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**CompSys**

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# **Introduction**

# **Functional Components**

## **Hierarchy Chart**

# **User Requirements**

## **The system performs staff administration**

### CompSys will allow the details of each new staff to be recorded.

### CompSys will allow a staff details to be amended.

### CompSys will generate a staff listing.

## **The system performs customer administration**

### CompSys will allow the details of each new customer to be recorded.

### CompSys will allow a customer details to be amended.

### CompSys will allow querying a customer.

### CompSys will generate a customer listing.

## **The system performs repair management**

### CompSys will allow the details of each new repair to be recorded.

### CompSys will generate a new repair estimate.

### CompSys will allow the system to validate a new repair.

### CompSys will issue invoices for each new repair.

### CompSys will process ever repair being collected.

### CompSys will generate repair report for each repair.

## **The system performs administration**

### CompSys will generate a list of jobs and their status.

### CompSys will issue invoice for any repair at any given period.

### CompSys will generate income analysis to required specification.

### CompSys will allow the system to set pre-defined repair rates.

# **System Requirements**

## **System Level Use Case Diagram**

**Computer Repair System**

Manager

Staff

## **Manage Staff**

This module is responsible for adding new staff, amending existing staff and listing them in ascending order of surname, forename. The staff can be set to **inactive** from the ‘amend staff’ sub-module.

### New Staff

#### UC Diagram to allow the details of each new staff to be recorded.

Staff

Manager

<<includes>>

<<extends>>

<<includes>>

<<includes>>

<<extends>>

#### UC Narrative to allow the details of each new staff to be recorded.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **New Staff** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.1.1 | | **Date: 14/10/2014** |
| **Priority** | High | | |
| **Source** | Staff | | |
| **Primary Business Actor** | Manager | | |
| **Other Participating Actors** | Staff | | |
| **Description** | * Shop manager registers new staff in the system before they can start working in the computer repair shop. | | |
| **Preconditions** |  | | |
| **Trigger** | * Manager needs to register a new staff member | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: The manager chooses add new staff.**  **Step 3: The manager enters the required information:**   * **Surname** * **Forename** * **DOB** * **Address 1** * **Address 2** * **Town** * **County** * **Phone** * **Email**   **Step 4: The manager confirms that the staff is to be registered** | **Step 2: The system displays create staff form.**  **Step 5: The system validates the data entered:**   * **All fields are required** * **All data type are valid**   **Step 6: The system assigns the Staff ID**  **Step 7: The system assigns Registration Date as the current system date**  **Step 8: The system assigns the staff status a default value of ‘active’**  **Step 9: The system saves the new staff details in the Staff file.**  **Step 10: The system displays a confirmation message** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid and/or Required field NOT entered** | **Step 5c: Manager re-enters the required field.** | **Step 5a: A required field is not entered**  **Step 5b: The system displays an appropriate error message and notifies the error sources** | |
| **The process continues to normal flow from Step 5** | | |
| **Conclusions** | * New staff is created. | | |
| **Post conditions** | * New staff created on the system cannot be deleted. | | |
| **Business Rules** | * Staff cannot do any repair shop work without registering on the system. | | |
| **Implementation Constraints** |  | | |

