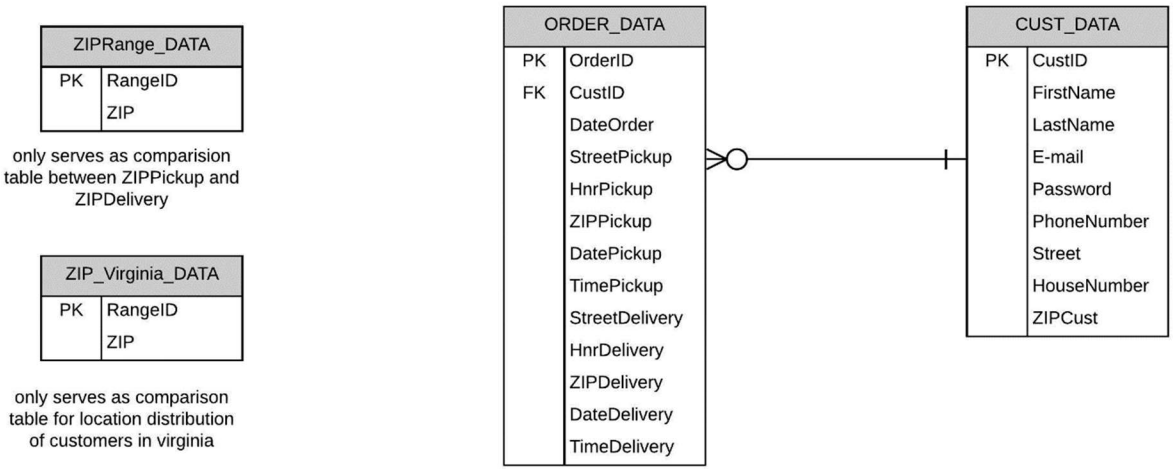
The information system will be created using Apache Server with MySQL. Software specifications require that a customer utilize one of the commonly used web browsers such as Internet Explorer, Mozilla Firefox, Safari, Google Chrome, or Opera to access James River Runners' website and order portal. Therefore, the system must maintain full functionality when accessed through any of the above browsers. The system must maintain availability 24 hours per day, 365 days per year. It is also imperative that the software contain a backup for customer data in order to protect against any disruptions that may occur. Furthermore, any user (customer, runner, owner) must utilize a laptop/desktop computer or mobile device with internet connection to access James River Runners' website.

Navigation Diagram

Our navigation Diagram for James River Runners looks at the interaction among the portal of our website and the way it works with our BPA system that we are implementing. With this diagram our client will be able to visually see the various ways in which the homepage interacts with other segments required for our system.



Entity Relationship Diagrams



Section 4: Structured Walkthrough

Executive Summary

Our project team for the capstone MIS 4173 project have been given the tasks up updating the system for James River Runners, owned by David McCallum. After finishing up our analysis phase of the project, our team then moved onto the design phase. This section of the document contains pieces from our MS4 submission.

Program documentation/IPO Chart

Program Plan	Input	Process	Output
Account Registration			
Account Request	-Client First Name, Last Name, Address, City, Zip, Email address, phone number & password	-Client fills in fields -If required fields are completed & valid, account request email sent to Owner -If fields are not completed or invalid, Client is notified	-Account Creation Request email sent to Owner
Account Confirmation/Decline	-Account Creation Request email	-Owner confirms or declines the creation of new client account -If confirmed, account information is added to Client database & log-in credentials provided	-If the account is confirmed by Owner, a confirmation email is sent to Client w/ log-in credentials -If the account is declined, process ends with no notification
Account Creation Notification	-Account Creation Confirmation from Owner	-Email is generated for client notifying them of	-Account Creation Notification sent to Client

		their successfully created account	
Account Log-in	-Account email & password	-If valid Client credentials provided, Client logs in -If valid Owner credentials provided, Owner logs in -If invalid credentials provided, log-in fails with notification	-Owner/Client logged in or notification of invalid email/password
Order Placement			
Request Order	-Pick-up & drop-off location, date & time for pick-up, number of documents, package type & any additional notes	-If required fields are completed & valid (zip code check), Order Request email generated -If required field are incomplete or invalid, notification to Client generated	-Order Request email to Owner or notification of invalid input to Client
Zip Code Check	-Order Pick-up & Drop-off Zip codes	-Query to ZIPRange_DATA to see if requested order is in area of operation	-Order process continues or is denied before request is sent to owner
Order Request to Owner	-Order Request email to Owner, Owner confirms or declines with optional notes	-Owner either confirms or declines the order -On confirmation, order info added to the database & confirmation email to Client -On order denial, denial email to Client	-Order Confirmation or Denial email to Client
Order Placement Notification	-Order Confirmation from Owner	-Email generated for Client confirming or denying their order	-Order Confirmation/Denial email
Edit Account Information			
Edit Account Info	-Change to any account information field that was initially required at Account Creation	-If valid change, Account information is edited in database -If invalid change (removal of required field, invalid zip code), notification to user generated	-If valid change, database edit -If invalid, notification to user
Delete Account	-Client selects ‘Delete Account’, Confirms	-Account information is deleted from database,	-Account removal email to Owner

	their desire to delete account & re-enters password	notification of account removal sent to Owner -Confirmation email to Client	-Account deletion confirmation sent to Client
Retrieve Data			
Customer: Order History	-Logged in Client selects 'My Orders Page'	-Webpage retrieves order information for that client from database	-Order history from database presented to Client
Owner: Customer Analytics	-Logged in Owner selects 'Customer Statistics'	-Webpage retrieves information on Clients (Name, Order Amounts, Location Distribution, Frequency of Order, Monthly development)	-All Client account information from database presented to Owner
Owner: Order Analytics	-Logged in Owner selects 'Order Statistics'	-Webpage retrieves information on past & present orders (Total Order Amount, Monthly development, Weekly development)	-All order information from database presented to Owner

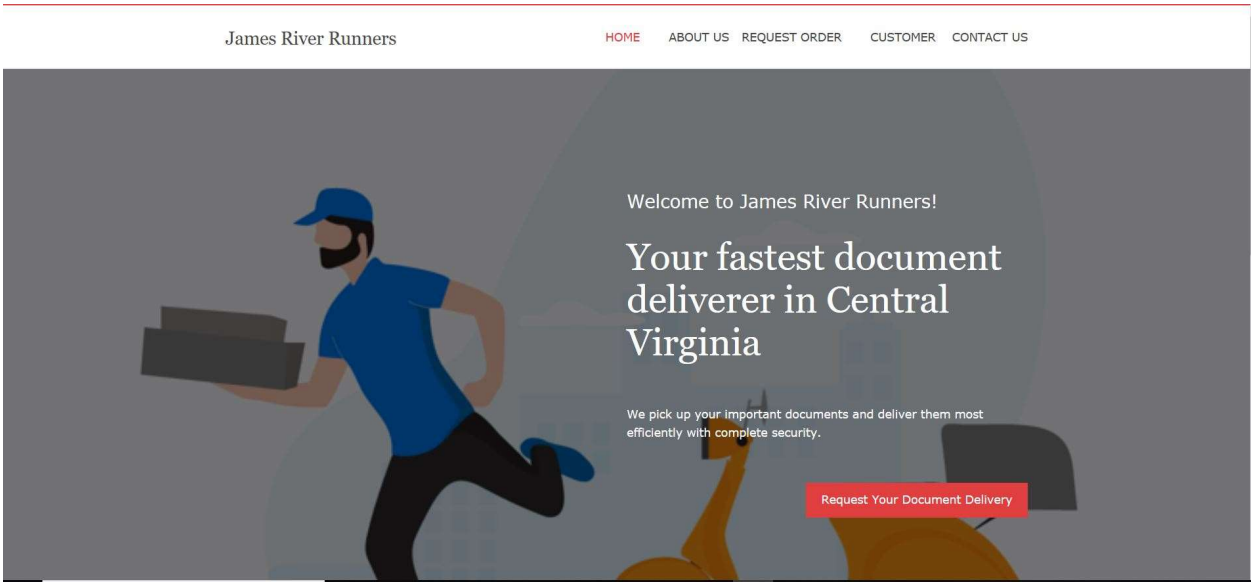
Challenges, Problems & Discoveries

- Challenges – Our team had issues being able to get the system to go through the owners email.
- Problems – One major problem is that we had to go back and redo some of our use cases to match
- Discoveries – We discovered that it would be easier to change around our system after the analysis to keep a stronger yet simple system

Training Screenshots Customer

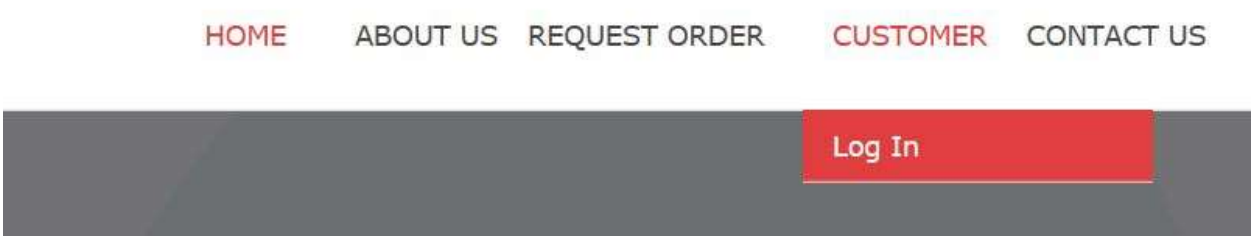
Homepage No Login

This is just the entrance onto the website, for the customer and owner to see.



