E.A.S.
(Efficient And Simple)

Preliminary Design

Requested By:
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November 24th 2014
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<th>Page</th>
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</tr>
</tbody>
</table>
PRELIMINARY DESIGN

1: Purpose and Origin for the Need for This System
Our clients, Ms. Mary Partridge-Brown and Ms. Roberta Sandler, want a program that will help them during their day to day business operations of running their store. Maroon Solutions is going to help them by creating an inventory database, as well as a database of customers, donors, and employees profiles. We will differentiate rights from admins and employees by giving admins more power to add employees to the system and the right to change prices of items in the inventory. The client wants to make sure that the process of adding items and customers/donors to the system is smooth and easy to enter data. The employees are able to enter data about new customers/donors regarding name, phone number, and address. When accepting donations the employee will also be able to print out a receipt for the donor for tax return purposes. This will allow Grassroots Givers to see who they are helping and where across the capital region they are helping people.

2: User Case Narratives

Employee
A user will go to the systems site and log on as an employee. This employee will be taking donations from a donor. If the donor is a new donor the employee can create a new donor profile. The employee will add each item into the donated inventory with the specified donor id and print a list of the items as a receipt for the donor. The employee then adds processed items to the stores inventory. The employee then can sell items to a customer. The employee can create a new customer profile and add items that were purchased by a customer to a customer’s profile. The employee can search through a customers purchase history. The employee can also create, add, edit, or delete donor and customer profiles.

Administrator
A user will go to the systems site and log on as an administrator. The administrator has all of the rights of an employee. Additionally, the administrator can create, add, delete or edit other administrator or employee accounts. The administrator can edit any inventory item values, including the appraised value of any bag not yet processed into the store inventory.
3: UML Diagrams

UML Use Case Legend

System Boundary: This is where all the interaction occurs. Represents what is within the system and outside of it. Scenarios go on the inside and actors go on the outside.

Scenarios: The actions that occur within a system and how the user interacts with the system.

Actor: Actors interact with the system through scenarios. Actors can be human or non-human. Human actors go on the left side of the system boundary. Non-human actors go on the right side. Actor name gets displayed below the actor.

Participation Line: Shows what scenarios an actor can interact with.

Inclusion Arrow: An arrow that points from a scenario to another scenario to show that something must be included for the scenario.

Inheritance Arrow: An arrow that points from one use to another. The use being pointed at is the parent and the other is the sub.
UML Use Case Diagram
**Deployment Diagram Legend**

A deployment diagram in the Unified Modeling Language (UML) models the physical deployment of devices and execution environments for a system. The E.A.S. Deployment Diagram represents the physical design of the system. The diagram shows that E.A.S. will be connected to the internet via HTTP. The database that is used will be connected to E.A.S. via ODBC.

- **System Boundary** - This is where all the interactions occur. Represents what is within the system and outside of it.

- **HTTP** - Hypertext Transfer Protocol defines how messages are formatted and transmitted, and what actions web servers and browsers should take in response to various commands.

- **ODBC** - Open Database Connectivity is a standard programming language middleware for accessing database management systems.

- **Connection** - Displays a relationship between boundaries.
Deployment Diagram
Activity Diagram Legend
A UML Activity Diagram is a step by step diagram of the actions within a process. Each step will start the process, end the process, perform an action, or make a decision. The activity diagrams can also display the objects that will be needed and will be given to users of the process. Below are the nodes and other objects used in the UML Activity Diagrams for E.A.S.’s main processes.

Initial Node – This is the first node in the process. The initial node is the starting point for all movement.

Final Node – The final node is the last node in the process. When the activity flow has reached here, the process is over.

Activity Node – The activity node describes the activity or step to be done to help complete the process when the flow reaches the node.

Decision Node – The decision node is used to branch the activity. A decision node is usually posed in question form, with multiple unique answers. The flow must follow one of the branches after the decision.

Data Object - Data that is used during the process. The data object can be either input or output.

Split/Join – Can either separate activity flow to run two activities simultaneously or join them back together after simultaneous activities are completed.