### Amend Staff

#### UC Diagram to allow staff details to be amended.

Manager

Staff

<<extends>>

<<includes>>

<<includes>>

<<extends>>

#### UC Narrative to allow staff details to be amended.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **Amend Staff** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.1.2 | | **Date: 22/10/2014** |
| **Priority** | Medium | | |
| **Source** | Staff | | |
| **Primary Business Actor** | Manager | | |
| **Other Participating Actors** | Staff | | |
| **Description** | * The **manager** must enter **updated** staff details and save them to the staff file. | | |
| **Preconditions** | * New staff should supply updated details. | | |
| **Trigger** | * Staff requests staff details to be amended. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: Staff makes an application to amend details of the staff file and submits new staff details.**  **Step 2: Manager requires these details to query for the staff:**   * **Surname** * **Forename** * **DOB** * **Town**   **Step 5: The manager starts to enter new staff details to the system.**   * **Address 1** * **Address 2** * **Town** * **County** * **Phone** * **Email** * **Status** | **Step 3: The system retrieves all the staff details from the staff file.**  **Step 4: The system will not allow to amend:**   * **Surname** * **Forename** * **DOB**   **Step 6:The system validates the data entered:**   * **All fields are required** * **All data type are valid**   **Step 7: The system adds Amend Date as the current system date**  **Step 8: The system amends the new staff details in the Staff file. A Message is displayed to the screen to inform the manager that the staff details have been updated.** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid and/or Required field NOT entered** | **Step 6c: Manager re-enters the required field.** | **Step 6a: Invalid data and/or required field is not entered**  **Step 6b: The system displays an appropriate error message and notifies the error sources** | |
| **The process continues to normal flow from Step 6** | | |
| **Conclusions** | * The staff details are amended and saved to the staff file | | |
| **Post conditions** | * The staff requires for details to be amended | | |
| **Business Rules** | * Staff cannot be deleted from the system. They can only be set to ‘active’ or ‘inactive’. | | |
| **Implementation Constraints** |  | | |

### List Staff

#### UC Diagram to generate a staff listing.

Staff

Manager

<<includes>>

#### UC Narrative to generate a staff listing.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **List Staff** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.1.3 | | **Date: 24/10/2014** |
| **Priority** | Low | | |
| **Source** | Staff | | |
| **Primary Business Actor** | Manager | | |
| **Other Participating Actors** | Staff | | |
| **Description** | Manager/Staff wishes to access the details of all active staff. This requires the system to generate a list of all the staff registered on the system. | | |
| **Preconditions** | * Staff file should exist in the system. * Staff are allowed to use this module if they are authorised by the shop manager. | | |
| **Trigger** | * Shop manager wants to list all the staff. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: The manager requests a list of all the staff.**  **Step 3: The manager requests a printed copy of the staff list.** | **Step 2: The system retrieves details of all current staff from the staff file and displays them on the interface (UI).**  **Step 4: The system generates a printed list based on the retrieved data and sends to the default print device.**  **Step 5: The system displays a confirmation message.** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
|  |  |  | |
|  |  | | |
| **Conclusions** | * A listing of all the staff is generated/printed. | | |
| **Post conditions** | * Details of the staff displayed cannot be amended or deleted. | | |
| **Business Rules** | * Staff details may only be viewed, not changed or deleted, when displayed in this way. * The list should include only current staff. | | |
| **Implementation Constraints** |  | | |

## **Manage Customers**

This module is responsible for adding new customer, querying and amending existing customer accounts and listing them in ascending order of surname, forename. The customer can be set to **inactive** from the ‘amend customer’ sub-module.

### New Customer

#### UC Diagram to allow the details of each new customer to be recorded.

Staff

Manager

<<includes>>

<<extends>>

<<includes>>

<<includes>>

<<extends>>

#### UC Narrative to allow the details of each new customer to be recorded.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **New Customer** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.2.1 | | **Date: 24/10/2014** |
| **Priority** | High | | |
| **Source** | Manager, Staff | | |
| **Primary Business Actor** | Staff | | |
| **Other Participating Actors** | Manager | | |
| **Description** | * Shop staff/manager registers new customer in the system before they can proceed with a new repair. | | |
| **Preconditions** |  | | |
| **Trigger** | * Shop staff/manager needs to register a new customer. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: The staff/manager chooses add new customer.**  **Step 3: The staff/manager enters the required information:**   * **Surname** * **Forename** * **DOB** * **Address 1** * **Address 2** * **Town** * **County** * **Phone** * **Email**   **Step 4: The staff/manager confirms that the staff is to be registered** | **Step 2: The system displays create customer form.**  **Step 5:The system validates the data entered:**   * **All fields are required** * **All data type are valid**   **Step 6: The system assigns the Customer ID**  **Step 7: The system assigns Registration Date as the current system date**  **Step 8: The system assigns the customer status a default value of ‘active’**  **Step 9: The system saves the new customer details in the *Customer File.***  **Step 10: The system displays a confirmation message** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid data type and/or Required field NOT entered** | **Step 5c: Staff/Manager re-enters the required field.** | **Step 5a: A required field is not entered and/or invalid data type.**  **Step 5b: The system displays an appropriate error message and notifies the error sources** | |
| **The process continues to normal flow from Step 5** | | |
| **Conclusions** | * New customer is created in the customer file. | | |
| **Post conditions** | * New customer created on the system cannot be deleted. | | |
| **Business Rules** | * Customers cannot proceed with any repairs without registering on the system. | | |
| **Implementation Constraints** |  | | |

