
TSE2101

Final Report

for

GAME MUSEUM

MANAGEMENT SYSTEM

Version <1.0>

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Ng Chin Ann Khor Kia Kin Tey Meng Kiat Lai Cxen Voen	<p>Chin Ann do coding for Member-related functionalities and feedback-related functionalities. Revise ERD, data dictionary, and class diagram. Help do test data, acceptance test, summary of results, and conclusion.</p> <p>Kia Kin do coding for Guest-related functionalities and feedback-related functionalities. Do state diagram. Do test data, acceptance test, summary of results, and conclusion.</p> <p>Meng Kiat delegate programming tasks. Create access database according to data dictionary and ERD. Do coding for Admin-related functionalities and combine members' codes into one final program. Do sample screens.</p> <p>Cxen Voen do coding for registration, view events, and search event.</p>	22/9/16

1 Project Management

1.1 Team Members

Team Leader: Ng Chin Ann

- Distribute the tasks and responsibilities to group members.
- Plan and organise the meetings.
- Plan the activities to be done in particular weeks and prepare the schedule for the project.
- Manage the project based on a chosen process model.
- Track the progress of team members.

Programming Leader: Tey Meng Kiat

- Design the software architecture.
- Manage the overall code development process.
- Delegate the programming tasks to group members.
- Maintain and debug the software based on user feedbacks and requirements.

Document Manager: Khor Kia Kin

- Develop and maintain the documentation.
- Document the source code.
- Develop and maintain the user manual.

Quality Manager: Lai Cxen Voen

- Check whether the software fulfils the user requirements.
- Receive feedback from the end users.
- Test the software to make sure its functionalities work well.
- Check the source code and software design whether they are of good quality.
- Check whether the documentation is of good quality.

1.2 Project Plan

The software process model used in this project is V model. V model can be considered as an extension of waterfall model. Similar with waterfall model, every phase in V model must be completed before going to next phase. Instead of moving down in a linear way, V model demonstrate testing of products in parallel with a corresponding phase of development process. This mean that activities like requirement modelling, architectural and component designing are tested before the coding or prototype producing, this save a lot of time.

2 System Overview

2.1 Description

With the application, the guest, member and administrator can view the souvenirs, collections and events. They can also search for a particular souvenir and collection.

Both guest and member can fill feedback forms about the museum and system. Guest who registers to be a member gains new privileges such as purchasing a souvenir and a ticket, loaning an item, and donating an item.

The application also provides functionalities for the administrator to manage the system. These functionalities include creating and editing the souvenirs, collections, events, and feedback forms, approving the loans and donations, calculating the profit and loss of museum, generating response form and summary of feedbacks, and check-in and check-out the employees.

2.2 Actors

Guest:

- View souvenir catalogue.
- View collections.
- View event details.
- Fill feedback forms about the museum and the system.
- Register as a member to gain member privilege.

Member:

- View souvenir catalogue.
- View collections.
- View event details.
- Order souvenirs from catalogue.
- Loan collections for certain purposes.
- Pre-purchase admission tickets.
- Fill feedback forms about the museum and the system.
- Donate or sell items by filling a form.

Admin:

- View souvenirs catalogue.
- View collections.
- View event details.
- Manage souvenir database.
- Manage collection database.
- Manage event details.
- Manage employee database.
- Calculate profit and loss of the museum.
- Approve loan of collections for members.
- Approve donation or selling of items by members.
- Create feedback forms about the museum and the system.
- Generate response form and summary based on feedback provided.
- Check-in and check-out employees from the system during working time.

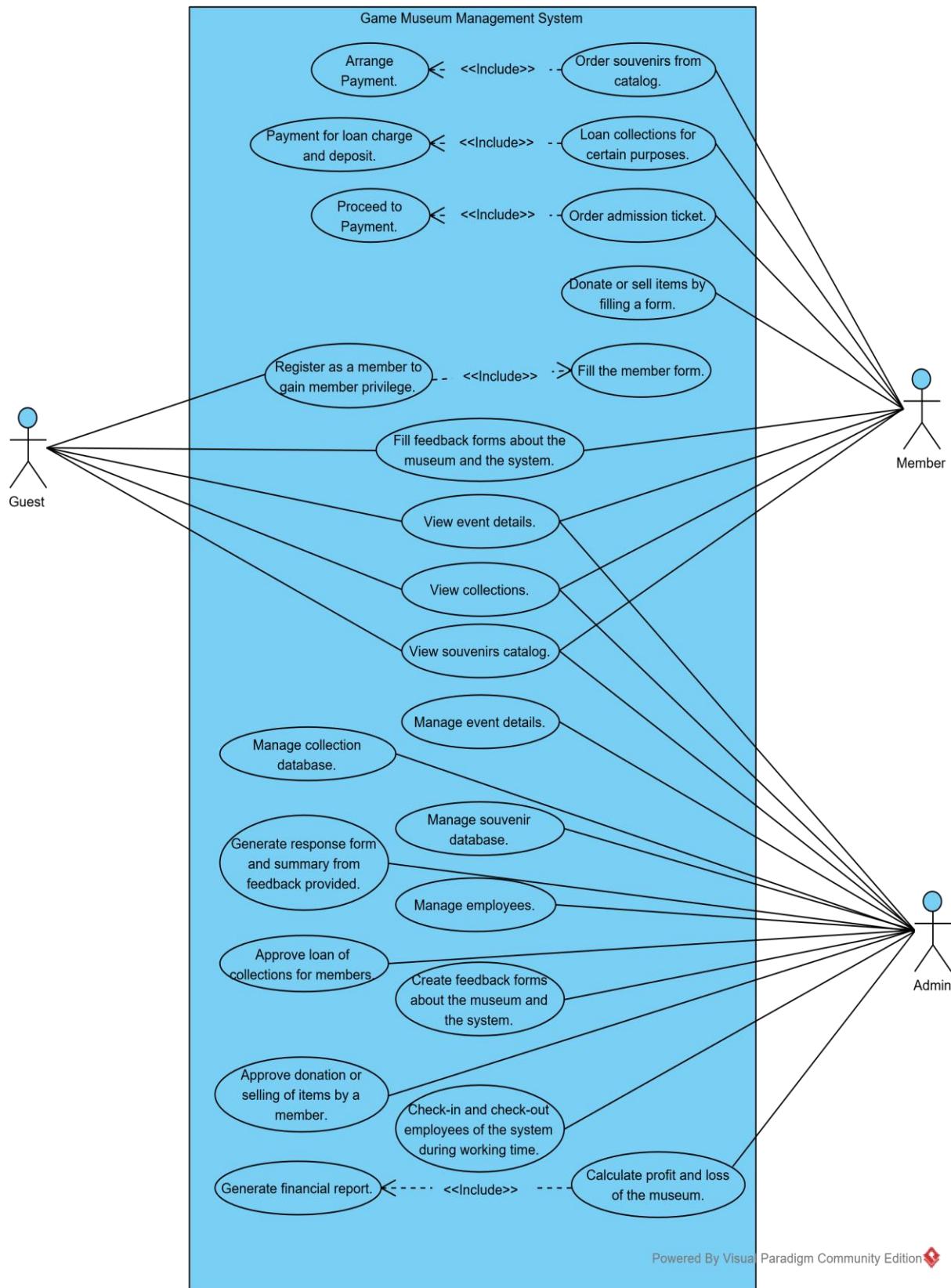
2.3 Assumptions and Dependencies

It is assumed that the users of this system are familiar with handling a keyboard and a mouse since the system will be click-and-type based. It is also assumed their computers meet the hardware requirements.

For administrators of the system, it is assumed that their computers install required development tools such as Visual Studio and Microsoft Access, a database management system (DBMS). A DBMS is required to store data for souvenirs, collections, and employees. The database should also have backup capabilities.

The development of the system will be constrained by the availability of the required software previously mentioned. Depending on time constraints, the system may have some additional features such as video streaming to introduce the museum, a good security system, a language changing function, etc.

2.4 Use Case Diagram



3 Basic Requirements

3.1 Guest:

Use Case 1: View souvenir catalogue.

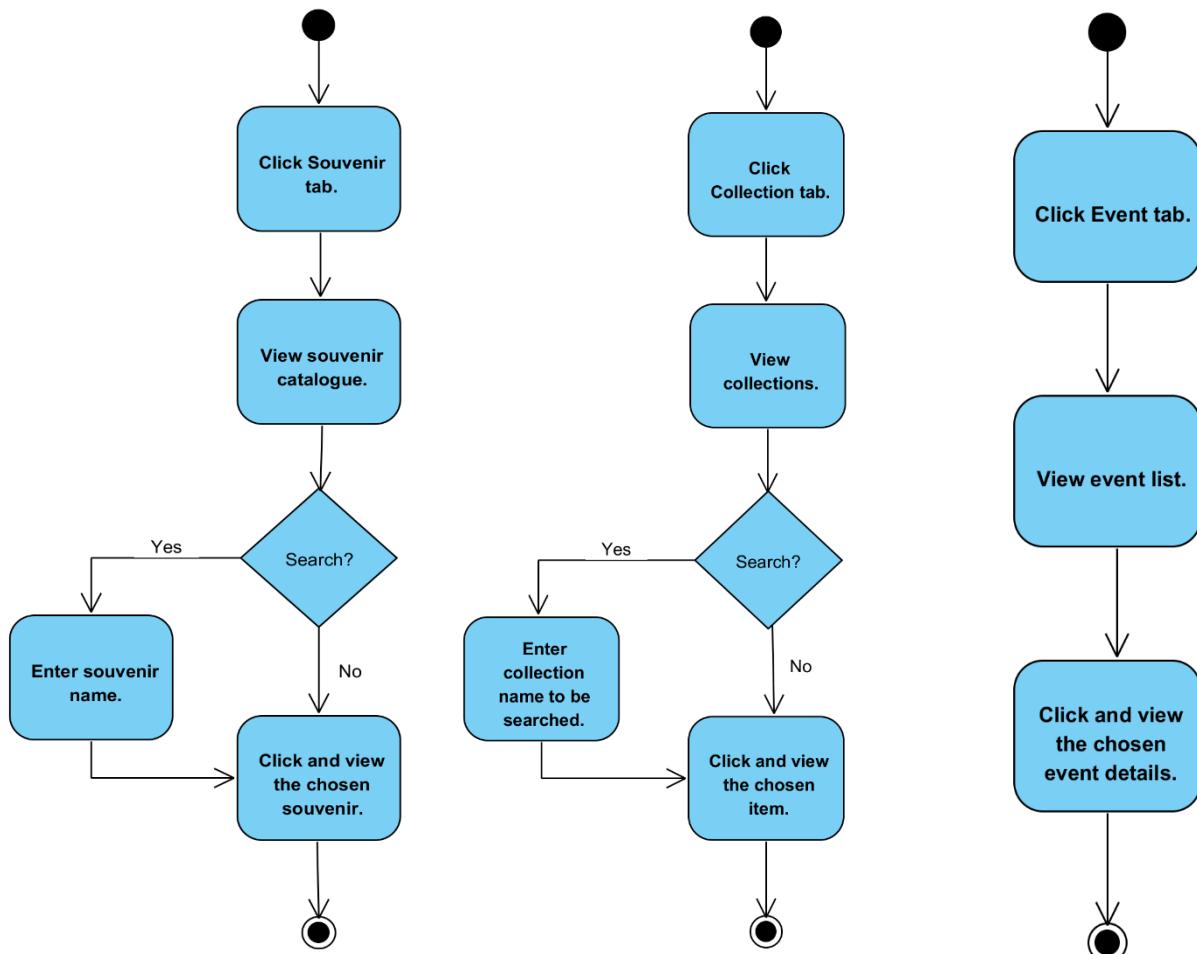
The guest can view the souvenir catalogue which is produced by the museum. *Refer to AD1.*

Use Case 2: View collections.

The guest can view the collections that are available in the exhibit hall or store room before they visit. *Refer to AD2.*

Use Case 3: View event details.

The guest can view the events which are organised by museum management. The events will be listed in descending date order. They can check details such as date, description and venue. *Refer to AD3.*

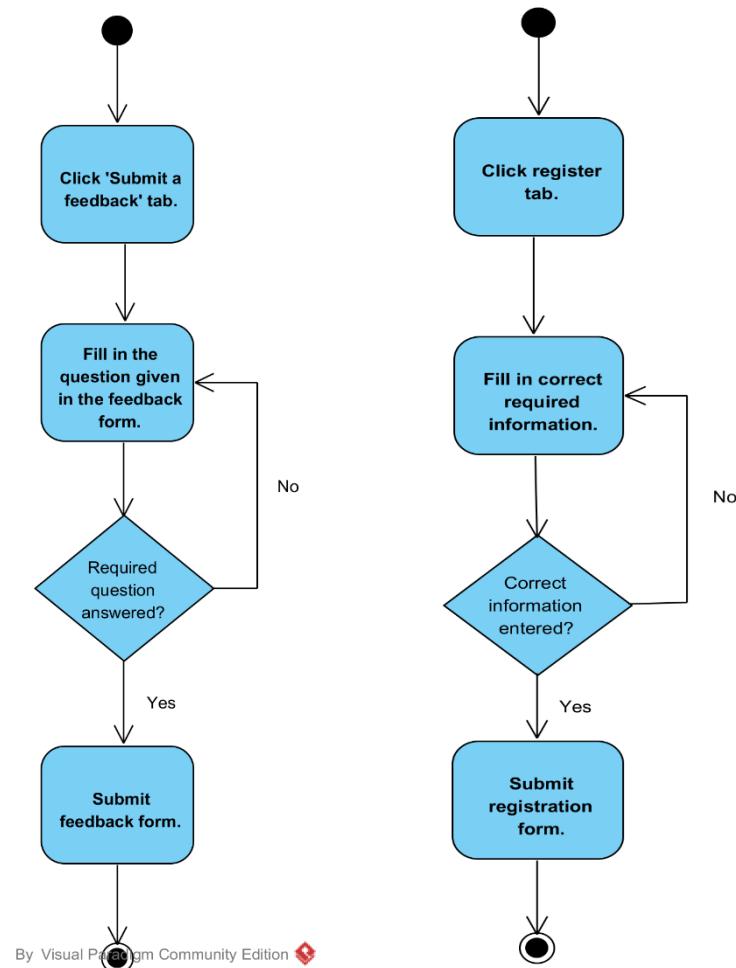


Use Case 4: Fill feedback forms about the museum and the system.

The guest can fill feedback forms which are provided by the system administrator to give their opinions about the system and the museum. They can answer about their user experience, report bugs, and comment about museum facilities. *Refer to AD4.*

Use Case 5: Register as a member to gain member privilege.

The guest will be able to register as a member so that they can gain member privileges such as purchasing a souvenir, loaning a collection, booking a ticket or even selling an item. *Refer to AD5.*



AD4. Fill feedback form.

AD5. Register as member.

3.2 Member:

Use Case 1: View souvenir catalogue.

The member can view the souvenir catalogue which is produced by the museum. *Refer to AD1.*

Use Case 2: View collections.

The member can view the collections that are available in the exhibit hall or store room before they visit. *Refer to AD2.*

Use case 3: View event details.

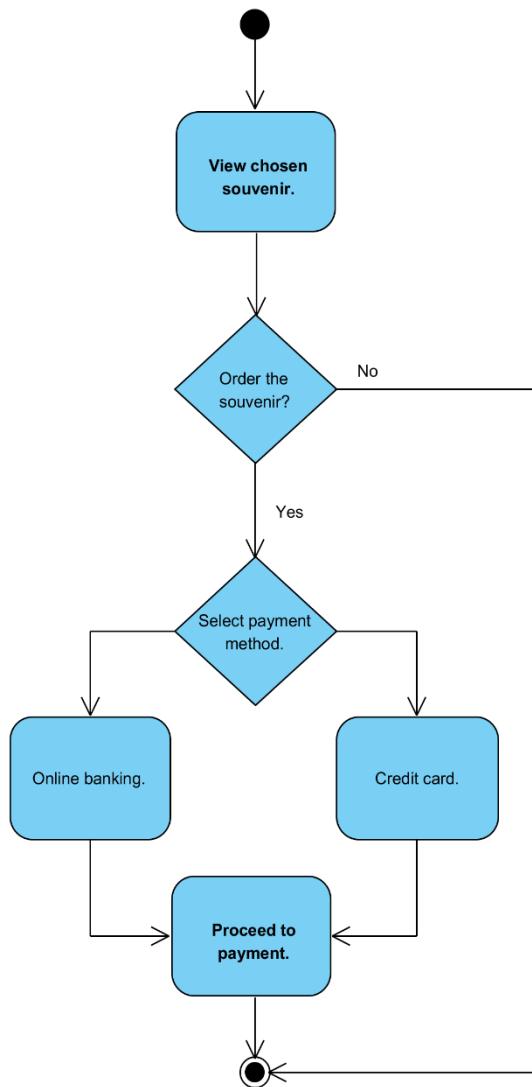
The member can view the events which are organised by museum management. The events will be listed in descending date order. They can check details such as date, description and venue. *Refer to AD3.*

Use Case 4: Order souvenirs from catalogue.