Flow – Shows the movement of action from one node to another
Activity Diagram: Log On
Activity Diagram: Sell Items
Activity Diagram: Print Receipts
Activity Diagram: Accept Donations
Activity Diagram: Manage Profiles
Activity Diagram: Edit Prices

Collect Information About New Prices

Confirm Price Changes
**Website Map Legend**
The web site map shows the structure of the E.A.S. website. The map outlines the links and forms associated with each as well as the functionality of these elements. Below are the various symbols associated with our web site map.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="P.R.I.S.M. Home" /></td>
<td>Home</td>
</tr>
<tr>
<td><img src="image" alt="Home Page Name" /></td>
<td>Home Page</td>
</tr>
<tr>
<td><img src="image" alt="Form Name" /></td>
<td>Form</td>
</tr>
<tr>
<td><img src="image" alt="Web Page Name" /></td>
<td>Web Page</td>
</tr>
<tr>
<td><img src="image" alt="Link" /></td>
<td>Link</td>
</tr>
<tr>
<td><img src="image" alt="Page Redirect" /></td>
<td>Page Redirect</td>
</tr>
</tbody>
</table>

**Home** - This represents the main page of E.A.S. prior to a user logging in. Various options will be presented at this time.

**Home Page** - Represents the user’s main page when they initially login to their account.

**Form** - Represents data fields which require user input.

**Web Page** - Represents a web page within the E.A.S. system.

**Link** - Represents a page being accessible from another page.

**Page Redirect** - Indicates a forced reroute to a new page depending on the user’s action.
Website Map: Context
Website Map: Employee
5: **Data Flow Diagram**
Data Flow Diagrams represent the movement of data between processes in the system as well as the movement of data between processes and external entities outside the system. The diagrams are a tool for analyzing the structure of the system and the ways in which data will be stored and retrieved by different processes. These diagrams model data flows at different levels of detail in the system. The following symbols will be used within the Data Flow Diagram:

- **Process**: Transforms or manipulates data.

- **External Entity**: Contributes data or information to the system or which receive data/information from it.

- **Data Store**: Location where data is held temporarily or permanently.

- **Data Flow**: Data/information flowing to or from a process where C is the data/information.
Context Diagram
Level 0 D
**Level 1 Diagrams**

*Log On*

```
<table>
<thead>
<tr>
<th>EAS</th>
<th>Database</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```

- Log on verified or denied
- Password