Login Hoover

Move over to “costumer” at the top of the page, then click on customer “Log In”.

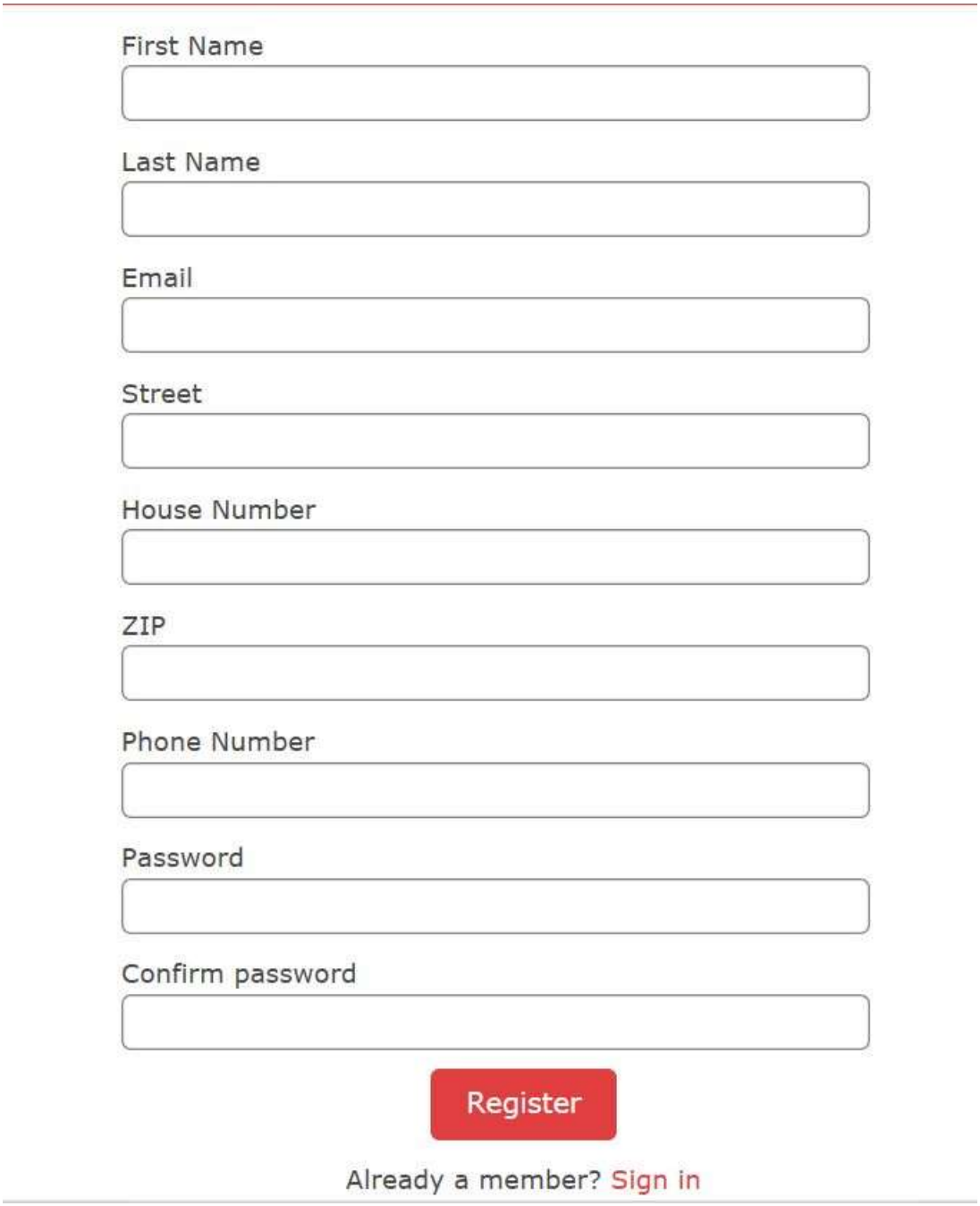


Login

Put in personal information for the required fill-ins to make an account with James River Runners. After completing this, you must hit “Login” to continue to the next page.

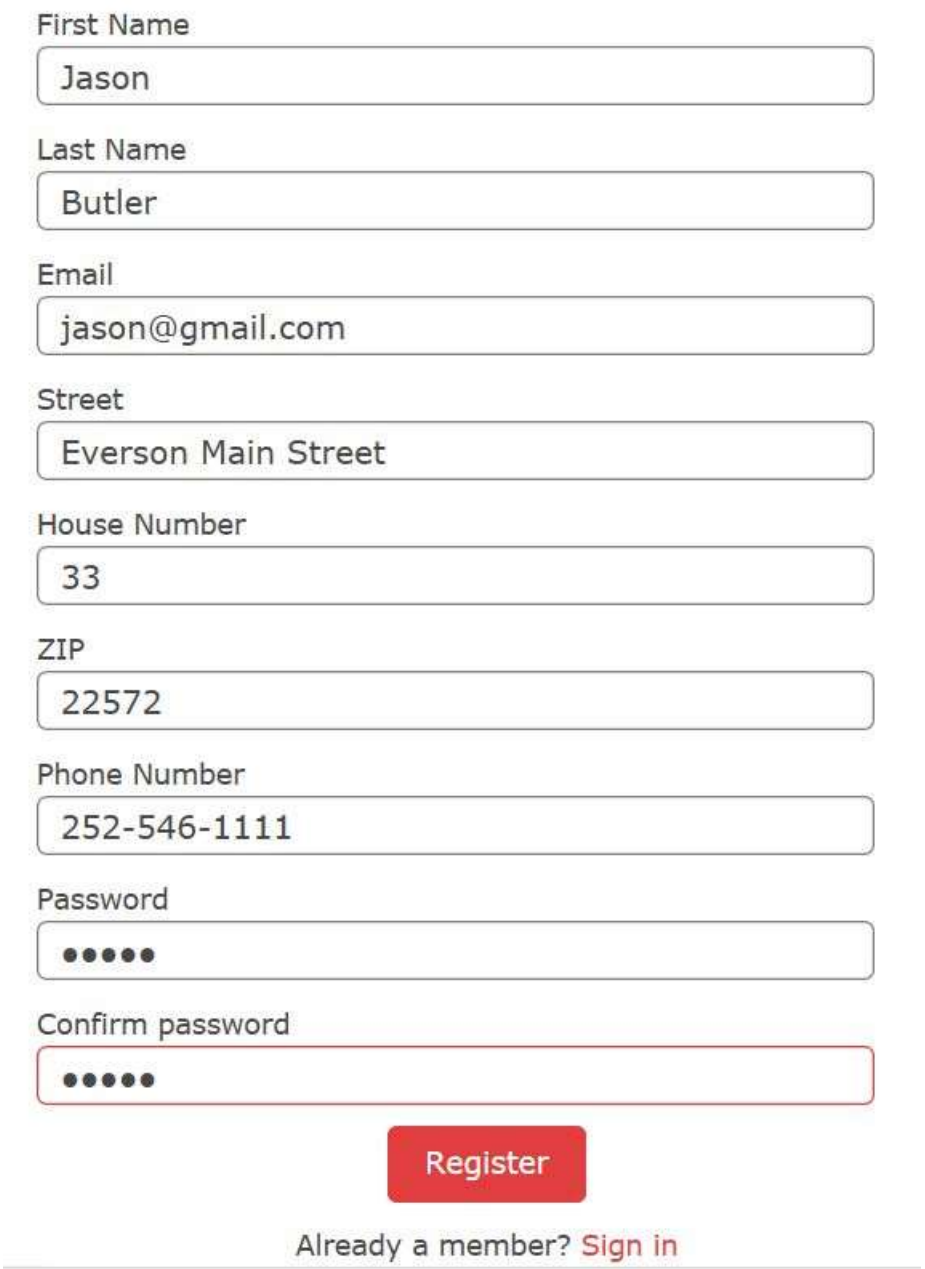
Register Empty

This page will allow the user to make an account for the required fields.