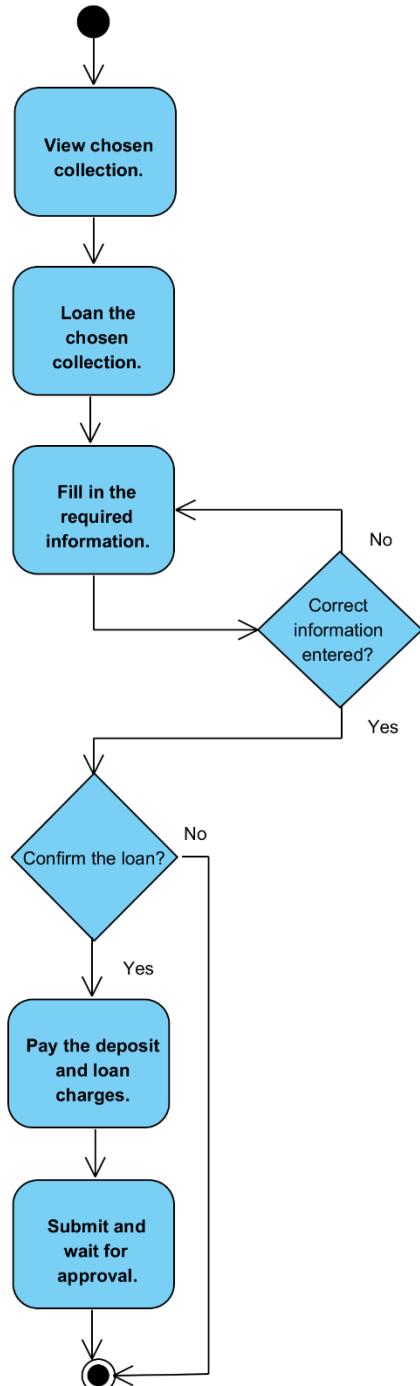
The member can order the souvenirs manufactured by the museum and then proceed to pay via credit or debit card only. After payment, the system will auto generate a receipt as order history for future reference. *Refer to AD6.*

Use case 5: Loan collections for certain purposes.

The member can loan collections that are available in the store room or some of them in the exhibit hall for certain purposes such as doing research of exhibiting them in another place. Charges and deposit will be applied to the loan. After payment, the system will auto generate a receipt as loan history for future reference. *Refer to AD7.*



AD6. Order souvenirs from catalogue.



AD7. Loan collections.

Use case 6: Order admission tickets.

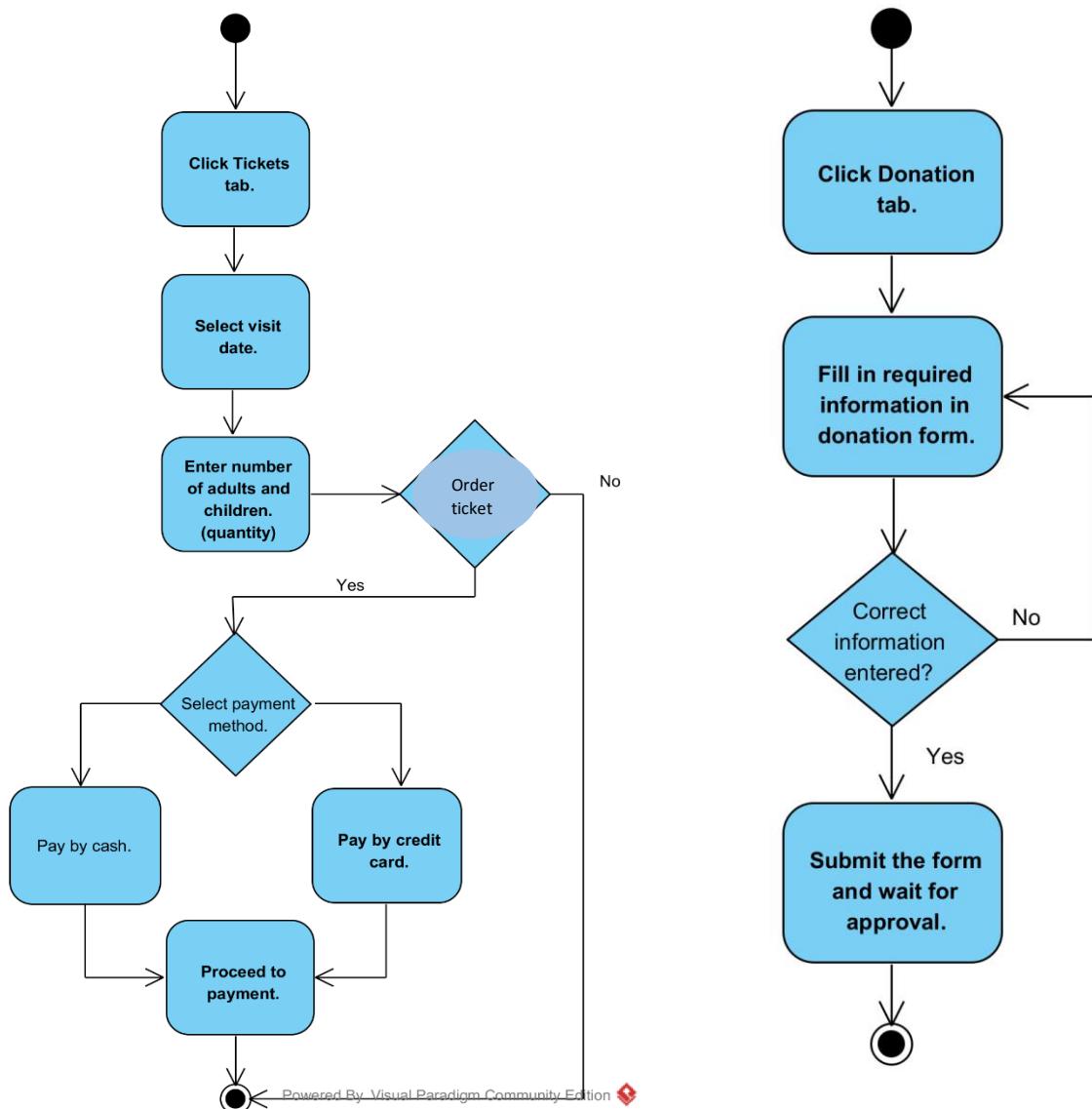
The member can order tickets if they want to visit the museum. The charge for a ticket is based on adult or children without regard to the events available on that day. They can choose to pay it by credit card or pay by cash later. Then, the system will auto generate tickets for printing purpose or for further reference. *Refer to AD8.*

Use case 7: Fill feedback forms about the museum and the system.

The member can fill feedback forms which are provided by the system administrator to give their opinions about the system and the museum. They can answer about their user experience, report bugs, and comment about museum facilities. *Refer to AD4.*

Use case 8: Donate or sell items by filling a form.

The member can donate or sell their items which are valuable or historical to the museum by filling a donation form which consists of name, contact number and description of the item. They will need to state a price if they wish to sell or put zero if they want to donate. Then they need to wait for approval from the museum management. *Refer to AD9.*



AD8. Order admission ticket.

AD9. Donate/sell item.

3.3 Admin:

Use case 1: View souvenir catalogue.

The admin can view the souvenir catalogue which is produced by the museum. *Same as Refer to AD1.*

Use case 2: View collections.

The admin can view the collections that are available in the exhibit hall or store room before they visit. *Refer to AD2.*

Use case 3: View event details.

The admin can view the events which are organised by museum management. The events will be listed in descending date order. They can check details such as date, description and venue. *Refer to AD3.*

Use case 4: Manage souvenir database.

The admin can manage the souvenir database such as inserting new souvenirs inside the database, updating or editing the information of the souvenirs such as the name, price, description, or quantity, viewing the souvenirs database to get the required information or even deleting the souvenirs that are no longer available. *Refer to AD10.*

Use case 5: Manage collection database.

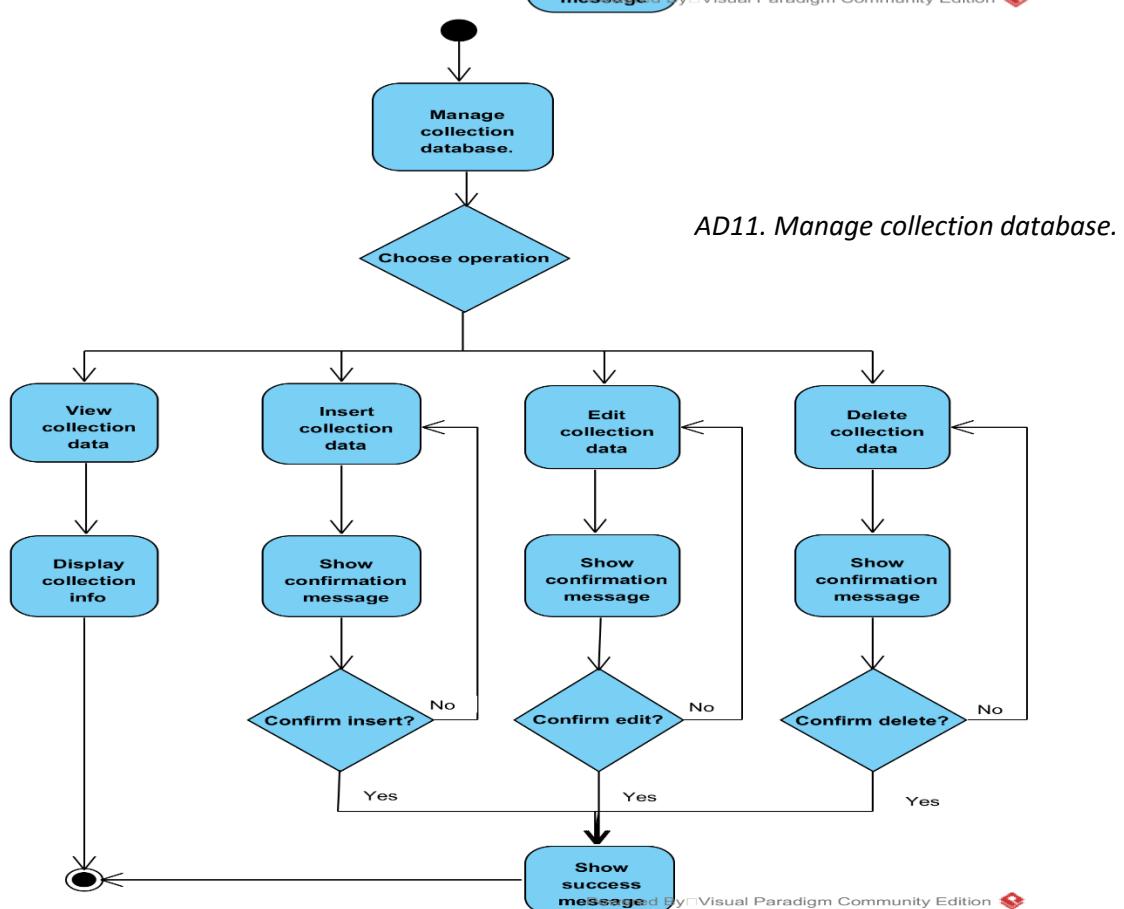
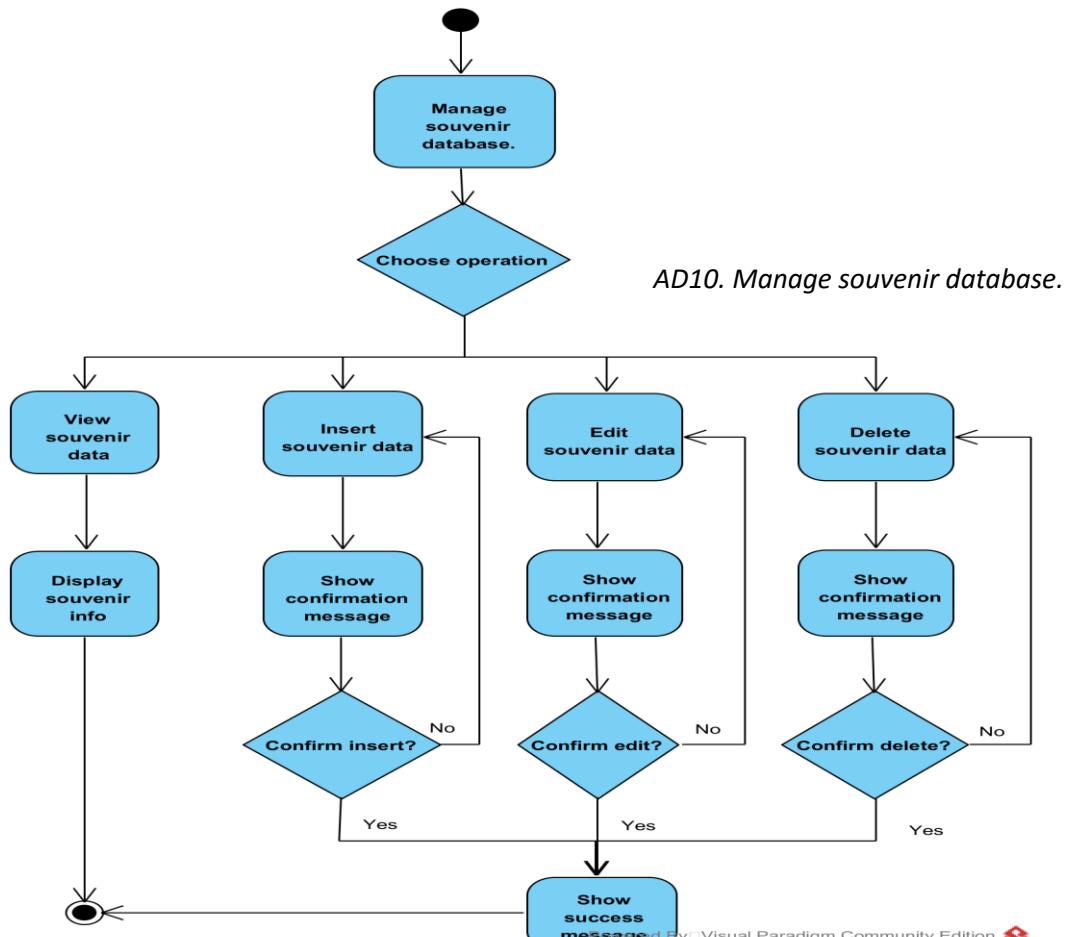
The admin can manage the collection database such as inserting new collection that are acquired by the museum management or donated by the members inside the database, updating or editing the information of the collection such as the name, description, loanability, quantity or date of acquisition, viewing the collection database to get the required information or even deleting the collections in certain circumstances. *Refer to AD11.*