```
1.1 Verify password
```

- Log on success response
- Name and password

```
Employee, Admin
```

Maroon Solutions
Sell Items

EAS

Database

- Database update response
- Items to be taken
- Customer details
- Customer record

2.1 Sell Items

2.2 Check customer

Verification

Check out success

Employee, Admin

Customer details
Print Receipts

3.1 Process Item information

List of Items

Print receipt

Employee, Admin

3.2 Gather donor information

List of donated items

donor information

EAS

Database
Accept Donations

4.1 Catalog incoming items

Employee, Admin
Manage Profiles
5: Functional Requirements Inventory
The functional requirements inventory lists the functions that are necessary to the completion of E.A.S. The inventory lists all of the different abilities that each user has for interacting with the system.

Employee
- Will be able to Log on to an employee account
  - Enter Username
  - Enter Password
- Will be able to print receipts for donors
- Will be able to accept donations
  - Process donations
  - Add donations to sellable inventory
- Will be able to sell items
  - Mark items as sold
  - Check customer information
- Will be able to add customer/donor profiles

Administrator
- Inherits all abilities of Employee
- Can manage accounts
  - Add /edit/remove employee and other admin accounts
  - Remove customer/donor profiles
- Will be able to edit prices of items
6: Logic Data Dictionary

The purpose of the data dictionary is to display the variety of information and metadata that needs to be stored in order for the system to be functional. At the current phase, the data dictionary only showcases the data names and types, and also describes the purpose of each piece of data within the system. In the next document, the Detailed Design, the data dictionary will detail how these pieces are stored within the E.A.S. database.

<table>
<thead>
<tr>
<th>Data Name</th>
<th>Applicable to</th>
<th>Data Type</th>
<th>Data Size</th>
<th>Description</th>
<th>Acceptable Input</th>
<th>Good Example of Input</th>
<th>Bad Example of Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>firstName</td>
<td>add customer / donor to system</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>First name of a customer / donor</td>
<td>A-Z, a-z</td>
<td>Nancy</td>
<td>1804</td>
</tr>
<tr>
<td>lastName</td>
<td>add customer / donor to system</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Last name of a donor</td>
<td>A-Z, a-z</td>
<td>Archer</td>
<td>1234</td>
</tr>
<tr>
<td>userName</td>
<td>system login</td>
<td>Varchar</td>
<td>1-20 characters</td>
<td>Employee / Admin username</td>
<td>A-Z, a-z, 0-9</td>
<td>admin</td>
<td>A#12</td>
</tr>
<tr>
<td>password</td>
<td>system login</td>
<td>Varchar</td>
<td>8-20 characters</td>
<td>user password</td>
<td>A-Z, a-z, 0-9, special characters</td>
<td>admin</td>
<td>password</td>
</tr>
<tr>
<td>loginTime</td>
<td>system login</td>
<td>Date</td>
<td>1-10 characters</td>
<td>When user logs in</td>
<td>Date - Day - Month - Year</td>
<td>11/9/14</td>
<td>5</td>
</tr>
<tr>
<td>donatedItem</td>
<td>adding items to inventory</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Item donated to Grassroots Givers</td>
<td>A-Z, a-z</td>
<td>Shirt</td>
<td>Small, brown, green, rainbow shirt</td>
</tr>
<tr>
<td>soldItem</td>
<td>checking out customers</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Items sold from inventory to customers</td>
<td>A-Z, a-z</td>
<td>Shirt</td>
<td>Small, brown, green, rainbow shirt</td>
</tr>
<tr>
<td>discardedItem</td>
<td>throwing away inventory items</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Items thrown away</td>
<td>A-Z, a-z</td>
<td>Shirt</td>
<td>Small, brown, green, rainbow shirt</td>
</tr>
<tr>
<td>receipt</td>
<td>donated items</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Description and quantity of items donated by donor</td>
<td>A-Z, a-z</td>
<td>2 shirts, 1 pants, 1 jacket</td>
<td>1234</td>
</tr>
<tr>
<td>receiptid</td>
<td>donated items</td>
<td>Int</td>
<td>1-30 characters</td>
<td>Id number of receipt</td>
<td>0-9</td>
<td>1321</td>
<td>1234</td>
</tr>
<tr>
<td>ItemValue</td>
<td>donated items, checking out</td>
<td>Double</td>
<td>1-6 digits</td>
<td>Market value of donated item</td>
<td>0-9, .</td>
<td>20</td>
<td>five dollars</td>
</tr>
<tr>
<td>size</td>
<td>adding items to inventory, checking out customers</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Description of item donated</td>