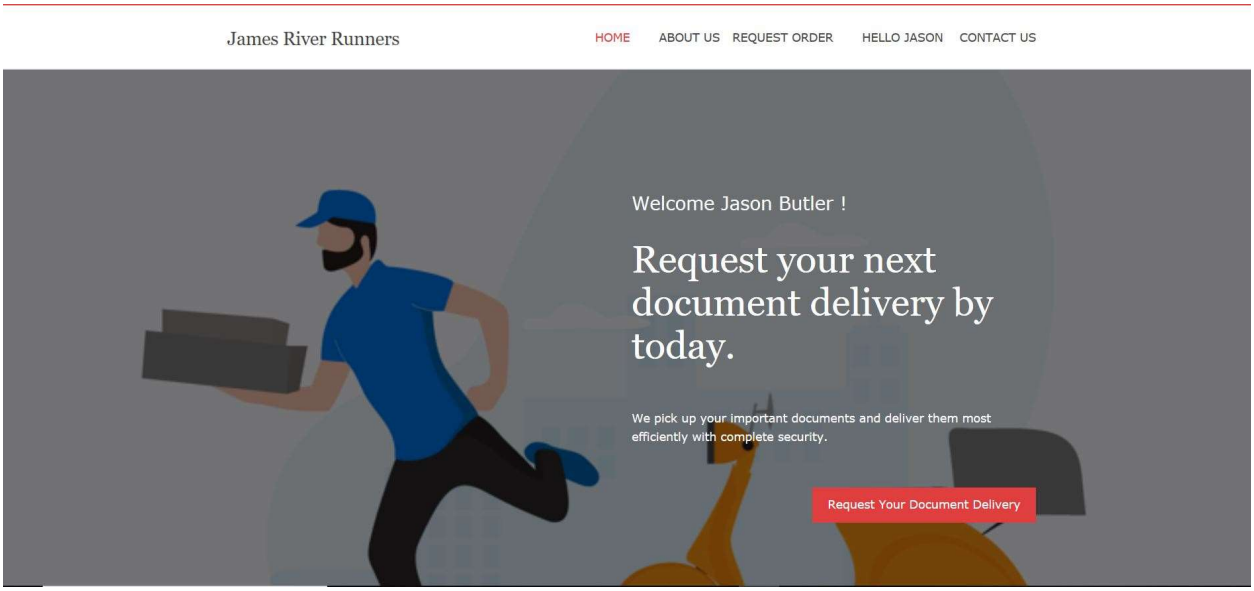
Register Filled

After filling in the name, email, street, house number, ZIP, phone number and password (2x), the user will then click Register, to become a member with James River Runners.



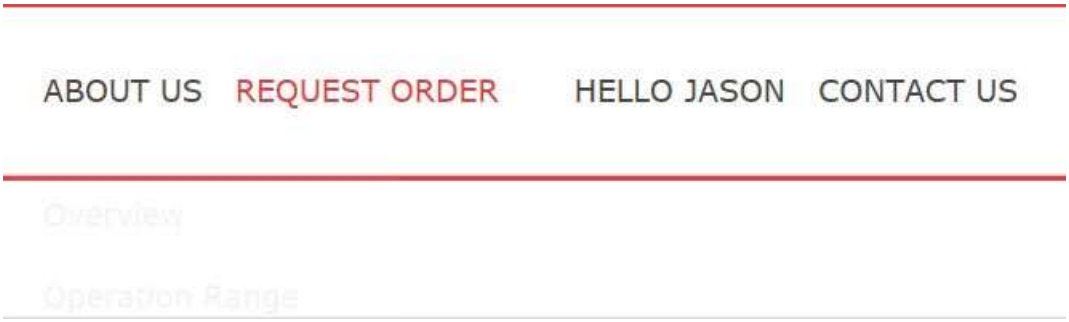
Homepage Logged In

This is the homepage, after signing in. As you can see it will say “Welcome “ “ ! From this you can then select a delivery method.



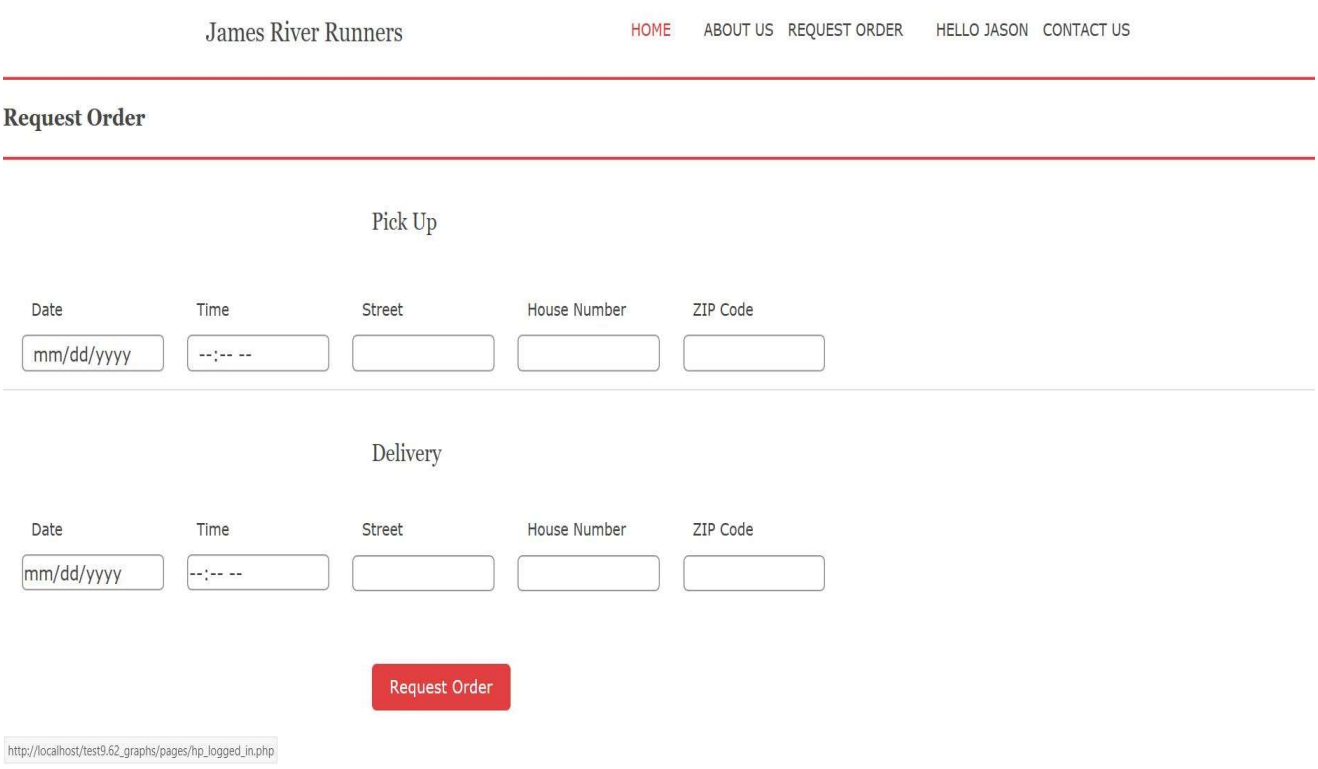
Request Order Hoover

To request an order you want to scroll up to the top of the page, and click the header “request order”.



