SYSTEMS PROPOSOL

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INFORMATION SYSTEMS INFO 361 002

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Brief Description of the project

Once the system request was determined, the rest to come was a simple matter of following protocol. First we broke off into a few stages, using strategies such as SDLC to plan, analyze, design, and implement the project. We designed the functional model and Use Case Diagrams. Here, we used UML notation to denote actors, use case, and relationships. After the functional model was established, we designed the structural model in which we defined class diagrams. In class diagrams, the aim was to show relationships between an object in one class with an object(s) in another class. A variety of methods were used to help show this such as: multiplicity, association classes, aggregation classes, abstract classes, parent to sub class relationship, etc. Behavioral modeling was the next step in which we designed the sequence and state charts. The idea of the sequence diagram is to help understand the flow of events for a given use case while the state diagram shows that the objects may change state in response to an event; shows which states an object can traverse through during its runtime. In the final step, we aimed to design an aesthetically pleasing user interface design. By using a set of guidelines we designed the prototyping screens and the windows navigation diagram. Gantt Charts are created to keep track of progress and assign schedules/resources.

Executive Summary

Product Description/Objective

This report provides an in-depth analysis and information of the current and prospective economic, technical, and organizational feasibility of The Richmond Millennial Chocolatier Company. Strategies used to analyze include functional, structural, and behavioral modeling. Each strategy accompanies the next as the information gathered is re-used to further proof our procedures. Every calculation and project related information is can be found in the table of contents. Results show that this company projects to see a massive increase in profits over the course of five years.

Also, a thorough step by step procedure will be demonstrated in this report. To begin any project a Systems Request needs to take place. A Systems Request provides us with the Project Name and sponsor, Business Need, and Functionality. Once we have Systems Request, we can begin planning. The Richmond Millennial Chocolatier Company sponsored by Coco Caramel requested us to generate a level of sales, lower the cost of business operations, manage inventory, manage employee work schedules, and to create management reports. Also provided was a functionality standard to which we need to append. Minuscule tasks such as generate customer order invoice and confirm customer order will need to be accounted for. In a general sense, the functionality for the Systems Request should allow customers to purchase products in-store and through an Internet store website, manage product inventory, manage employee schedules, and generate management reports.

A Systems Request has taken place. Now, a capable team has been assembled in order to complete this task, a so-called Team Charter. The team formed have capable and reliant workers, though only words cannot justify their skills; a resume of the skill sets they provide is a necessity. Their strengths, shortcomings, roles, team meetings and values, team expectations, and a charter amendment is established. The mission statement is to create functional, structural, and behavioral modeling.

Next, a business case is determined. A business case provides the user with the economic, organizational, and technical feasibility. The economic feasibility is the cost and projects future endeavor. The Organizational feasibility is the step taken to determine if the project is capable of sufficient funding in order to move forward. The Technical Feasibility is the step taken to confirm if the product will uphold standards and perform. In our Business Case, the purpose of the project was to increase sales and customer base for Coco Caramel. Our Business value was established to decrease workload among management staff, ability to make better business decisions, and an increase in customer base and convenience. Our Scope statement covered topics on the overall structure of the product on a national and general scale. Our technical, economic, and organizational feasibility were on a medium risk, excellent, and a good scale respectively. Calculations are done to estimate the product success/failure over the course of five years, aka Cost and Benefit Analysis. Our projections determined the value of the product to be at a $679,296 in the final year.

To create a functional model, Use-Case Diagram, a few methodologies had to be defined. The users are the Actors, the lines which connect the actor and use-cases are called Associations, the Use-case is the major process in the system that gives benefit to the users, the inclusion of one use case is called an include relationship, and the extension of the use case is called an extend relationship. We begin to procedure of converting the requirements into functional models. We realized we needed more than just a handful of use cases. To have robustness and efficiency in our project, we required a thorough investigation of all the criteria which had to be covered. This led us to create the Actors such as employee and customer. Upon further investigation, we realized we needed sub categories since employee and customer were a very broad generalization for our project to be. Thus, the Actors Online Customer, In-Store Customer, Inventory Manage, General Manager, and Clerk were established. Now we needed to provide functionality of each actor by utilizing our capability to create use cases. For each Actor we provided use cases and for each use case we provided the next use case to which an action is incurred. Once the Use case has been established, the descriptions of each use case is also defined. The description includes: use case name, ID, importance level, actor, use case type, stakeholders and interests, description, trigger, type, relationships, and normal flow of events. This helps the user understand the diagram in a more organized and thorough fashion.

Our goal now is to create a Structural Model, consisting of Class diagram(s). A Structural model is used to determine the key data stored in the problem and to build a structural model of the objects. We began by defining classes. By defining broad class names, we began to create subclasses to the parent class to narrow our definition. Once our classes were established, 16 in total, we gave each class a few attributes (properties that describe the state of an instance of a class) and class operations (actions or functions that a class can perform). To connect our classes, we required to have a multiplicity relationship (how many of one object is/are associated with other objects) and a descriptive word to define what the relationship is between classes. Same as we have done before, the descriptions are used to define clearly the necessity of each class, its functionality, characteristics, class type, and relationships.

Now to create the interaction diagrams, Sequence and State charts. These will serve as our behavioral modeling structure. The behavioral model defines the internal behavior of a system and the focus heavily hints the dynamic view of the system. The idea is to grasp the interactions that take place during placing and filling an online order. An Object is created aCustomer and the class customer, the customer can view, select, add, and confirm product. All these interactions need to be illustrated properly in the sequence diagram. We decided for when it comes to placing online order, we need require six objects. Each object compliments prior and subsequent objects in a meticulous manner by effectively conveying messages/information. Guard conditions are enlisted to ensure that messages are sent. All six objects provide all interactions done when placing an online order. Just as a customer places an online order, an employee will fill the Online Order. This is shown in the sequence diagram called “Fill Online Order Sequence Diagram.” An Employee asks the system to create a receipt and to prepare mailing label is an example of a message from the object Employee class to the System class. As done before, descriptions are required to display instance, name, and interaction descriptions for all Objects.

A State Machine represents the idea of objects changing in response to an event. The diagram consists of states, events, transitions, and a frame. Always start with a new state followed by an event which

transitions to a different state until reached a final state. For our diagram we designed a customer order state machine in which multiple occurrences took place for an order to be sent, shipped, and completed. Flaws exist in all processes, we needed to account for flaws such as items not being in stock and backorder. To ensure this doesn't, loops are designed where a state will only leave a loop once a condition is met. Descriptions provide a brief and concise illustration of all the objects.

The user interface accumulates all the specifications stated above and attempts to create a prototype for a webpage. Basic essentials such as homepage, shopping cart, Admin/staff access, customer login/register, product list, payment page, and purchase confirmation page are added. Each prototype screen consists of its respective description standards and information to along with it.

Our Usability Report gave us great insight on improvement we can make to our webpage as it is still in the prototype stage. One user suggested the use of images and larger font. Both have been added as per requested. I believe reaching a larger audience will be essential as all feedback will be necessary if this website wants to launch. Right now it has a lot of room for improvement. The second user to use view our website said he was impressed by it. All it needed were icons to go along with the options. This advice was duly noted and added in our prototype. As most results of the report consisted mainly of positive reviews we set this prototype as a basic standard a few added essentials such as images. The windows navigation diagram displayed all the interactions that can take place on each screen and the options that are available for each user.

The Gantt Chart has been documented and updated since the beginning of the project installment. For each assignment, we had tasks and respective dates to complete each task. By breaking all work done down into single, individual jobs we were able to assign resources and track progress. This chart is especially helpful as it took care of any discrepancies we had among our meetings.

Conclusions

The report finds the prospects of the company is very bright and profitable. The pros outshine the cons, though the miniscule cons need further investigation as not all have been identified. To name a few cons, our website requires attention for formatting and aesthetics, more identification/attributes for classes, more relevant data, the use-case diagram can use more formatting in the descriptions, following naming conventions, include charts for economic analysis, and tweak fill order sequence diagram. Aside from formatting issues, the raw data and core of the project demonstrate a highly valued company.

Case Scenario and Systems Request

System Request

Project Name: The Richmond Millennial Chocolatier Company

Project Sponsor: Coco Caramel (Chocolatier Entrepreneur)

Business Need: To generate a level of sales through brick-and-mortar and virtual store fronts and to lower the cost of business operations by enabling effective and efficient business processes for customer ordering processing and inventory management; to manage employee work schedules, and to create management reports that will enable the business better decisions to create a competitive advantage.

Functionality: The information system should allow customers to …

- Purchase products in-store and through an Internet store website; this would include the ability to:
  - View images of current product inventory through an Internet store website.
  - Display full product description.
  - Check availability of inventory.
  - Select delivery option (in-store pickup or delivery service)
  - Confirm and track Internet orders.
  - Determine delivery cost and date.
  - Provide customer delivery tracking identification number.
  - Specify customized products (special orders).
  - Confirm custom order within 24 hours.
  - Generate customer order invoice
  - Accommodate payment by micro payment system (credit & debit card) such as PayPal.
  - Keep track of customer order profiles (customer or employee created—add/modify/delete)

- Manage Product Inventory to include the ability to:
  - Track all supply ingredient quantities (add/update/delete quantities)
  - Manage all product recipes (ingredient batch quantities)
  - Generate supply acquisition orders
  - Send order payment
  - Track damaged supplies
- Manage Employee Schedules
  - Add/update/delete employees
  - Create employee work schedules
  - Track employee work hours
- Generate Management Reports
  - Create production reports
  - Create employee work reports
  - Create sales reports
  - Create inventory reports
  - Create customer reports

Creative Team Name Charter

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Mission Statement

The Creative Team Name team has been formed in order to create functional, structural and behavioral modeling. Our mission is to extravert a deep understanding of the main points of the course material through our final report and presentation. In order to accomplish this as team members instead of individuals, we are committed to working effectively as a group through strong communication practices and the exercising of interpersonal skills.

Strengths

In ascertaining our strengths, we discussed our personal strengths and how the sum of those strengths would contribute to the success of the group.

Background and Experience

One member of our group has experience with topics in information systems while the remaining two have experience with topics in computer science. Combined, our diverse areas of background knowledge will serve to fill any information gaps that may be present in each member.

Interpersonal Skills

Our group works very well together. Communication flows naturally and there are no detrimental conflicts in personality. All members are eager to contribute and we have defined specific roles for each so that there is no redundancy in contributions.

Work Ethic

Each member of our group has a strong work ethic, such that all jobs begun are seen to completion. The summation of these strengths will ensure that no stone is left unturned in each portion of the project.

Shortcomings

In ascertaining our shortcomings, we discussed our personal shortcomings and how we will work together as a group to fill in the developmental gaps where necessary.

Procrastination

Every member of our team has expressed a tendency to procrastinate completing coursework. We will overcome this weakness by policing each other frequently to ensure that no member gets too far behind on deadlines.

Roles

Team Leader – Kyle Hagood

The team leader will oversee the operation of the group, consistently ensuring that the direction of the group remains focused on the task at hand.

Work Submitter – Kyle Hagood

The work submitter will compile all pieces of a project from each group member and submit the unified work to the professor.

Meeting Scheduling – Syed

The meeting scheduler will develop and implement a plan for the best times in which the group should meet.

Time Keeper – Chris

The time keeper will ensure that members are aware of approaching deadlines, and develop a plan to ensure that deadlines are consistently met.

Team Meetings

Our group will meet on a day-to-day basis when necessary directly after class on any day with the exception of Wednesday. Members will be notified during the class period if a group meeting is to take place.

Team Values

Integrity

All work contributed is expected to be the sole work of the contributor. Cheating of any kind will not be tolerated and will immediately result in a grade of 0 for the group assignment for the perpetrator as well as the notification of the instructor.

Respect

All members are required to respect the opinions of others and give all a fair chance to speak. Note that this does not imply any member is required to agree with any other member.

Team Expectations

Team members will be expected to be present at meetings and to contribute significantly to all group efforts. To cover ramifications for any and all transgressions, each member at the end of the semester will have the option to dock up to a total of 50% of each of the other two member's grades for the overall group project via written notification handed in to the instructor.

Charter Amendment

At any time throughout the semester, this charter can be amended granted that the majority of the group members vote in favor of the amendment.

ALL GROUP MEMBERS HAVE READ THIS CHARTER, ATTAINED A THOROUGH UNDERSTANDING OF THE WORDING WITHIN, AND AGREED TO ALL CONDITIONS.