<td>A-Z, a-z</td>
<td>small, large, big, long</td>
<td></td>
</tr>
<tr>
<td>color</td>
<td>adding items to inventory, checking out customers</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Description of item donated</td>
<td>A-Z, a-z, blue, yellow, grey, UV, infrared</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sex (Clothes)</td>
<td>adding items to inventory, checking out customers</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Description of item donated</td>
<td>A-Z, a-z, male, female, blue, green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>season</td>
<td>adding items to inventory, checking out customers</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Description of item donated</td>
<td>A-Z, a-z, winter, summer, January</td>
<td></td>
<td></td>
</tr>
<tr>
<td>itemAttributes</td>
<td>adding items to inventory, checking out customers</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Description of item donated</td>
<td>A-Z, a-z, Small, Men, Woman, Big and small, Blue and Blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>address</td>
<td>customer / donor profile</td>
<td>Varchar</td>
<td>1-30 characters</td>
<td>Home address of customer / donor</td>
<td>A-Z, a-z, 0-9</td>
<td>35 Main Street, New York</td>
<td>IS street, England</td>
</tr>
<tr>
<td>phoneNumber</td>
<td>customer / donor profile</td>
<td>Int</td>
<td>10-11 digits</td>
<td>Home phone number of customer / donor</td>
<td>0-9</td>
<td>555 555 5555</td>
<td>6846986679g</td>
</tr>
<tr>
<td>lastChanged</td>
<td>employee changing the system</td>
<td>Date</td>
<td>1-10 characters</td>
<td>Timestamp of when system was last changed</td>
<td>Date - Day - Month - Year</td>
<td>9/12/11</td>
<td>6b</td>
</tr>
<tr>
<td>lastchangedBy</td>
<td>employee changing the system</td>
<td>Varchar</td>
<td>1-20 characters</td>
<td>Which user last modified the system</td>
<td>A-Z, a-z, 0-9</td>
<td>admin</td>
<td>admin</td>
</tr>
</tbody>
</table>
7: Prototype Screens

Home Screen
Check Out
Profile Lookup

Profile Information:

- Customer
- Donor
- Employee

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Add to Inventory

Select Item And Quantity To Add:

Submit
Change Prices

Change Store Item Values

Items:

- Boots
- Casual Blouse
- Yes
- Shoes/Sandals
- ...

All item types held in the database

Submit Submit Submit Submit
Change Password

Admin Password

Current Password:

New Password:

Confirm New Password:

Submit
8: Testing Plan

Overview and Strategy
E.A.S. is a web application; therefore, E.A.S. will be tested to make sure it is functional on each major web browser. The web browsers to be tested on are Google Chrome, Internet Explorer, Mozilla Firefox, Apple Safari and mobile devices. E.A.S. can also be tested on other web browsers if time allows. E.A.S. will be tested through a number of unit tests that are determined by the functional requirements. The non-functional requirements, which cannot be measured, will be evaluated by the members of Maroon Solutions to ensure each requirement has been satisfactorily met. A brief overview of the testing follows this section. In the detailed design there will be more detail for the testing plan.

Acceptance Test
Each component of E.A.S. will have individual tests that will be performed on the system. These tests will be done in order to make sure the individual parts of the system are working properly. Once the individual tests have been completed, an acceptance test will be executed to check if the functional requirements have been met. Once the acceptance test is over, Maroon Solutions and the clients, Ms. Mary Partridge-Brown and Ms. Roberta Sandler, will decide whether all of the requirements have been sufficiently met. Maroon Solutions will design the testing plan using the functional requirements inventory.

Unit Tests
The unit tests are specific tests that will be run to ensure that the system is running properly as it is developed. The unit tests give step by step directions in the test cases on what to input and what to look for when a test is run. Certain tests need to be run together to ensure that all functions of the system work together properly and do not interfere with each other, these specific tests are listed in the “Integrated with these units” column.

Test Cases