### Amend Customer

#### UC Diagram to allow customer details to be amended.

Manager

Staff

<<extends>>

<<includes>>

<<includes>>

<<extends>>

#### UC Narrative to allow customer details to be amended.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **Amend Customer** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.2.2 | | **Date: 22/10/2014** |
| **Priority** | Medium | | |
| **Source** | Staff, Manager | | |
| **Primary Business Actor** | Manager | | |
| **Other Participating Actors** | Staff | | |
| **Description** | * The **manager/staff** must enter **updated** staff details and save them to the staff file. | | |
| **Preconditions** | * New customer should supply updated details. | | |
| **Trigger** | * Customer requests ‘customer details’ to be amended. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: Customer makes an application to amend details of the customer file and submits new customer details.**  **Step 2: Manager/staff requires these details to query for the customer:**   * **Surname** * **Forename** * **DOB** * **Town**   **Step 5: The manager/staff starts to enter new customer details to the system.**   * **Address 1** * **Address 2** * **Town** * **County** * **Phone** * **Email** * **Status** | **Step 3: The system retrieves all the customer details from the customer file.**  **Step 4: The system will not allow to amend:**   * **Surname** * **Forename** * **DOB**   **Step 6:The system validates the data entered:**   * **All fields are required** * **All data type are valid**   **Step 7: The system adds Amend Date as the current system date**  **Step 8: The system amends the new customer details in the Customer File. A Message is displayed to the screen to inform the details have been updated.** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid and/or Required field NOT entered** | **Step 6c: Manager/Staff re-enters the required field.** | **Step 6a: Invalid data and/or required field is not entered**  **Step 6b: The system displays an appropriate error message and notifies the error sources** | |
| **The process continues to normal flow from Step 6** | | |
| **Conclusions** | * The customer details are amended and saved to the customer file | | |
| **Post conditions** | * The customer requires for details to be amended | | |
| **Business Rules** | * Customer cannot be deleted from the system. They can only be set to ‘active’ or ‘inactive’. | | |
| **Implementation Constraints** |  | | |

### Query Customer

#### UC Diagram to allow querying a customer.

<<includes>>

Manager

Staff

<<extends>>

<<includes>>

<<includes>>

<<extends>>

#### UC Narrative to allow querying a customer.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Use Case Name** | **Query Customer** | | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.2.3 | | | **Date: 22/10/2014** |
| **Priority** | Medium | | | |
| **Source** | Staff, Manager | | | |
| **Primary Business Actor** | Staff | | | |
| **Other Participating Actors** | Manager | | | |
| **Description** | * The **manager/staff** queries for an existing customer. Details of the customer can be printed. | | | |
| **Preconditions** |  | | | |
| **Trigger** | * Staff/Manager requires detailed customer information. | | | |
| **Typical Scenario** | **Actor Action** | | **System Response** | |
|  | **Step 1: Customer brings new repair.**  **Step 2: Manager/staff requires these details to query for the customer:**   * **Surname** * **Forename** * **DOB** * **Email**   **Step 5: Manager/Staff reviews Customer Profile, if the customer exists in the system, the manager/staff opens the new repair module.**  **Step 6: Manager/Staff chooses Yes/No option.** | | **Step 3: System validates the entry.**   * **Surname, Forename, DOB and Email are required** * **All data are valid**   **Step 4: The system retrieves all the customer details from the customer file and/or the repairs file.**  **Step 5: System asks if the customer details needs to be printed before exiting.**  **Step 7: A detailed customer record is printed.**  **Step 8: System goes to repair module and exists the query module.** | |
| **Alternate Scenarios** | **Actor Action** | | **System Response** | |
| **Invalid and/or Required field NOT entered**  **Manager/Staff wants to find out existing/past repairs** | **Step 3c: Manager/Staff re-enters the required field.** | | **Step 3a: Invalid data and/or required field is not entered**  **Step 3b: The system displays an appropriate error message and notifies the error sources** | |
| **The process continues to normal flow from Step 3** | | | |
| **Step 1: Manager/Staff wants to find out existing/past repairs for a specific customer.** |  | | |
| **The process continues to normal flow from Step 2** | | | |
| **Conclusions** | * Manager/staff retrieves customer details. * Customer details are printed. | | | |
| **Post conditions** | * Customer requires new repair * Manager/Staff needs to check past/existing repair | | | |
| **Business Rules** |  | | | |
| **Implementation Constraints** |  | | | |