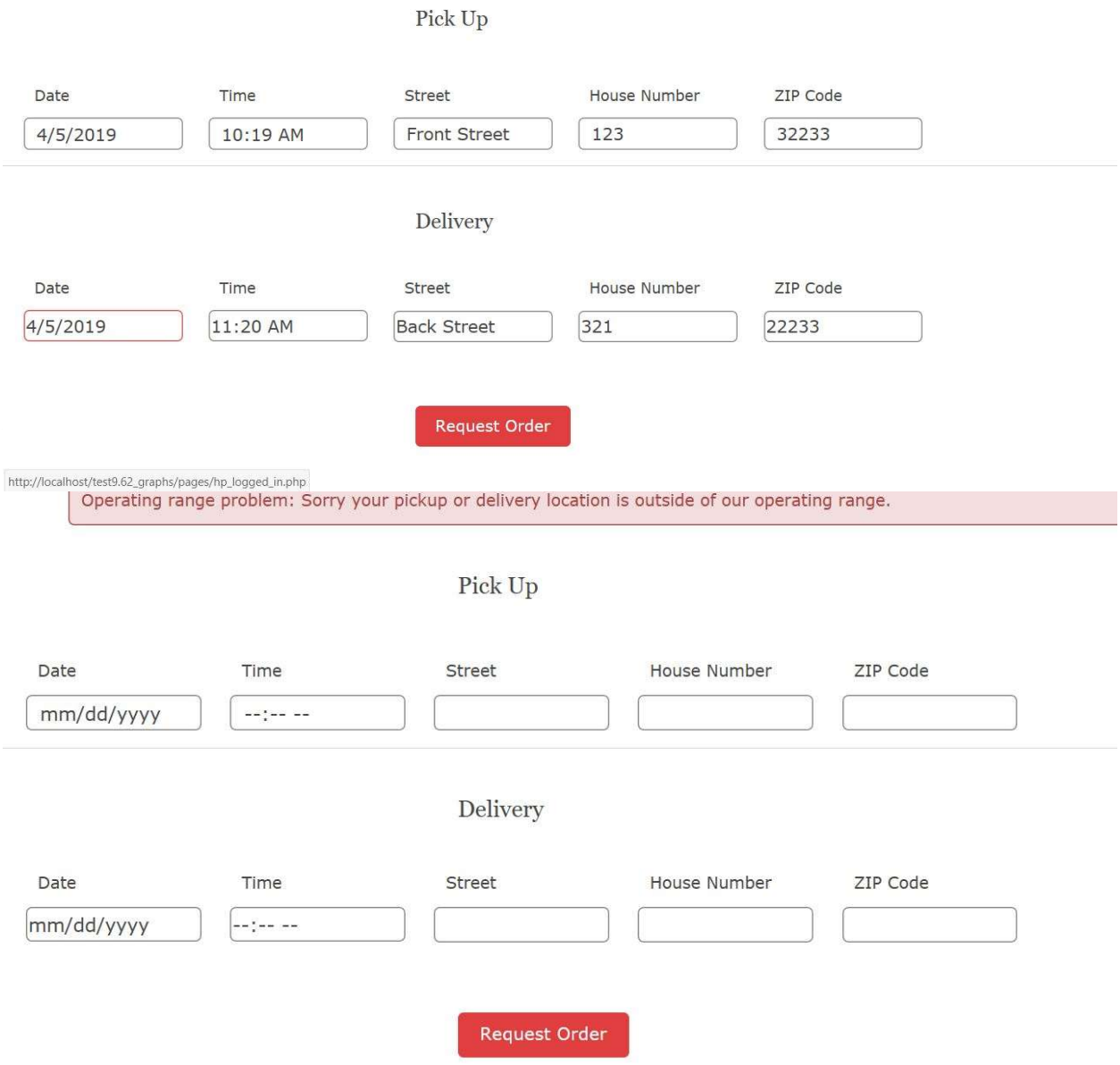
Request Order Empty

This is the page that will appear after selecting request order. You are able to choose the pickup and delivery of the package. In this section we have an option for date, time, street, house number, and zip codes



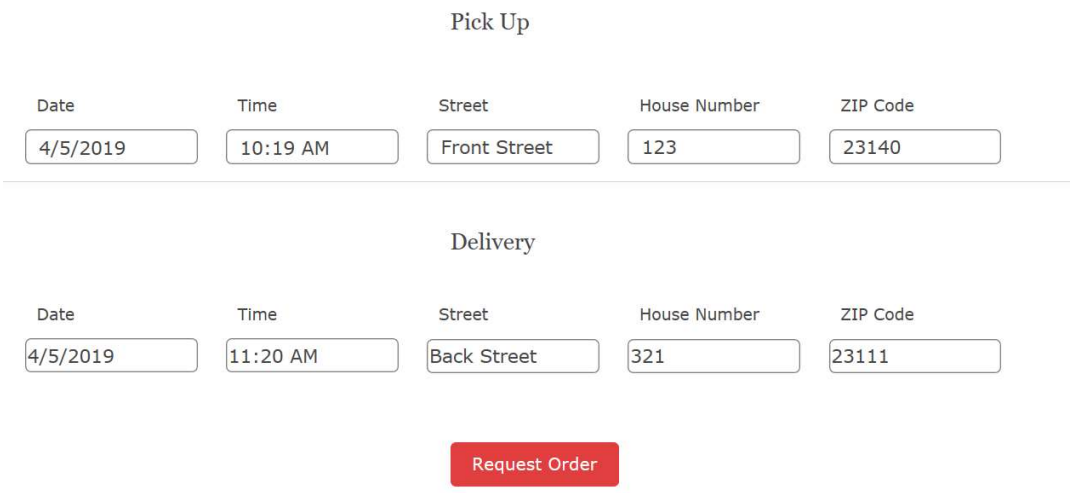
Request Order Filled: Wrong ZIP Codes

After filling out the form, the user may get an operating range failure, due to the company only working in specific area codes.



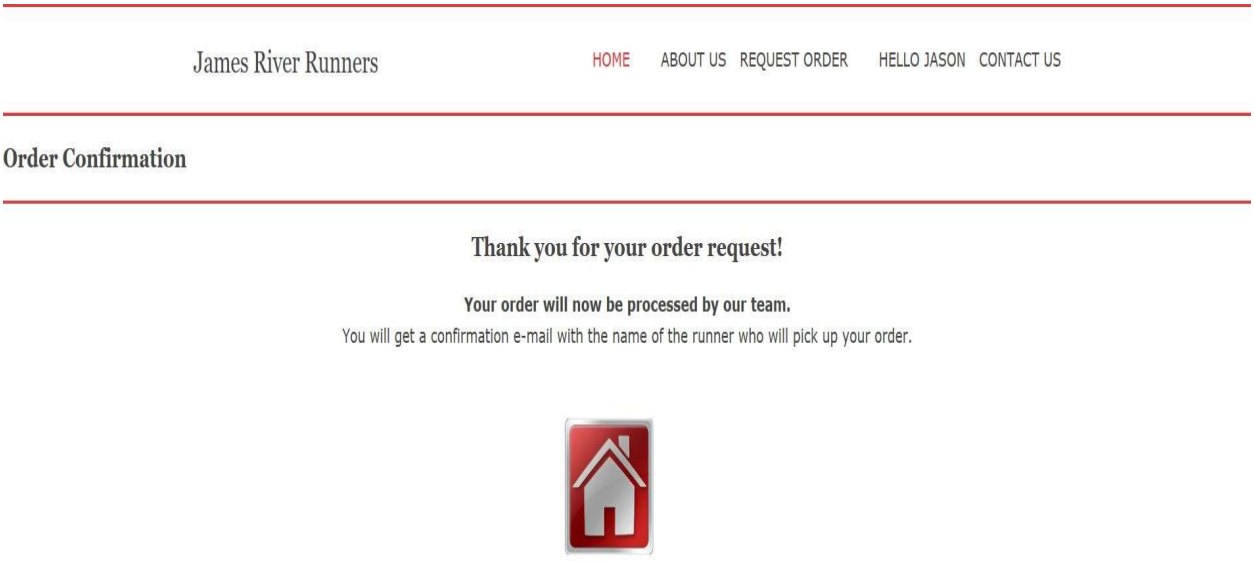
Request Order Filled Correctly

The user has correctly filled out the form, with an appropriate user zip code.



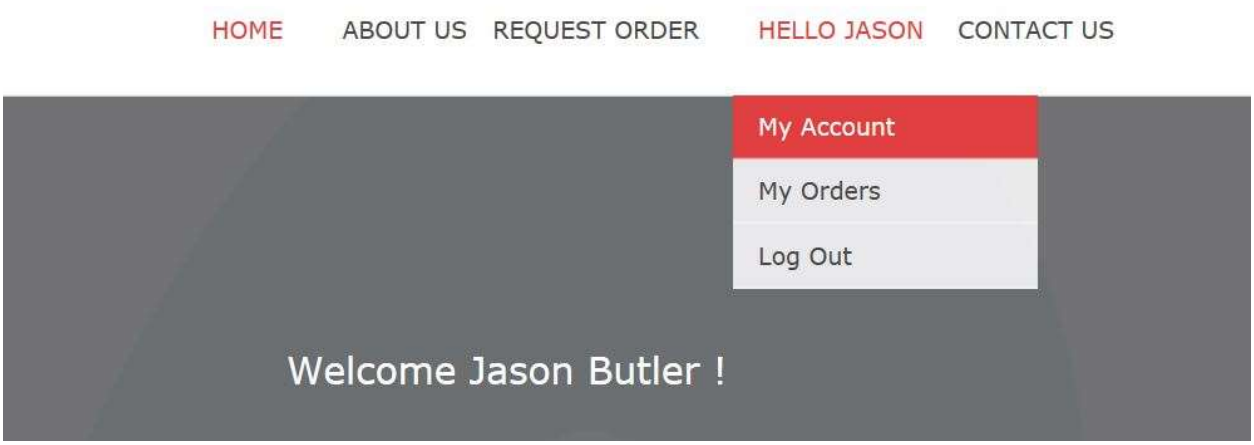
Order Confirmation

Once a user clicks “request order” this page will show up, confirming that your oder will be processed in due time by the owner.