Business Case: Feasibility analyses

Statement of Purpose:

The purpose of this project will be to increase revenue and to increase the customer base for Coco Caramel by implementing an Information System that will make more efficient the customer ordering processing and the management of inventory, the management of work schedules for employees, and will create automated reports sent to management that will allow the organization to create better business decisions. We are developing a cost effective IS to support business processes and workflow processes by streamlining the collection of transaction data and tracking product inventory.

Business Value:

It is expected that upon the implementation of this Information System, the value to the business will include a decreased workload among management staff, the ability to make better business decisions based on objective data, and a large increase in both customer base and customer convenience allowing a competitive advantage in the marketplace. While the cost to implement this Information System will be high, it is estimated that the value to the business will far exceed the initial and maintenance costs. Initial implementation of the system is valued at $206,554, but given the large increase in outreach to customers, the data collection that will allow for better business decisions, and the automated systems that will increase efficiency in the workplace, it is estimated that in the first year the profit to the business will be an estimate $84,350. We will not have any savings, rather be in the hole for $206,554 which is expected to see profits after the first year.

Scope Statement:

Coco Caramel's Information System will allow nationwide customers to order from a website for either in-store pickup or delivery, as well as view products currently in inventory, view product descriptions, and check product availability. It will allow customers to create user accounts and track their orders when they are shipped. It will include an automated system to calculate the estimated delivery date and the total cost as well as generate an invoice for customer orders. It will link up with a micropayment system for payment services and each time an order is confirmed, will save information to a customer order profile which can be managed by staff. For employees, it will specify any orders which have been flagged as a customized product and keep a timer on those products to ensure that they are confirmed within 24 hours. The system will include inventory software to track and manage all supplies, generate and pay for orders, and track damaged supplies. The Information System will make use of a database to save all important information about employees, customers, sales, and inventory. It will be able

to manage employees and schedules, as well as automatically generate reports containing all relevant data and sending them to managers.

Technical Feasibility: Medium Risk

Familiarity with application - (Medium Risk)

- **Coco Caramel is not familiar with the new applications and will require some training for it.**
- **Users are also not familiar with the new application and will have to learn how to use it.**
- **Coco Caramel can continue business without the information system should a problem occur. They can use their old system of ordering through phone calls.**
- **Linking management report system with the vendors will take some time to implement.**

Familiarity with technology - (Medium Risk)

- **Coco Caramel does not have experience with information system that is being implemented.**
- **Coco Caramel is not used to using computers for orders and is not used to online affairs.**
- **Some employees know how to use simple computer applications such as e-mailing or using the internet. The managers know how to use excel spreadsheets.**

Project size - (Medium Risk)

- **Installation of the of the information system (website), installation of the self-service kiosk, the linking of management report system with the vendors, as well as the new employee system will take some time to implement with its large size. It will be then expanded after further use over the years.**
- **All records that are on paper will be recorded onto the new system**
- **This new system will provide an automated system for the management report system to send requests to the vendor which will be more efficient for the company.**
- **The website will provide information and pictures of the products and will also allow customers to order the products online. This website will also provide things such as customer invoices, determining delivery dates and times, taking special orders, and it includes a delivery service.**
- **The new employment system is provided by Hot schedules and will have employees register in order to making managing more efficient. This will take some time to complete because of the amount of workers.**

Economic Feasibility - (excellent)

See attached spreadsheet for details.

- **Coco Caramel's Information System was designed to improve revenue and to automate a large number of business applications and services. The cost for implementing and maintaining a system is quite high, as it includes a great many technical developments and maintenance of those developments. This makes the initial risk for the company quite high as well.**

- **The risk is overwhelmingly offset by the potential future gains to the company. The potential customer base will rise exponentially in a short period of time, and the automation additions will allow for the company to work much more efficiently while being better suited to make smart business decisions.**

Tangible Costs and Benefits

- **134.7% return on investment over a five-year period**
- **Total benefits after a five-year period is equal to $679,296**

Intangible Costs and Benefits

- **Reduced time spent generating reports due to automation**
- **Exponentially larger customer base**
- **Reduced employee cost due to automated services**

Organizational Feasibility - (good)

- **Project Champion - Bruce Banner, Senior Management**
- **Management - The management will be the same, but with the employee system in place, this will make management more efficient. There was already strong support for the management.**
- **Users - The users will consist of customer and employee created accounts and also anyone that is interested in Coco Caramel. This can include people locally or even as far as nationally.**
- **Stakeholders - building contractors, subcontractors, Hot schedules provider, vendors.**

Additional Comments:

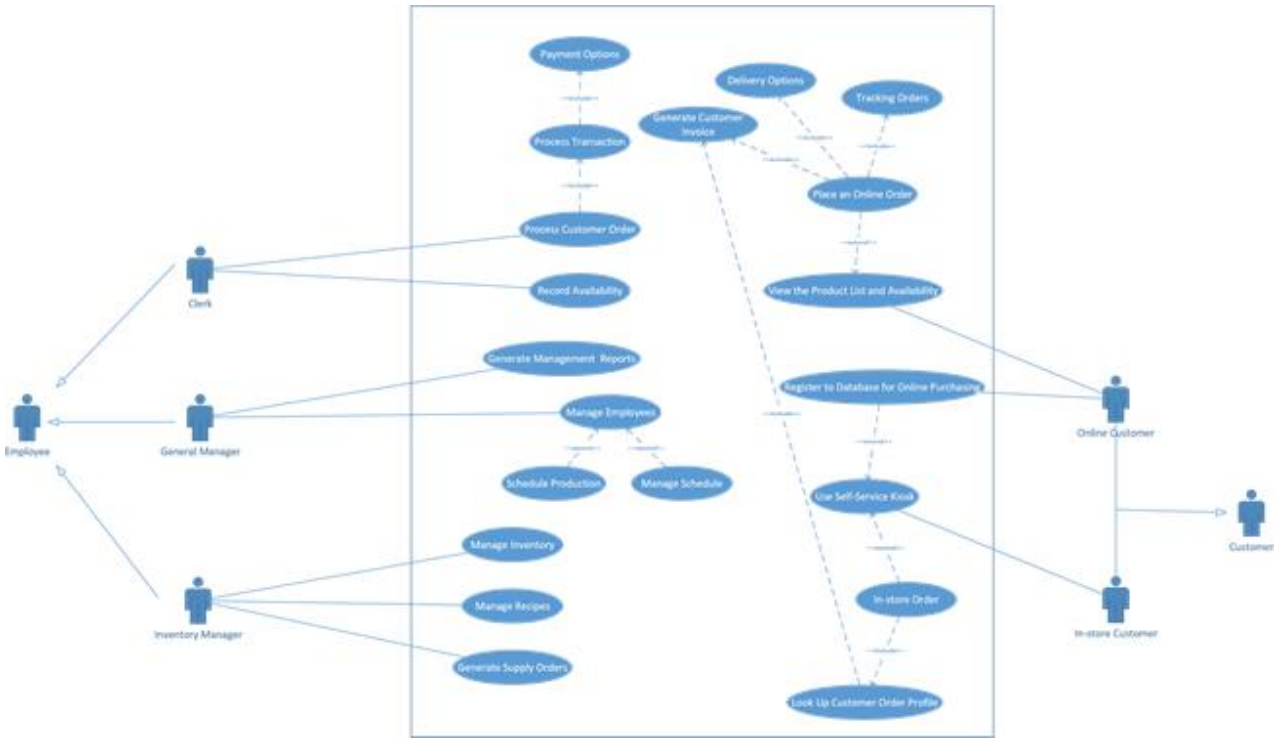
- **An IT staff will be hired to manage the new system and provide support**
- **There will be an expansion on the system with hardware and software updates**
- **The employee system is provided by Hot schedules, a restaurant management system.**
- **Budgeted money for future software and hardware upgrades for the system. Repairs have also been budgeted.**
- **There are three new systems - There will be a website for ordering and keeping customer created account in check, there is a management report system that will be linked to vendors and it will keep track of all reports, and there will be a new employee scheduling system provided by Hot schedules.**

Cost and Benefit Analysis Spreadsheet

INFO 361 - AS2 - CreativeTeamName							
Benefits	**Year 0 ($)**	**Year 1 ($)**	**Year 2 ($)**	**Year 3 ($)**	**Year 4 ($)**	**Year 5 ($)**	**Total ($)**
Customer Base Increase	$33,000	$101,000	$101,000	$101,000	$101,000	$101,000	$538,000
Reuseablitiy of materials	$5,000	$5,000	$5,000	$5,000	$5,000	$5,000	$30,000
Donations	$500	$600	$1,500	$2,000	$2,000	$5,000	$11,600
Increase in Sales	$6,000	$15,000	$40,000	$90,000	$120,000	$150,000	$421,000
Advertisment	$0	$1,000	$20,000	$20,000	$20,000	$20,000	$81,000
Reduce management costs	$10,000	$15,000	$15,000	$17,000	$20,000	$25,000	$102,000
Total benefits	$54,500	$137,600	$182,500	$235,000	$268,000	$306,000	$1,183,600
Development costs							
Website	$5,000	$0	$0	$0	$0	$0	$5,000
Self-Serve Kiosk	$5,000	$0	$0	$0	$0	$0	$5,000
Hot schedules	$5,000	$0	$0	$0	$0	$0	$5,000
Delivery Service	$15,000	$0	$0	$0	$0	$0	$15,000
Keeping track of Customer Orders	$15,000	$0	$0	$0	$0	$0	$15,000
Planning	$50,000	$0	$0	$0	$0	$0	$50,000
Training	$50,000	$0	$0	$0	$0	$0	$50,000
Software	$15,000	$0	$0	$0	$0	$0	$15,000
Hardware	$20,000	$0	$0	$0	$0	$0	$20,000
Touch Screen	$5,000	$0	$0	$0	$0	$0	$5,000
Product Inventory	$5,000	$0	$0	$0	$0	$0	$5,000
management report generator program	$5,000	$0	$0	$0	$0	$0	$5,000
Database	$5,000	$0	$0	$0	$0	$0	$5,000
Total Development Costs	$200,000	$0	$0	$0	$0	$0	$200,000
Operational Costs							
Software upgrades	$0	$1,500	$1,500	$1,500	$1,500	$1,500	$7,500
Maintenance for website	$200	$200	$200	$200	$200	$200	$12,000
Hardware upgrades	$0	$1,000	$1,000	$1,000	$1,000	$1,000	$5,000
Maintenance for Kiosk	$300	$300	$300	$300	$300	$300	$18,000
Software licenses	$250	$250	$250	$250	$250	$250	$1,500
IT Support Staff	$60,304	$50,000	$50,000	$50,000	$25,000	$25,000	$260,304
Total Operational Costs	$61,054	$53,250	$53,250	$53,250	$28,250	$28,250	$304,304
Total costs	$261,054	$53,250	$53,250	$53,250	$28,250	$28,250	$504,304
Net Value	($206,554)	$84,350	$129,250	$181,750	$239,750	$277,750	$679,296
Return On Investment							134.70%
NPV of Net Benefits @ 5% discount rate							$536,078.75
Break-Even Point (years)							3.09

Use-case diagram & descriptions

Use-Case Diagram



ACTORS DESCRIPTION

Use Case Name:	ID: **1** Importance Level:
Actor: **Clerk**	Use Case Type:
Stakeholders and Interests: **Employees at Creative Team Name need to be able to process customer's order** Description: **The use case diagram demonstrates how the store will run efficiently by hiring and training employees**	
Trigger: **A need to organize and run transactions within the store** Type:	
Relationships: Association: Include: Extend: Generalization: **Employee**	
Normal Flow of Events: Sub flows: Alternate/Exceptional Flows:	

Use Case Name:	ID: **2** Importance Level:
Actor: **General Manager**	Use Case Type:
Stakeholders and Interests: **General Manager wants to generate revenue and costs elements report for the store.** Description: **Responsible for managing revenue and cost elements of the store; The use case demonstrates the following: Generate Management Reports which creates production reports, employee work reports, sales reports, inventory reports, customer reports.**	
Trigger: **A need to keep track of profit and loss** Type:	
Relationships: Association: Include: Extend: Generalization: **Employee**	
Normal Flow of Events: SubFlows: Alternate/Exceptional Flows:	