### List Customers

#### UC Diagram to generate a customer listing.

Staff

Manager

<<includes>>

#### UC Narrative to generate a customer listing.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **List Customers** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.2.4 | | **Date: 24/10/2014** |
| **Priority** | Low | | |
| **Source** | Staff, Manager | | |
| **Primary Business Actor** | Staff | | |
| **Other Participating Actors** | Manager | | |
| **Description** | Manager/Staff wishes to access the details of all active customers. This requires the system to generate a list of all the customers registered on the system. | | |
| **Preconditions** | * Customer file should exist in the system. | | |
| **Trigger** | * Shop manager/staff wants to list all the customers. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: The manager requests a list of all the staff.**  **Step 3: The manager requests a printed copy of the staff list.** | **Step 2: The system retrieves details of all current staff from the staff file and displays them on the interface (UI).**  **Step 4: The system generates a printed list based on the retrieved data and sends to the default print device.**  **Step 5: The system displays a confirmation message.** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
|  |  |  | |
|  |  | | |
| **Conclusions** | * A listing of all the staff is generated/printed. | | |
| **Post conditions** | * Details of the staff displayed cannot be amended or deleted. | | |
| **Business Rules** | * Staff details may only be viewed, not changed or deleted, when displayed in this way. * The list should include only current staff. | | |
| **Implementation Constraints** |  | | |

## **Manage Repair**

This module is responsible for all the repairs. CompSys will allow the staff/manager to enter **New Repair** and then generate a **New Estimate** of the repair. Once the estimate is generated, the system will print out the estimate or email it to the customer. If the customer is happy with the estimate and validates the repair process to go through, the system will allow the staff/manager to change the repair status to ‘**accepted**’ (or ‘**denied**’ if otherwise) in the **Validate Repair** sub-module.

The system will allow the staff/manager to update the repair progress status (i.e. **fixed, not-fixable, in-progress, parts-required**) in the Validate Repair sub-module. If the repair is **fixed or parts-required** the CompSys system will notify the customer.

The repair collection status can be updated from the **Collect Repair** sub-module.

Once the repair is ‘**collected**’ the system will generate a new invoice from the Collect Repair sub-module and repair reports from the **Repair Reports** sub-module.

### New Repair

#### UC Diagram to allow the details of each new repairs to be recorded.

Manager

Staff

Customer

<<includes>>

<<extends>>

<<includes>>

<<includes>>

<<requires>>

#### UC Narrative to allow the details of each new repairs to be recorded.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **New Repair** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.3.1 | | **Date: 24/10/2014** |
| **Priority** | High | | |
| **Source** | Manager, Staff | | |
| **Primary Business Actor** | Staff | | |
| **Other Participating Actors** | Manager | | |
| **Description** | * Shop staff/manager registers new repair. | | |
| **Preconditions** | * Customer should be registered in the system. | | |
| **Trigger** | * Shop staff/manager needs to register a new repair. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1:** Customer brings a new repair.  **Step 3:** The staff/manager queries if the customer exists in the system.   * **Surname** * **Forename** * **DOB** * **Email**   **Step 7:** The staff/manager confirms the details with the customer.  **Step 8**: The staff/manager chooses new repair.  **Step 10**: The staff/manager enters repair details:   * **Device Type** * **Brand** * **Model** * **Colour** * **OS** * **Problem Type** * **Description** | **Step 2:** System displays query customer form.  **Step 4:** The system uses the **Query Customer** sub-module to verify the existence of the customer.  **Step 5:** The system uses the **List Customers** sub-module to list the customers.  **Step 6:** System displays a list of customers matching with the criteria.  **Step 9:** System displays new repair form with pre-filled information:   * **Repair ID** (incremented) * **Surname** * **Forename** * **Phone** * **Email**   **Step 11:** System validates the data entered:   * All entries are required * Data types should be valid   **Step 12:** The system assigns **Repair Date** as the current system date  **Step 13:** The system assigns the repair status a default value of ‘**new**’.  **Step 14:** The system saves the new repair details in the ***Repairs File.***  **Step 15:** The system displays a confirmation message | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid Data** | **Step 9c:** Staff/Manager re-enters the required field. | **Step 9a:** A required field is not entered and/or invalid data type.  **Step 9b:** The system displays an appropriate error message and notifies the error sources | |
| **The process continues to normal flow from Step 6** | | |
| **Amend Data** | **Step 6a:** The customer wants to amend customer details. | **Step 6b:** The system brings the **Amend Customer** sub-module to amend the customer details. | |
| **The process continues to normal flow from Step 8** | | |
| **Customer Does not Exist** |  | **Step 4a:** System fails to retrieve customer information and displays appropriate error message.  **Step 4b:** Systems brings New Customer sub-module. | |
| **The process continues to normal flow from Step 5** | | |
| **Conclusions** | * New repair is created in the repairs file. | | |
| **Post conditions** | * New repair created on the system cannot be deleted. | | |
| **Business Rules** | * Staff/Manager cannot produce a new estimate without a new repair. | | |
| **Implementation Constraints** |  | | |