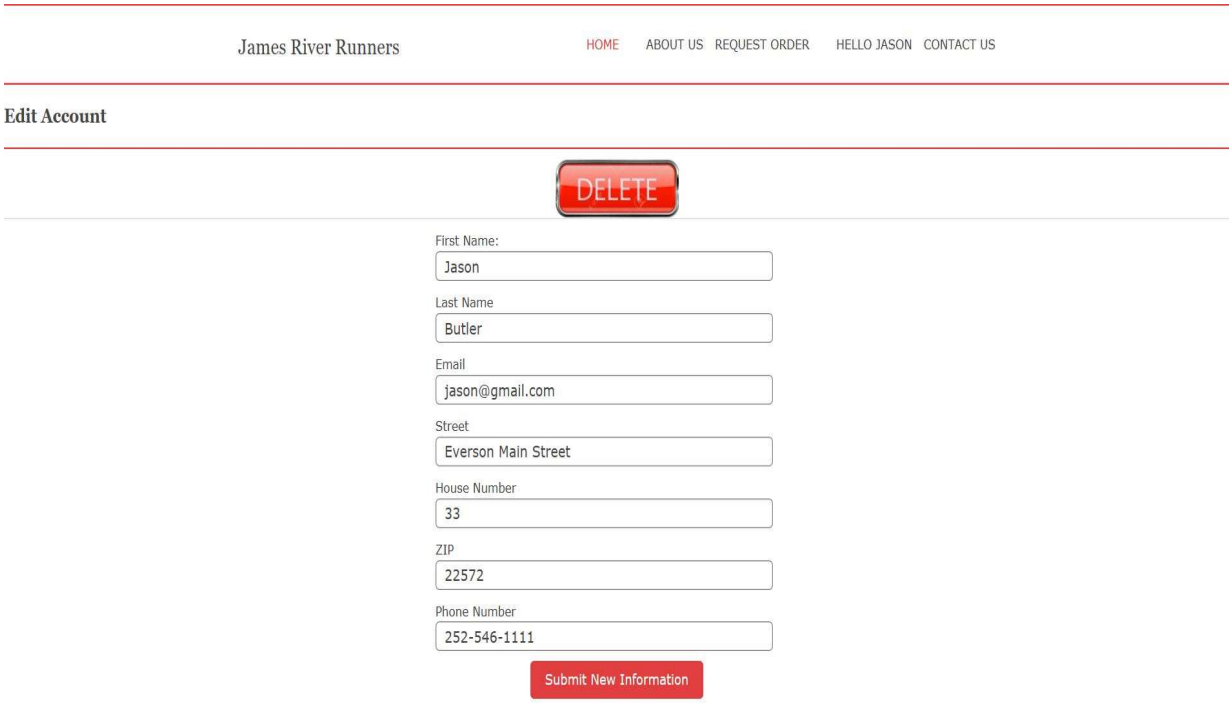
My Account Hoover

To get to “My Account” you must scroll to the top menu bar and click “Hello “Name””. Then you will click on the slide down tab that states “My Account”.



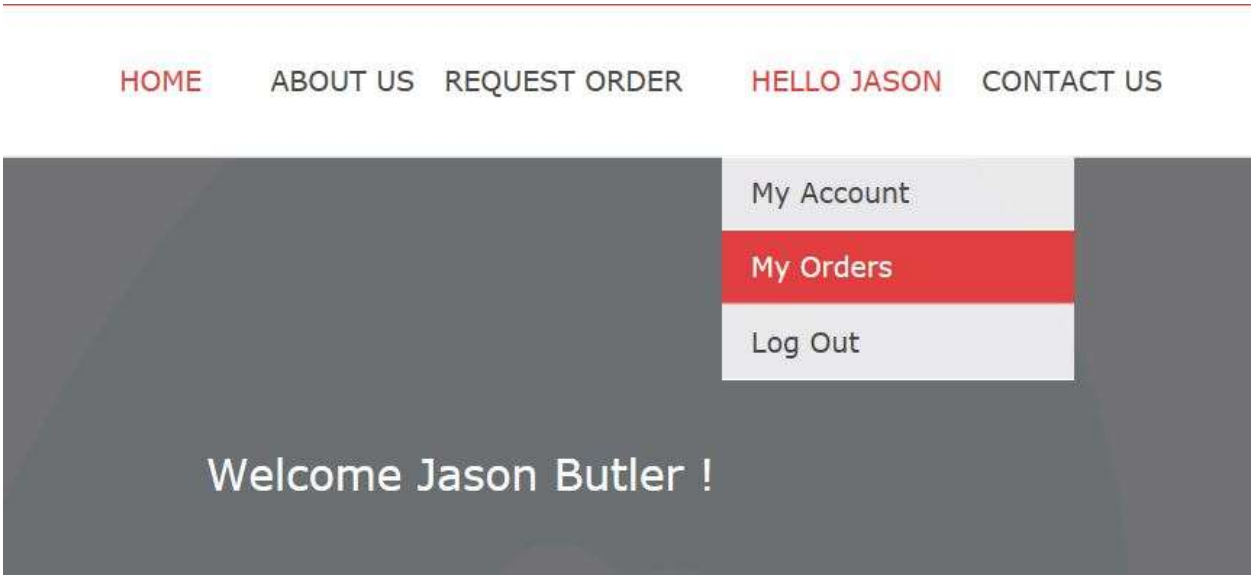
My Account/Edit Account

This page allows for the user to update any information that would have been provided on the original member form. You can delete account by selecting “delete” at the top of the page and you can update the new information by selection “Submit New Information”.



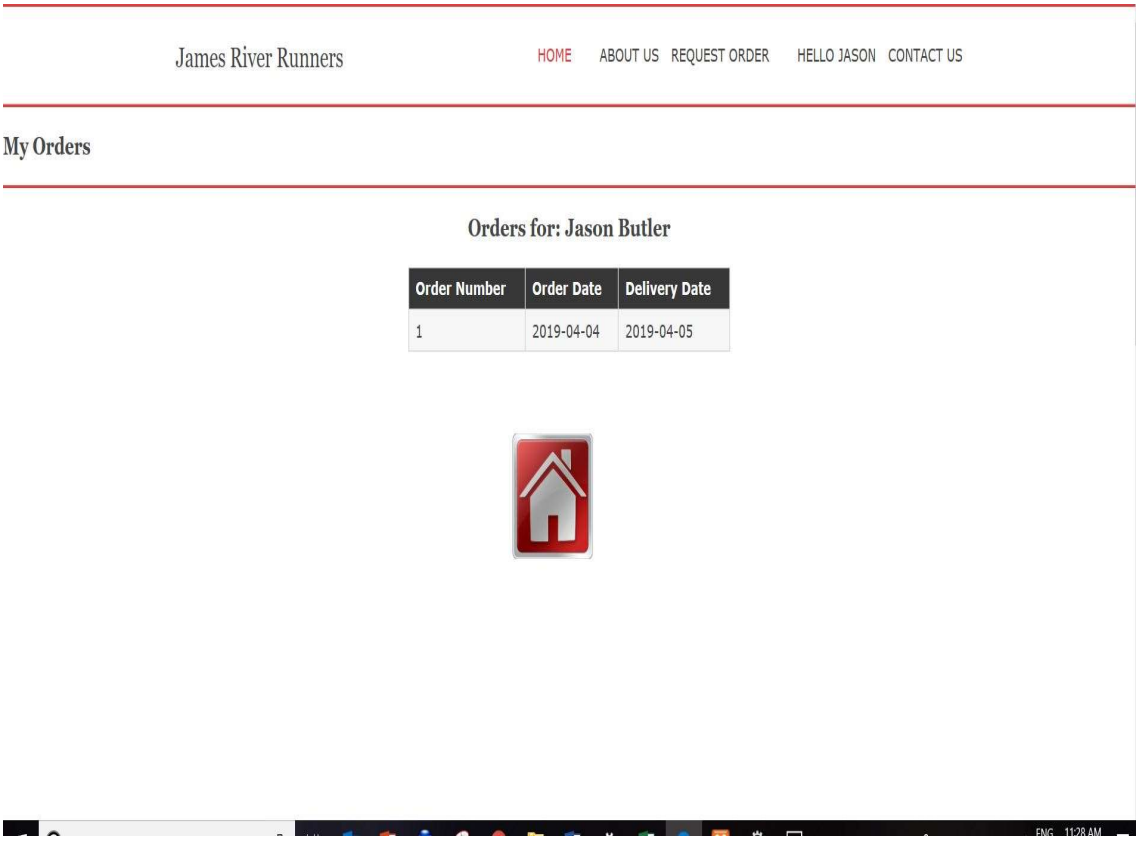
My Orders Hoover

To see your previous orders, the user can scroll to the top of the menu bar and go to “Hello “Name””. Then the user must choose the second option which states “My Orders”