Use Case Name:	ID: **3** Importance Level: **Medium**
Actor: **Inventory Manager**	Use Case Type: **Detail**
Stakeholders and Interests: **Inventory Manager wants to add, restock, locate items in store.** Brief Description: **The Inventory Manager in the use case diagram demonstrates the use of meeting the criteria for the correct shape of an item and where it goes in the store**	
Trigger: **Sufficient use of space in store and items are stocked** Type:	
Relationships: Association: Include: Extend: Generalization: **Employee**	
Flow of Events: SubFlows: Alternate/Exceptional Flows:	

Use Case Name:	ID: **4** Importance Level:
Actor: **In-Store Customer**	Use Case Type:
Stakeholders and Interests: **In-Store Customer wants to view and purchase item(s) in store.** Description: **Self-service kiosk, Clerk Service**	
Trigger: **Customers are a must for sales/revenues. Must provide all means of making transactions** Type:	
Relationships: Association: Include: Extend: Generalization: **Customer**	
Flow of Events: SubFlows: Alternate/Exceptional Flows:	

Use Case Name:	ID: **5** Importance Level:
Actor: **Online Customer**	Use Case Type:

Stakeholders and Interests: **The Online Customer wants to access our API to view inventory and/or make purchases.** Description: **The online customer use case demonstrates the ability for customers to conveniently make orders by accessing our web page to view our inventory and make orders**
Trigger: **For convenience of the customer** Type:
Association: Include: Extend: Generalization: **Customer**
Flow of Events: SubFlows: Alternate

USE CASE DIAGRAMS DESCRIPTIONS

Use Case Name: **Record Availability** ID: **1** Importance Level: **High** Actor: **Clerk** Use Case Type: **Essential**
Stakeholders and Interests: **Clerk have the ability to record the availability of chocolates for in-store customers** Description: **Clerks add and subtract the total available chocolates currently in the store based on what is purchased and added**
Trigger: **Clerks need to know what is available and not available when an in store customers asks for a kind of chocolate** Type: **Internal**
Relationships: Association: **Clerk** Include: Extend: **Schedule Production, Manage Schedule** Generalization:
Normal Flow of Events 1. **General Manager uses ID to get rights to see profits made by store** 2. **General Manager uses data to create production reports, employee work reports, sales reports, inventory reports, customer reports** Sub flows: Alternate/Exceptional Flows:

Use Case Name: **Process Customer Order** ID: **1** Importance Level: **High**

Actor: **Clerk** Use Case Type: **Essential**

Stakeholders and Interests:
Clerks at Creative Team Name need to be able to process customer's order

Description: **Clerks complete any orders made by the customer and use the correct machines for the respective form of payment**

Trigger: **Customer approaches Clerk to purchase chocolate**

Type: **Internal**

Relationships:

Association: **Clerk**
Include: **Process Transaction, Payment Options**
Extend:
Generalization:

Normal Flow of Events:

1. **Customer approaches Clerk**
2. **Clerk scans the chocolate and gets total sum**
3. **Clerk processes transactions**
4. **Customer uses the form of payment he/she chooses as long as it is within store agreements**

Sub flows:

Alternate/Exceptional Flows:

Use Case Name: **Generate Management Reports** ID: **2** Importance Level: **Medium** Actor: **General Manager** Use Case Type: **Detail**
Stakeholders and Interests: **General Manager has the ability to generate management reports** Description: **General Manager generates management reports for production, employee work, sales, inventory, customer**
Trigger: **Need to keep track of progress being made and have something to present to the higher ups** Type: **Internal**
Relationships: Association: **General Manager** Include: Extend: Generalization:
Normal Flow of Events 1. **General Manager uses ID to get rights to see profits made by store** 2. **General Manager uses data to create production reports, employee work reports, sales reports, inventory reports, customer reports** Sub flows: Alternate/Exceptional Flows:

Use Case Name: **Manage Employees** ID: **2** Importance Level: **Medium** Actor: **General Manager** Use Case Type: **Detail**
Stakeholders and Interests: **General Manager has the ability to manage employees** Description: **General Manager has the ability to add/update/delete employees, create employee work schedules, track employee works hours**
Trigger: **Need to keep track of progress being made and have something to present to the higher ups** Type: **Internal**
Relationships: Association: **General Manager** Include: Extend: **Schedule Production, Manage Schedule** Generalization:
Normal Flow of Events 1. **General Manager uses ID to get rights to see profits made by store** 2. **General Manager uses data to create production reports, employee work reports, sales reports, inventory reports, customer reports** Sub flows: Alternate/Exceptional Flows:

Use Case Name: **Generate Supply Order**	ID: **3**	Importance Level: **Medium**
Actor: **Inventory Manager**		Use Case Type: **Detail**

Stakeholders and Interests:
Inventory Manager need to be able to generate Supply Orders

Description: **The inventory manager will generate supply orders to make sure the store is always in stock of items.**

Trigger: **In-Store/Online customer ability to purchase items**

Type: **External**

Relationships:

Association: **Inventory Manager**
Include:
Extend:
Generalization:

Normal Flow of Events:

1. **Inventory Manager uses ID to have rights to order supplies**
2. **Inventory Manager orders supplies**

Sub flows:

Alternate/Exceptional Flows:

Use Case Name: **Manage Inventory** ID: **3** Importance Level: **Medium** Actor: **Inventory Manager** Use Case Type: **Detail**
Stakeholders and Interests: **Inventory Manager need to be able to keep track of supplies** Description: **The inventory manager will manage inventory by keeping track of supply ingredients (add/update/delete quantities), manage all product recipes, generate supply acquisition orders, send order payment, track damaged supplies.**
Trigger: **The desire for customers to purchase items from store** Type: **External**
Relationships: Association: **Inventory Manager** Include: Extend: Generalization:
Normal Flow of Events: 1. **Inventory manager uses ID to have rights to manage inventory** 2. **Inventory manager checks for number of supplies** Sub flows: Alternate/Exceptional Flows:

Use Case Name: **Manage Recipes**	ID: **3**	Importance Level: **Medium**
Actor: **Inventory Manager**		Use Case Type: **Detail**

Stakeholders and Interests:
Inventory Manager has the ability to add, update, remove recipes

Description: **The inventory manager will manage recipes to maintain an up to date recipe for the menu**

Trigger: **To stay relevant**

Type: **External**

Relationships:

Association: **Inventory Manager**
Include:
Extend:
Generalization:

Normal Flow of Events
3. Inventory Manager uses ID to get rights to manage recipes
4. Inventory Manager adds, updates, removes recipes from menu

Sub flows:

Alternate/Exceptional Flows:

Use Case Name: **Use Self-Service Kiosk**	ID: **4**	Importance Level: **High**
Actor: **In-Store Customer**		Use Case Type: **Essential**

Stakeholders and Interests:
In-Store customers need to be able to use the self-service kiosk.

Description: **The in-store customer will use the self-service kiosk to interact with the store without the inclusion of employees.**

Trigger: **Customer wants to order without interacting with people**

Type: **External**

Relationships:

Associated with: **In-store Customer**
Include: **Look Up Customer Order Profile, Generate Customer Invoice**
Extend: **Register to Database for Online Purchasing, In-Store Order**
Generalization:

Normal Flow of Events:

1. **Customer uses self-serve kiosk**
2. **Customer can register or make an order**
3. **If order is made, invoice will be generated**
4. **If register is done, customer is added to database**

Sub flows:

Alternate/Exceptional Flows:

Use Case Name: **View the Product List and Availability**

ID: **5** Importance Level: **High**

Actor: **Online Customer** Use Case Type: **Essential**

Stakeholders and Interests:
Online customers need to be able to view products and make orders.

Description: **The online customer will be able to log on the website, view the products, view the description of products, check availability of inventory, select delivery options, confirm and track Internet orders, determine delivery cost and date, provide customer delivery tracking identification number, specify customized products, confirm custom order within 24 hours, generate customer order invoice, accommodate payment by micro payment system, keep track of customer order profiles, and make online orders.**

Trigger: **Customer wants to place an order without traveling to the physical storefront**

Type: **External**

Relationships:

Associated with: **Online customer**
Include: **Tracking Orders, Delivery Options, Generate Customer Invoice**
Extend: **Place an Online Order**
Generalization:

Normal Flow of Events:

1. **Customer will be able to view the products available**
2. **If the customer wants to, will be able to place an online order**
3. **If an order is made, it will be tracked, there will be delivery options, and an invoice will be generated**

Sub flows:

Alternate/Exceptional Flows:

Use Case Name: **Register to Database for Online Purchasing** ID: **5** Importance Level: **High** Actor: **Online customer** Use Case Type: **Essential**
Stakeholders and Interests: **Online customers need to be able to add themselves to the database.** Description: **The online customer will enter his/her information to the database for streamlined processes in the future.**
Trigger: **Customer wants to add information to database for streamlined ordering in the future** Type: **External**
Relationships: Associated with: **Online customer** Include: Extend: Generalization:
Normal Flow of Events: 1. **Online customer on the website will click to register and enter his/her information into a registration form** 2. **Information will then be added to the database for future use** Sub flows: Alternate/Exceptional Flows:

Non-Functional Requirements

- Operational Requirements
  - All programs and databases will be available wirelessly

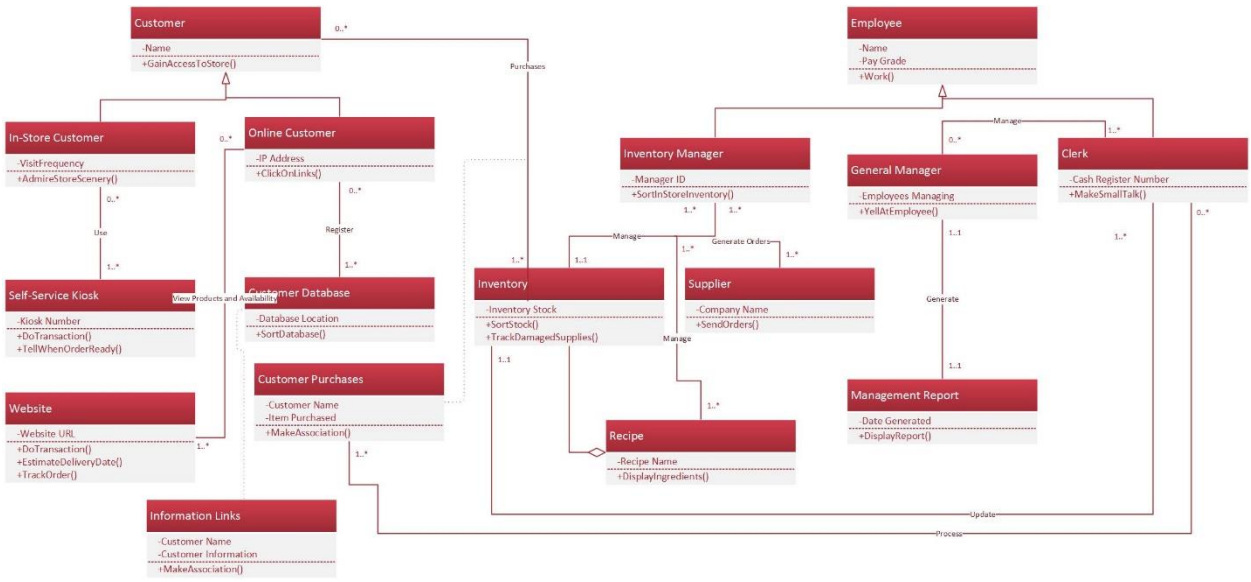
- Performance Requirements
  - All operations will complete in < 2 seconds
  - Customer orders will be confirmed within 24 hours

- Security Requirements
  - Daily backups will secure data
  - Management and database systems will be password protected
  - Micropayment system chosen will need to be proven secure

- Political/Cultural Requirements
  - There are no notable political/cultural considerations to be made

Class diagram & descriptions

UML Diagram



UML Model Descriptions

Class Name: **Customer**	Class Type: **Superclass**
Properties: **Name** Functions: **GainAccessToStore()** Description: **A person who purchases from inventory listed through the store or our webpage**	

Class Name: **In-Store Customer**	Class Type: **Subclass of Customer**

Properties: **AdmireStoreScenery()** Description: **Walk-Ins who can view and purchase items listed on shelves**

Class Name: **Online Customer**	Class Type: **Subclass of Customer**
Properties: **ClickOnLinks(), IP Address** Description: **People can access our webpage which provides the user with our inventory that they can view or purchase**	