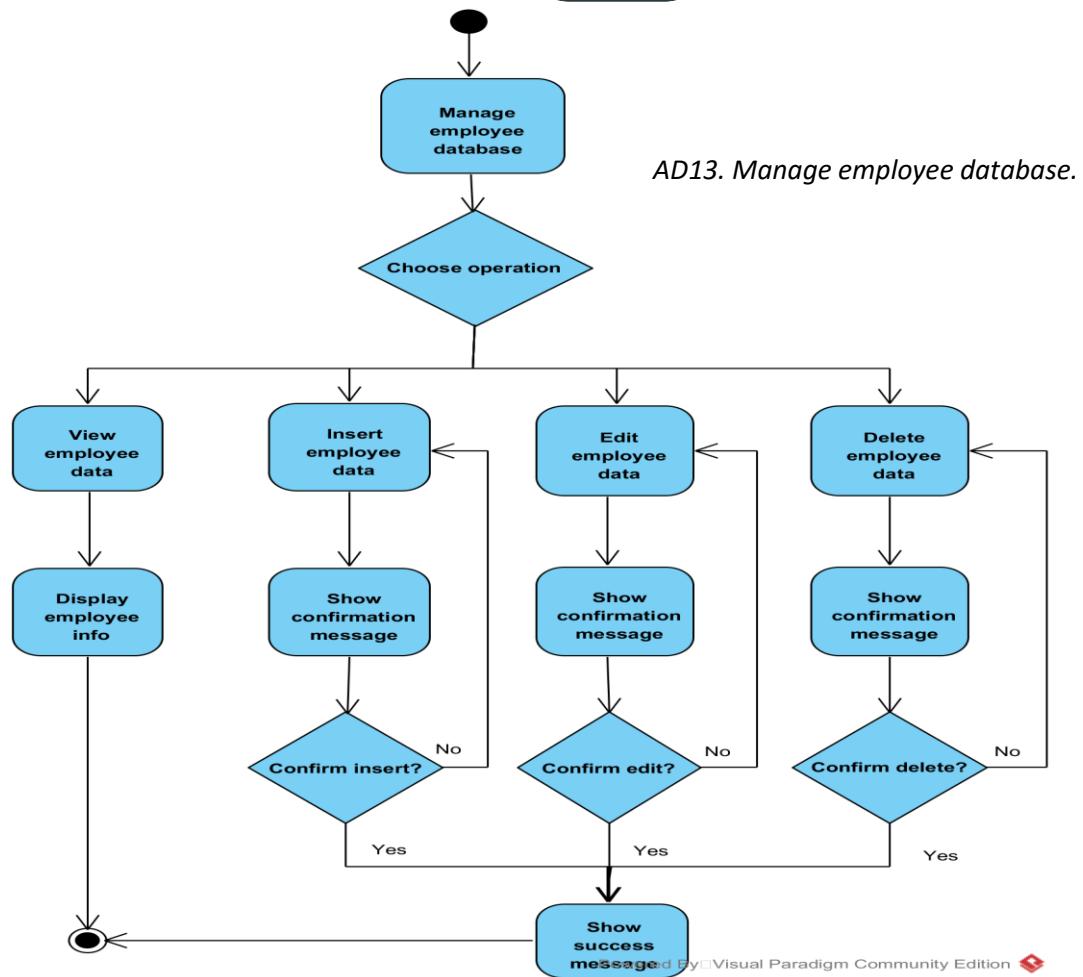
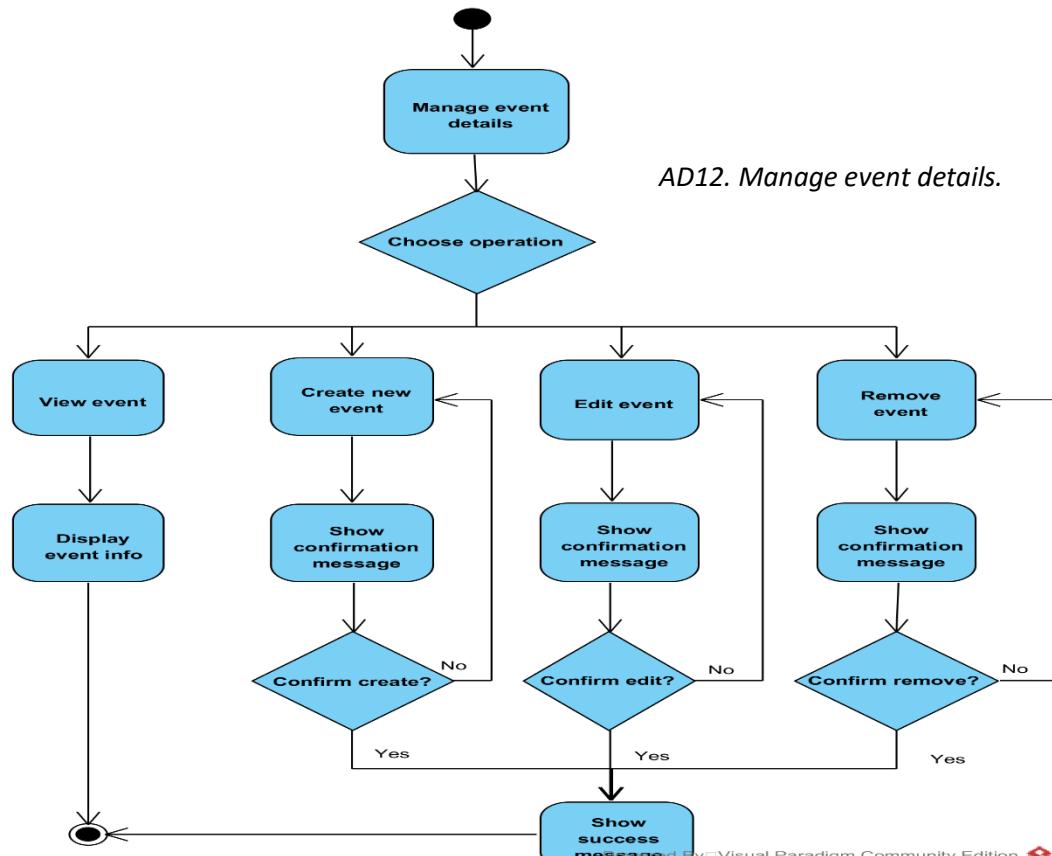
Use case 6: Manage event details.

The admin can manage the event details such as creating a new event by filling an event form with specified date, time, venue and description. They can also edit or remove an event or its details if there are errors. Then, the admin will save the event into the database. *Refer to AD12.*

Use case 7: Manage employee database.

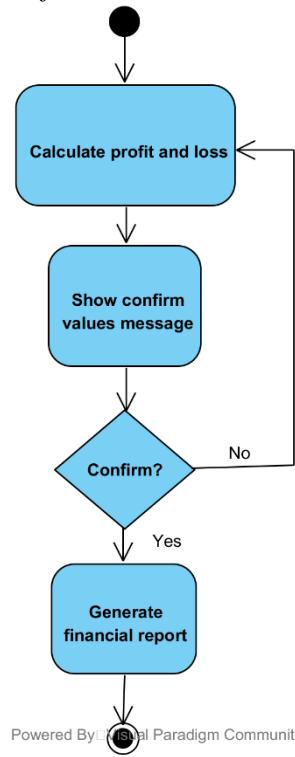
The admin can manage the employee database such as inserting new employee information inside the database, updating or editing the information of the employee such as the name, position, contact, address or salary, viewing the list of employees or even deleting the employees that are no longer working there. *Refer to AD13.*





Use case 8: Calculate profit and loss of the museum.

The admin can calculate the profit and loss of their museum and store them inside the database. They can also generate a financial report based on the profit and loss calculated. *Refer to AD14.*



AD14. Calculate profit and loss.

Use case 9: Approve loan of collections for members.

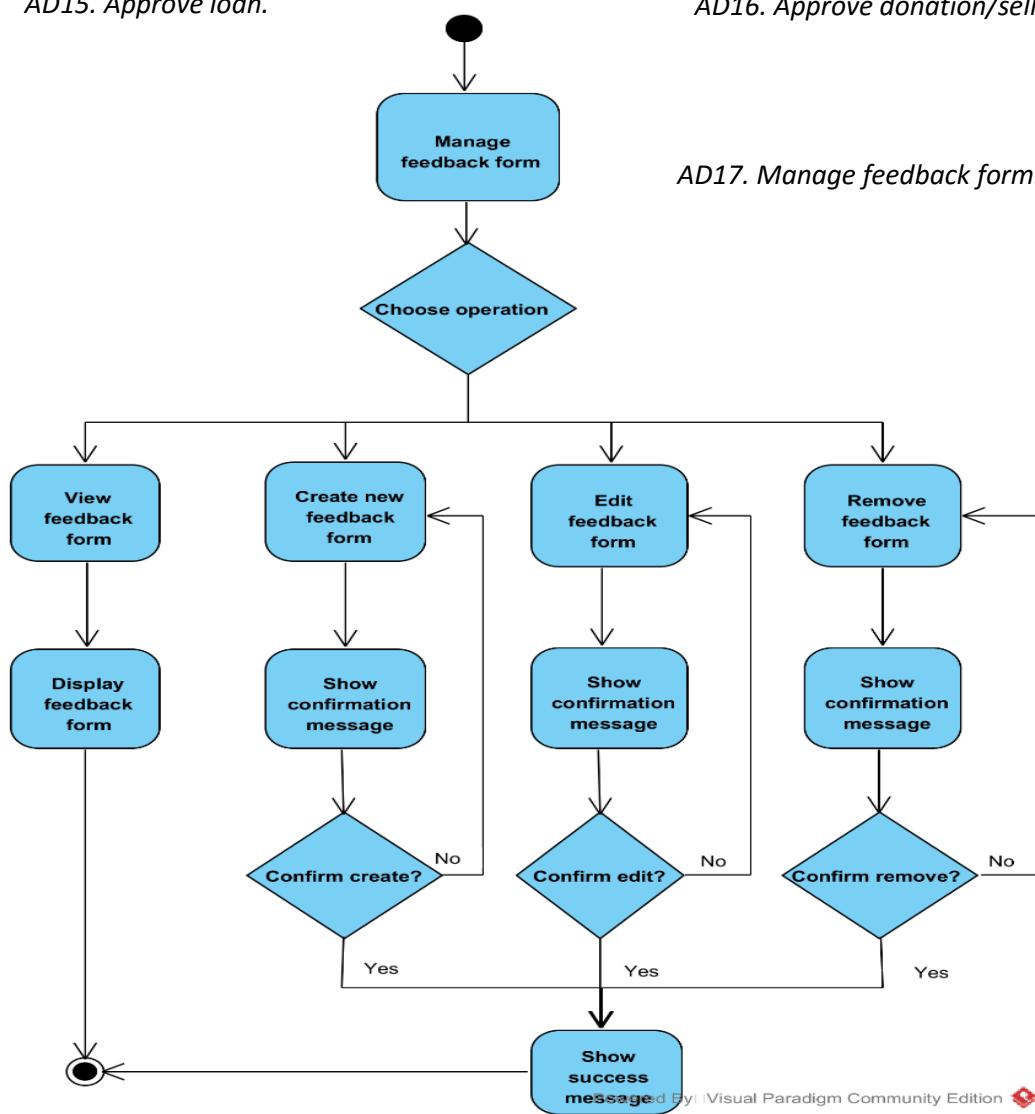
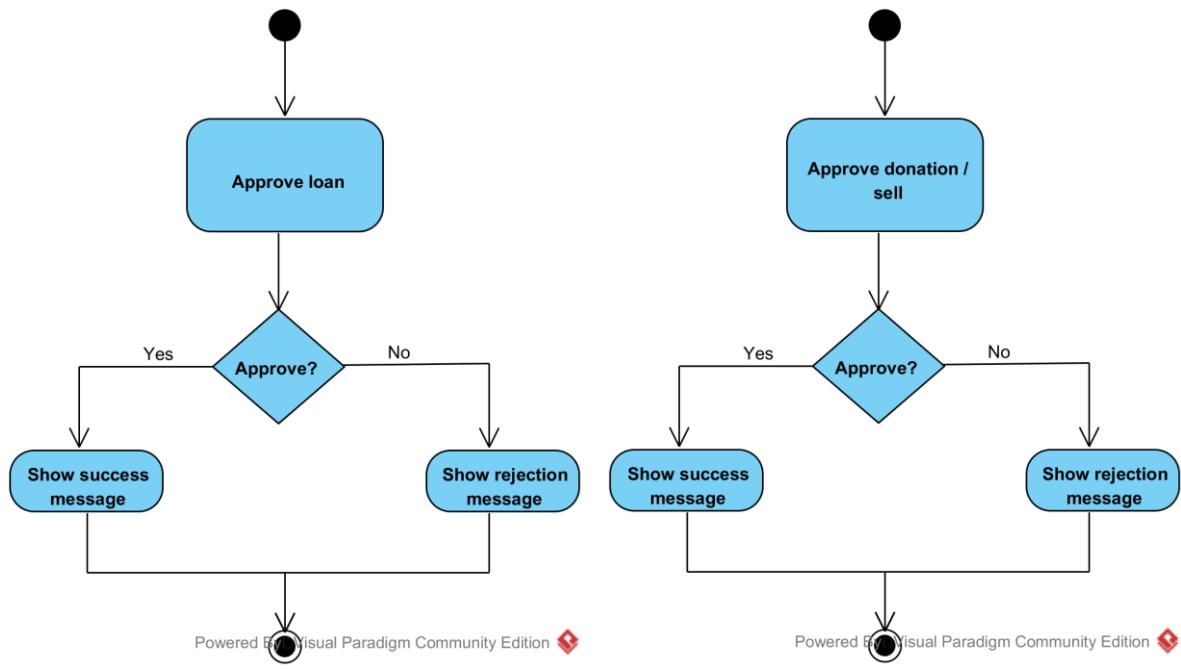
The admin can approve the loan of collection for the member. They have to check whether the member who want to loan the collection fulfils the requirements such as the verification for doing research, a formal company or government's approval to hold an exhibition. They have the right to reject the loan if the member does not fulfil the requirements. *Refer to AD15.*

Use case 10: Approve donation or sell of items by members.

The admin can approve donation or sell of items from the members. They will check the quality and value of the items before approving to ensure they are meaningful, valuable and collectible. After the items are approved, the admin will add them into the collections database. *Refer to AD16.*

Use case 11: Create feedback form about the museum and the system.

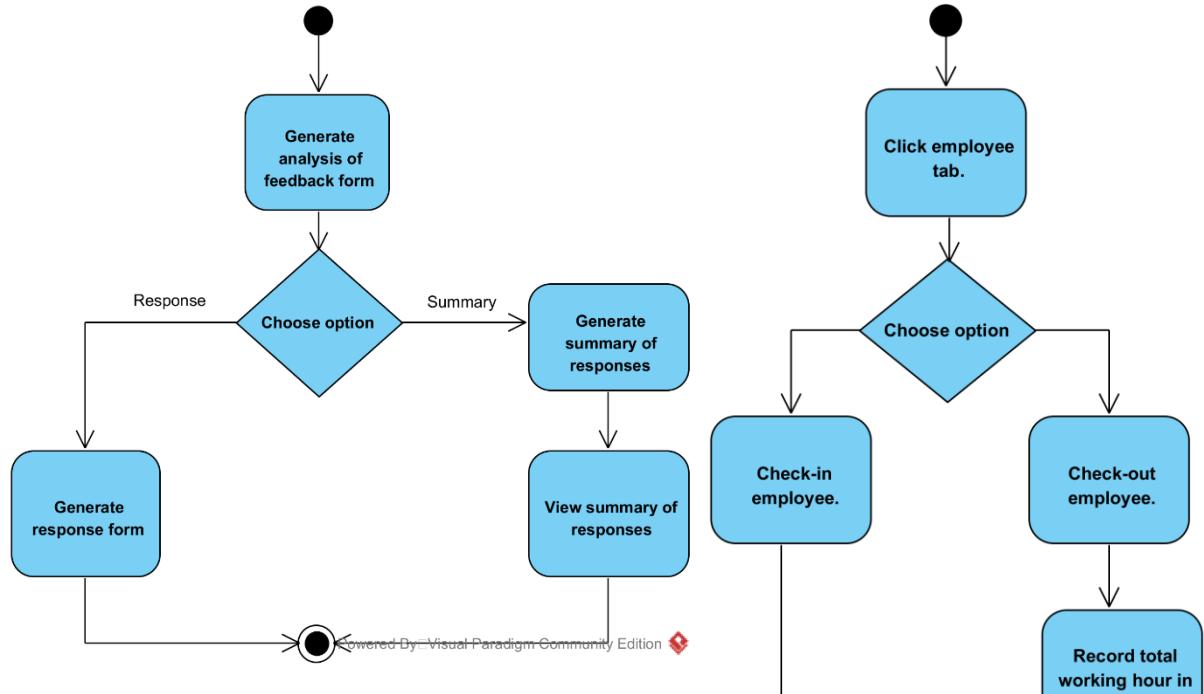
The admin can create a feedback form for doing some survey on their system or museum so that they can improve their system and museum. They will be prompt by a double check message before posting the feedback form because it cannot be edited once it is posted. Then, they can generate a response form and summary to do some analysis. *Refer to AD17.*



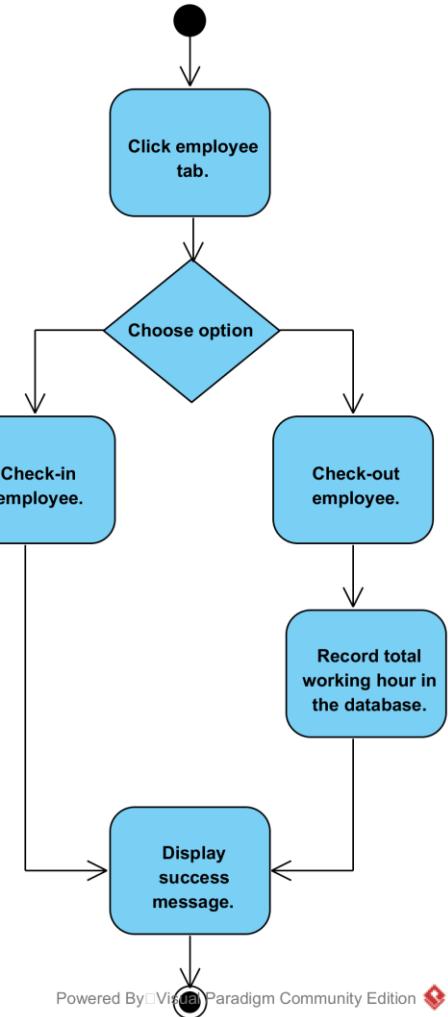
Use case 12: Generate response form and summary based on feedback provided.