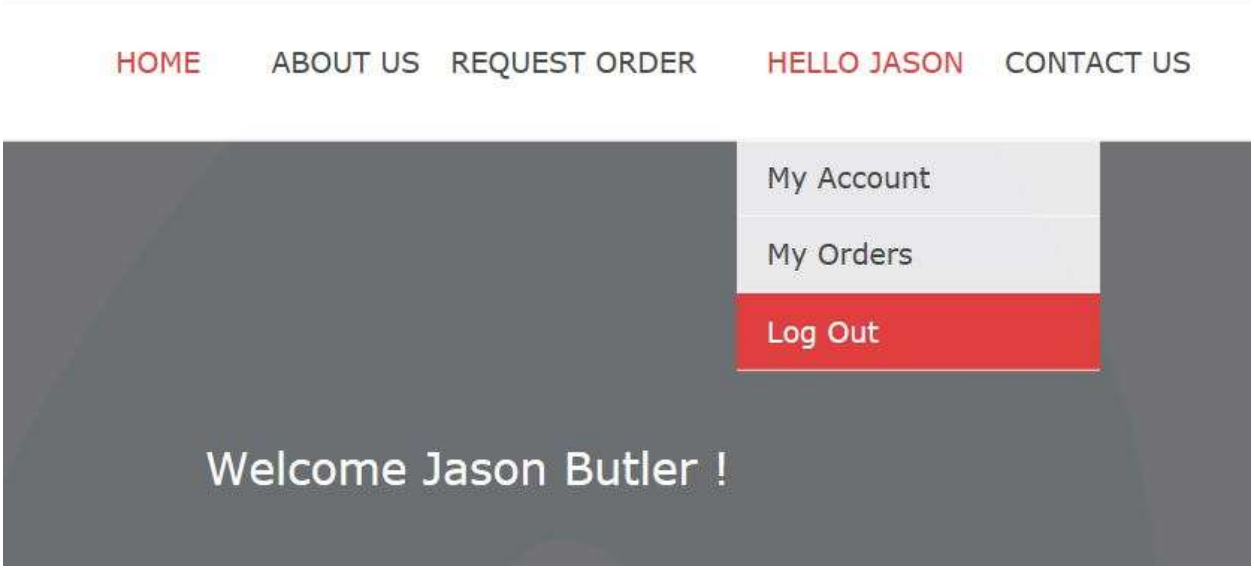
My Orders

After clicking “My Orders”, the user will have the ability to view previous orders and the order number, order date, and the previous delivery date.



Log Out

To log out of the website, simply go to the to top menu bar and select “Hello “Name””, then scroll to the third option and select “Log Out”.



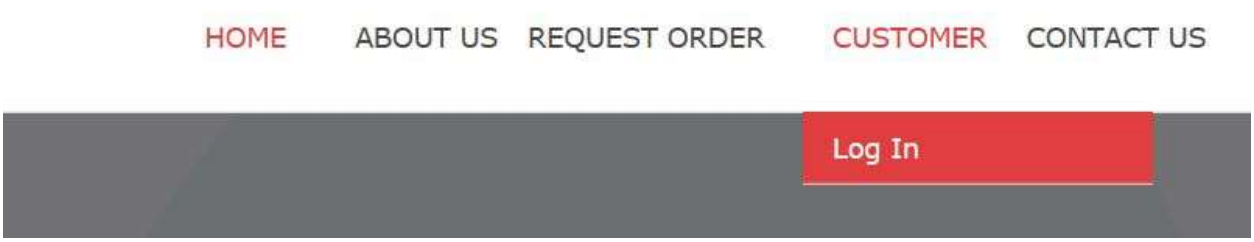
Training Mode & Justification

The mode of training that our team will use is a computer-based training. Our training includes easy methods of creating an account, filling out orders, and looking at customer analytics to help the owner have more transparency between what he delivers and the areas in the town that are receiving the most orders. These are basic methods that will allow the owner and customer full functionality. We believe this makes the most sense as our updates were adding a website allowing it to have a BPA system.

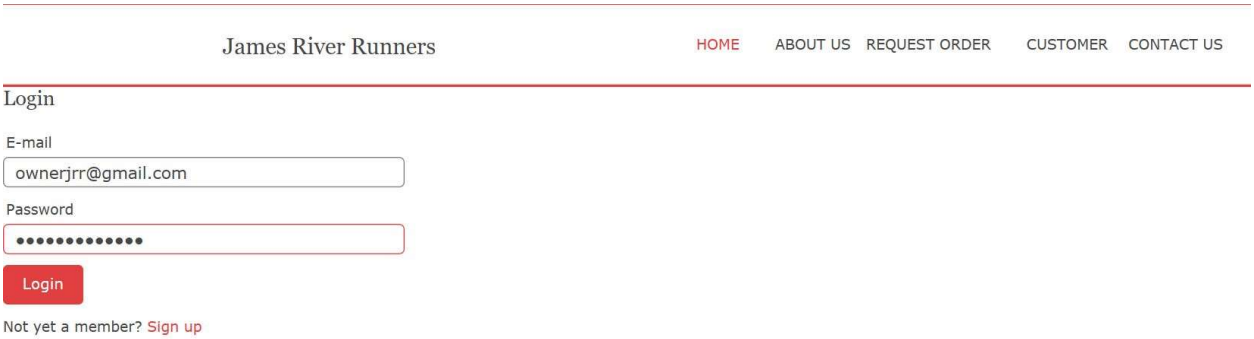
Training Screenshots Owner

Login Hoover

To login as the owner, simply go to the top menu bar and click “Customer”, after doing this scroll to the “Log In” tab and double click.

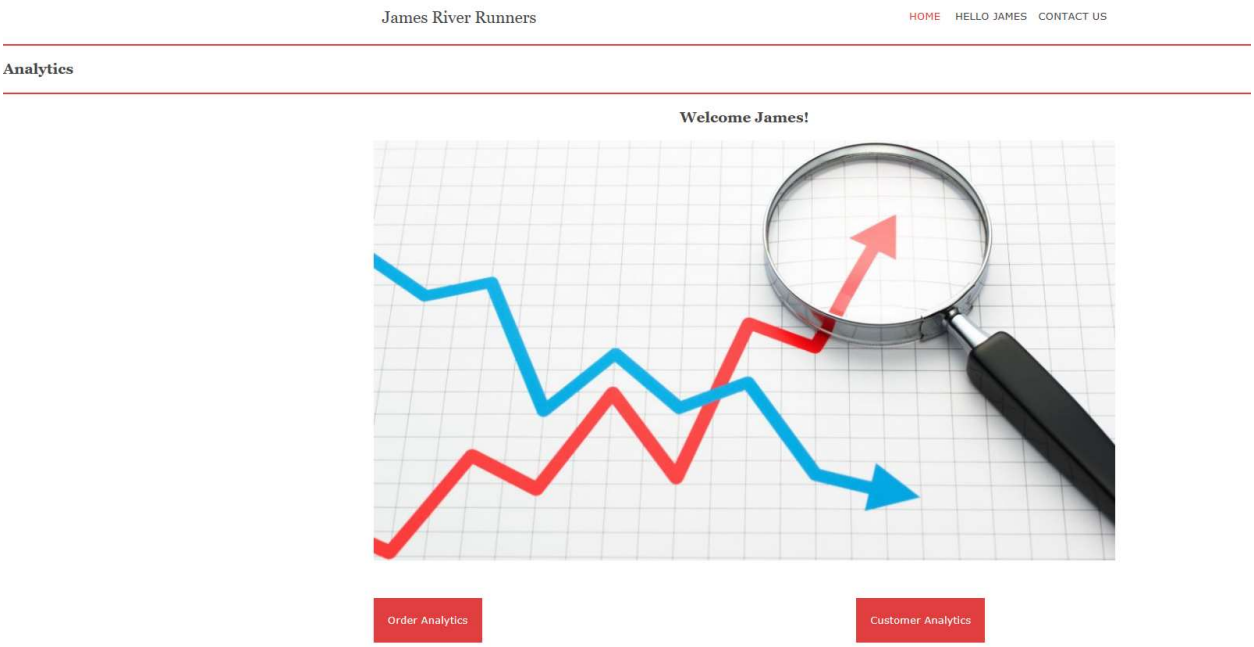


Login Owner



Upon entering the site, a customer must navigate the mouse to ”Customer” and click on the ”Log In” tab. The business owner types in the correct e-mail and password in order to access the master account.

Homepage Owner Logged In



Order Analytics Hoover

For the owner to see order analytics, the user must go to “Hello “Name”” at the top of the menu bar. The user will then select “Order Analytics”. After this the user will double click on this tab.

Order Analytics 1

The website we created provides advanced analytics. One of these categories is “Monthly Orders” in which the owner can view the amount of orders processed during the past month.