Class Name: **Information Links**	Class Type: **Class**
Properties: **Customer Name, Customer Information** Functions: **MakeAssociation()** Description: **Creates associations between customer name and information**	

Class Name: **Employee**	Class Type: **Superclass**
Properties: **Name, Pay Grade** Functions: **Work()** Description: **People who work at store for a hourly pay or a full time based pay**	

Class Name: **Inventory Manager**	Class Type: **Subclass**
Properties: **Manager ID** Functions: **SortInStoreInventory()** Description: **Manages the store supplies**	

Class Name: **Clerk**	Class Type: **Subclass**
Properties: **Cash Register Number** Functions: **MakeSmallTask()** Description: **A person employed to help customer make transactions**	

Class Name: **Self-Service Kiosk**	Class Type: **Class**
Properties: **Kiosk Number** Functions: **DoTransactions(), TellWhenOrderReady()** Description: **A self-operated machine which can be used to purchase goods from the store without the use of a Clerk**	
Relationships: Association: **In-Store Customer uses Self-Service Kiosk (1)** Aggregation: Multiplicity of Association/Aggregation: **Many to Many (1)**	

Class Name: **Customer Purchases**	Class Type: **Class**
Properties: **Computer Name, Item Purchased** Description: **Customer pays for the item he/she wishes to purchase via Clerk/Self-Service Kiosk/Online**	
Relationships: Association: **Clerk processes Customer Purchases (1)** Aggregation: Multiplicity of Association/Aggregation: **Many to Many (1)**	

Class Name: **Customer Database**	Class Type: **Class**
Properties: **Database Location** Functions: **SortDatabase()** Description: **Data held in a computer which tells the information of the customers who have registered to our website**	
Relationships: Association: **Online Customer registers to Customer Database (1)** Aggregation: Multiplicity of Association/Aggregation: **Many to Many (1)**	

Class Name: **General Manager**	Class Type: **Class**
Properties: **Employees Managing** Functions: **YellAtEmployee()** Description: **A person generates revenue and costs elements report for the store**	
Relationships: Association: **General Manager Manages Clerk (1)** Aggregation: Multiplicity of Association/Aggregation: **Many to many (1)**	

Class Name: **Inventory**	Class Type: **Subclass**
Properties: **Track Damaged Supplies** Functions: **Sort Stock()** Description: **A list of our goods that are ready to be sold**	

Relationships: Association: **Customer purchases Inventory (1)** **Inventory Manager manages Inventory (2)** **Clerk updates Inventory (3)** Aggregation: Multiplicity of Association/Aggregation: **Many to One (1)** **Many to One (2)** **Many to One (3)**

Class Name: **Supplier**	Class Type: **Class**
Properties: **Company Name** Functions: **SendOrder()** Description: **Provides store with goods ordered by the inventory manager**	
Relationships: Association: **Inventory Manager Generates Order for Supplier (1)** Aggregation: Multiplicity of Association/Aggregation: **Many to Many (1)**	

Class Name: **Recipe**	Class Type: **Class**
Properties: **Recipe Name** Functions: **DisplayIngredients()** Description: **Set of documents that contain ways on how to create chocolate for the company.**	
Relationships: Association: Aggregation: **Inventory Manager manage Recipe (1)**	

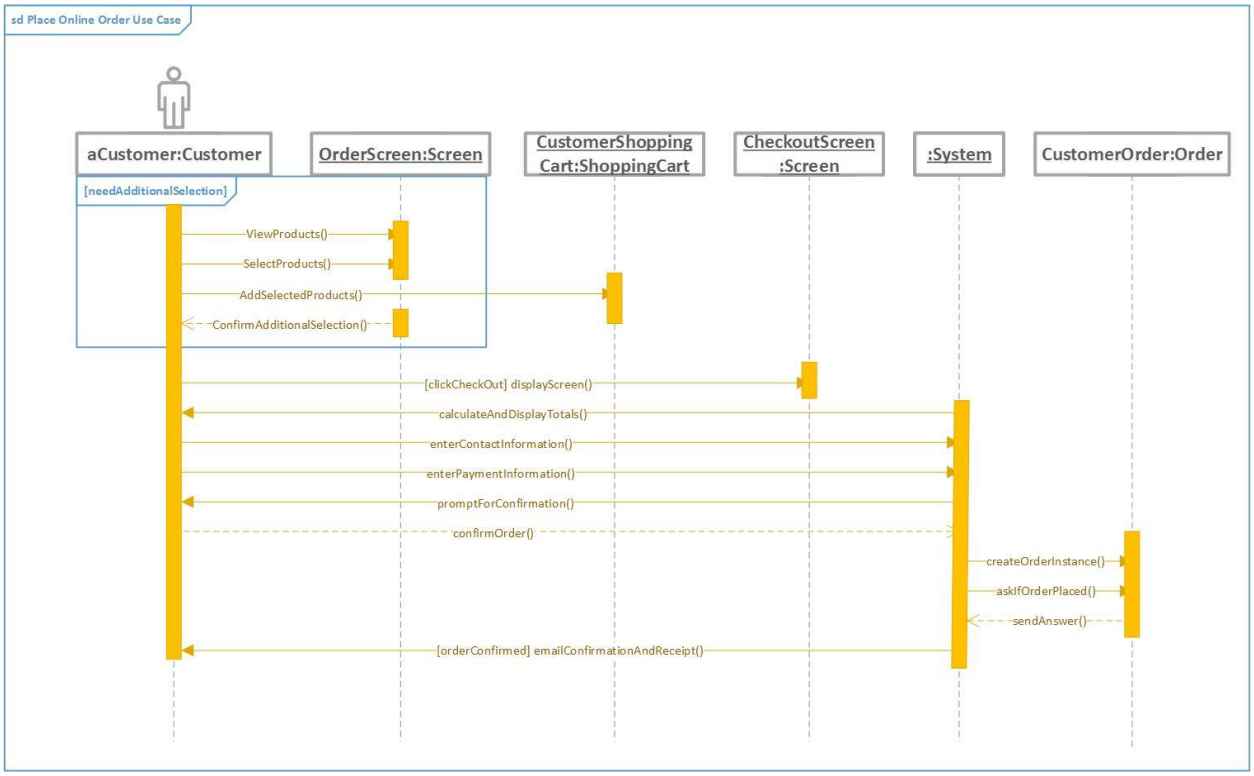
Multiplicity of Association/Aggregation: **Many to Many (1)**

Class Name: **Management Report**	Class Type: **Class**
Properties: **Data Generated** Functions: **DisplayReport()** Description: **A report that generates production reports, employee work reports, sales reports, inventory reports, and customer reports.**	
Relationships: Association: **General Manager Generates Management Report (1)** Aggregation: Multiplicity of Association/Aggregation: **One to One (1)**	

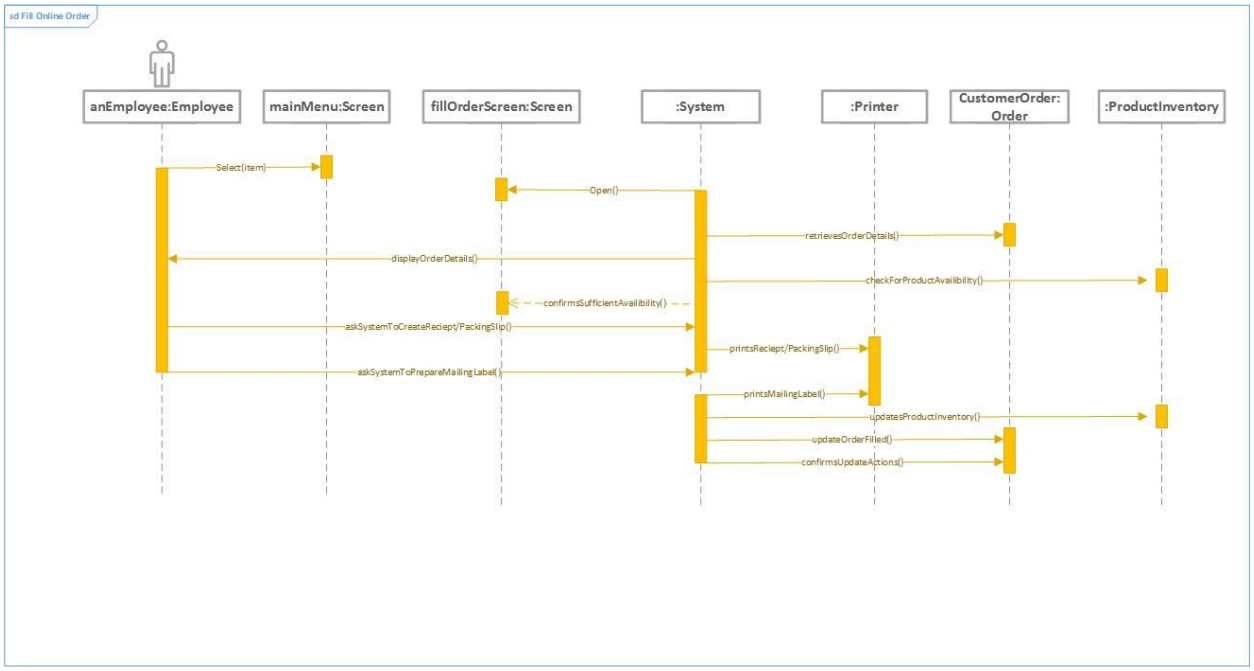
Class Name: **Website**	Class Type: **Class**
Properties: **Website URL** Functions: **DoTranasction(), EstimateDeliveryDate(), TrackOrder()** Description: **A location connected to the internet which can be accessed to view what we have to offer**	
Relationships: Association: **Online Customer View Products and Availability of Website (1)** Aggregation: Multiplicity of Association/Aggregation: **Many to Many (1)**	

Sequence Diagrams & descriptions

Place Online Order Sequence Diagram



Fill Online Order Sequence Diagram



Place Online Order Sequence Diagram Descriptions

Instance: **aCustomer**	Object Name: **Customer**
Description: **Customer selects product**	
Instance: **OrderScreen**	Object Name: **Screen**
Description: **Customer confirms additional products**	

Instance: **CustomerShoppingCart**	Object Name: **ShoppingCart**
Description: **Customer adds products selected to cart**	
Instance: **CheckoutScreen**	Object Name: **Screen**
Description: **CheckoutScreen calculates the total cost of items in the cart and displays the total**	

Instance:	Object Name: **System**
Description: **The customer adds contact information and selects payment type. He/She is sent to the next screen which confirms order and prompts them with a receipt.**	
Instance: **CustomerOrder**	Object Name: **Order**
Description: **CustomerOrder creates an instance of the order and prompts for a successful order if all criteria are met.**	

Fill Online Order Sequence Diagram Descriptions

Instance:**anEmployee**	Object Name: **Employee**
Description: **Employee selects from display screen to fill customer online order**	

Instance:**mainMenu**	Object Name: **Screen**
Description: **Main menu screen that the employee can access when they are logged in.**	
Instance: **fillOrderScreen**	Object Name: **Screen**
Description: **Display that can be accessed to fill in orders for customers**	
Instance:	Object Name: **System**
Description: **System that can check, confirm, and update inventory availability, print receipts, confirm orders, prepare mailing labels, retrieve order details, and open up new displays.**	