The admin can generate a response form and a summary based on the feedback provided by the guests and members for further actions like analysis and upgrade of their system and museum facilities. *Refer to AD18.*

Use case 13: Check-in and check-out employees from the system during working time. The admin can check-in and check-out their employees from the system to calculate their working time so that they can track the total working time and calculate the monthly salary for their employees. *Refer to AD19.*



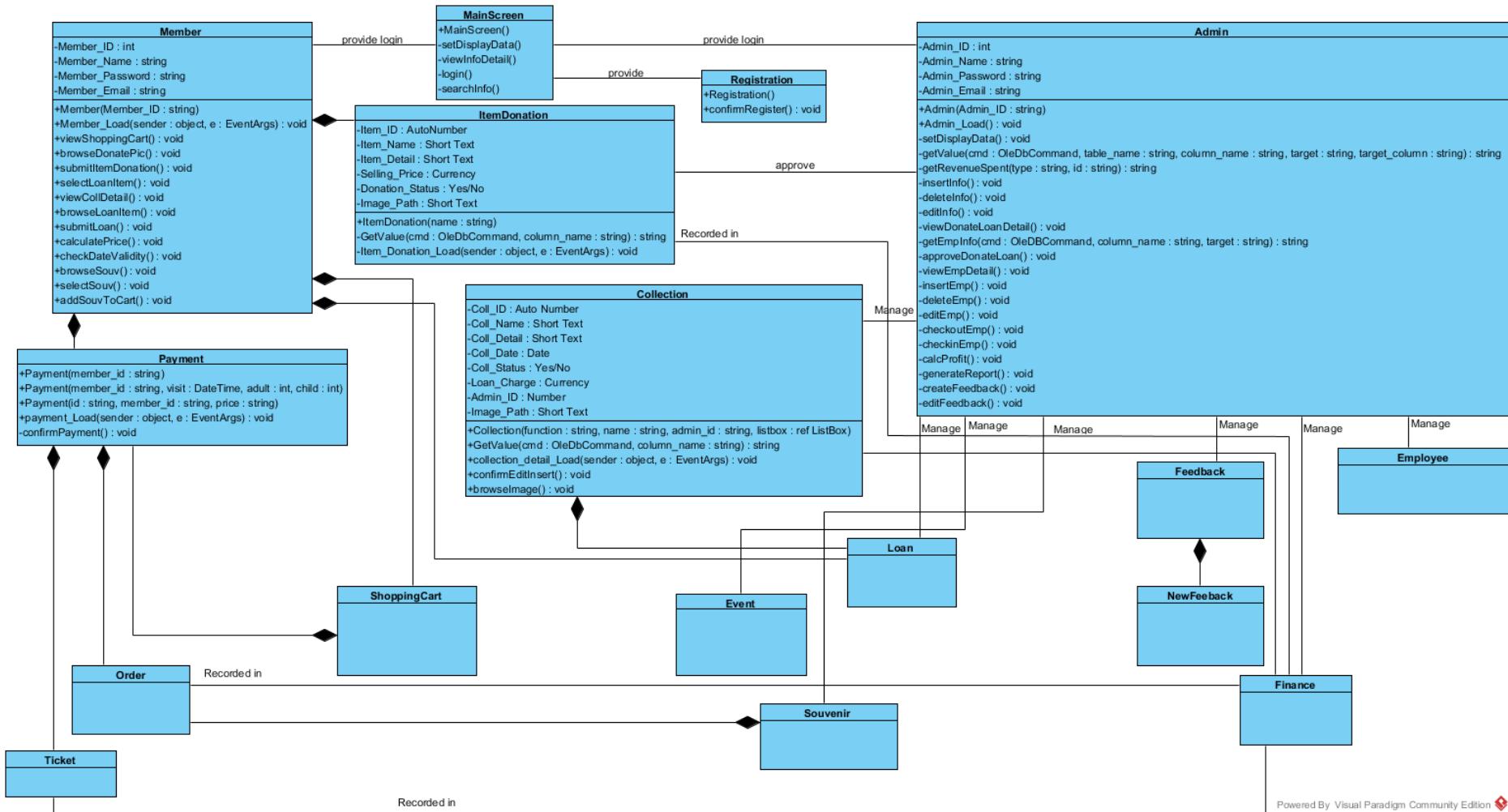
AD18. Manage analysis of feedback form.



AD19. Check-in and check-out employee.

4 Specific Requirements

4.1 Class Diagrams



Order
-Order_ID : AutoNumber
-Order_Date : Date
-Souv_ID : Number
-Member_ID : Number
-Total_Price : Currency
+Order()
+Order_Load(sender : object, e : EventArgs) : void

Employee
-Emp_ID : AutoNumber
-Emp_Name : Short Text
-Emp_WorkingHrs : Number
-Last_CheckIn : Number
-Last_CheckOut : Number
+Employee(function : string, name : string, listbox : ref ListBox, admin_id : string, listbox2 : ref ListBox)
+GetValue(cmd : OleDbCommand, column_name : string) : string
+employee_details_Load(sender : object, e : EventArgs)
-confirmEditInsert() : void

Ticket
-Ticket_ID : AutoNumber
-Ticket_Typr : Short Text
-Ticket_Price : Currency
-Ticket_Quantity : Number
+Ticket(member_id : string, visit : DateTime, adult : int, child : int)
+Purchase_Load(sender : object, e : EventArgs) : void

Souvenir
-Souv_ID : Number
-Souv_Name : Short Text
-Souv_Detail : Short Text
-Souv_Price : Currency
-Admin_ID : Number
-Image_Path : Short_Text
+Souvenir(function : string, name : string, listbox : ref ListBox, admin_id : string)
+GetValue(cmd : OleDbCommand, column_name : string) : string
+souvenir_detail_load(sender : object, e : EventArgs) : void
-confirmEditInsertSouv() : void
-browseSouvImage() : void

Finance
-Finance_ID : AutoNumber
-Finance_Type : Short_Text
-Finance_Date : Date
-Admin_ID : Number
-Order_ID : Number
-Purchase_ID : Number
-Loan_ID : Number
-Item_ID : Number
+GetValue(cmd : OleDbCommand, table_name : string, column) : string
+Finance(spent : DataGridView, revenue : DataGridView)
-get_revenuespent(type : string, id : string) : string

ShoppingCart
-Cart_ID : AutoNumber
-Cart_Souv_Name : Short Text
-Quantity : Number
-Cart_Souv_Price : Currency
+ShoppingCart(member_id : string)
+ShoppingCart_Load(sender : object, e : EventArgs) : void

Event
-Event_No : AutoNumber
-Event_Title : Short Text
-Event_Date : Date
-Event_Detail : Short Text

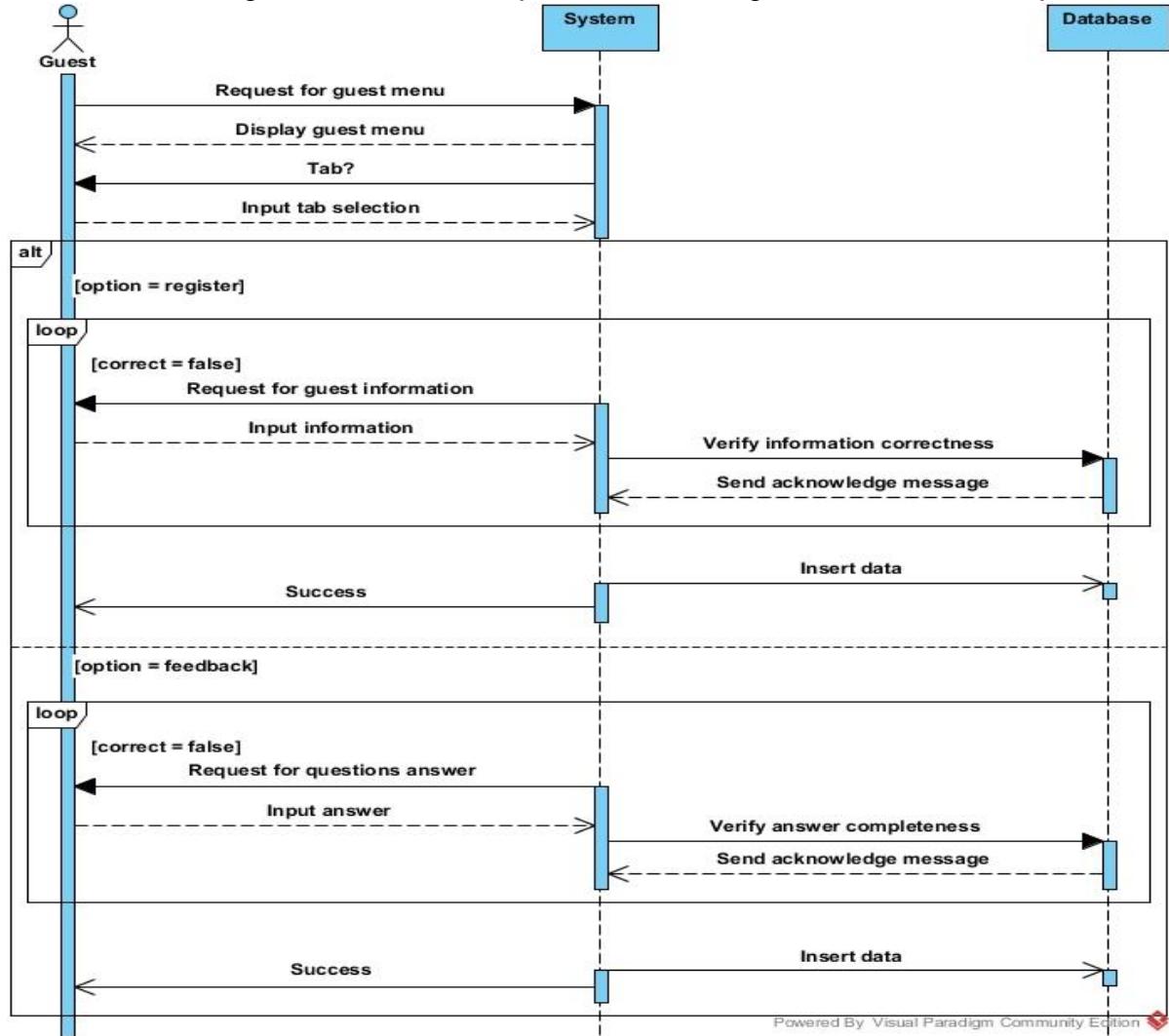
Feedback
-Feedback_ID : int
-Feedback_Title : string
+Feedback()
-Feedback_Load()
-viewFeedback()

Loan
-Loan_ID : AutoNumber
-Loan_Period : Number
-Loan_Purpose : Short_Text
-Loan_Status : Yes/No
-Loan_Price : Currency
-Member_ID : Number
-Admin_ID : Number
-Coll_ID_Number
+Loan(loan_id : string)
+Loan_Load(sender : object, e : EventArgs) : void

NewFeeback
-Feedback_Detail : string
-viewQuestion()
-addQuestion()
-editQuestion()
-removeQuestion()
-insertQuestion()

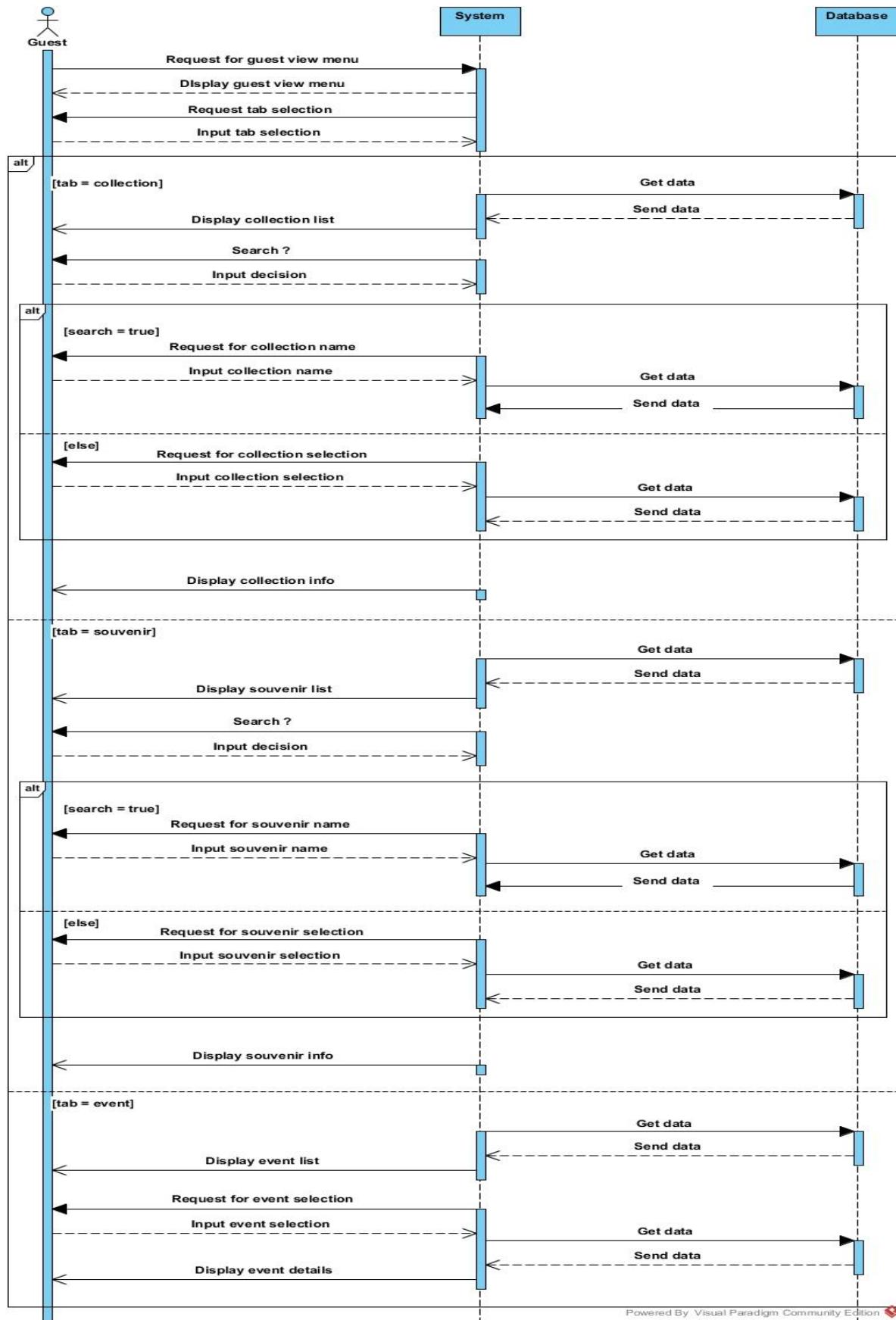
4.2 Sequence Diagrams

Use Case 1: Guest gives feedback (*Same for Member*) or registers as a member. Refer to SD1.



