Requirements Engineering

Music Store Ordering System

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Computing with Games Development

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# Introduction/overview

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# Functional Components

(Hierarchy Chart)

# User Requirements

## MusicStoreSYS will perform Supplier administration.

* + 1. MusicStoreSYS will register a new supplier.
    2. MusicStoreSYS will update the details of a supplier.
    3. MusicStoreSYS will deregister a supplier.
    4. MusicStoreSYS will form a supplier list.

## MusicStoreSYS will perform Stock administration.

* + 1. MusicStoreSYS will register new CD stock items.
    2. MusicStoreSYS will update a CD stock item’s details.
    3. MusicStoreSYS will mark a CD stock item as discontinued.
    4. MusicStoreSYS will execute a CD stock enquiry.

## MusicStoreSYS will process Orders.

* + 1. MusicStoreSYS will arrange an order to the supplier.
    2. MusicStoreSYS will process the CD stock received from a supplier.
    3. MusicStoreSYS will record payments to the supplier.

## MusicStoreSYS will perform Administrative reporting.

* + 1. MusicStoreSYS will deliver a CD sales analysis report.
    2. MusicStoreSYS will generate a CD stock-take report.

# System Requirements

Include a brief overview of the system requirements.

First of all, when a supplier registers with the Music Store business, the supplier’s details must be captured and updated through the user interface from a completed application form. The data that is entered is validated. The system will choose the next SupplierID to be assigned. The SupplierID and validated supplier details are stored in the Supplier File data store. The Supplier’s details can be edited on the system and when the Supplier is already registered to the system. The Supplier can also be de-registered on the system where orders are not allowed to be sent to that Supplier. The system displays the list of Suppliers in an order selected by the Manager.

Secondly, a CD’s details can be obtained and placed into the CD File when a Manager introduces a new CD to the System. It is validated and the system will choose the next CD\_ID to be assigned. The CD can also be amended where its updated details are placed into the CD File for example when a CD is re-released. The system can also discontinue a CD and remove it from the CD File. The list of CDs are displayed by the system in an order chosen by the Manager.

Thirdly, a CD can be pre-ordered by a Manager to retrieve a CD from the CD File in order to prepare for the eventual delivery of the CD to the Supplier. The system must confirm the order before carrying on with the process of delivering the CD. A confirmation message can be sent to the Supplier once the Manager accepts the chosen CD that the Supplier is ordering. Afterwards, the system records the Supplier payment made for the ordered CD where the money that the Supplier pays will be recorded by the system. Then, the system can print out a confirmation statement that the Supplier has paid for the CD.

Finally, the system can analyse the CD Sales that are generated from the purchasing and pre-ordering of CDs where the money made from sales are displayed. The sales analysis is displayed in an order selected by the administrator. The system can also provide the administrator with analysis on the CD Stock based on data in the CD File in a specific order chosen by the administrator.

## System Level Use Case Diagram

The Manager manages the suppliers to perform registration of the suppliers, amend the supplier’s details, de-register the supplier if required and listing the suppliers registered onto the system.

The Manager manages the CD Stock featured in the system to insert CDs into the Music Store System, amending the CDs details if a remastered edition comes out, to discontinue CD stock if needed and display the list of CDs currently in the system.

The Manager will process the order that is made by the Supplier where the Manager will place the pre-order once the Supplier reveals the CD that he/she wants to be ordered. The Manager will also enable the CD to be delivered to the Supplier by confirming the order for delivery preparation. The Manager can also the Supplier to be paid money for the chosen CD by printing out a Supplier Payment statement.

The Administrator carries out administrative analysis of the Music Store System where the CD Sales and CD Stock are analysed by the administrator for assessing the progress of the Music Store System.

MusicStoreSYS

Supplier

Manager

Administrator

## Manage Suppliers

This module provides functions to perform supplier registration, amendment, de-registration and listing.

### **Register Supplier**

This function registers a supplier’s details on the system.