Each Unit is made up of a series of test cases. In these test cases there are directions on what to input into the system and in what order. The test cases also contain information on what the system should look like before the test is run and how it should respond after the test is run. If all of the test cases pass in the unit test, then the unit is considered to be functioning properly.
<table>
<thead>
<tr>
<th>Unit Test Name</th>
<th>Date Last Tested</th>
<th>Comments or Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login</td>
<td></td>
<td>initial page displayed where the user logs in with their username and password to be able to use the system</td>
</tr>
<tr>
<td>Checkout</td>
<td>2</td>
<td>user checks out a customer's purchases</td>
</tr>
<tr>
<td>Print Receipt</td>
<td>2</td>
<td>user prints receipt for someone who donates to the organization</td>
</tr>
<tr>
<td>Profile Lookup</td>
<td>3</td>
<td>admin can change passwords of users</td>
</tr>
<tr>
<td>Add to Inventory</td>
<td>4</td>
<td>user enters the items that are placed in inventory</td>
</tr>
<tr>
<td>Change Prices</td>
<td>5</td>
<td>admin can change prices of items that are acceptable donations</td>
</tr>
<tr>
<td>Change Password</td>
<td>6</td>
<td>admin can change passwords of users</td>
</tr>
</tbody>
</table>

**System Test - Test Results for All Unit Tests**

<table>
<thead>
<tr>
<th>Team Name</th>
<th>Project Name</th>
<th>Client Name</th>
<th>Directory of Unit Tests (note: this could also be called an index or a catalog)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maroon Solutions</td>
<td>E.A.S.</td>
<td>Grassroot Givers</td>
<td></td>
</tr>
</tbody>
</table>
### Test Cases

<table>
<thead>
<tr>
<th>Test Case</th>
<th>Pass/Fail Status</th>
<th>Test Number</th>
<th>Description</th>
<th>Action to perform test (Input)</th>
<th>Steps to be Executed</th>
<th>State Before Test</th>
<th>Expected Result</th>
<th>Observed Result</th>
<th>Comments</th>
<th>Tested By</th>
<th>Test Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.001</td>
<td></td>
<td>1.001</td>
<td>Text box</td>
<td>Type into textbox</td>
<td>None</td>
<td>Blank login screen displayed</td>
<td>Text box displays text and sends info to right destination</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.002</td>
<td></td>
<td>1.002</td>
<td>Open session</td>
<td>Open page</td>
<td>None</td>
<td>Blank login screen displayed</td>
<td>Session is created / user logged in</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.003</td>
<td></td>
<td>1.003</td>
<td>Admin rights</td>
<td>Admin rights login</td>
<td>None</td>
<td>No admin rights given or options shown</td>
<td>Admin rights are given to user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.004</td>
<td></td>
<td>1.004</td>
<td>User restricted rights</td>
<td>User cant access admin rights</td>
<td>None</td>
<td>No admin rights given or options shown</td>
<td>Basic rights given to user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.005</td>
<td></td>
<td>1.005</td>
<td>Null user id</td>
<td>Null user id</td>
<td>Click submit button</td>
<td>Blank login screen displayed</td>
<td>Prompt to enter user id displayed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.006</td>
<td></td>
<td>1.006</td>
<td>Null password</td>
<td>Null password</td>
<td>Click submit button</td>
<td>Blank login screen displayed</td>
<td>Prompt to enter password displayed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.007</td>
<td></td>
<td>1.007</td>
<td>Correct user id with password</td>
<td>User id and corresponding password entered</td>
<td>Enter text; click submit button</td>
<td>Blank login screen displayed</td>
<td>Allow submit button to redirect user</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.008</td>
<td></td>
<td>1.008</td>
<td>Incorrect user id</td>
<td>Incorrect user id</td>
<td>Enter text; click submit button</td>
<td>Blank login screen displayed</td>
<td>Display message that id is incorrect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.009</td>
<td></td>
<td>1.009</td>
<td>Incorrect password</td>
<td>Incorrect password</td>
<td>Enter text; click submit button</td>
<td>Blank login screen displayed</td>
<td>Display message that password is incorrect</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.010</td>
<td></td>
<td>1.010</td>
<td>Back arrow in browser</td>
<td>Back arrow</td>
<td>Click button</td>
<td>Blank login screen displayed</td>
<td>Return to previous page</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.011</td>
<td></td>
<td>1.011</td>
<td>Resize window</td>
<td>Resize window</td>
<td>Drag window size or specify dimensions</td>