### New Estimate

#### UC Diagram to generate a new repair estimate.

<<includes>>

Manager

<<includes>>

Staff

Customer

<<includes>>

<<extends>>

<<includes>>

<<includes>>

<<requires>>

#### UC Narrative to generate a new repair estimate.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **New Estimate** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.3.2 | | **Date: 24/10/2014** |
| **Priority** | High | | |
| **Source** | Manager, Staff | | |
| **Primary Business Actor** | Staff | | |
| **Other Participating Actors** | Manager | | |
| **Description** | * Shop staff/manager generates estimates for a new repair. | | |
| **Preconditions** | * Customer should be registered in the system. | | |
| **Trigger** | * Shop staff/manager needs to register a new repair. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1:** Customer brings a new repair.  **Step 3:** The staff/manager queries if the customer exists in the system.   * **Surname** * **Forename** * **DOB** * **Email**   **Step 7:** The staff/manager confirms the details with the customer.  **Step 8**: The staff/manager chooses new estimate.  **Step 10**: The staff/manager enters repair details:   * **Device Type** * **Brand** * **Model** * **Colour** * **OS** * **Problem Type** * **Description** | **Step 2:** System displays query customer form.  **Step 4:** The system uses the **Query Customer** sub-module to verify the existence of the customer.  **Step 5:** The system uses the **List Customers** sub-module to list the customers.  **Step 6:** System displays a list of customers matching with the criteria.  **Step 9:** System displays new estimate form with pre-filled information:   * **Repair ID** (incremented) * **Surname** * **Forename** * **Phone** * **Email**   **Step 11:** System validates the data entered:   * All entries are required * Data types should be valid   **Step 12:** The system assigns **Repair Date** as the current system date  **Step 13:** The system assigns the repair status a default value of ‘**new**’.  **Step 14:** The system saves the new repair details in the ***Repairs File.***  **Step 15:** The system displays a confirmation message | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid Data** | **Step 9c:** Staff/Manager re-enters the required field. | **Step 9a:** A required field is not entered and/or invalid data type.  **Step 9b:** The system displays an appropriate error message and notifies the error sources | |
| **The process continues to normal flow from Step 6** | | |
| **Amend Data** | **Step 6a:** The customer wants to amend customer details. | **Step 6b:** The system brings the **Amend Customer** sub-module to amend the customer details. | |
| **The process continues to normal flow from Step 8** | | |
| **Customer Does not Exist** |  | **Step 4a:** System fails to retrieve customer information and displays appropriate error message.  **Step 4b:** Systems brings New Customer sub-module. | |
| **The process continues to normal flow from Step 5** | | |
| **Conclusions** | * New repair is created in the repairs file. | | |
| **Post conditions** | * New repair created on the system cannot be deleted. | | |
| **Business Rules** | * Staff/Manager cannot produce a new estimate without a new repair. | | |
| **Implementation Constraints** |  | | |