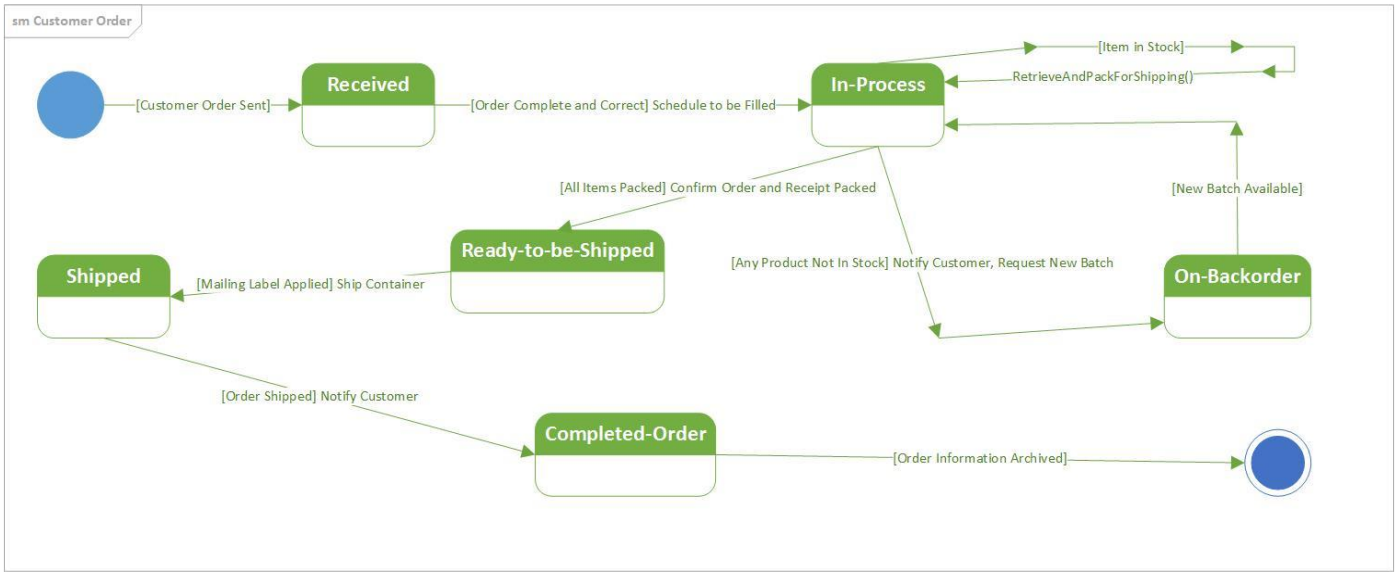
Instance:	Object Name: **Printer**
Description: **Prints receipts and mailing labels that the system requests.**	

Instance: **Customer Order**	Object Name: **Order**
Description: **System retrieves, updates, and confirms orders for the customer.**	

Instance:	Object Name: **Product Inventory**
Description: **System checks the product availability and when an order comes in, updates the product availability.**	

State Machine diagram & descriptions

Customer Order State Machine Diagram



Customer Order State Diagram Descriptions

State Name: **Initial**
Description: **Beginning of the process, the order of the customer is sent.**
State Name: **Received**
Description: **The order of the customer is received and is then completed and sent to be filed.**
State Name: **In- Process**
Description: **The order is checked for availability and the product is then retrieved and packaged for shipping. In the case of which the product is not in stock, the customer is notified and the system/employee requests new batch. Once all products are confirmed and receipt packed, move to next transition (Ready-to-Be-Shipped)**

State Name: **On-Backorder**
Description: **When product is not in stock, the On-Backorder creates a new available batch and processes.**
State Name: **Ready-to-Be-Shipped**
Description: **All items requested by the customer are applied with a mailing label and shipped.**

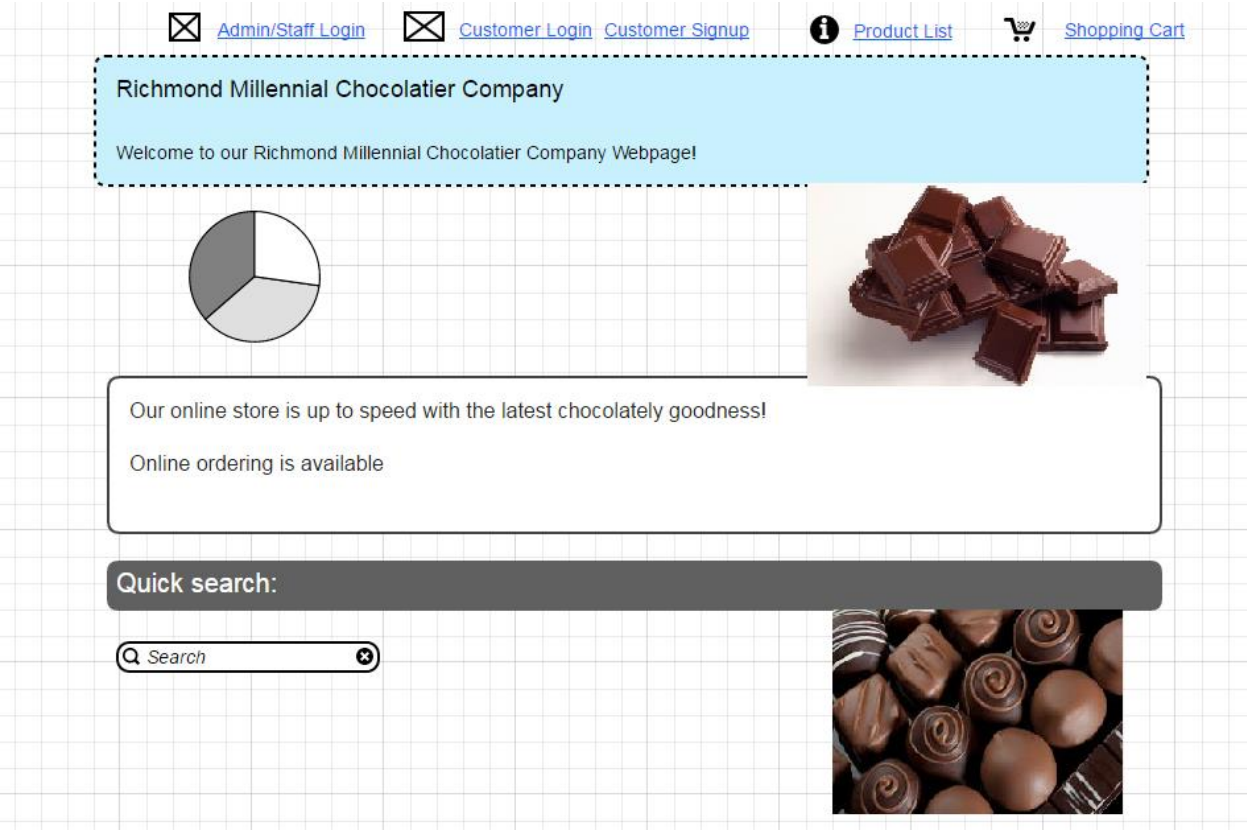
State Name: **Shipped**
Description: **Notifies the customer that the order has been shipped.**

State Name: **Completed Order**
Description: **The order information is logged and archived.**

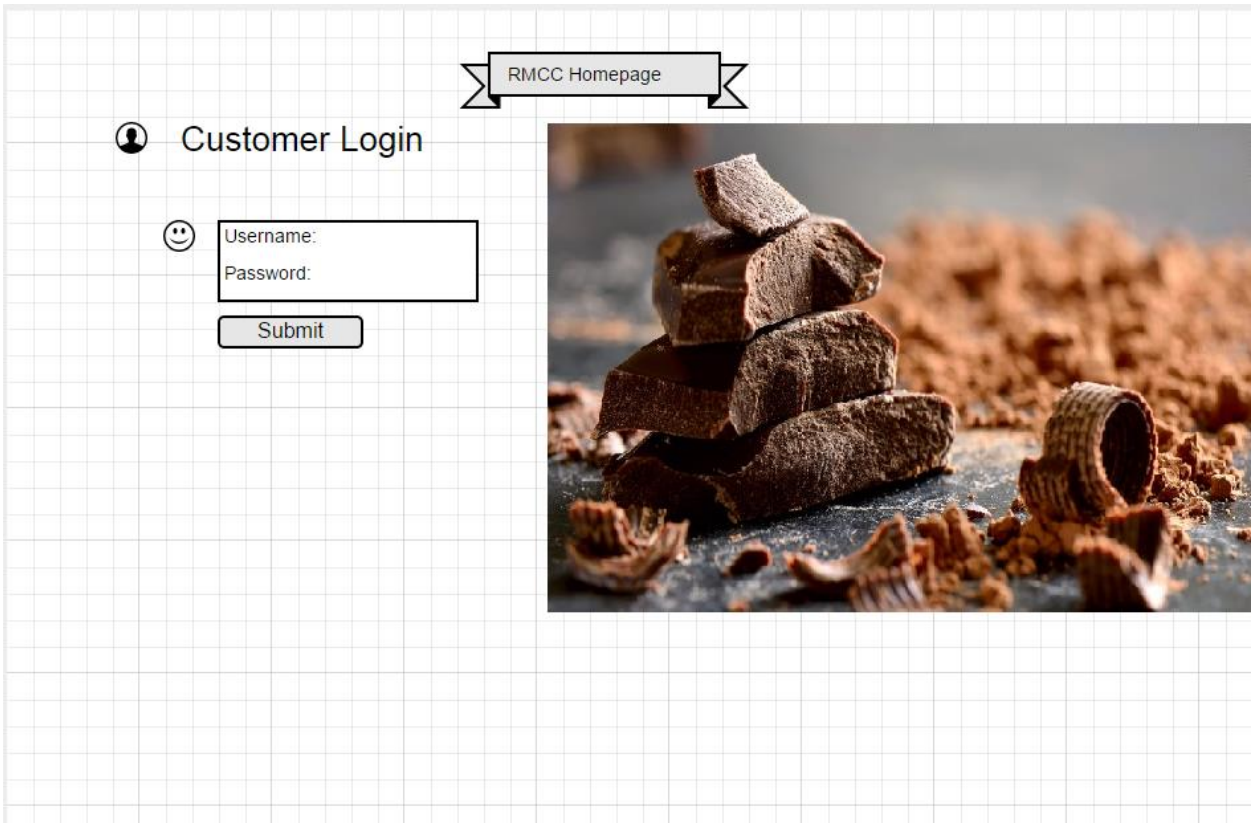
State Name: **Final**
Description: **The end of the process meaning all states have been satisfied.**