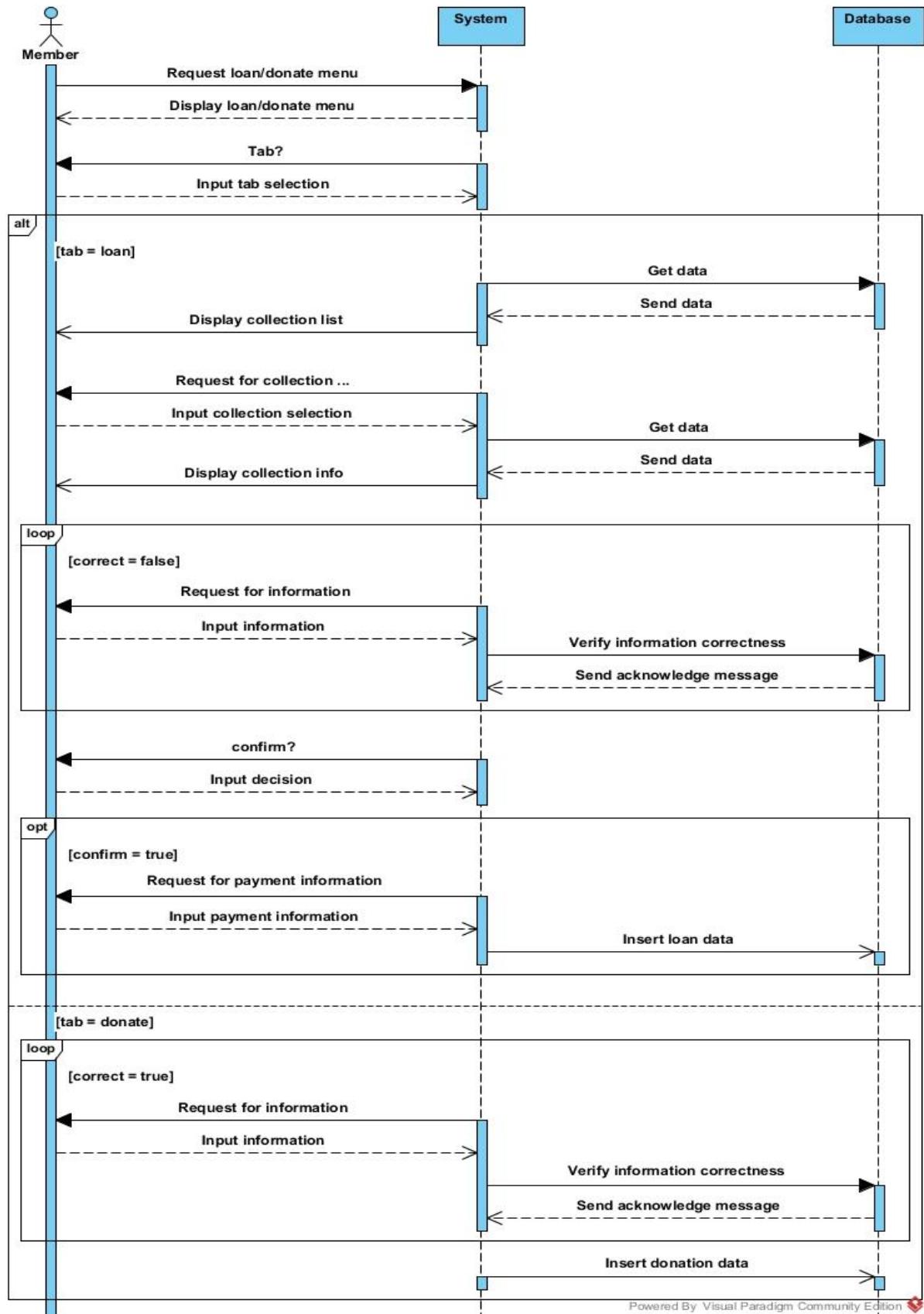
SD1. Register as member or gives feedback.

Use Case 2: Guest view collection, souvenir or event. *Same for Member and Admin. Refer to SD2.*



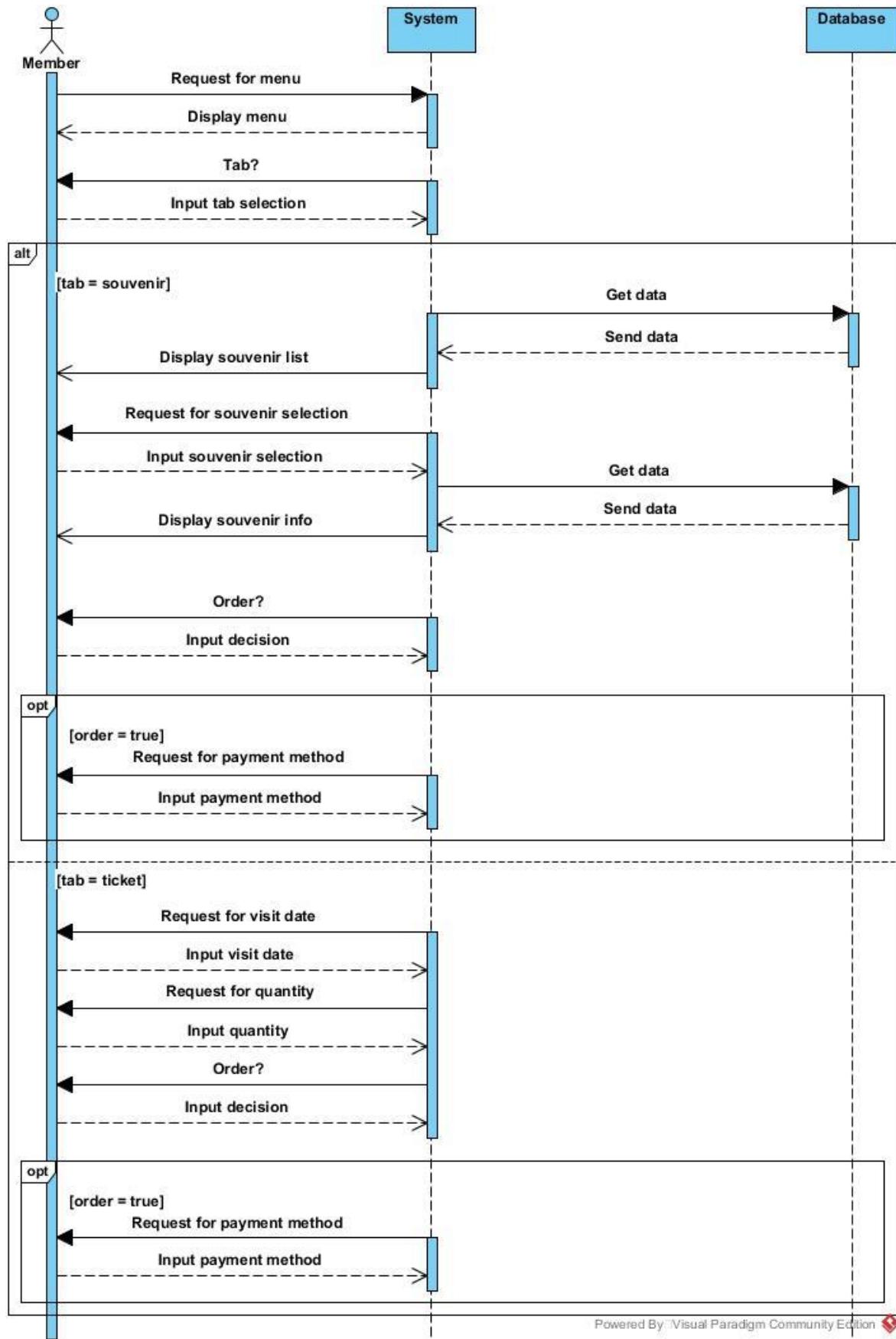
SD2. View collection, souvenir or event.

Use Case 3: Member loan or donate collection. Refer to SD3.



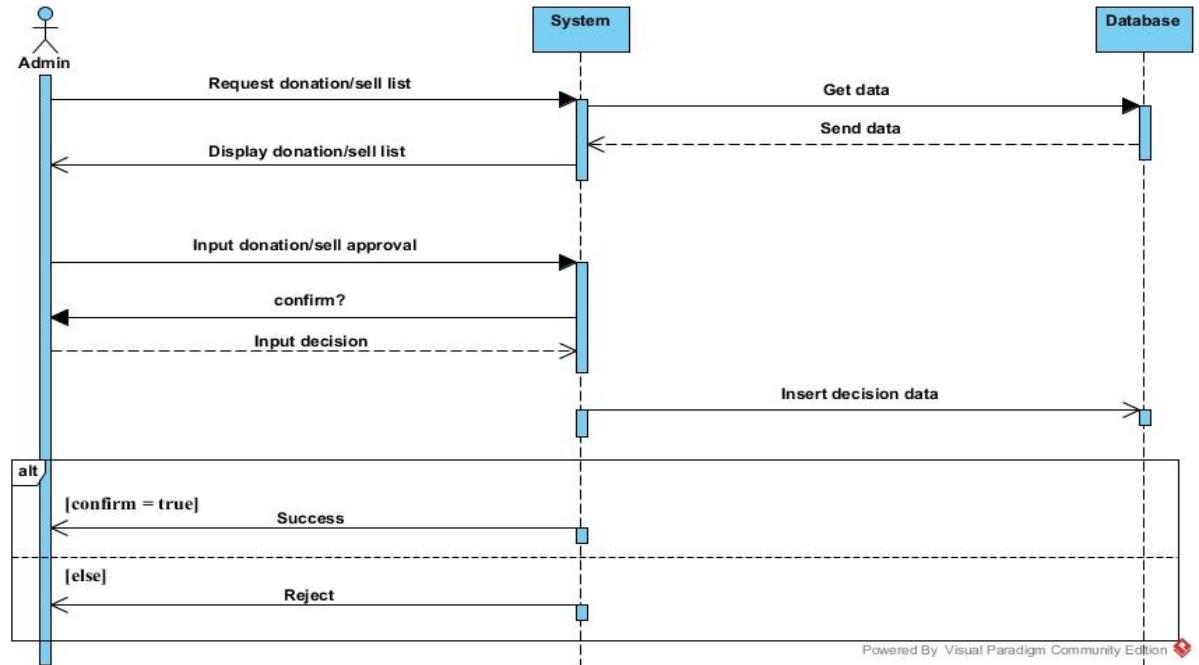
SD3. Loan or donate collection.

Use Case 4: Member order souvenir or ticket. Refer to SD4.



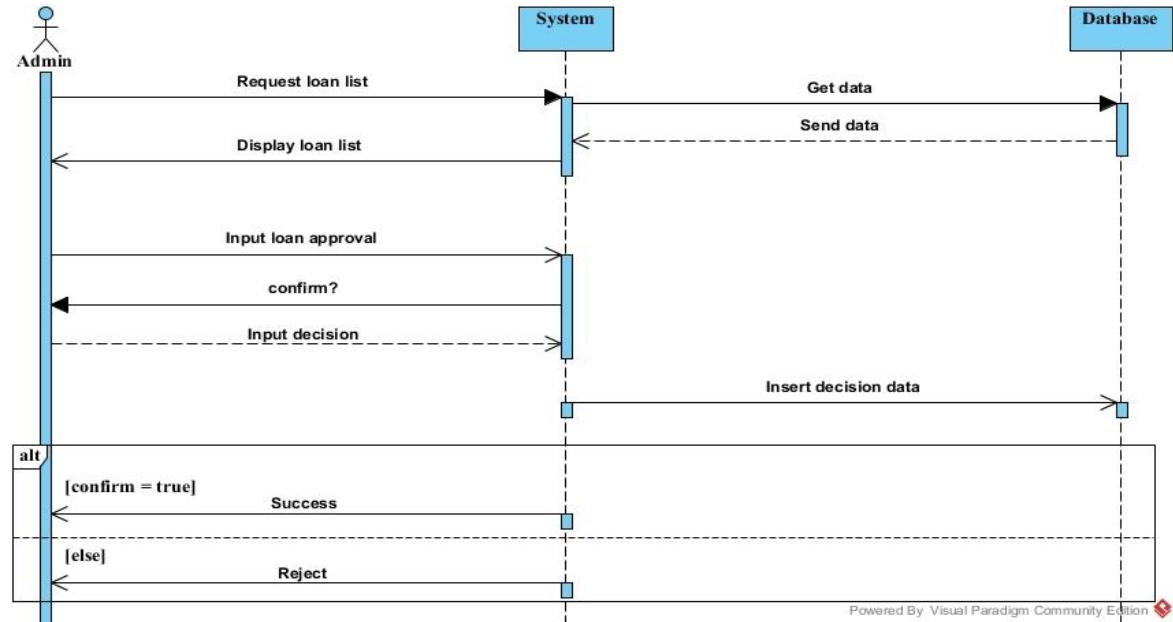
SD4. Order souvenir or ticket.

Use Case 5: Admin approve donation/sell. *Refer to SD5.*



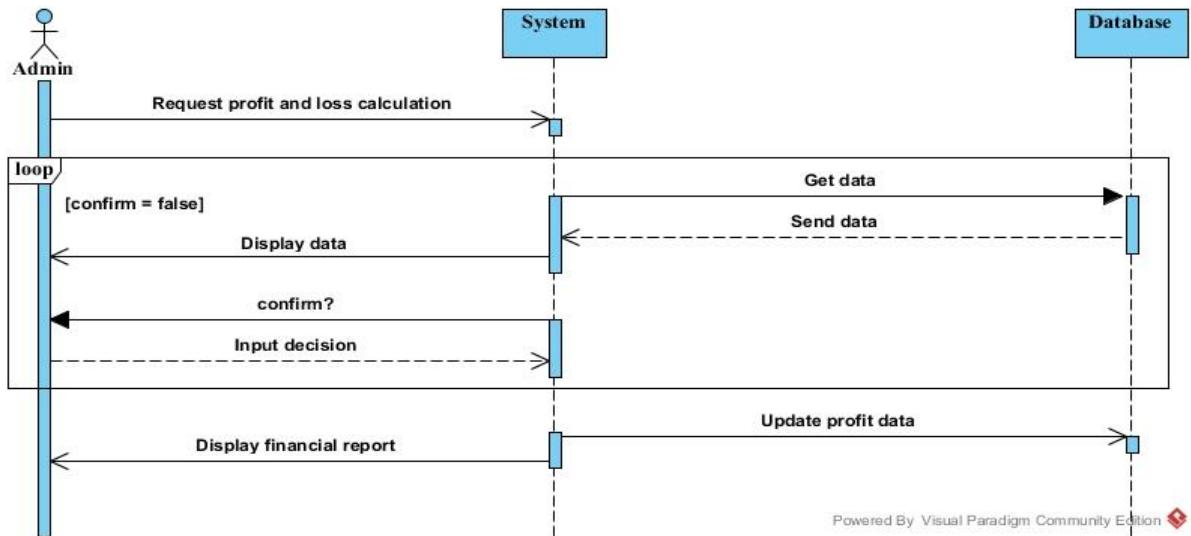
SD5. Approve donation/sell.