Manager

Supplier

<<includes>>

<<extends>>

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Register Supplier** | |
| **Use Case ID** | 1.1.1 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function registers a Supplier on the Music Store system. | |
| **Preconditions** | Supplier must complete and sign a Supplier registration form. | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The manager invokes the Register Supplier function.  **Step 4:** Manager enters the Supplier details:   * Supp\_Name * Phone No * Email * Town/Village * County | **Step 2:** Determine the next Supp\_ID  **Step 3:** The system displays the UI.  **Step 5:** System will validate Supplier details/data entered:   * All fields need to be entered * Email address must have a valid format. * Phone number must have a valid format.   **Step 6:** Set Acc\_Bal to zero.  **Step 7**: Set status to active (“A”).  **Step 8:** Save Supplier details in Supplier File:   * Supp\_ID * Supp\_Name * Phone No * Email * Street * Town * County * Acc\_Bal * Status   **Step 9:** Display confirmation message.  **Step 10:** Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Field not entered** |  | **Step 4:** Blank field detected  **Step 5:** Display message “This field needs to be entered”.  **Step 6:** Position cursor in the offending field and return to step 3**.** |
| **Invalid email address** |  | **Step 4:** Invalid email format entered.  **Step 5:** Display message “Email format invalid”.  **Step 6**: Position cursor in the Email field and return to step 3**.** |
| **Invalid Phone Number** |  | **Step 4:** Invalid phone number format entered.  **Step 5:** Display message “Phone Number format invalid”.  **Step 6:** Position cursor in the Phone Number field and return to step 3**.** |
| **Conclusions** | Supplier is registered on the system. | |
| **Post conditions** | Orders can now be sent to this supplier. | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

### **Update Supplier Details**

This function amends a supplier’s details on the system.

Supplier

Manager

<<includes>>

<<extends>>

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Update Supplier Details** | |
| **Use Case ID** | 1.1.2 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function edits the details of a Supplier on the Music Store System. | |
| **Preconditions** | Supplier must already be registered to the system. | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The manager invokes the Update Supplier Details function.  **Step 4:** The manager selects the Supplier to update.  **Step 6:** Manager updates the Supplier details:   * Supp\_Name * Phone No * Email * Street * Town/Village * County | **Step 2:** Retrieve summary details of active Suppliers from Supplier File and load on form control.  **Step 3:** The system displays the UI.  **Step 5:** Retrieve all details of selected Supplier from Supplier File and display on UI for updating.  **Step 7:** System will validate Supplier details:   * All fields need to be entered * Email address must have a valid format. * Phone number must have a valid format.   **Step 8:** Update Supplier details in Supplier File:   * Supp\_Name * Phone No * Email * Town/Village * County   **Step 9:** Display confirmation message.  **Step 10:** Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Field not entered** |  | **Step 4:** Blank field detected  **Step 5:** Display message “This field needs to be entered”.  **Step 6:** Position cursor in the offending field and return to step 3**.** |
| **Invalid email address** |  | **Step 4:** Invalid email format entered.  **Step 5:** Display message “Email format invalid”.  **Step 6**: Position cursor in the Email field and return to step 3**.** |
| **Invalid Phone Number** |  | **Step 4:** Invalid phone number format entered.  **Step 5:** Display message “Phone Number format invalid”.  **Step 6:** Position cursor in the Phone Number field and return to step 3**.** |
| **Conclusions** | The Supplier’s details are updated on the system | |
| **Post conditions** |  | |
| **Business Rules** | Only ‘Active’ Suppliers can be updated. | |
| **Implementation Constraints** |  | |

### **Deregister Supplier**

This function sets a supplier’s status to be deregistered on the system.

Supplier

Manager

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Deregister Supplier** | |
| **Use Case ID** | 1.1.3 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function deregisters a Supplier from the Music Store system. | |
| **Preconditions** |  | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The Manager invokes the Deregister Supplier function.  **Step 4:** The manager selects the Supplier to de-register.  **Step 7:** Manager confirms Supplier is to be de-registered. | **Step 2:** Retrieve summary details of Suppliers from Supplier File.  **Step 3:** The system displays the UI.  **Step 5:** Retrieve all details of selected Supplier from Supplier File and display on UI for deregistration.  **Step 6:** System asks user “Are you sure you want to de-register this Supplier?”  **Step 8**: Set status to inactive (“I”).  in Supplier File  **Step 9:** Display confirmation message.  **Step 10:** Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Keeping Supplier Registered** |  | **Step 8:** Keep status at active (“A”).  **Step 9:** Display confirmation message that Supplier will remain registered. |
| **Conclusions** | Supplier is deregistered on the system. | |
| **Post conditions** | Orders cannot be sent to this Supplier. | |
| **Business Rules** | Only active suppliers may be de-registered. | |
| **Implementation Constraints** |  | |

### **Generate Supplier List**

This function will form a Supplier List based on the Suppliers on the System.