<td>Blank login screen displayed</td>
<td>Scale page elements properly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.012</td>
<td></td>
<td>1.012</td>
<td>Disconnect from internet</td>
<td>Disconnect from internet</td>
<td>End connection</td>
<td>Blank login screen displayed</td>
<td>Raised page when connection resumes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.013</td>
<td></td>
<td>1.013</td>
<td>Refresh page</td>
<td>Refresh webpage</td>
<td>Click button</td>
<td>Blank login screen displayed</td>
<td>Refresh webpage with information resett</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.014</td>
<td></td>
<td>1.014</td>
<td>Submit information</td>
<td>Submit information button</td>
<td>Click button</td>
<td>Blank login screen displayed</td>
<td>Submit information and redirect to next page if authorized</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Check Out

<table>
<thead>
<tr>
<th>Test Case</th>
<th>Description</th>
<th>Action to perform</th>
<th>Test Data</th>
<th>Expected result</th>
<th>State before Test</th>
<th>Observed result</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.001</td>
<td>open session</td>
<td>navigate to webpage</td>
<td>none</td>
<td>Checkout screen is created properly</td>
<td>none</td>
<td>Click button</td>
<td>none</td>
</tr>
<tr>
<td>2.002</td>
<td>add to inventory</td>
<td>click button</td>
<td>none</td>
<td>Checkout screen is displayed</td>
<td>none</td>
<td>Click button</td>
<td>none</td>
</tr>
<tr>
<td>2.003</td>
<td>edit address</td>
<td>none</td>
<td>none</td>
<td>Checkout screen is displayed</td>
<td>none</td>
<td>Click button</td>
<td>none</td>
</tr>
<tr>
<td>2.004</td>
<td>enter payment information</td>
<td>click button</td>
<td>none</td>
<td>Checkout screen is displayed</td>
<td>none</td>
<td>Click button</td>
<td>none</td>
</tr>
<tr>
<td>2.005</td>
<td>change passwords</td>
<td>none</td>
<td>none</td>
<td>Checkout screen is displayed</td>
<td>none</td>
<td>Click button</td>
<td>none</td>
</tr>
<tr>
<td>2.006</td>
<td>change shipping address</td>
<td>click button</td>
<td>none</td>
<td>Checkout screen is displayed</td>
<td>none</td>
<td>Click button</td>
<td>none</td>
</tr>
<tr>
<td>2.007</td>
<td>display login</td>
<td>click button</td>
<td>none</td>
<td>Checkout screen is displayed</td>
<td>none</td>
<td>Click button</td>
<td>none</td>
</tr>
<tr>
<td>2.008</td>
<td>display cart</td>
<td>click button</td>
<td>none</td>
<td>Checkout screen is displayed</td>
<td>none</td>
<td>Click button</td>
<td>none</td>
</tr>
</tbody>
</table>

### Table 2: Appropriate order information for project

<table>
<thead>
<tr>
<th>Unit</th>
<th>Page where user enters check-out &amp; items they are taking</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Maroon Solutions</td>
</tr>
</tbody>
</table>
### Appropriate header information for project

**Unit 3**  
**Print Receipt**

Page where user enters check out a customer and the items that they are taking

<table>
<thead>
<tr>
<th>Test Cases</th>
<th>Pass/Fail Status</th>
<th>Test Number</th>
<th>Description</th>
<th>Action to Perform Test (Input)</th>
<th>Steps to be Executed</th>
<th>State Before Test</th>
<th>Expected Result</th>
<th>Observed Result</th>
<th>Comments</th>
<th>Tested By</th>
<th>Test Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>3.001</td>
<td>open session</td>
<td>navigate to webpage</td>
<td>none</td>
<td>bank checkout screen displayed</td>
<td>session is created properly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.002</td>
<td>print receipt</td>
<td>click print receipt button</td>
<td>click button</td>
<td>bank checkout screen displayed</td>
<td>redirect to print receipt page</td>
<td></td>
<td>menu bar</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.003</td>
<td>add to inventory</td>
<td>click add to inventory button</td>
<td>click button</td>
<td>bank checkout screen displayed</td>
<td>redirect to catalog donation page</td>
<td></td>
<td>menu bar</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.004</td>
<td>activate admin abilities</td>
<td>login with admin credentials</td>
<td>none</td>
<td>bank checkout screen displayed</td>
<td>allow use of change passwords and prices buttons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.005</td>
<td>change passwords</td>
<td>click change passwords button</td>
<td>click button</td>
<td>bank checkout screen displayed</td>
<td>redirect to change password page</td>
<td></td>