Use Case 6: Admin approve loan. *Refer to SD6.*



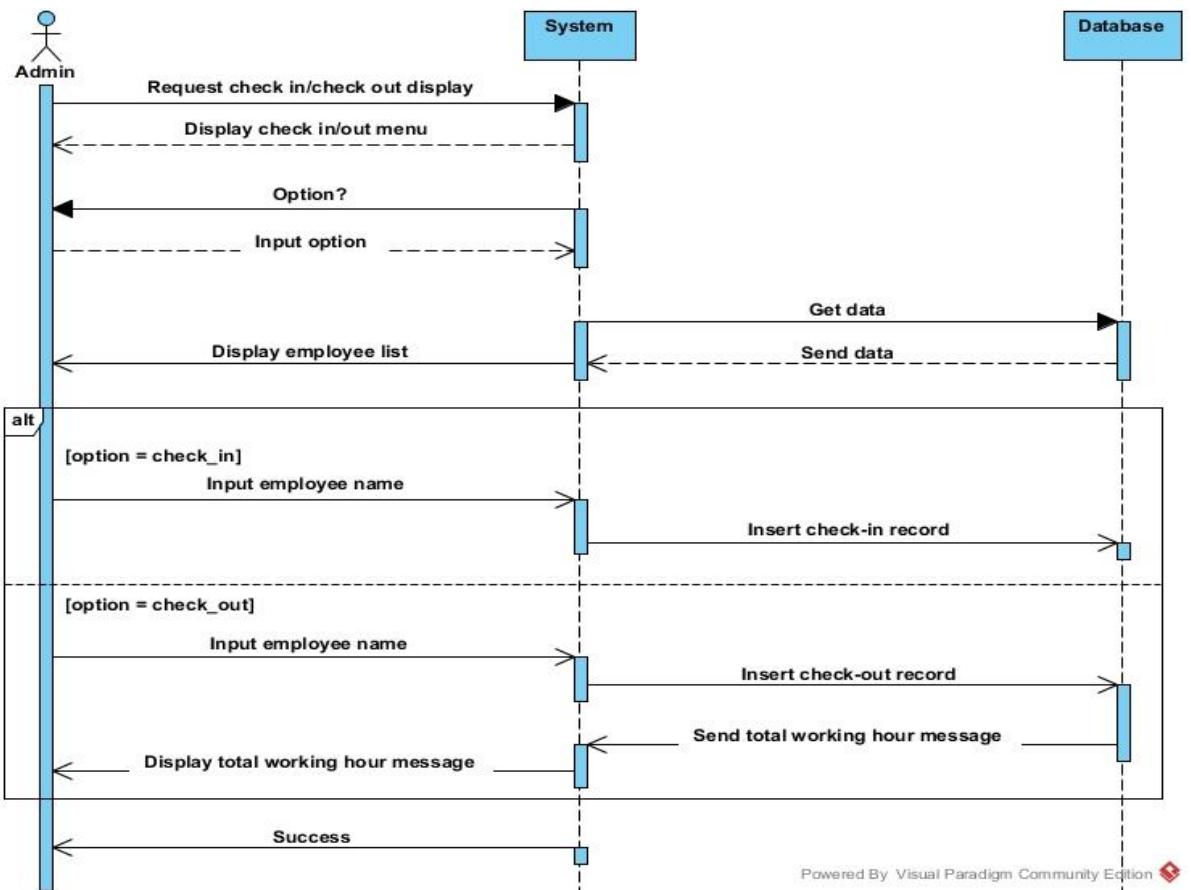
SD6. Approve loan.

Use Case 7: Admin calculate profit and loss. *Refer to SD7.*



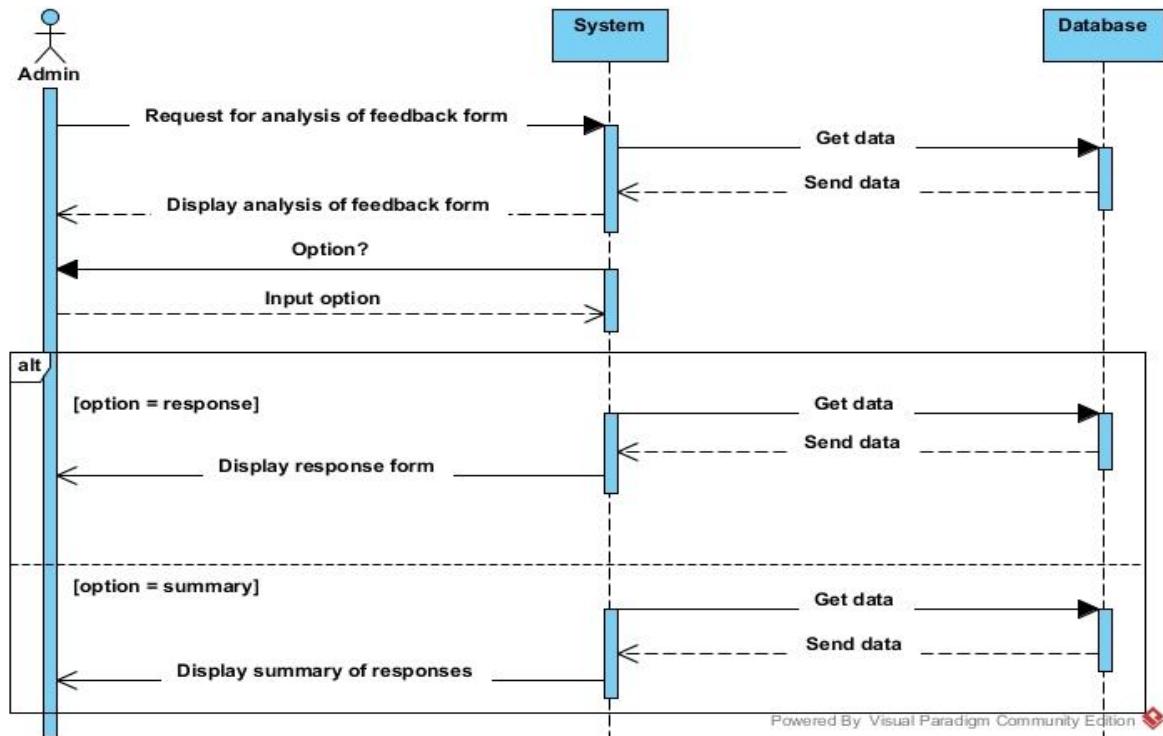
SD7. Calculate profit and loss.

Use Case 8: Admin check-in and check-out employee. *Refer to SD8.*



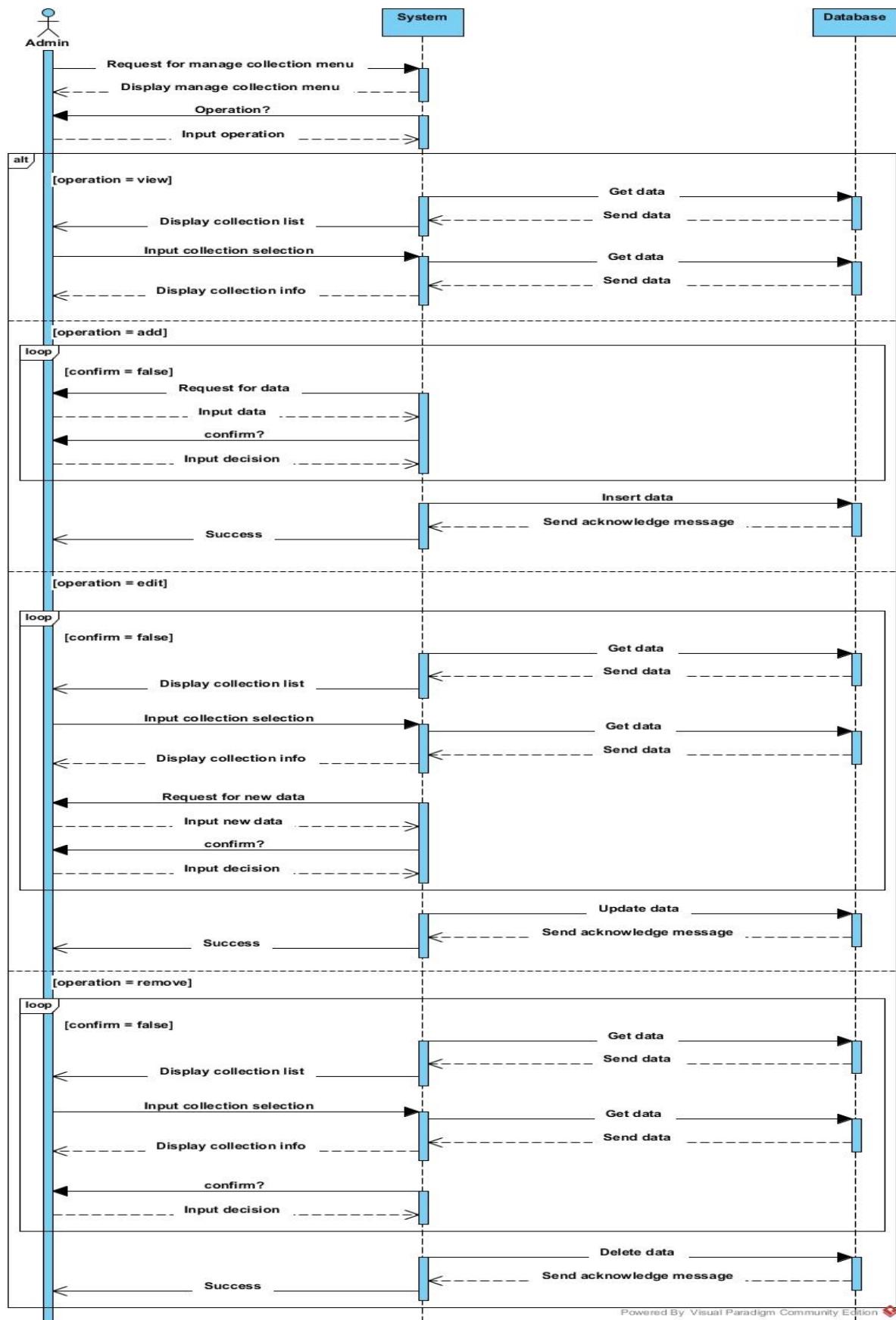
SD8. Check-in and check-out employee.

Use Case 9: Admin generate analysis of feedback form. Refer to SD9.



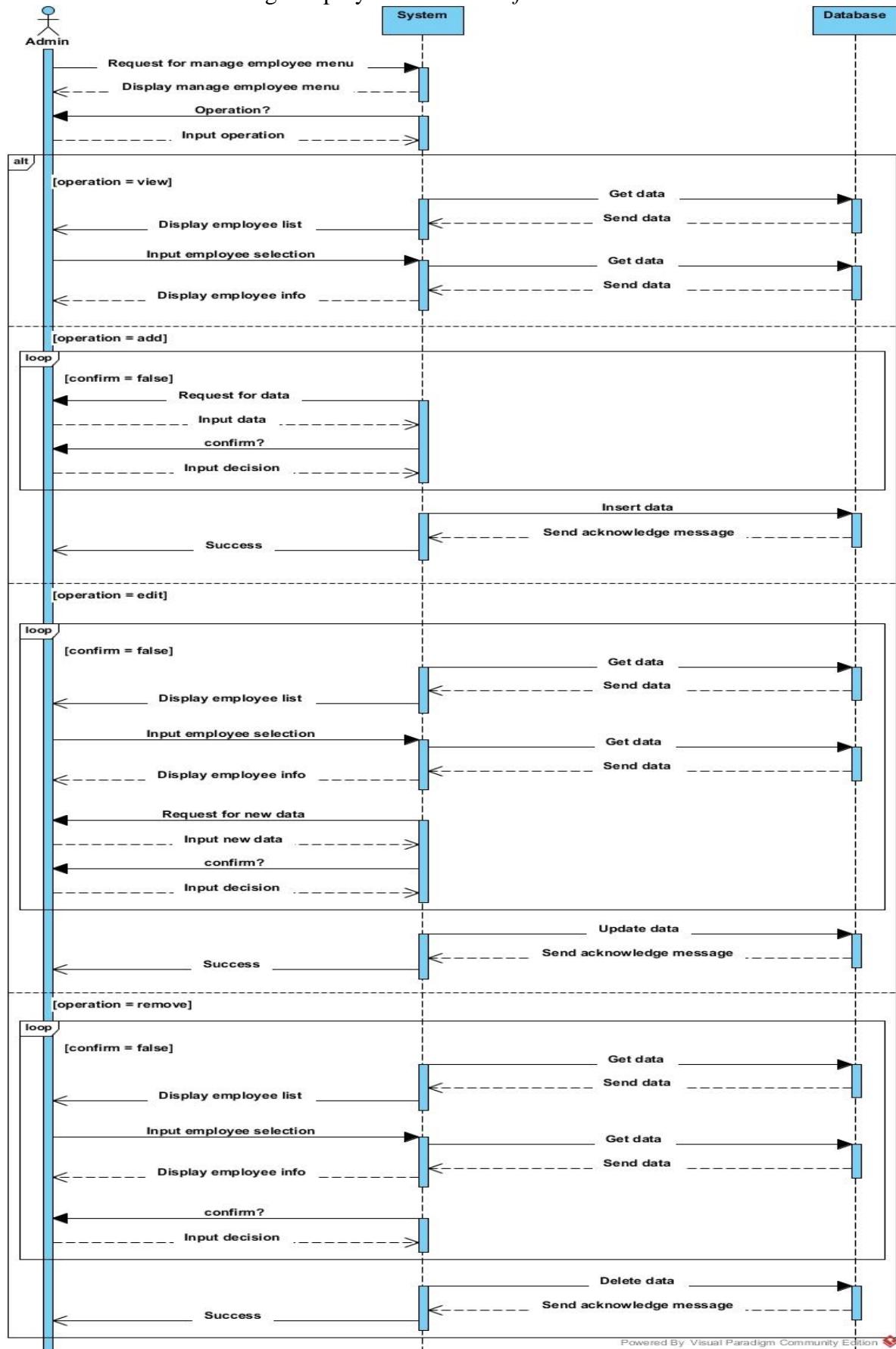
SD9. Generate analysis of feedback form.

Use Case 10: Admin manage collection database. Refer to SD10.



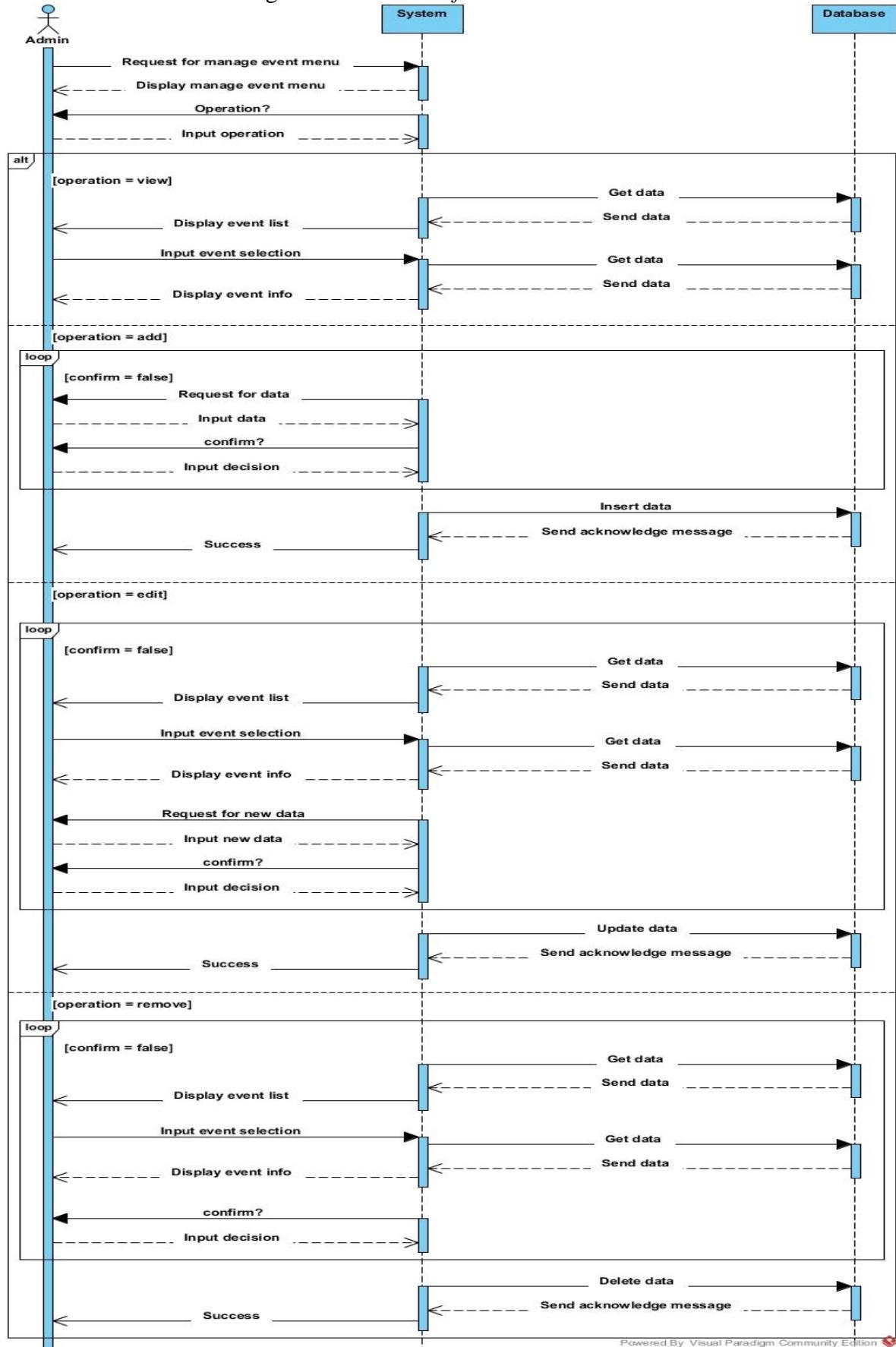
SD10. Manage collection database.