Manager

Supplier

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Generate Supplier List** | |
| **Use Case ID** | 1.1.4 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function generates a Supplier list in order of Supplier Id or Supplier name | |
| **Preconditions** | Suppliers must be registered onto the system. | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The manager invokes the Generate Supplier List function. | **Step 2:** Retrieve Supplier details from Supplier File in order of Supplier ID and load on form control  **Step 3:** The system displays the UI.  **Step 7:** Display list on screen. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Order Selected** | **Step 4:** Manager selects order for listing:   * SuppID * Supp Name | **Step 5:** Retrieve Supplier details from Supplier File in order selected and loads on form control  **Step 6:** Display list on screen. |
| **Conclusions** | A list of Suppliers is generated by the system. | |
| **Post conditions** |  | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

**Example of Supplier List in order of Supp\_ID:**

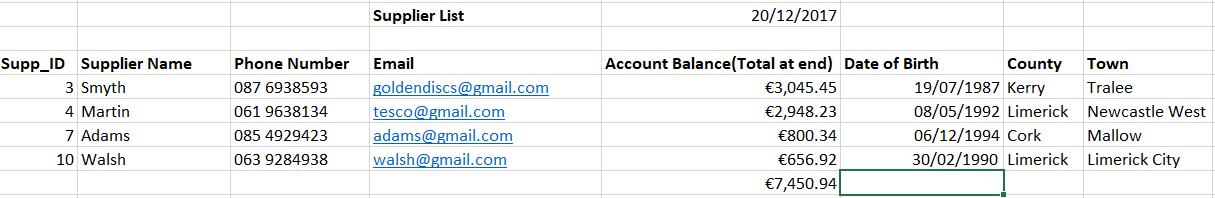


Figure 1: Supplier Listing Excel File (Example)

## Manage Stock

This module provides functions for inserting, amending (updating), stop the insertion of CDs and displaying a list of CDs available in the CD Stock File.

### **New CD**

This function allows new CDs to be placed into a CD Stock File.

Supplier

Manager

<<includes>>

<<extends>>

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **New CD** | |
| **Use Case ID** | 1.2.1 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function inserts the first set of new CDs to a CD Stock File | |
| **Preconditions** |  | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The Manager invokes the New CD function.  **Step 4:** Manager enters the CD details:   * Album\_Name * Artist * Year\_Released * Artist\_Label | **Step 2:** The System determines the next CD\_ID  **Step 3:** The system displays the UI.  **Step 5:** System will validate Supplier details:   * All fields need to be entered * Artist’s name needs to be entered * Album’s name must be entered   **Step 6:** Set availability to available (“a”)  **Step 7:** Set Sale Price to €12  **Step 8:** Save CD details in CD File:   * CD\_ID * Album\_Name * Artist * Year\_Released * Artist\_Label * Availability * Sale Price   **Step 9**: Display confirmation message.  **Step 10:** Clear UI |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Field not entered** |  | **Step 5:** Blank field detected  **Step 6:** Display message “This field needs to be entered”.  **Step 7:** Position cursor in the offending field and return to step 3**.** |
| **Artist Name Missing** |  | **Step 5:** No artist name filled in text field.  **Step 6:** Display message “This artist field needs to be entered”.  **Step 7**: Position cursor in the Artist field and return to step 3**.** |
| **Missing Album Name** |  | **Step 5:** No album name in text field.  **Step 6:** Display message “This album field must be entered”.  **Step 7**: Position cursor in the Album field and return to step 3**.** |
| **Conclusions** | New CDs are added to the system and added to the Stock File. | |
| **Post conditions** | The CDS can be prepared for pre-ordering whenever it’s ready. More CDS can now be added to the CD Stock File. | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

### **Update CD**

This function enables new CDs to be amended.