### Validate Repair

#### UC Diagram to allow the details of each new customer to be recorded.

Staff

Manager

<<includes>>

<<extends>>

<<includes>>

<<includes>>

<<extends>>

#### UC Narrative to allow the details of each new customer to be recorded.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **New Customer** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.2.1 | | **Date: 24/10/2014** |
| **Priority** | High | | |
| **Source** | Manager, Staff | | |
| **Primary Business Actor** | Staff | | |
| **Other Participating Actors** | Manager | | |
| **Description** | * Shop staff/manager registers new customer in the system before they can proceed with a new repair. | | |
| **Preconditions** |  | | |
| **Trigger** | * Shop staff/manager needs to register a new customer. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: The staff/manager chooses add new customer.**  **Step 3: The staff/manager enters the required information:**   * **Surname** * **Forename** * **DOB** * **Address 1** * **Address 2** * **Town** * **County** * **Phone** * **Email**   **Step 4: The staff/manager confirms that the staff is to be registered** | **Step 2: The system displays create customer form.**  **Step 5:The system validates the data entered:**   * **All fields are required** * **All data type are valid**   **Step 6: The system assigns the Customer ID**  **Step 7: The system assigns Registration Date as the current system date**  **Step 8: The system assigns the customer status a default value of ‘active’**  **Step 9: The system saves the new customer details in the *Customer File.***  **Step 10: The system displays a confirmation message** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid data type and/or Required field NOT entered** | **Step 5c: Staff/Manager re-enters the required field.** | **Step 5a: A required field is not entered and/or invalid data type.**  **Step 5b: The system displays an appropriate error message and notifies the error sources** | |
| **The process continues to normal flow from Step 5** | | |
| **Conclusions** | * New customer is created and in the customer file. | | |
| **Post conditions** | * New customer created on the system cannot be deleted. | | |
| **Business Rules** | * Customers cannot proceed with any repairs without registering on the system. | | |
| **Implementation Constraints** |  | | |

### Collect Repair

#### UC Diagram to allow the details of each new customer to be recorded.

Staff

Manager

<<includes>>

<<extends>>

<<includes>>

<<includes>>

<<extends>>

#### UC Narrative to allow the details of each new customer to be recorded.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **New Customer** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.2.1 | | **Date: 24/10/2014** |
| **Priority** | High | | |
| **Source** | Manager, Staff | | |
| **Primary Business Actor** | Staff | | |
| **Other Participating Actors** | Manager | | |
| **Description** | * Shop staff/manager registers new customer in the system before they can proceed with a new repair. | | |
| **Preconditions** |  | | |
| **Trigger** | * Shop staff/manager needs to register a new customer. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: The staff/manager chooses add new customer.**  **Step 3: The staff/manager enters the required information:**   * **Surname** * **Forename** * **DOB** * **Address 1** * **Address 2** * **Town** * **County** * **Phone** * **Email**   **Step 4: The staff/manager confirms that the staff is to be registered** | **Step 2: The system displays create customer form.**  **Step 5:The system validates the data entered:**   * **All fields are required** * **All data type are valid**   **Step 6: The system assigns the Customer ID**  **Step 7: The system assigns Registration Date as the current system date**  **Step 8: The system assigns the customer status a default value of ‘active’**  **Step 9: The system saves the new customer details in the *Customer File.***  **Step 10: The system displays a confirmation message** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid data type and/or Required field NOT entered** | **Step 5c: Staff/Manager re-enters the required field.** | **Step 5a: A required field is not entered and/or invalid data type.**  **Step 5b: The system displays an appropriate error message and notifies the error sources** | |
| **The process continues to normal flow from Step 5** | | |
| **Conclusions** | * New customer is created and in the customer file. | | |
| **Post conditions** | * New customer created on the system cannot be deleted. | | |
| **Business Rules** | * Customers cannot proceed with any repairs without registering on the system. | | |
| **Implementation Constraints** |  | | |