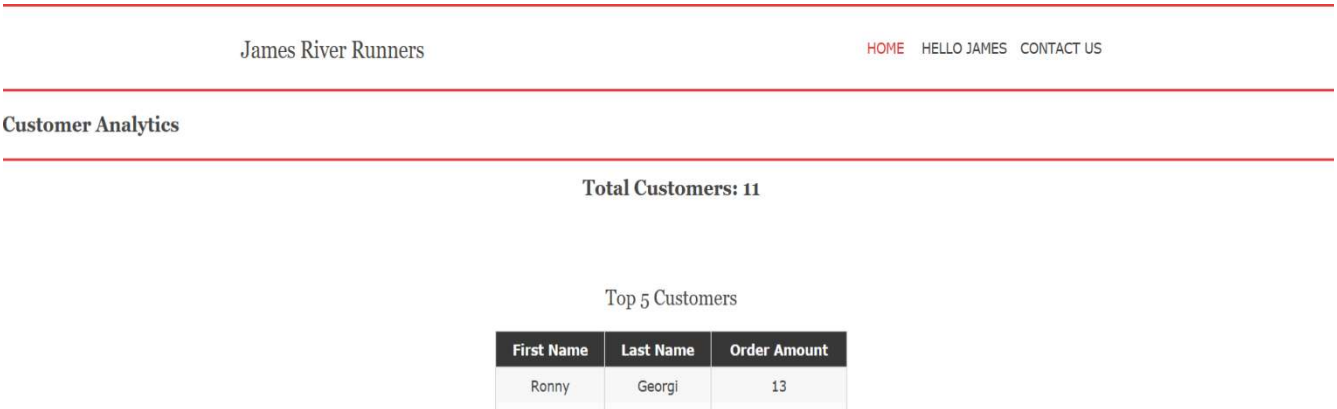
Order Analytics 2

Our website provides the owner with the capability to view weekly orders. The owner simply scrolls the mouse along the line and may click at any point at which order numbers are provided.

Move to ”Hello James” on the homepage and click ”customer analytics” with the mouse.

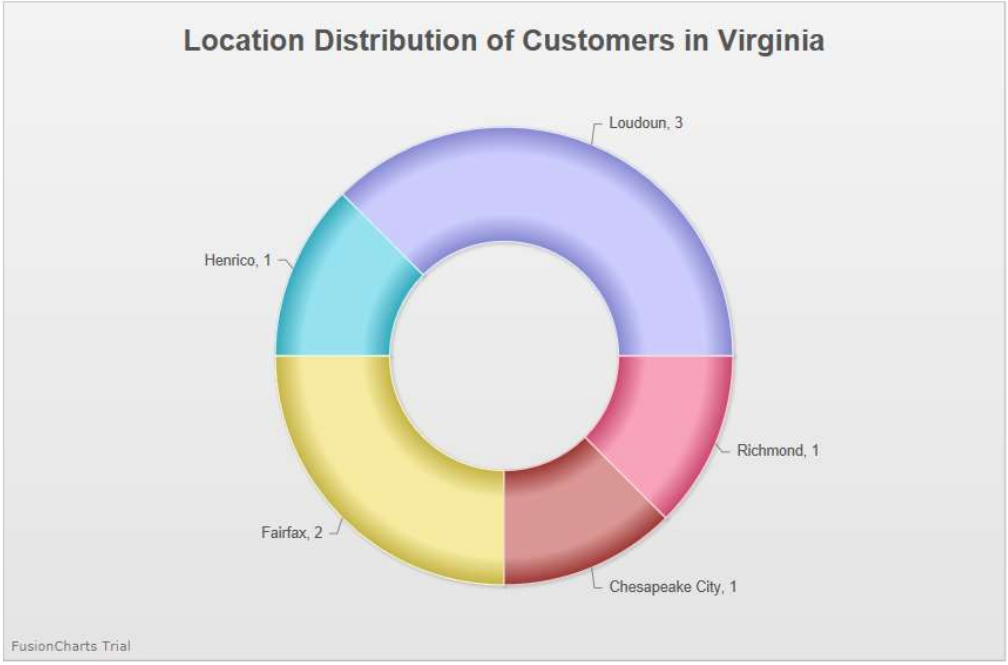
Customer Analytics 1

The website allows those with ownership to view the top customers based on number of orders completed. First and last name are provided along with the order amount.



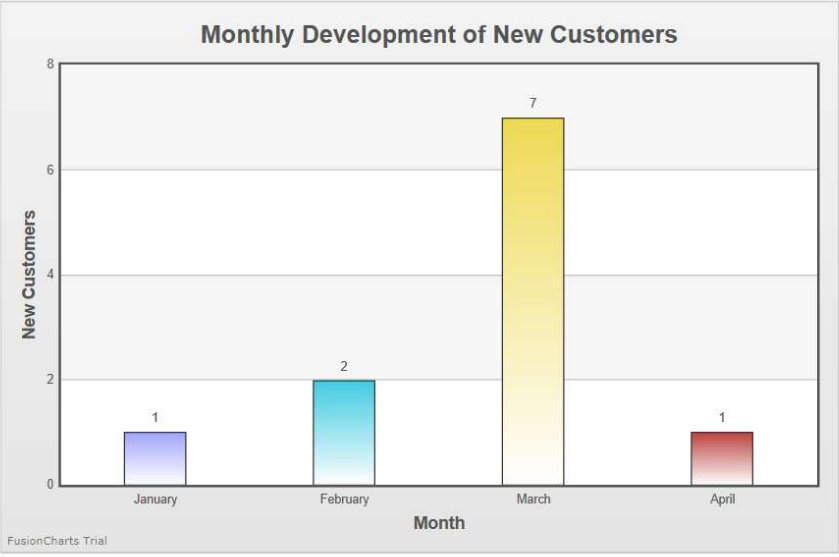
Customer Analytics 2

Our website allows the owner and employees of James River Runners to view orders by region within the local Virginia area. Statistics are presented in a chart form which can be more easily read.



Customer Analytics 3

Another way the owner can view orders is by month. The owner has the option to view total orders per month, displayed using bar graphs.



Technical Documentation

- If the user/owner is unable to access the website, ensure that the URL has been typed in correctly. If problem persists, restart computer and internet modem.
- If user requests pick-up and/or delivery for address that is outside of the Richmond, VA area, an error message will state: “Sorry, your pick up or delivery location is outside of our operating range”. To avoid this error, enter a zip code within the desired range
- If user places an order and does not receive email confirmation or it is not present within user’s “My orders” tab, diligently contact James River Runners via email or telephone
- If the owner can’t access the customer or order analytics, he needs to contact the database administrator to check if the database is connected and functions correctly

Section 6: Project Assessment

Project Assessment & Lessons Learned

Adam: Secure account and order management can make an apparently simple business system relatively complex.

Chris: Setting up the right environment and connecting to the Apache &SQL server is the most important thing to get started.

Erik: The first website layout needs to be appealing in order to keep the owner motivated to continue working with the team.

Ronny: Integrating dynamic diagrams is easier than expected if the queries are correct.

Appendix

Milestone #1

Progress and Accomplishments

So far for our project, we have come a long way in the past few weeks. We were able to find a client, in Richmond, Virginia that will work well for our team. The company is a legal documents runner and our hopes are to develop a website, make automation for the company and to set up text or email alerts when packages must be picked up and the specific place and time. We were able to scope out our ideas for the company and develop a presentation on what we feel will be beneficial for the company.

Problems Encountered

The main problems that we encountered were that we had trouble finding a company to work with that actually needed them help. Our team wanted to find someone or people that would actually benefit and use what we intend to implement. The other issue we have is timing. Due to ¾ of the members working, there has been issues finding time, however I am sure this will change as we get used to the semester.

Progress Against Schedule

Our group was able to complete the work in a timely matter, we met out of class 3 times in the duration of time that we had to work, which really helped us to stay on track and talk about our ideas that we are working with. We were able to finish up our presentation on Tuesday, leaving only the deliverables and timesheets behind to be completed the day before.

Activities for Upcoming Milestone

For the upcoming milestone, our group intends to get more information in regards to the process of the company, and how they intend to work with the system we are going to make. Also, we are going to continue to keep up with our project plan and timesheets so that we may stay on track throughout the semester.

Milestone #2

Progress and Accomplishments

During the second part of our project submission, we were able to create a vision document, outlining parts of our plan to help James River Runners have growth in parts like efficiency, technology advancements etc. The process we used was to first brainstorm about the topic, in which all four members of our group were able to bring different ideas to help the team then come up with bullet points for our team to have an outline on each topic we bring up in our vision paper. We ended up coming up with a total of six use cases for our set up within our system we are intending on implementing later this semester. We were able to create a context diagram and a use case diagram to help formulate our use cases and to help us as we move forward onto Milestone 3 and further on. We developed an executive summary, current environment status, proposed objectives, expected benefits and stakeholders. We then took parts of this document to develop our presentation for Tuesday's class.