Manager

Supplier

<<includes>>

<<extends>>

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Update CD** | |
| **Use Case ID** | 1.2.2 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function updates the details of a CD. | |
| **Preconditions** |  | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The Manager invokes the Update New CDs function.  **Step 4:** The manager selects the CD to update.  **Step 6:** Manager enters the CD details:   * CD\_ID (Optional) * Album\_Name * Artist * Year\_Released * Artist\_Label | **Step 2:** Retrieve CD details from CD File and load on form control  **Step 3:** The system displays the UI.  **Step 5:** Retrieve all details of selected CD from CD File and display on UI for update.  **Step 7:** System will validate CD details:   * All fields need to be entered * Artist’s name ends to be entered * Album’s name must be entered   **Step 8:** Save CD details in CD File:   * CD\_ID * Album\_Name * Artist * Year\_Released * Artist\_Label * Availability * Sale Price     **Step 9**: Display confirmation message.  **Step 10:** Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Field not entered** |  | **Step 4:** Blank field detected  **Step 5:** Display message “This field needs to be entered”.  **Step 6:** Position cursor in the offending field and return to step 3**.** |
| **Artist Name Missing** |  | **Step 4:** No artist name filled in text field.  **Step 5:** Display message “This artist field needs to be entered”.  **Step 6**: Position cursor in the offending field and return to step 3**.** |
| **Missing Album Name** |  | **Step 4:** No album name in text field.  **Step 5:** Display message “This album field must be entered”.  **Step 6**: Position cursor in the Email field and return to step 3. |
| **Conclusions** | New remastered CDs are added to the current list of CDs in the system. | |
| **Post conditions** | The next batch of CDs can either be added or discontinued. | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

### **Discontinue CDs**

This function terminates various CDs from the CD Stock and out of the Music Store system.

Manager

Supplier

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Discontinue CDS** | |
| **Use Case ID** | 1.2.3 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function discontinues the CD that is in stock. | |
| **Preconditions** | A bigger number of CDs than 2 required to discontinue some CDs. | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The Manager invokes the Discontinue CDs function.  **Step 4:** Manager selects the CDs to discontinue.  **Step 7**: Manager confirms whether or not to discontinue the CDs. | **Step 2:** Retrieve CD details from CD File  **Step 3:** The system displays the UI.  **Step 5:** Retrieve all details of selected CDs from CD Stock File and display on UI for discontinuation.  **Step 6:** System asks user “Are you sure you want to remove these CDs from this System?”  **Step 8:** Set availability to unavailable (“u”).  **Step 9:** Display confirmation message.  **Step 10:** Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Keeping CD available in Stock** |  | **Step 8:** Keep availability to available (“a”)  **Step 9:** Display confirmation message of the CD remaining in Stock. |
| **Conclusions** | The CDs are discontinued and removed from the CD File. | |
| **Post conditions** | More CDs can still be added to the CD File despite the discontinued CDs being no longer part of the CD File. | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

### **Query CDS**

This function enables a list of CDs to be displayed according to the question asked.

Supplier

Manager

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Query CDS** | |
| **Use Case ID** | 1.2.4 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function allows the System to query for the list of CDs. | |
| **Preconditions** | The CDs must be included in the CD File and inserted into the System. | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The Manager invokes the Query CDs function.  **Step 5:** Manager chooses an order for listing to answer the question:   * CD\_ID * Artist\_Label | **Step 2:** Retrieve CD details from CD File in order of CD ID and load on form control.  **Step 3:** The system displays the UI.  **Step 4:** System asks user how you want the list of CDs to be displayed  **Step 6:** Retrieve CD details from CD File in order selected and loads on form control.  **Step 7:** Display list on screen.  **Step 8:** Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
|  |  |  |
| **Conclusions** | A list of CDs is displayed in accordance with a certain query by the system. | |
| **Post conditions** |  | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

**Example of CD List in order of CD\_ID:**



Figure 2: CD List Excel File (Example)

## Process Orders

This module provides functions for placing pre-orders on CDs, receiving the CD order and paying the Supplier.

### **Place CD Pre-Order**

This function allows a CD stored within the CD Stock in the system to be pre-ordered following the Supplier’s permission to order the CD.

Supplier

Manager

<<includes>>

<<extends>>

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Pre-order CD** | |
| **Use Case ID** | 1.3.1 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function enables the System to place a pre-order for a CD. | |
| **Preconditions** | Requires a CD to be already placed into the system. | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The Manager invokes the Pre-order CD function.  **Step 4:** Manager chooses the CD to be ordered by the Supplier.  **Step 7:** Manager decides either to proceed with the order (“y”) or to cancel the order (“n”). | **Step 2:** Retrieve CD details from CD File and load on form control  **Step 3:** The system displays the UI.  **Step 5:** Retrieve all details of selected CD from CD File and display on UI for pre-order choice.  **Step 6**: System asks Manager if it can proceed with the order and place the order.  **Step 8**: Display confirmation message that the CD has been pre-ordered for the Supplier.  **Step 9:** Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Refusing the Pre-order** |  | **Step 7**: Display confirmation message that the order will not be placed  **Step 8:** Clear Message and return to Step 4. |
| **Conclusions** | A CD is pre-ordered. | |
| **Post conditions** | The Pre-Order is sent to the System so it can prepare for the order to be delivered to the Supplier and prepare the payment for the Supplier. | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

### **Receive CD Order**

This function allows the CD to be delivered from the System to the Supplier.