### Repair Reports

#### UC Diagram to allow the details of each new customer to be recorded.

Staff

Manager

<<includes>>

<<extends>>

<<includes>>

<<includes>>

<<extends>>

#### UC Narrative to allow the details of each new customer to be recorded.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **New Customer** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.2.1 | | **Date: 24/10/2014** |
| **Priority** | High | | |
| **Source** | Manager, Staff | | |
| **Primary Business Actor** | Staff | | |
| **Other Participating Actors** | Manager | | |
| **Description** | * Shop staff/manager registers new customer in the system before they can proceed with a new repair. | | |
| **Preconditions** |  | | |
| **Trigger** | * Shop staff/manager needs to register a new customer. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1: The staff/manager chooses add new customer.**  **Step 3: The staff/manager enters the required information:**   * **Surname** * **Forename** * **DOB** * **Address 1** * **Address 2** * **Town** * **County** * **Phone** * **Email**   **Step 4: The staff/manager confirms that the staff is to be registered** | **Step 2: The system displays create customer form.**  **Step 5:The system validates the data entered:**   * **All fields are required** * **All data type are valid**   **Step 6: The system assigns the Customer ID**  **Step 7: The system assigns Registration Date as the current system date**  **Step 8: The system assigns the customer status a default value of ‘active’**  **Step 9: The system saves the new customer details in the *Customer File.***  **Step 10: The system displays a confirmation message** | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid data type and/or Required field NOT entered** | **Step 5c: Staff/Manager re-enters the required field.** | **Step 5a: A required field is not entered and/or invalid data type.**  **Step 5b: The system displays an appropriate error message and notifies the error sources** | |
| **The process continues to normal flow from Step 5** | | |
| **Conclusions** | * New customer is created and in the customer file. | | |
| **Post conditions** | * New customer created on the system cannot be deleted. | | |
| **Business Rules** | * Customers cannot proceed with any repairs without registering on the system. | | |
| **Implementation Constraints** |  | | |

## **Manage Admin**

This module is responsible for listing jobs status, income analysis, recording customer payments and issuing company invoices.

### List Jobs

#### UC Diagram to generate a list of jobs and their status.

Manager

<<includes>>

#### UC Narrative to generate a list of jobs and their status.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **List Jobs** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.4.1 | | **Date: 24/10/2014** |
| **Priority** | Medium | | |
| **Source** | Manager | | |
| **Primary Business Actor** | Manager | | |
| **Other Participating Actors** |  | | |
| **Description** | Manager wishes to access the status of all active jobs. This requires the system to generate a list of all the pending repairs. | | |
| **Preconditions** | * Repairs file should exist in the system. | | |
| **Trigger** | * Shop manager wants to list all the jobs. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1:** The manager requests a list of all the jobs.  **Step 3:** The manager requests a printed copy of the jobs list. | **Step 2:** The system retrieves details of all current repairs from the repairs file and displays them on the interface (UI).  **Step 4:** The system generates a printed list based on the retrieved data and sends to the default print device.  **Step 5:** The system displays a confirmation message. | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
|  |  |  | |
|  |  | | |
| **Conclusions** | * A listing of all the repair jobs is generated/printed. | | |
| **Post conditions** | * Details of the jobs displayed cannot be amended or deleted. | | |
| **Business Rules** | * Jobs details may only be viewed, not changed or deleted, when displayed in this way. * The list should include only current jobs. | | |
| **Implementation Constraints** |  | | |

### Issue Invoice

#### UC Diagram to generate invoice at any given time.

<<includes>>

<<extends>>

<<extends>>

Manager

Customer

<<includes>>

<<extends>>

<<includes>>

<<includes>>

<<requires>>

#### UC Narrative to generate invoice at any given time.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **Issue Invoice** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.4.2 | | **Date: 24/10/2014** |
| **Priority** | Medium | | |
| **Source** | Manager | | |
| **Primary Business Actor** | Manager | | |
| **Other Participating Actors** |  | | |
| **Description** | * Customer would like to have a new invoice. | | |
| **Preconditions** | * Customer requests invoice | | |
| **Trigger** | * Repairs file | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1:** Customer requests a new invoice.  **Step 2:** Manager enters customer details:   * Surname * Forename * DOB * Device Name   **Step 6:** Manager verifies the repair information.  **Step 8:** Manager wants to print invoice. | **Step 3:** System validates the entry   * All entries should be entered * Data type should be valid.   **Step 4:** System looks for **repair reports file** and generates a list of repairs found.  **Step 5**: System displays the list.  **Step 7:** System generates invoice from the **payments file.**  **Step 9:** System sends the print request to the printer.  **Step 10:** System displays confirmation message. | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Invalid Entry** | **Step 3c:** Manager enters data again | **Step 3a:** Data entered is not valid.  **Step 3b.** System prompts appropriate error message to the screen. | |
| **The process continues to normal flow from Step 3** | | |
| **No Repairs Found** | **Step 4c:** Manager conveys the message to the customer. | **Step 4a:** System fails to find any repairs.  **Step 4b:** System displays an appropriate error message to the screen. | |
| **Conclusions** | * A new invoice is issued. | | |
| **Post conditions** |  | | |
| **Business Rules** |  | | |
| **Implementation Constraints** |  | | |