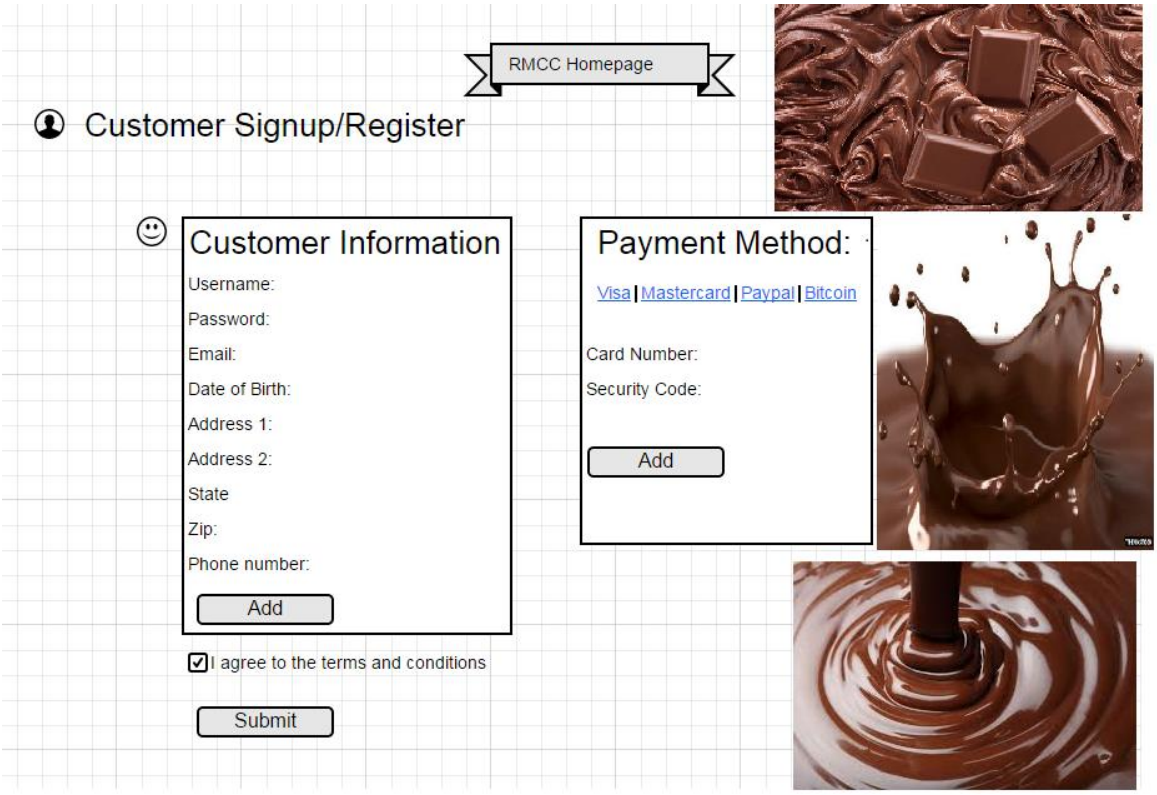
User Interface prototype screens

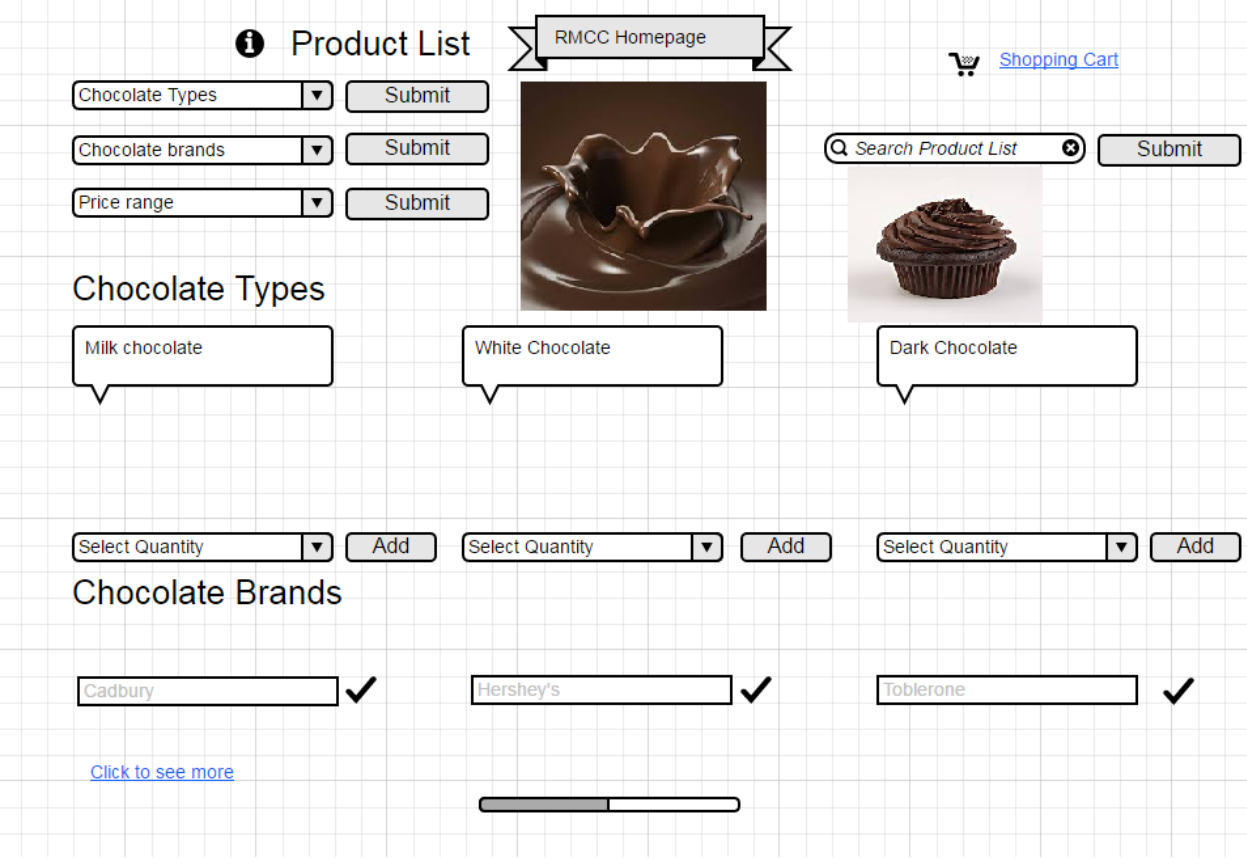
Prototype Screens

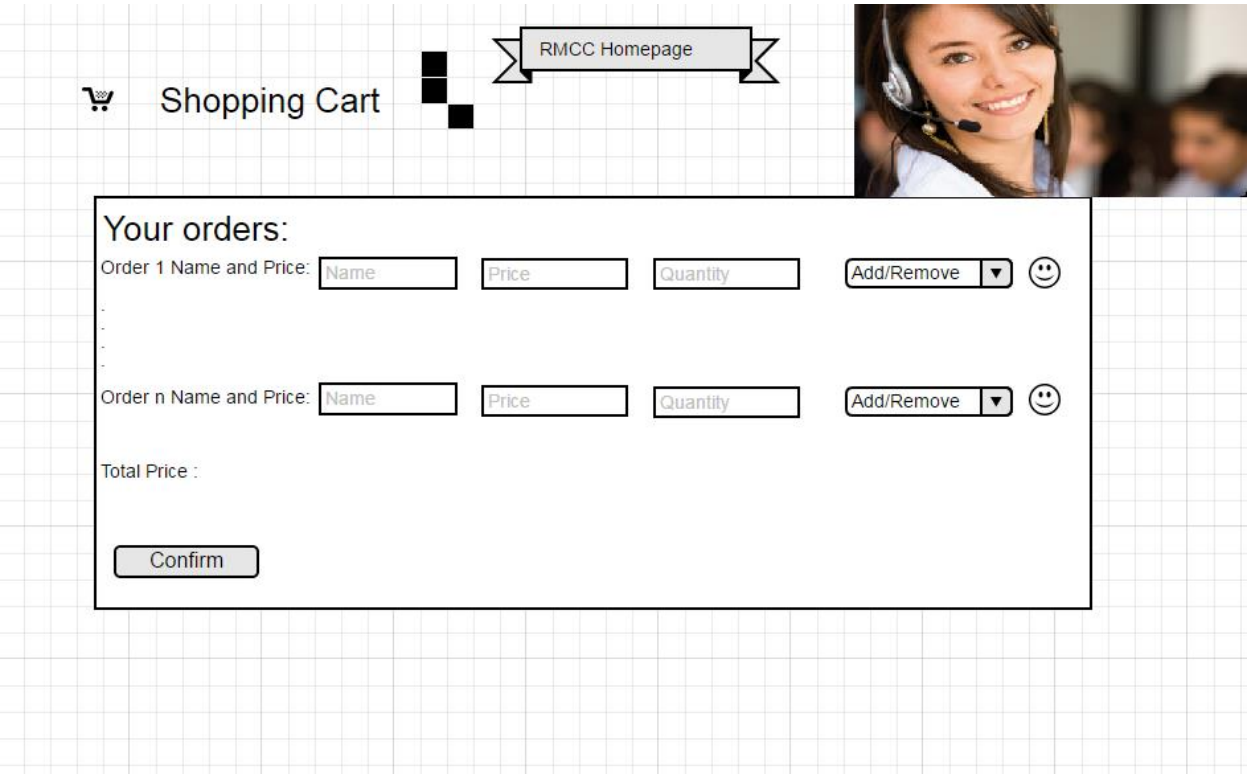


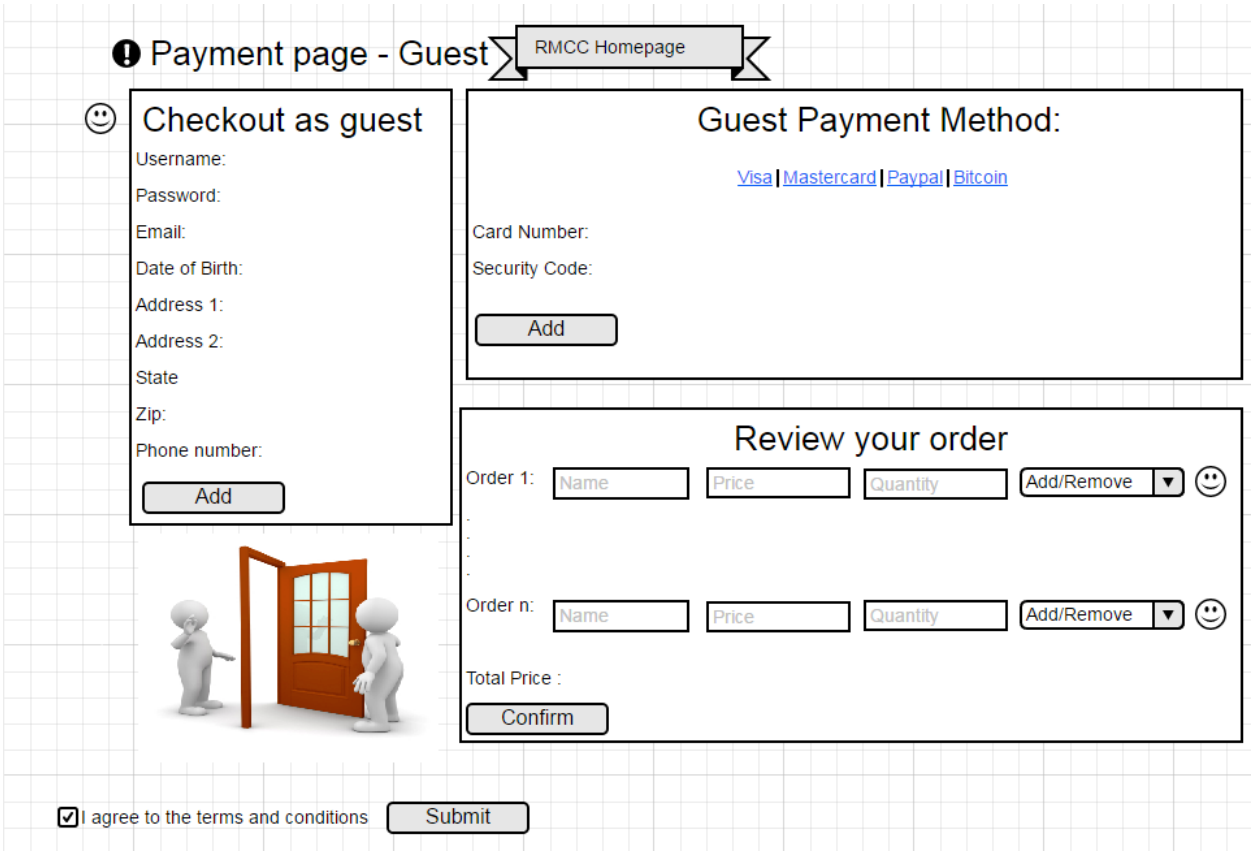

RMCC Homepage
Admin/Staff Access
Username:
Password:
Submit

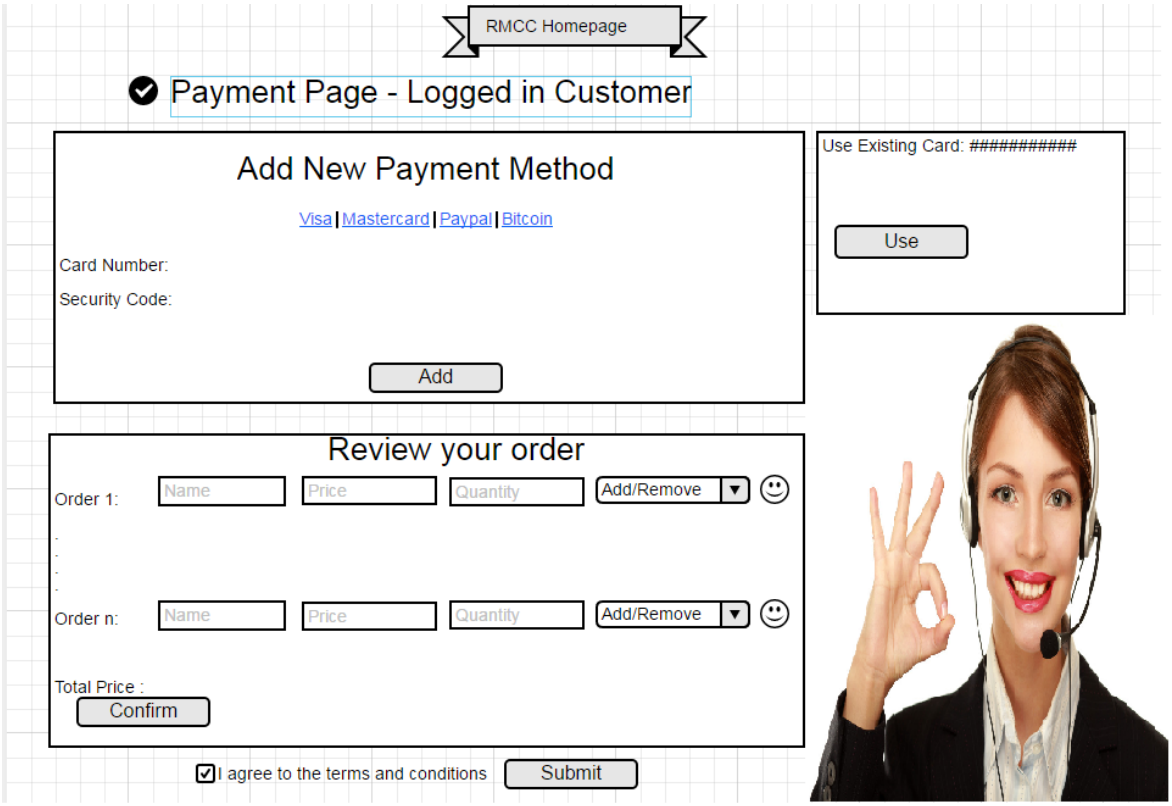

RMCC Homepage
Customer Login
Username:
Password:
Submit


RMCC Homepage
Customer Signup/Register
Customer Information
Username:
Password:
Email:
Date of Birth:
Address 1:
Address 2:
State
Zip:
Phone number:
Add
I agree to the terms and conditions
Submit
Payment Method:
Visa | Mastercard | Paypal | Bitcoin
Card Number:
Security Code:
Add