Supplier

Manager

<<includes>>

<<extends>>

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Receive CD Order** | |
| **Use Case ID** | 1.3.2 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function will enable the Supplier to receive the CD order on the day of the CD release. | |
| **Preconditions** | Requires the CD to be pre-ordered before it can be sent and given to the Supplier. | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The Manager invokes the Receive CD Order function.  **Step 4**: Manager selects a Supplier to deliver an order of a CD.  **Step 6:** Manager chooses either yes (“Y”) or no (“No”) for confirming delivery of order. | **Step 2:** Retrieve CD details from CD File and load on form control  **Step 3:** The system displays the UI.  **Step 5:** The System asks the user to confirm if the chosen CD that the Supplier chose is the one that is going to be delivered**.**  **Step 7:** Retrieve all details of selected Supplier and CD ordered from Supplier File and CD File respectively and display on UI.  **Step 8:** Display confirmation message that the CD will be delivered to the Supplier in a few hours or days.  **Step 9**: Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
| **Refusing the delivery order.** |  | **Step 7**: Display confirmation message that the order will not be delivered.  **Step 8:** Clear Message and return to Step 4. |
| **Conclusions** | The Supplier receives the confirmation that their chosen CD will be delivered in a matter of hours or days. | |
| **Post conditions** | The payment is sent to the Supplier. | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

### **Record Supplier Payment**

This function enables the System to pay the Supplier after the CD is bought and pre-ordered.

Manager

Supplier

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Record Supplier Payment** | |
| **Use Case ID** | 1.3.3 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Manager | |
| **Other Participating Actors** | Supplier | |
| **Description** | This function will enable the system to pay the Supplier for the CD ordered. | |
| **Preconditions** | The CD must already be pre-ordered and must be confirmed for delivery to the Supplier. | |
| **Trigger** | None | |
| **Expected Scenario** | **Manager** | **System** |
|  | **Step 1**: The Manager invokes the Pay Supplier function.  **Step 4:** Manager selects the Supplier who is ordering a CD. | **Step 2:** Retrieve Payment details from Payment File and load on form control  **Step 3:** The system displays the UI.  **Step 5:** TheSystem confirms the Supplier and the Supplier Details are saved in the Supplier File.  **Step 6**: TheSystem records a certain amount of money, e.g €12.00 that the Supplier pays.  **Step 7:** Display confirmation message.  **Step 8:** The System prints out a statement confirming that the Supplier has paid for the CD.  **Step 9:** Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
|  |  |  |
| **Conclusions** | The Payment statement is given to the Supplier which was stored in the Payment File. | |
| **Post conditions** | The Supplier receives the ordered CD and a payment statement. | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

## Reporting Administrative Analysis

This module carries out functions for inspecting the CD Sales and analysing the CD Stock available in the system.

### **Analyse CD Sales**

This function allows an administrator to analyse the sales generated by the CDs that are ordered and purchased.

Administrator

Manager

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Analyse CD Sales** | |
| **Use Case ID** | 1.4.1 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Administrator | |
| **Other Participating Actors** | Manager | |
| **Description** | This function analyses the CD Sales and the money it generated from these sales. | |
| **Preconditions** | The sales must already be calculated for each CD and processed before analysis. | |
| **Trigger** | None | |
| **Expected Scenario** | **Administrator** | **System** |
|  | **Step 1**: The administrator invokes the Analyse CD Sales function.  **Step 5:** Administrator chooses an order for analysing the results.   * CD\_ID * Album\_Name * Highest\_Sale * Sale\_Price | **Step 2:** Retrieve CD details from CD File in addition to the Sales made from the CD and load on form control.  **Step 3:** The system displays the UI.  **Step 4:** System asks user in what order they want CD Sales to be displayed.  **Step 6:** Retrieve CD details from CD File along with the Sales made from the CD in the order selected and loads on form control  **Step 7:**  Display analysis of CD Sales with the details of the CDs in the order chosen.  **Step 8**: Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
|  |  |  |
| **Conclusions** | The CD sales are analysed. | |
| **Post conditions** |  | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

### **Analyse CD Stock**

This function allows the Administrator to analyse the CD Stock File within the system.