Use Case 11: Admin manage employee database. Refer to SD11.



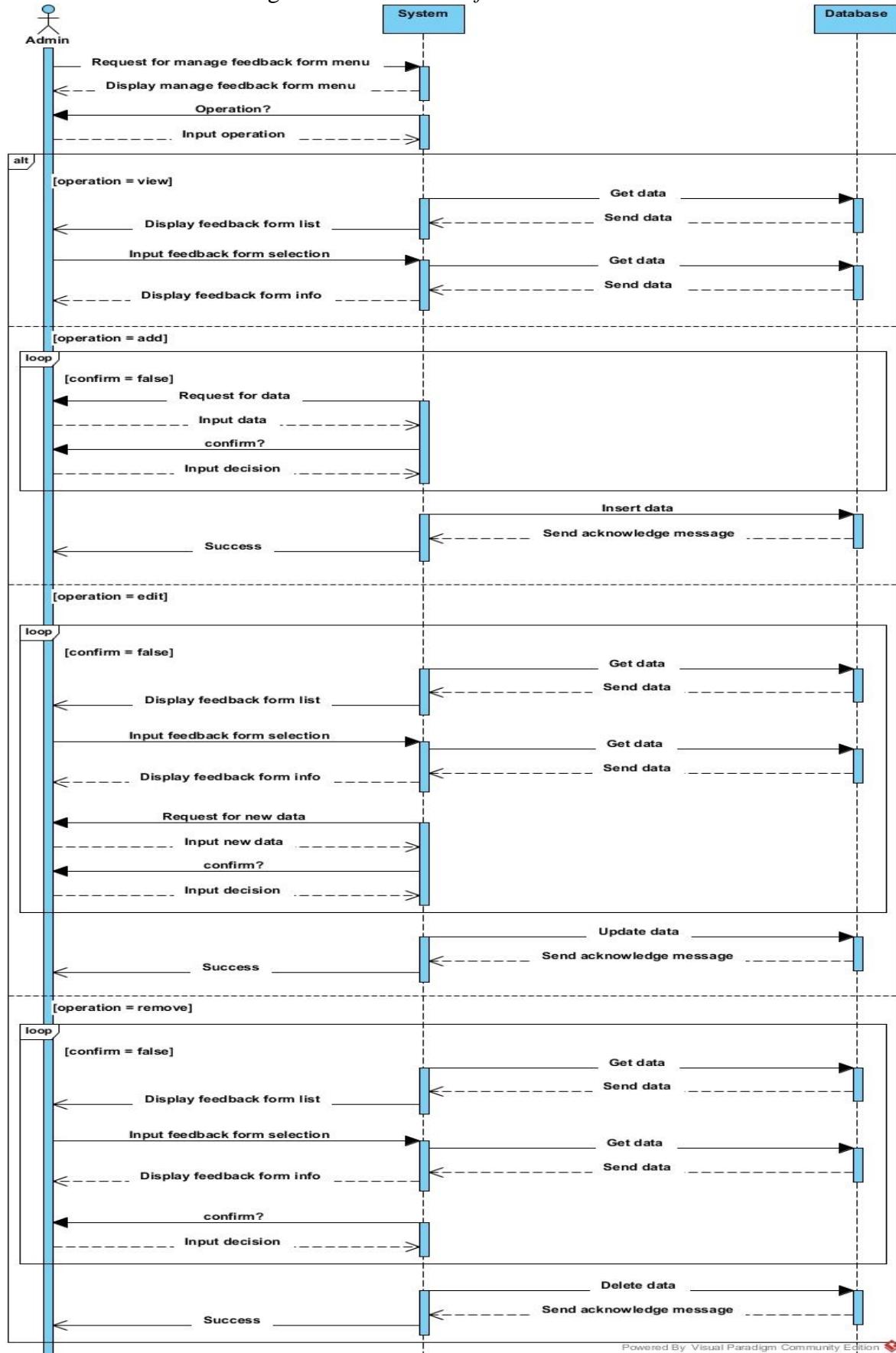
SD11. Manage employee database.

Use Case 12: Admin manage event details. Refer to SD12.



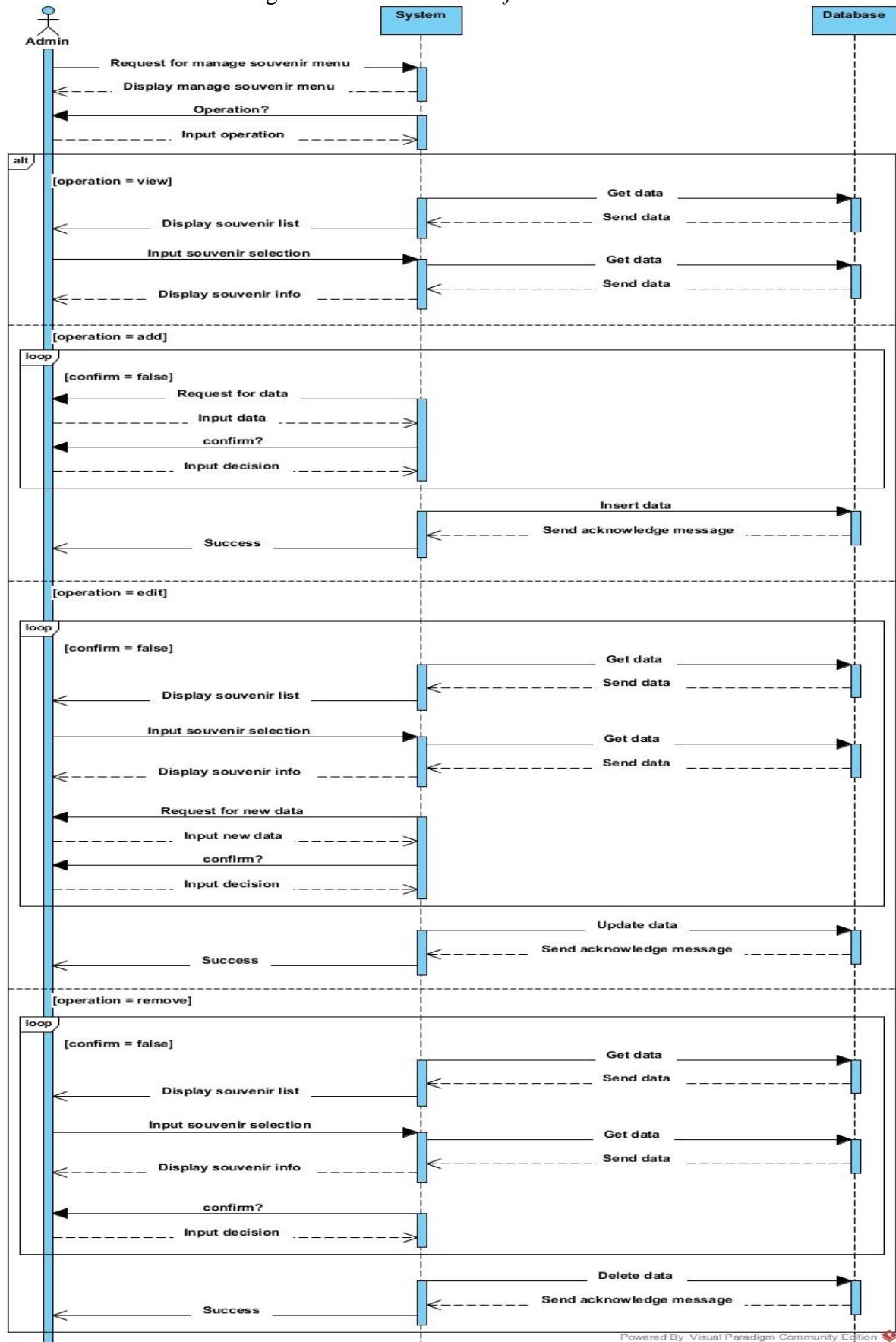
SD12. Manage event details.

Use Case 13: Admin manage feedback form. Refer to SD13.



SD13. Manage feedback form.

Use Case 14: Admin manage souvenir database. Refer to SD14.

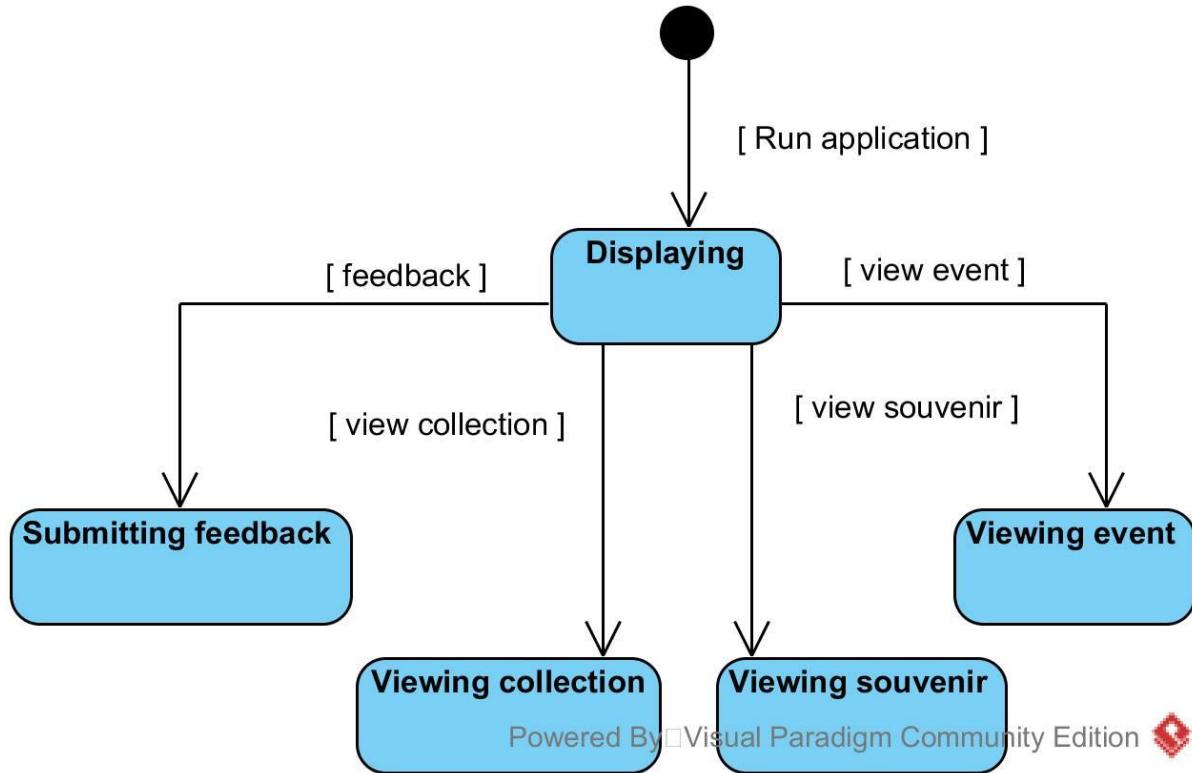


SD14. Manage souvenir database.

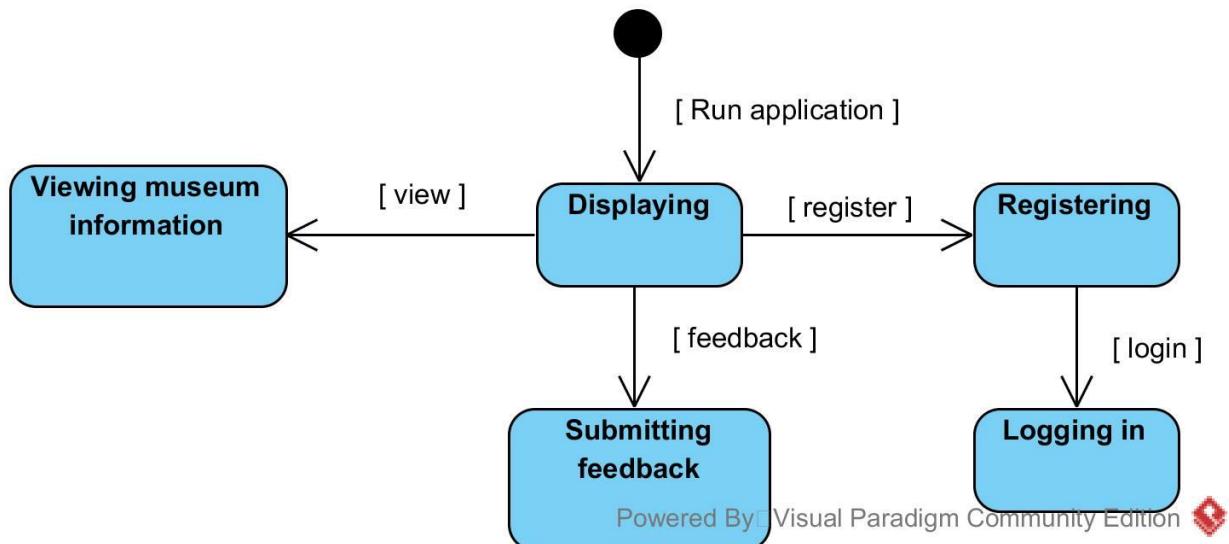
5 Behavioural Requirements

4.1 State Diagrams

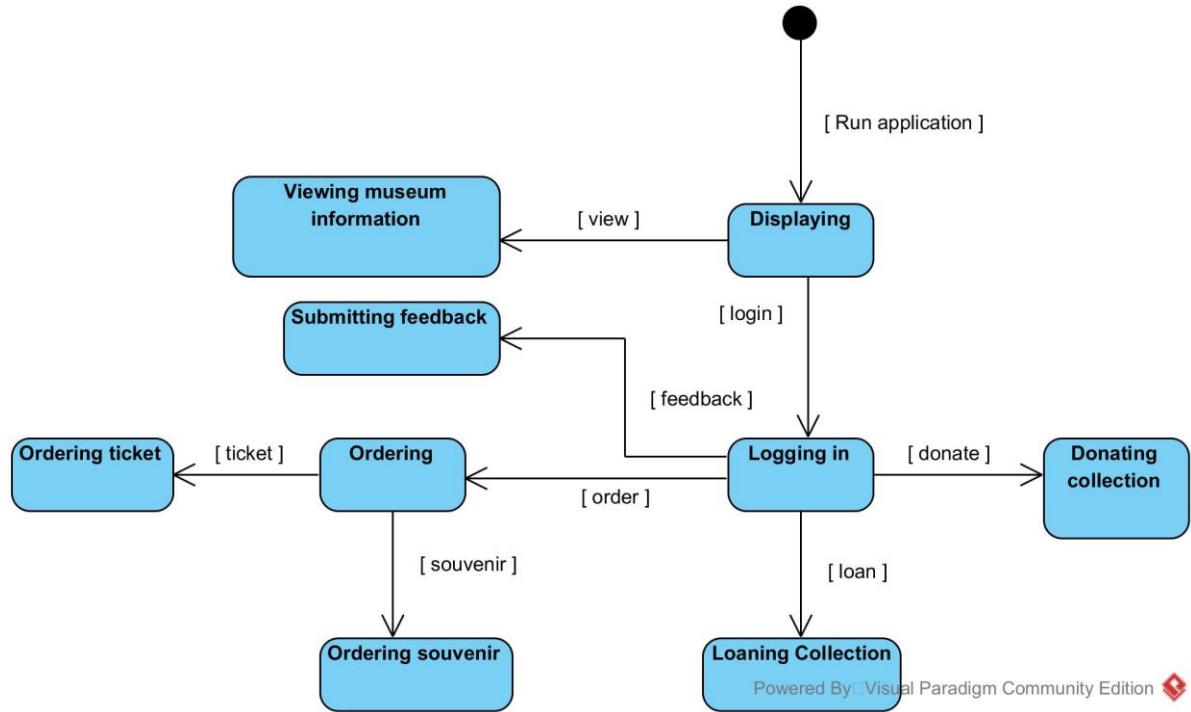
4.1.1 Common state diagram for guest, member, admin.