<td>If admin credentials present, menu bar</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.006</td>
<td>change prices</td>
<td>click change prices button</td>
<td>click button</td>
<td>bank checkout screen displayed</td>
<td>redirect to change prices page</td>
<td></td>
<td>If admin credentials present, menu bar</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.007</td>
<td>no name in donor lookup</td>
<td>null input and click donor lookup button</td>
<td>click button</td>
<td>bank checkout screen displayed</td>
<td>display error message</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.008</td>
<td>new name in donor lookup</td>
<td>enter a name that is not in the database into the textbox</td>
<td>enter new name, click button or enter</td>
<td>bank checkout screen displayed</td>
<td>redirect to page to add new donor information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.009</td>
<td>find donor</td>
<td>enter name of donor in textbox</td>
<td>enter a name, click button or enter</td>
<td>bank checkout screen displayed</td>
<td>display donor records</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.010</td>
<td>new donor with same name as someone in database</td>
<td>enter a name that is already in the database into the textbox</td>
<td>enter a name, click button or enter</td>
<td>bank checkout screen displayed</td>
<td>display donor records and option to add new donor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.011</td>
<td>select donor for whom print receipt</td>
<td>select correct donor out of list of donors with same name</td>
<td>click donor name</td>
<td>checkout screen displays donors with same name</td>
<td>stores all information necessary to print receipt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.012</td>
<td>click submit button</td>
<td>click submit button that appears after donor is selected</td>
<td>enter donor name, click donor lookup, select donor, click submit</td>
<td>checkout screen with all information entered displayed</td>
<td>prints copy of receipt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.013</td>
<td>click browser back button</td>
<td>click browser back button</td>
<td>click button</td>
<td>checkout screen displayed</td>
<td>leave page and redirect to last page, do not store information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.014</td>
<td>refresh browser</td>
<td>refresh browser</td>
<td>click button</td>
<td>checkout screen displayed</td>
<td>refresh page, do not store information previously</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9: Development Environment and Production Environment

Development Environment

SE Lab hardware/software specs - PC:
- Dell
- Windows 7
- 6GB RAM
- 499.78GB disk space, 427.84GB free
- 3.20Hz Intel® Core™ i5-3470 CPU
- Adobe AIR
- Adobe Flash Player
- Google Chrome
- Mozilla Firefox
- Microsoft IE, Office OneNote, Outlook, SQL Server, Office 2010, Visual Studio
- SmartDraw
- Oracle SQL Developer, Java SE7, Netbeans IDE 8.0
- Eclipse
- BlueJ
- WinSCP
- Audacity
- IDLE Python GUI
- Notepad++
- PUTTY

SE Lab hardware/software specs - Mac:
- iMac
- OS X Lion 10.7.5
- 4GB RAM
- 499.25GB disk space, 450.54GB free
- 2.5GHZ Intel® Core™ i5
- Adobe reader
- Mozilla Firefox
- Google Chrome
- Microsoft Excel, Word, Query, Powerpoint
- XCode

Server:
- Hostname: oraserv.cs.siena.edu/~perm_maroon/
- CentOS 5.2 (final)
- Kernel: 2.6.18-92.el5
- Intel Xeon 2.66 GHz CPU
- 8 GB of Memory
- Java SE Runtime Environment (build 1.6.0 10-rc-b28)
- GCC Version 4.1.2 20071124 (Red Hat 4.1.2-42)
- Python 2.4.3
APPENDICES

10: Appendix A: Glossary of Terms
Actor: Actors that interact with the system through uses. Actors can be human or non human.
Adobe Dreamweaver: Tool used for web application development
Adobe Photoshop: Graphic editing application
Apache HTTP Server: Apache HyperText Transfer Protocol Server, Web server application
Apple Safari: Web browser designed by Apple
Data Stores: A component of a Data Flow Diagram that represents a location in which information or data is stored
Database: Organizes data, typically through a computer, so that the data is easily accessible
Data Flow: Data/information flowing to or from a process in a Data Flow Diagram
Data Flow Diagram: A graphical representation of the "flow" of data through an information system
Data Store: Location where data is held temporarily or permanently in a Data Flow Diagram
E.A.S.: Efficient and Simple - the software design by Maroon Solutions