Manager

Administrator

|  |  |  |
| --- | --- | --- |
| **Use Case Name** | **Analyse CD Stock** | |
| **Use Case ID** | 4.5.2 | |
| **Priority** | High | |
| **Source** | Manager | |
| **Primary Business Actor** | Administrator | |
| **Other Participating Actors** | Manager | |
| **Description** | This function will analyse the CD stock. | |
| **Preconditions** | The CD Stock must be present with more than one CD contained before the analysis can be carried out. | |
| **Trigger** | None | |
| **Expected Scenario** | **Administrator** | **System** |
|  | **Step 1**: The administrator invokes the Analyse CD Stock function  **Step 5:** Administrator chooses an order for analysing the results   * CD\_ID * Artist * No\_Sold | **Step 2:** Retrieve CD details from CD File and load on form control  **Step 3:** The system displays the UI.  **Step 4:** System asks user in what order they want CD Sales to be displayed.  **Step 6:** Retrieve CD details from CD File in the order selected and loads on form control.  **Step 7:** Display analysis of CD Stock with the details of the CDs in the order chosen.  **Step 8**: Clear UI. |
| **Alternate Scenarios** | **Actor Action** | **System Response** |
|  |  |  |
| **Conclusions** | The CD Stock is analysed. | |
| **Post conditions** |  | |
| **Business Rules** |  | |
| **Implementation Constraints** |  | |

# System Model

**Data Stores:**

**D1:** Supplier File

**D2:** CD File

**D3:** Payment File

**External Entity:**

Supplier

CD

**Processes:**

**P1: Manage Suppliers**

**P 1.1** Register Supplier

**P 1.2** Update Supplier Details

**P 1.3** De**-**register Supplier

**P 1.4** Generate Supplier List

**P2: Manage Stock**

**P 2.1** Insert CDs

**P 2.2** Update CDs

**P 2.3** Discontinue CDs

**P 2.4** Query CDs

**P3: Process Orders**

**P 3.1** Place Pre-order

**P 3.2** Receive Order

**P 3.3** Pay Supplier

**P4: Administration Analysis**

**P 4.1** Analyse Sales

**P 4.2** Analyse Stock

## Level-0 DFD

Payment

Registration

Supplier

MusicStoreSYS

Supplier Details

CD

Order

## Level-1 DFD

P2

Manage Stock

D1

Supplier File

Supplier Details

CD Details

P1

Manage Suppliers

Supplier Details

CD Details

D2

CD File

CD Details

P3

Process Orders

P4

Report Analysis

Supplier Order

Supplier Details

Supplier

D1

Supplier File

Payment Statement

Payment Details

Payment

D3

Payment File

Supplier

## Level-2 DFD Manage Suppliers

P1.4

Generate Supplier List

Supplier Details

Supplier Details

P1.1

Register Supplier

Supplier Details

D1

Supplier File

Supplier Details

Supplier

Supplier

Updated Supplier Details

Updated Supplier Details

Supplier Details

Supplier Status

P1.3

Deregister Supplier

Supplier Details

P1.2

Update Supplier Details

## Level-2 DFD Manage Stock

P2.4

Query CDS

P2.1

Insert New CDS

CD Details

CD Details

D2

CD File

CD Details

Updated CD Details

CD Status

P2.3

Discontinue CDS

P2.2

Update New CDS

CD Details

## Level-2 DFD Process Orders

P3.2

Receive Order

P3.1

Place Pre-Order

CD Details

D2

CD File

Supplier

Supplier

P3.3

Record Supplier Payment

Payment Details

D1

Supplier File

D3

Payment File

## Level-2 DFD Administration Analysis

P4.1

Analyse CD Sales

P4.2

Analyse CD Stock

CD Details

CD Details

D2

CD File

# Data Model (Class Diagram)

Brief introduction……

## Class Diagram

Object Model – UML Class Diagram

Class diagram shows objects & attributes

## Relational Schema

Relational schema for the data requirements - Using ***bracket notation***

## Database Schema

A definition of the database to be implemented.

This includes primary key, foreign key and other constraints to be implemented.

**Schema:** MusicStoreSYS.sql

**Relation**

**Relation**

**Relation**

**Relation**

# Conclusion

# Appendices

## Appendix A – Title

## Appendix B – Title

Might include:

* **Lookup / Reference tables**
* **Sample reports / Listings**