### Income Analysis

#### UC Diagram to generate income analysis to required specification.

Manager

<<includes>>

<<includes>>

<<includes>>

<<requires>>

#### UC Narrative to generate income analysis to required specification.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **Income Analysis** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.4.3 | | **Date: 14/10/2014** |
| **Priority** | Medium | | |
| **Source** | Manager | | |
| **Primary Business Actor** | Manager | | |
| **Other Participating Actors** |  | | |
| **Description** | * Shop manager wishes to access income analysis of a given period. | | |
| **Preconditions** |  | | |
| **Trigger** | * Reporting period | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1:** The manager requires a income analysis report  **Step 2:** The manager enters the required dates for the income period   * Start Date * End Date   **Step 5:** The manager checks for outstanding invoices and chooses the order by:   * Check Account Status * Order by Balance * Order by Cost | **Step 3:** System validates the date entered.   * End date should be after the start date   **Step 4:** The system displays all transactions recorded for that time period from the **Repairs file, Customer file and Payments file**.  **Step 6:** The system displays all details including any outstanding invoices and the customer’s account information, including outstanding balance. | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
| **Manager needs to print** | **Step 5a:** The managerrequires this information to be printed | **Step 5b:** The System sends the print request to the printer and displays a confirmation message. | |
| **Invalid entry** | **Step 3c.** Manager enters the date again. | **Step 3a.** Date entered is not valid.  **Step 3b.** System prompts appropriate error message to the screen. | |
|  | **The process continues to normal flow from Step 3** | | |
| **Conclusions** | * The System allows user to access the cost of repairs of a given period. | | |
| **Post conditions** | * The system will generate a print version of the revenue report. | | |
| **Business Rules** |  | | |
| **Implementation Constraints** |  | | |

### Repair Rates

#### UC Diagram to allow the system to generate pre-defined repair rates.

Manager

#### UC Narrative to allow the system to generate pre-defined repair rates.

|  |  |  |  |
| --- | --- | --- | --- |
| **Use Case Name** | **Repair Rates** | | **Author: Nazmul Alam** |
| **Use Case Id** | 3.4.4 | | **Date: 24/10/2014** |
| **Priority** | Medium | | |
| **Source** | Manager | | |
| **Primary Business Actor** | Manager | | |
| **Other Participating Actors** |  | | |
| **Description** | Manager wishes to access the status of all active jobs. This requires the system to generate a list of all the pending repairs. | | |
| **Preconditions** | * Repairs file should exist in the system. | | |
| **Trigger** | * Shop manager wants to list all the jobs. | | |
| **Typical Scenario** | **Actor Action** | **System Response** | |
|  | **Step 1:** The manager requests a list of all the jobs.  **Step 3:** The manager requests a printed copy of the jobs list. | **Step 2:** The system retrieves details of all current repairs from the repairs file and displays them on the interface (UI).  **Step 4:** The system generates a printed list based on the retrieved data and sends to the default print device.  **Step 5:** The system displays a confirmation message. | |
| **Alternate Scenarios** | **Actor Action** | **System Response** | |
|  |  |  | |
|  |  | | |
| **Conclusions** | * A listing of all the repair jobs is generated/printed. | | |
| **Post conditions** | * Details of the jobs displayed cannot be amended or deleted. | | |
| **Business Rules** | * Jobs details may only be viewed, not changed or deleted, when displayed in this way. * The list should include only current jobs. | | |
| **Implementation Constraints** |  | | |

# **Data Model**

# **Database Schema**

# **Program Specifications**

# **Conclusion**

# **References:**

<http://www.academia.edu/3046773/Requirement_Analysis_Document_for_Recruitment_Management_System>