Eclipse: Programming environment developed by the Eclipse Foundation
External Entities: A component of a Data Flow Diagram that represents any human or non-human user of a Software System
Functional Requirements Inventory: Defines what the system will be able to do and what is testable about the system
Gantt Chart: Bar chart typically used to project scheduling
Google Chrome: Web browser designed by Google
HTML: HyperText Markup Language, main language for creating web pages
HTTP: Hypertext Transfer Protocol, A protocol used to transfer hypertext requests and information between servers and browsers
Inclusion Arrow: An arrow that points from a scenario to another scenario to show that something must be included for the scenario
Inheritance Arrow: An arrow that points from one use to another; the use of being pointed at is the parent and the other is the sub
Internet Explorer: Web browser designed by Microsoft
Level-0 Diagram: A data flow diagram that represents a system’s major processes, data flows, and data stores at a high level
Level-1 Diagram: Provides an overview of the major functional areas of the undertaking
Mozilla Firefox: Web browser designed by Mozilla Foundation and the Mozilla Corporation
Non-Functional Requirements Inventory: Requirements that are not necessarily specific features that exist in a system, but what the system is intended to do
Notepad++: Text editor specializing in syntactic highlighting of various programming languages
ODBC: Open Database Connectivity is a standard API used for connecting to database
Oracle Database: An object-relational database management system produced and marketed by Oracle Corporation
Oraserv Database: Siena College’s database server
Participation Line: Shows what scenarios an actor can interact with in a UML Use Case Diagram
Process: Transforms or manipulates data in a Data Flow Diagram
Prototype: An early sample, model or release of a product built to test a concept
**Requirements Specification:** Further defining the client’s problem to meet the specifications and requirements

**Scenarios:** The actions that occur within a system and how the user interacts with the system

**SQL:** Structured Query Language, language used to query databases

**System Boundary:** The boundary between the system and the external entities in a Data Flow Diagram

**UML Use Case Diagram:** A type of behavioral diagram to present a graphical overview of the functionality provided by a system

**UML (Unified Modeling Language):** A specification language used in software engineering

**Unit Testing:** A testing method where the system is broken down into units and each unit is tested

**UPC (User Permission Chart):** Chart that demonstrates the permissions of the different users in E.A.S.

**Website Map:** A list of pages of a website accessible to users

11: Appendix B: Sources of Information

The primary source of information necessary for E.A.S. will come from Maroon Solutions’ client, Ms. Partridge-Brown and Ms. Sandler. The supervisor, Dr. Fryling, will provide extra information and help in class, while the supervisor, Dr. Lim, will give Maroon Solutions instructions through labs. Maroon Solutions will also utilize the information provided through credible sources on the World Wide Web.

<table>
<thead>
<tr>
<th>Task</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish Team</td>
<td>1 day</td>
<td>9/5/14</td>
<td>9/5/14</td>
</tr>
<tr>
<td>Software Plan</td>
<td>10 days</td>
<td>9/6/14</td>
<td>9/19/14</td>
</tr>
<tr>
<td>Software Plan Due</td>
<td>1 day</td>
<td>9/19/14</td>
<td>9/19/01</td>
</tr>
<tr>
<td>Software Plan Presentation</td>
<td>1 day</td>
<td>9/23/14</td>
<td>9/23/14</td>
</tr>
<tr>
<td>Requirement Specifications</td>
<td>26 days</td>
<td>9/23/14</td>
<td>10/28/14</td>
</tr>
<tr>
<td>Required Document Due Date</td>
<td>1 day</td>
<td>10/28/14</td>
<td>10/28/14</td>
</tr>
<tr>
<td>Requirement Presentation</td>
<td>1 day</td>
<td>10/28/14</td>
<td>10/28/14</td>
</tr>
<tr>
<td>Preliminary Design</td>
<td>26 days</td>
<td>10/28/14</td>
<td>12/2/14</td>
</tr>
<tr>
<td>Preliminary Design Due Date</td>
<td>1 day</td>
<td>12/2/14</td>
<td>12/3/14</td>
</tr>
<tr>
<td>Preliminary Design Presentation</td>
<td>1 day</td>
<td>12/2/14</td>
<td>12/3/14</td>
</tr>
<tr>
<td>Team Meetings</td>
<td>63 days</td>
<td>9/5/14</td>
<td>12/2/14</td>
</tr>
<tr>
<td>Client Meetings</td>
<td>61 days</td>
<td>9/9/14</td>
<td>12/2/14</td>
</tr>
</tbody>
</table>
12: Appendix C: Timeline