Product List
RMCC Homepage
Shopping Cart
Chocolate Types
Submit
Chocolate brands
Submit
Price range
Submit
Search Product List
Submit
Chocolate Types
Milk chocolate
White Chocolate
Dark Chocolate
Select Quantity
Add
Select Quantity
Add
Select Quantity
Add
Chocolate Brands
Cadbury
Hershey's
Toblerone
Click to see more


Shopping Cart
RMCC Homepage
Your orders:
Order 1 Name and Price:
Name
Price
Quantity
Add/Remove
Order n Name and Price:
Name
Price
Quantity
Add/Remove
Total Price :
Confirm


Payment page - Guest
RMCC Homepage
Checkout as guest
Username:
Password:
Email:
Date of Birth:
Address 1:
Address 2:
State
Zip:
Phone number:
Add
Guest Payment Method:
Visa | Mastercard | Paypal | Bitcoin
Card Number:
Security Code:
Add
Review your order
Order 1:
Name
Price
Quantity
Add/Remove
Order n:
Name
Price
Quantity
Add/Remove
Total Price :
Confirm
I agree to the terms and conditions
Submit


RMCC Homepage
Payment Page - Logged in Customer
Add New Payment Method
Visa | Mastercard | Paypal | Bitcoin
Card Number:
Security Code:
Add
Use Existing Card: ##########
Use
Review your order
Order 1:
Name
Price
Quantity
Add/Remove
Order n:
Name
Price
Quantity
Add/Remove
Total Price :
Confirm
I agree to the terms and conditions
Submit

RMCC Homepage

Purchase Confirmation Page

Thank you for choosing Richmond Millennial Chocolatier Company (RMCC)!

Your order has been placed!

Thank you for your patronage,

Your order receipt: ############

Your order number: ############

A copy of the receipt has been sent to your email address provided.

Homepage

Usability Test Report

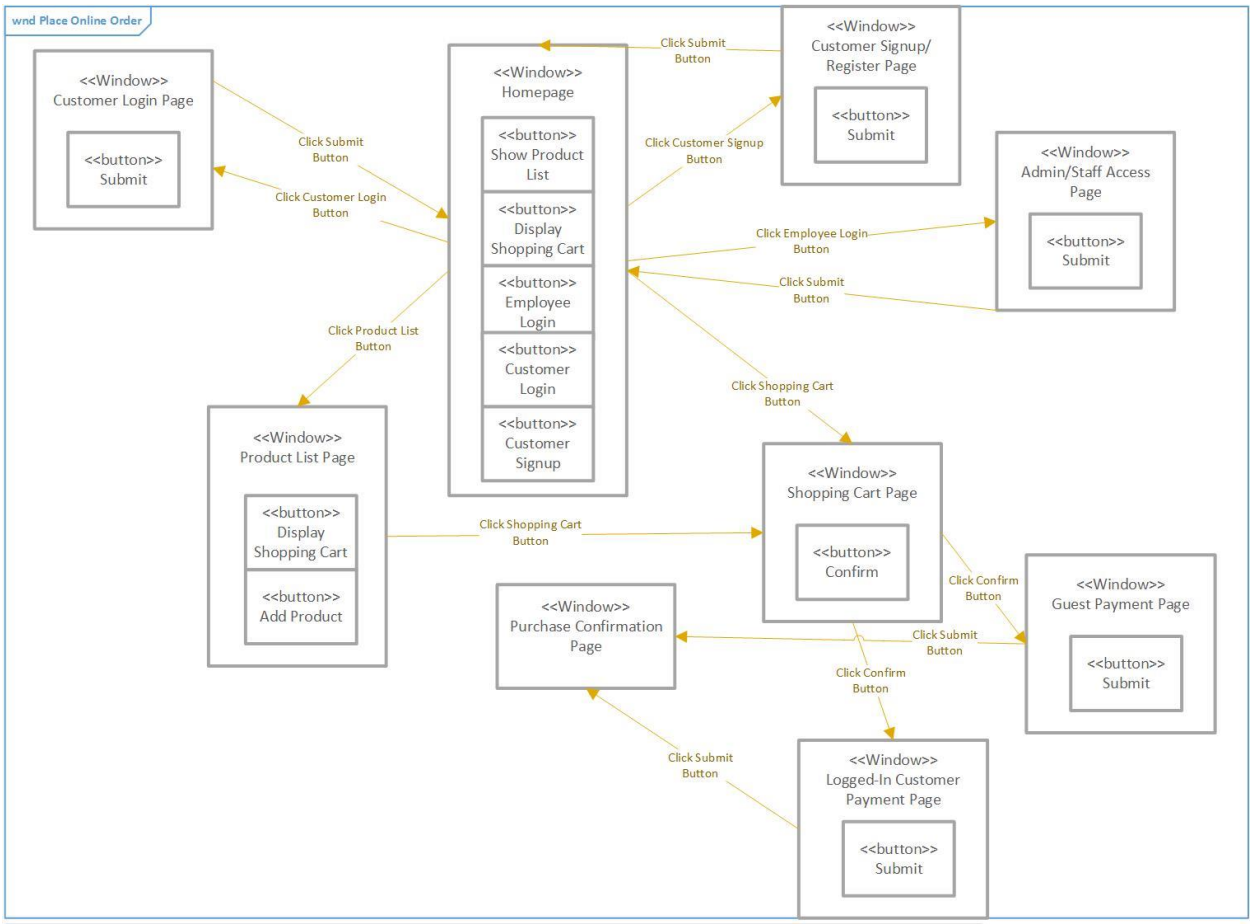
In order to document ways in which we could improve on the prototype screens, two members of the group were selected to conduct usability reports making use of people within their own vicinities. Chris chose to show the prototype screens to his roommate, and Kyle chose to show them to his father. Each person's comments and reactions were recorded and both used to improve the current prototype models and noted as considerations to keep in mind in future modeling.

Chris' roommate was the first person to be interviewed, and commented that the font was too small and may be difficult to read for senior citizens. He commented that each of the pages needed a homepage button for navigation back to the main website. In response to these suggestions, we first increased the font and then added a homepage button to every page of the website. Other than the initial comments used for improvement, Chris' roommate thought that the website layout looked pretty good.

Kyle's father was the second person to be interviewed, and was quite impressed with the layout of the website. The first suggestion he offered was that we should spruce up the look of the buttons to make them pop out in the website more. In response to this, we added small images to go with each button so that they were more visually appealing and so that they popped out more. The second suggestion he offered was to put the shopping cart icon in the same location on every page that it appears, and in response to this we did just that.

Overall, the results of the usability report were good, as each of the two people enjoyed the layout of the website and were able to provide constructive feedback which led to multiple improvements of the overall project.

Windows Navigation Diagram



*Note: Every page other than homepage will include a Homepage link, which will direct the user back to the Homepage.

Complete Gantt Chart

		Complete Assignment 1	**7 days**	**Tue 5/17/16**	**Wed 5/25/1(**		
		Complete Team Charter	**7 days**	**Tue 5/17/16**	**Wed 5/25/1(**		
		Define Team Name	1 day	Tue 5/17/16	Tue 5/17/16		Chris,Kyle,Syed
		Designate Team Leader	1 day	Tue 5/17/16	Tue 5/17/16		Chris,Kyle,Syed
		Define Team Strengths and Weaknesses	1 day	Tue 5/17/16	Tue 5/17/16		Chris,Kyle,Syed
		Define Meeting Times	1 day	Tue 5/17/16	Tue 5/17/16		Chris,Kyle,Syed
		Define Team Rules and Expectations	1 day	Tue 5/17/16	Tue 5/17/16		Chris,Kyle,Syed
		Define Team Code of Ethics	1 day	Tue 5/17/16	Tue 5/17/16		Chris,Kyle,Syed
		Define Biographical Sketches	1 day	Tue 5/17/16	Tue 5/17/16		Chris,Kyle,Syed
		Compile All Information into Document	1 day	Wed 5/18/16	Wed 5/18/16	9	Kyle
		Sign Team Charter	1 day	Thu 5/19/16	Thu 5/19/16	10	Chris,Kyle,Syed
		Milestone: Team Charter Complete	0 days	Wed 5/25/16	Wed 5/25/16		
		Deliverable: Completed Team Charter	0 days	Wed 5/25/16	Wed 5/25/16		

		Complete Assignment 2	**3 days**	**Thu 5/26/16**	**Mon 5/30/16**	**1**	
		Complete Business Case	**2 days**	**Thu 5/26/16**	**Fri 5/27/16**		
		Define Statement of Purpose	1 day	Thu 5/26/16	Thu 5/26/16		Kyle
		Define Business Value	1 day	Thu 5/26/16	Thu 5/26/16		Kyle
		Define Scope Statement	1 day	Thu 5/26/16	Thu 5/26/16		Kyle
		Define Technical Feasibility Study	**1 day**	**Thu 5/26/16**	**Thu 5/26/16**		**Chris**
		Define Familiarity with application					
		Define Familiarity with technology					
		Define Project Size					
		Define Economic Feasibility Study	**1 day**	**Thu 5/26/16**	**Thu 5/26/16**		**Chris**
		Define Tangible Costs and Benefits					
		Define Intangible Costs and Benefits					
		Define Organizational Feasibility Study	**1 day**	**Thu 5/26/16**	**Thu 5/26/16**		**Chris**
		Define Project Champion					
		Define Management					
		Define Users					
		Define Stakeholders					
		Compile Information into Document	1 day	Fri 5/27/16	Fri 5/27/16	29	Kyle
		Add Additional Comments	1 day	Fri 5/27/16	Fri 5/27/16		Kyle
		Milestone: Business Case Complete	0 days	Fri 5/27/16	Fri 5/27/16		
		Deliverable: Completed Business Case	0 days	Fri 5/27/16	Fri 5/27/16		

		Complete Cost/Benefit Analysis Spreadshe	**1 day**	**Sat 5/28/16**	**Sat 5/28/16**	**37**	
		Define Benefits	**0 days**	**Sat 5/28/16**	**Sat 5/28/16**		
		Define Reuseablity of materials					
		Define Advertisement					
		Define Reduce Management Costs					
		Define Development Costs	**0 days**	**Sat 5/28/16**	**Sat 5/28/16**		
		Define Website	0 days				Syed,Chris
		Define Self-Serve Kiosk	0 days				Syed,Chris
		Define Hot Schedules	0 days				Syed,Chris
		Define Delivery	0 days				Syed,Chris
		Define Keeping track of Customer Orders	0 days				Syed,Chris
		Define Planning	0 days				Syed,Chris
		Define Training	0 days				Syed,Chris
		Define Software	0 days				Syed,Chris
		Define hardware	0 days				Syed,Chris
		Define Touch Screen	0 days				Syed,Chris
		Define Product Inventory	0 days				Syed,Chris
		Define Management Report generotor program	0 days				Syed,Chris
		Define Database	0 days				Syed,Chris