Problems Encountered

When looking at the problems we encountered along our milestone two submission we did not run across many issues. The one issue we had was being able to find is that people are relatively busy, so we really had to plan specific times to meet, so that we can get every group member involved in the project equally. Also, we had trouble deciding exactly which use cases we wanted to use and how to develop them to perfection. Other than these two issues, our team did not run across any more throughout this submission

Progress Against Schedule

We were able to develop all diagrams and use cases around a week before our submission was due. The weekend before we were able to meet multiple times to talk as a group and settle the specifics of this document. Then over the last few days we were able to add some context and verbiage to our document, diagrams, and use cases created to help the reader understand more about our project for James River Runners

Activities for Upcoming Milestone

For the next phase of our project, our group plans to meet multiple times before the break so that we can get together and talk about the specifics for our MS3 submission and how we want to use what we have done so far to create the next phase of our project. Over break we plan to use a google document and our group message to stay in contact and get some og the phase done so we are not stressed the first week back from break. We look forward to continuing to the third phase of the 4173-capstone project.

Milestone #3

Progress and Accomplishments

During the third submission of our milestone project for 4173, we were able to move into our design phase and begin to set up for implementation that will be coming in the month after spring break. We were able to progress extremely far from our last phase, by completing a DFD package, adding a programming plan, setting up various diagrams including navigation diagrams, ERD's etc. We plan to use what we have gathered so far in terms of information and implement it with the vision that we had in the project we started a few months ago.

Problems Encountered

When looking at the problems we encountered along our milestone three submission, the main issues came from the diagrams we were making. We had trouble figuring out exactly how the navigation diagram should be set up, and we also had issues with trying to develop our DFD package. After meeting multiple times and drawing it different ways, we were able to complete the diagrams the proper way. Other than these problems, we did not come in counter with any other issues as far as the design phase of our project.

Progress Against Schedule

We were able to complete almost all of our project before heading off for spring break. The only thing that had not been completed was the PowerPoint and evaluations, which we were able to complete on the Monday that we returned from spring break. Other than these issues we did not run across more problems while setting up our design for our system.

Activities for Upcoming Milestone

For the next phase of our project, we plan to begin working on it after the presentation on Tuesday. The upcoming phase will be the implementation phase which will consist of our system that has actually been set up for the use of James River Runners.

Milestone #4

Progress and Accomplishments

Currently we have just completed Milestone 4, which is a structured walkthrough, encompassing our actual pages that we will be using and the automation we have begun to implement for James River Runners. We currently have set up various pages and code to be able to process and maintain a more functional web page and system for the company James River Runners. Although we have not finished all of our implementation yet, we have completed various aspects, as to get ahead in the coming month with all 4 of us graduating in only a month.

Problems Encountered

As far as problems encountered for our team, we have not run across many as we all have had a relatively light week, in terms of other courses, which allowed us to use that time to meet twice and work heavily on

the system itself. Although a few members of the team had exams, we were all able to add in a fair portion of work last week going into this week.

Progress Against Schedule

As far as our progress against our schedule, we believe are team is well ahead as far as the actual implementation of the actual system. We have already completed more than half of the actual system, and we are continuing to finish up within the next week and a half before the actual training of the system begins.

Activities for Upcoming Milestone

Being that MS4 and MS5 go hand in hand, we look to continue working on the implementation of our system and setting it up with the live host that we will be using in the coming weeks. We look to stay on top and be ready for the training and eventual final system design that we will present at the end of the semester.

Milestone #5

Progress and Accomplishments

Currently we have just completed Milestone 5. This is the second to last section of the capstone and we have implemented our system and moved onto the training of the product we have for James River Runners. We were able to make screenshots and training manuals that will allow the user to understand the different parts that go into using the actual system through the website.

Problems Encountered

As far as problems encountered for our team, we have not run across many. Adam and I have been actively applying to job positions and Ronny has been finishing up his tennis season. However, we were still able to complete all the tasks required for the project.

Progress Against Schedule

As far as our progress against our schedule, we have completed our system and our training and now we have the final milestone coming up in which we will fix all of the simple issues that we have and then we will officially be able to present it to our client Dave.

Activities for Upcoming Milestone

Our activities for the upcoming milestone rely on the completion of our system and the final presentation that we will try to record for our client. We are excited to finish up this project and move on with our final few weeks as college students. We look forward to our final product and how it will help the company of James River Runners

Milestone #6

Progress and Accomplishments

For the last milestone, we were to have our final product BPA system made for James River Runners. What we did was fix up any mistakes that we had from MS4 and MS5 and added the document together, adding executive summaries, changes to documentation, etc. We also practiced and set up a short presentation to show for the final product. We were able to accomplish a fully working BPA system that will allow James River Runners to explore their competitive advantages.

Problems Encountered

During this last milestone submission, we did not come across any issues. Luckily, we had pretty much finished up the system, which allowed us time to change specific errors that we felt were important for the company's use as well as the functionality of the system. Overall, no problems were encountered during this submission

Progress Against Schedule

Being that we worked on this a majority of the time during our finals, we did not have any issues with the progress against our schedule. Because all of us only had a few exams, we were able to find time to set up meetings, allowing us to finish the presentation.

Project Plan

	Milestone 1 Project: Conceptual Walkthrough	
1	Section Deliverables	Team
1a	Presentation	Team
	History and business description	Erik
	Description of the current environment	
	Why have you chosen this product?	Erik
	Problems observed with current system	
	Proposed system objectives, features and constraints	y
	Expected benefit of the proposed system	
	Stakeholders	Chris
	Problem Analysis (BPA, BPI, BPR)	Ronny
1b	Preliminary Project Plan & Timesheet	
1c	Milestone Evaluation Sheet (2 parts)	Team
1d	Milestone Checklist Review	Team
	Milestone 2 Project: Analysis	Team
2	Section Deliverables	Team
2a	Project Description Documentation	Erik/Chris
	Executive Summary with Narrative & Conclusions	
	Current Environment	Chris
	Proposed system objectives, features and constraints	
	Expected Benefits	Erik
	Stakeholders	Erik
	Context Diagram	Ronny
2b	Complete Use Case Package	Adam/Ronny

	Executive Summary with Narrative & Conclusions	Ronny
	Use Case Diagram	Ronny
	Fully Detailed Use Case Specification	Ronny
	Preliminary Non-functional Requirements	
2c	Updated Project Plan & Timesheets	Team
2d	Milestone Evaluation Sheet (2 parts)	Team
2e	Partial List of Checkpoints: Use Case Review	
	Milestone 3 Project: Design	Team
3	Section Deliverables	Team
3a	Updated Vision Document	Erik/Chris
3b	Updated Complete Use Case Package including:	
	System Use Case Diagram	Ronny
	Fully Detailed Use Case Specification	Ronny
	Detailed non-functional requirements	Chris
3c	Complete Design Package to include all relevant design artifacts.	
3d	Additional Requirements:	Adam/Ronny
	Complete, decomposed DFDs	Adam
	Physical Entity-Relationship (ERD)	(written)
	Mock-ups - Forms & Reports	Ronny
	Sample reports	Ronny
	Program Plan	Adam
	Navigation Diagrams	Ronny/Erik (written)
	Hardware and Software Specifications	Erik
3e	Team Milestone Review	Team
	Milestone 4 Project: Structured Walkthrough	
4	Section Deliverables	
4a	Database Development	
	Revisions to:	
	i. Entity-Relationship Diagram	Adam
	ii. Data Dictionary	Adam/Ronny
	iii. Standard Naming Conventions	Ronny
	Data for Testing	Ronny
	Explanations for any challenges	Erik/Chris
4b	Program Development	

	Pseudocode, flowchart or IPO chart	Adam/Ronny
	Inputs and outputs of each program	Adam
	Printout of program code for each program	
	Explanation of any challenges	Erik/Chris
4c	Test Plan	
	Data to be used in testing	All
	Does the system meet the business need?	
4d	Updated Project Plan & Timesheets	All
4e	Milestone Evaluation Sheet (2 parts)	All
4f	Team Milestone Review	Team
	Milestone 5: Training &Tech Documentation	
5	Section Deliverables	Team
5a	Presentation Activities	
	10-minute training session for key user	Ronny
	Use cases relevant to training	Ronny/Adam
5b	Training Documentation	
	Choice of training modes	Team
	Narrative & screenshots of presentation	
	Training Materials for other users	Team
	Narrative & Screenshots of additional training	
5c	Technical Documentation	Erik/Chris
5d	Updated Project Plan & Timesheets	Erik
5e	Milestone Evaluation Sheet (2 parts)	team
5f	Team Milestone Review	Team
	Milestone 6 Project: Final Deliverables	Team
6	Section Deliverables	Team
6a	Final Presentation	
	Introduction of company/product	Erik/Chris
	Problem Statement	Erik/Chris
	Functional and Non-Functional Requirements	
	Context diagram	Erik/Chris
	Use Case Diagrams	Adam/Ronny

	Demonstration of the system	Ronny
	Project Assessment and Lessons Learned	ALL
6b	Final Documentation Requirements	
	Executive Summary of major contributions & recommendations	All
	What the section entails	All

Time Sheet

Total Hours per group member		
Erik Tiltman	53	
Ronny Georgi	58	
Adam Noonan	52.5	
Chris Calbi	51.5	
Total time spent on project:	215	