		Define ROI	1 day	Fri 5/27/16	Fri 5/27/16		Syed
		Define NPV	1 day	Fri 5/27/16	Fri 5/27/16		Syed
		Define Breakeven Analysis	1 day	Fri 5/27/16	Fri 5/27/16		Syed
		Compile Information into Document	1 day	Fri 5/27/16	Fri 5/27/16		Syed
		Milestone: Cost/Benefit Analysis Spreadsheet Complete	0 days	Mon 5/30/16	Mon 5/30/16		
		Deliverable: Completed Cost/Benefit Analysis Spreadsheet	0 days	Mon 5/30/16	Mon 5/30/16		
		Milestone: Assignment 2 Complete	0 days	Mon 5/30/16	Mon 5/30/16		
		Deliverable: Completed Assignment 2	0 days	Mon 5/30/16	Mon 5/30/16		

		Complete Assignment 3	**4 days**	**Tue 5/31/16**	**Fri 6/3/16**	**14**	
		Create Gantt Chart	**1 day**	**Tue 5/31/16**	**Tue 5/31/16**		
		Define Activities and Tasks	1 day	Tue 5/31/16	Tue 5/31/16		Kyle
		Define Dependencies	1 day	Tue 5/31/16	Tue 5/31/16		Kyle
		Define Start and Finish Dates	1 day	Tue 5/31/16	Tue 5/31/16		Kyle
		Define Milestones and Deliverables	1 day	Tue 5/31/16	Tue 5/31/16		Kyle
		Compile Information into Chart	1 day	Tue 5/31/16	Tue 5/31/16		Kyle
		Assign Resources	1 day	Tue 5/31/16	Tue 5/31/16		Kyle
		Milestone: Gantt Chart Completed	0 days	Wed 6/1/16	Wed 6/1/16		
		Deliverable: Completed Gantt Chart	0 days	Wed 6/1/16	Wed 6/1/16		
		Create Use Case Model	**1 day**	**Wed 6/1/16**	**Wed 6/1/16**	**36**	
		Define Main Actors	1 day	Wed 6/1/16	Wed 6/1/16		Chris
		Define Generalization Specialization Relationships	1 day	Wed 6/1/16	Wed 6/1/16		Chris
		Define Main Use Cases	1 day	Wed 6/1/16	Wed 6/1/16		Chris
		Define Relationships Between Actors and Use Cases	1 day	Wed 6/1/16	Wed 6/1/16		Chris
		Compile Information into Document	1 day	Wed 6/1/16	Wed 6/1/16		Chris
		Signify Includes and Extends Cases	1 day	Wed 6/1/16	Wed 6/1/16		Chris
		Milestone: Use Case Model Completed	0 days	Wed 6/1/16	Wed 6/1/16		
		Deliverable: Completed Use Case Model	0 days	Wed 6/1/16	Wed 6/1/16		
		Create Description Document	**1 day**	**Thu 6/2/16**	**Thu 6/2/16**	**45**	
		Define Actor Descriptions	1 day	Thu 6/2/16	Thu 6/2/16		Syed
		Define Main Use Cases Descriptions	1 day	Thu 6/2/16	Thu 6/2/16		Syed
		Define Non-Functional Requirements	1 day	Thu 6/2/16	Thu 6/2/16		Syed
		Compile Information into Document	1 day	Thu 6/2/16	Thu 6/2/16		Syed
		Milestone: Description Document Complet	0 days	Thu 6/2/16	Thu 6/2/16		
		Deliverable: Completed Description Docun	0 days	Thu 6/2/16	Thu 6/2/16		
		Fill Out Peer Evaluation Scorecards	1 day	Thu 6/2/16	Thu 6/2/16	60	
		Milestone: Assignment 3 Completed	0 days	Fri 6/3/16	Fri 6/3/16		
		Deliverable: Completed Assignment 3	0 days	Fri 6/3/16	Fri 6/3/16		

		Complete Assignment 4	**3 days**	**Mon 6/6/16**	**Wed 6/8/16**	**35**		
		Update Gantt Chart	**1 day**	**Mon 6/6/16**	**Mon 6/6/16**			
		Add New Activities and Tasks	1 day	Mon 6/6/16	Mon 6/6/16		Chris	
		Add New Dependencies	1 day	Mon 6/6/16	Mon 6/6/16		Chris	
		Add New Start and Finish Dates	1 day	Mon 6/6/16	Mon 6/6/16		Chris	
		Add New Milestones and Deliverables	1 day	Mon 6/6/16	Mon 6/6/16		Chris	
		Assign Resources	1 day	Mon 6/6/16	Mon 6/6/16		Chris	
		Milestone: Gantt Chart Completed	0 days	Tue 6/7/16	Tue 6/7/16			
		Deliverable: Completed Gantt Chart	0 days	Tue 6/7/16	Tue 6/7/16			
		Create Class Diagram	**1 day**	**Tue 6/7/16**	**Tue 6/7/16**	**72**		
		Define Main Classes	1 day	Tue 6/7/16	Tue 6/7/16		Kyle	
		Define Generalization Specialization Relationships	1 day	Tue 6/7/16	Tue 6/7/16		Kyle	
		Define Aggregation Classes	1 day	Tue 6/7/16	Tue 6/7/16		Kyle	
		Define Association Classes	1 day	Tue 6/7/16	Tue 6/7/16		Kyle	
		Define Class Attributes and Operations	1 day	Tue 6/7/16	Tue 6/7/16		Kyle	
		Define Multiplicities	1 day	Tue 6/7/16	Tue 6/7/16		Kyle	
		Compile Information into Diagram	1 day	Tue 6/7/16	Tue 6/7/16		Kyle	
		Milestone: Class Diagram Completed	0 days	Wed 6/8/16	Wed 6/8/16			
		Deliverable: Completed Class Diagram	0 days	Wed 6/8/16	Wed 6/8/16			
		Create Description Document	**1 day**	**Wed 6/8/16**	**Wed 6/8/16**			
		Define Main Class Descriptions	1 day	Wed 6/8/16	Wed 6/8/16		Syed	
		Compile Information into Document	1 day	Wed 6/8/16	Wed 6/8/16		Syed	
		Milestone: Description Document Complet	0 days	Wed 6/8/16	Wed 6/8/16			
		Deliverable: Completed Description Docun	0 days	Wed 6/8/16	Wed 6/8/16			
		Milestone: Assignment 4 Completed	0 days	Wed 6/8/16	Wed 6/8/16			
		Deliverable: Completed Assignment 4	0 days	Wed 6/8/16	Wed 6/8/16			

		Complete Assignment 5 & 6	**1 day**	**Mon 6/6/16**	**Mon 6/6/16**		
		Place Online Order Use Case Sequence Dia	**1 day**	**Mon 6/6/16**	**Mon 6/6/16**		
		Define Objects	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Define Messages	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Compile Information into Document	1 day	Mon 6/6/16	Mon 6/6/16		Syed,Kyle
		Milestone: Place Online Order Use Case Sequence Diagram	0 days	Mon 6/6/16	Mon 6/6/16		Syed,Chris,Kyle
		Deliverable: Place Online Order Use Case Sequence Diagram	0 days	Mon 6/6/16	Mon 6/6/16		Chris,Kyle,Syed
		Fill Online Order Sequence Diagram	**1 day**	Mon 6/6/16	Mon 6/6/16		
		Define Objects	0 days	Mon 6/6/16	Mon 6/6/16		Chris
		Define Messages	0 days	Mon 6/6/16	Mon 6/6/16		Chris
		Compile Information into Document	1 day	Mon 6/6/16	Mon 6/6/16		Syed,Chris
		Milestone: Fill Online Order Sequence D	0 days	Mon 6/6/16	Mon 6/6/16		Chris,Kyle,Syed
		Deliverable: Fill Online Order Sequence	0 days	Mon 6/6/16	Mon 6/6/16		Kyle,Syed
		Complete State Machine	**1 day**	Mon 6/6/16	Mon 6/6/16		
		Define States	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Define initial state	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Define final state	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Define events	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Define transitions	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Define guard conditions	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Define frames	0 days	Mon 6/6/16	Mon 6/6/16		Kyle
		Compile information into document	1 day	Mon 6/6/16	Mon 6/6/16		Kyle,Chris,Syed
		Milestone: State Machines	0 days	Mon 6/6/16	Mon 6/6/16		Chris,Kyle,Syed
		Deliverable: Completed State Machines	0 days	Mon 6/6/16	Mon 6/6/16		Chris,Kyle,Syed

		Complete Assignment 7	**2 days**	**Fri 6/17/16**	**Sat 6/18/16**	**90**	
		Update Gantt Chart	**1 day**	**Fri 6/17/16**	**Fri 6/17/16**		**Chris**
		Add New Activities and Tasks	0 days	Fri 6/17/16	Fri 6/17/16		Chris
		Add New Dependencies	0 days	Fri 6/17/16	Fri 6/17/16		Chris
		Add New Start and Finish Dates	0 days	Fri 6/17/16	Fri 6/17/16		Chris
		Add New Milestones and Deliverables	0 days	Fri 6/17/16	Fri 6/17/16		Chris
		Assign Resources	0 days	Fri 6/17/16	Fri 6/17/16		Chris
		Milestone: Gantt Chart Updated	0 days	Sat 6/18/16	Sat 6/18/16		
		Deliverable: Updated Gantt Chart	0 days	Sat 6/18/16	Sat 6/18/16		
		Create Prototype Screens	**1 day**	**Sat 6/18/16**	**Sat 6/18/16**	**122**	**Chris,Kyle,Syed**
		Determine What Program To Use	1 day	Sat 6/18/16	Sat 6/18/16		Kyle,Syed
		Brainstorm Layout	1 day	Sat 6/18/16	Sat 6/18/16		Chris,Kyle,Syed
		Use Moqups.com For Prototype Screen	1 day	Sat 6/18/16	Sat 6/18/16		Syed
		Create RMCC Homepage	1 day	Sat 6/18/16	Sat 6/18/16		Syed
		Create RMCC Product Page	1 day	Sat 6/18/16	Sat 6/18/16		Syed
		Create RMCC Shopping Cart Page	1 day	Sat 6/18/16	Sat 6/18/16		Syed
		Create RMCC Payment Page	1 day	Sat 6/18/16	Sat 6/18/1		Syed
		Create RMCC Purchase Confirmation Pag	1 day	Sat 6/18/16	Sat 6/18/16		Syed
		Include Descriptions	1 day	Sat 6/18/16	Sat 6/18/16		Syed
		Include Pictures	1 day	Sat 6/18/16	Sat 6/18/16		Syed
		Milestone: Prototype Screen	0 days	Sat 6/18/16	Sat 6/18/16		
		Deliverable: Completed Prototype Screen	0 days	Sat 6/18/16	Sat 6/18/16		

		Create Windows Navigation Diagram	**1 day**	**Sat 6/18/16**	**Sat 6/18/16**		**Chris,Kyle,Syed**
		Determine What Pages/Screens Are Required	1 day	Sat 6/18/16	Sat 6/18/16		Kyle
		Determine Relations Between Screens	1 day	Sat 6/18/16	Sat 6/18/16		Kyle
		Model After "Place-On-line Use Case Diagram"	1 day	Sat 6/18/16	Sat 6/18/16		Kyle
		Determine What Program To Use	1 day	Sat 6/18/16	Sat 6/18/16		Kyle
		Use Visio for Windows Navigation Diagr	1 day	Sat 6/18/16	Sat 6/18/16		Kyle
		Create The Windows Navigation Diagran	1 day	Sat 6/18/16	Sat 6/18/16		Kyle
		Milestone: Windows Navigation Diagram	0 days	Sat 6/18/16	Sat 6/18/16		
		Deliverables: Completed Windows Navigation Diagram	0 days	Sat 6/18/16	Sat 6/18/16		
		Usability Test	**1 day**	**Sat 6/18/16**	**Sat 6/18/16**		
		Test Interface With Two Other People	1 day	Sat 6/18/16	Sat 6/18/16		Kyle
		Create Report Based On Their Experienc	1 day	Sat 6/18/16	Sat 6/18/16		Kyle
		Compile Information Into Document	1 day	Sat 6/18/16	Sat 6/18/16		Chris,Kyle,Syed
		Milestone: Usability Test	0 days	Sat 6/18/16	Sat 6/18/16		
		Deliverables: Completed Usability Test	0 days	Sat 6/18/16	Sat 6/18/16		
		Milestone: Assignment 7 Complete					
		Deliverable: Completed Assignment 7					