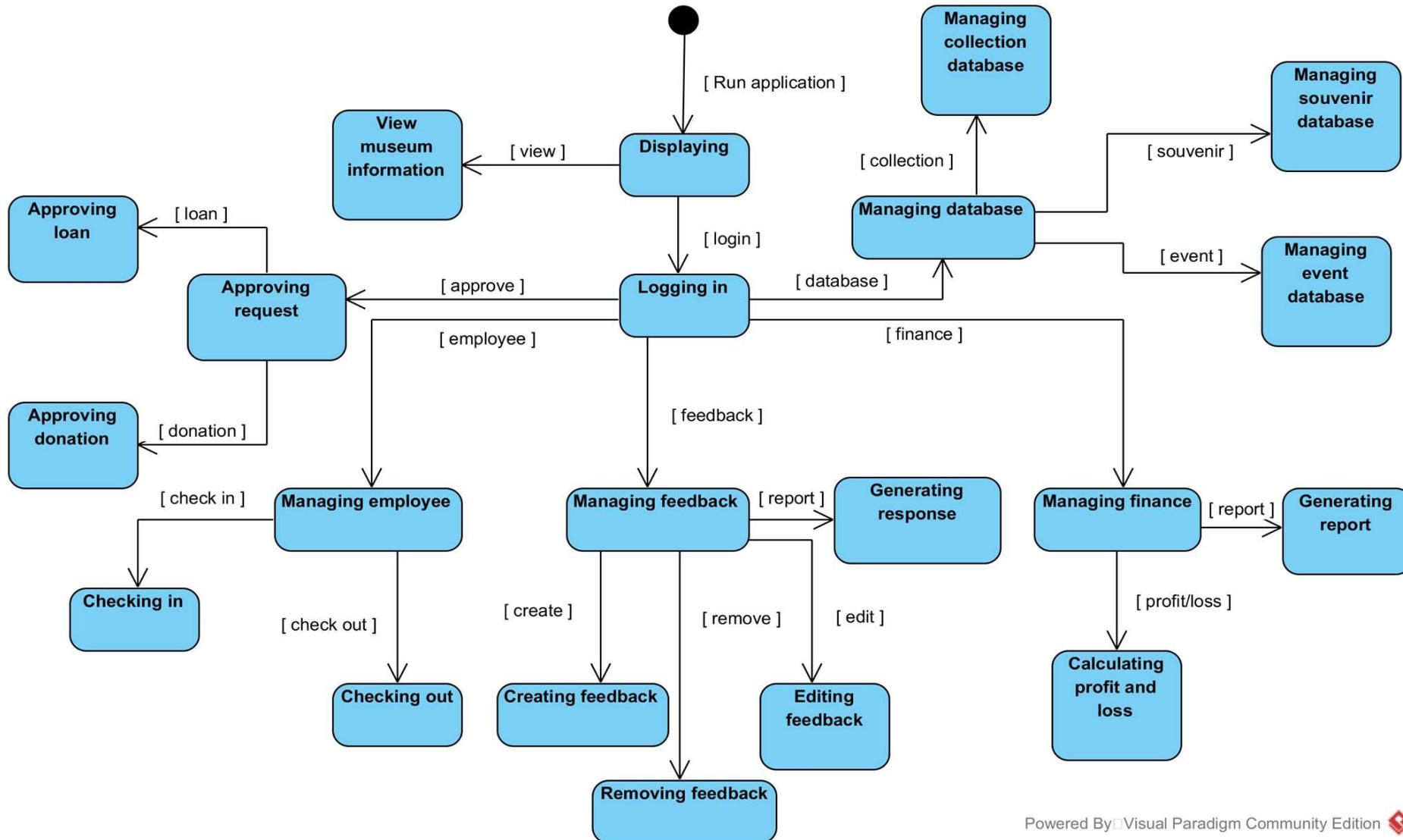
4.1.2 State diagram for guest.



4.1.3 State diagram for member.



4.1.4 State diagram for admin.



6 Data Design

6.1 Data Dictionary

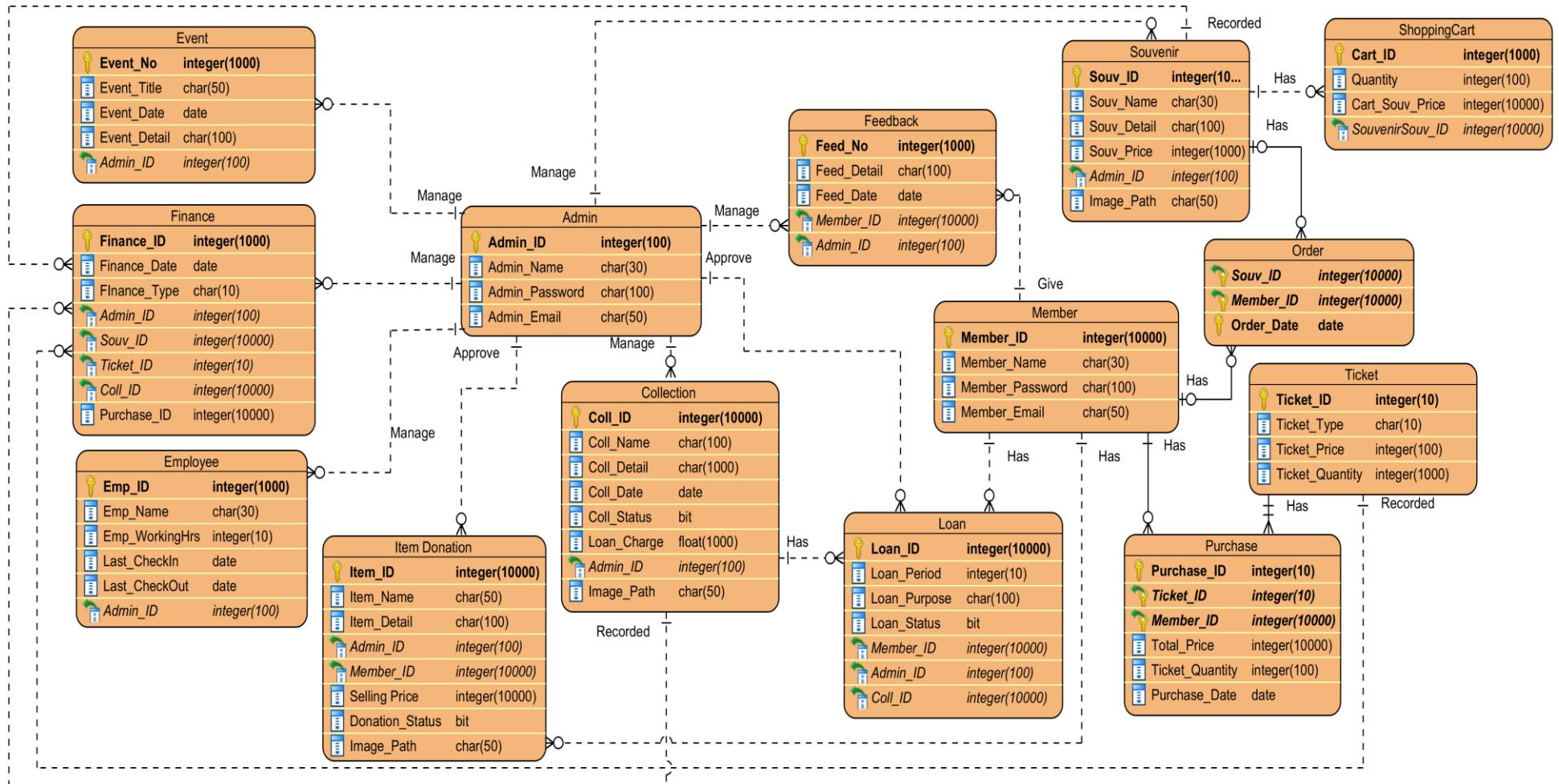
Table Name	Attribute Name	Content/ Description	Type	Format	Range	PK/FK	FK Reference Table
Admin	Admin_ID	Admin id	AutoNumber	999	001-999	PK	
	Admin_Name	Admin name	Short Text	Xxxxx	1-50		
	Admin_Password	Admin login password	Short Text	Xxxxxxx	8-100		
	Admin_Email	Admin email and login id	Short Text	xxxxxx	10-50		
Member	Member_ID	Member id	AutoNumber	9999999	1-9999999	PK	
	Member_Name	Member name	Short Text	Xxxxx	1-50		
	Member_Password	Member login password	Short Text	Xxxxxxx	8-100		
	Member_Email	Member email and login id	Short Text	xxxxxx	10-50		
Event	Event_No	Index of event	AutoNumber	99999	1-99999	PK	
	Event_Title	Title of the event	Short Text	Xxxxxx	1-100		
	Event_Date	Date of the event	Date	dd/mm/yyyy			
	Event_Detail	Description of the event	Long Text	Xxxxxx	1-1000		
	Admin_ID	Event held by which admin	Number	999	001-999	FK	Admin
Finance	Finance_ID	Finance reference number	AutoNumber	9999999	1-9999999		
	Finance_Type	e.g. sell, loan, purchase	Short Text	Xxxxx	4-20		
	Finance_Date	Date of finance recorded	Date	dd/mm/yyyy			
	Admin_ID	Finance calculated by which admin	Number	999	001-999	FK	Admin
	Order_ID	Souvenir ordered reference number	Number	9999999	1-9999999	FK	Souvenir
	Purchase_ID	Ticket purchased reference number	Number	9999999	1-9999999	FK	Ticket

	Loan_ID	Collection loaned reference number	Number	9999999	1-9999999	FK	Collection
	Item_ID	Donation approved reference number	Number	9999999	1-9999999	FK	ItemDonation
Employee	Emp_ID	Employee reference id	AutoNumber	9999	0001-9999	PK	
	Emp_Name	Name of employee	Short Text	Xxxxx	1-100		
	Emp_WorkingHrs	Total working hours of employee	Number	9999999	1-9999999		
	Last_CheckIn	Last check in time of employee	Number	9999	0000-2300		
	Last_CheckOut	Last check out time of employee	Number	9999	0000-2300		
	Admin_ID	Employee managed by x admin	Number	999	001-999		
Loan	Loan_ID	Loan reference number	AutoNumber	9999999	1-9999999	PK	
	Loan_Period	Collection loan duration	Number	99	1-99		
	Loan_Purpose	Reason for loan collection	Long Text	Xxxxxxx	10-300		
	Loan_Status	Record loan status of a collection	Yes/No	Y/N			
	Member_ID	Collection loaned by member	Number	9999999	1-9999999	FK	Member
	Admin_ID	Collection approved by x admin	Number	999	001-999	FK	Admin
	Coll_ID	Collection to be loaned	Number	9999999	1-9999999	FK	Collection
Order	Order_ID	Order reference number	Auto Number	9999999	1-9999999	PK	
	Order_Date	Souvenir purchased date	Date	dd/mm/yyyy		PK	
	Souv_ID	Souvenir reference number	Number	9999999	1-9999999	PK+FK	Souvenir
	Member_ID	Souvenir ordered by x	Number	9999999	1-9999999	PK+FK	Member
	Total_Price	Total price of an order	Currency	RM9999.99	1-9999		
Souvenir	Souv_ID	Souvenir reference number	AutoNumber	9999999	1-9999999	PK	
	Souv_Name	Name of souvenir	Short Text	Xxxxx	1-50		
	Souv_Detail	Description of souvenir	Long Text	Xxxxxxx	1-300		
	Souv_Price	Price of souvenir	Currency	RM9999.99	1-9999		
	Admin_ID	Souvenir managed by x admin	Number	999	001-999	FK	Admin

	Image_Path	Path to store souvenir image	Short Text	Xxx/yyyy/yyyy	11-100		
Collection	Coll_ID	Collection reference number	AutoNumber	9999999	1-9999999	PK	
	Coll_Name	Collection name	Short Text	Xxxxx	1-100		
	Coll_Detail	Collection description	Long Text	Xxxxxxx	1-1000		
	Coll_Date	Collection manufactured date	Date	dd/mm/yyyy			
	Coll_Status	Loan status of collection	Yes/No	Yes/No	Y/N		
	Loan_Charge	Loan charged for the collection	Currency	RM9999.99	1-9999		
	Admin_ID	Collection managed by admin	Number	999	001-999	FK	Admin
	Image_Path	Path to store collection image	Short Text	Xxx/yyyy/yyyy	11-100		
Feedback	Feed_No	Feedback reference number	AutoNumber	99999	1-99999	PK	
	Feed_Detail	Details of a feedback form	Short Text	Xxxxx	1-50		
	Feed_Date	Date of feedback created	Date	dd/mm/yyyy			
	Member_ID	Feedback gave by x member	Number	9999999	1-9999999	FK	Member
	Admin_ID	Feedback created by x admin	Number	999	001-999		
Item Donation	Item_ID	Item reference number	AutoNumber	9999999	1-9999999	PK	
	Item_Name	Name of item donated	Short Text	Xxxxx	1-50		
	Item_Detail	Description of item	Long Text	Xxxxxxx	10-300		
	Selling_Price	Price of an item donated	Currency	RM9999.99	1-9999		
	Donation_Status	Record approval of a donation	Yes/No	Y/N			
	Image_Path	Store the image of a donation	Short Text	Xxxx/xxx/xxx	11-100		
	Admin_ID	Item donate approved by x	Number	999	001-999	FK	Admin
	Member_ID	Item donated by x member	Number	9999999	1-9999999	FK	Member
Purchase	Purchase_ID	Purchase reference number	Auto Number	9999999	1-9999999	PK	
	Ticket_ID	Ticket reference number	Number	99	1-99	PK+FK	Ticket
	Member_ID	Ticket purchased by x	Number	9999999	1-9999999	PK+FK	Member

	Total_Price	Total price of tickets purchased	Currency	RM999.99	5-999		
	Ticket_Quantity	Quantity of tickets purchased	Number	999	1-999		
	Purchase_Date	Ticket order date	Date	dd/mm/yyyy		PK	
Ticket	Ticket_ID	Ticket reference number	Auto Number	99	1-99	PK	
	Ticket_Type	e.g. adult, children	Short Text	Xxxxx	1-20		
	Ticket_Price	Price of ticket	Currency	RM99.99	1-99		
	Ticket_Quantity	Quantity of tickets	Number	9999999	1-9999999		
Shopping Cart	Cart_ID	Shopping cart reference number	Auto Number	9999999	1-9999999	PK	
	Souv_ID	Souvenir added to the cart	Number	9999999	1-9999999	FK	Souvenir
	Quantity	Quantity of the souvenir added.	Number	99	1-99		
	Cart_Souv_Price	Total Price of a souvenir added to cart.	Currency	RM9999.99	1-9999		

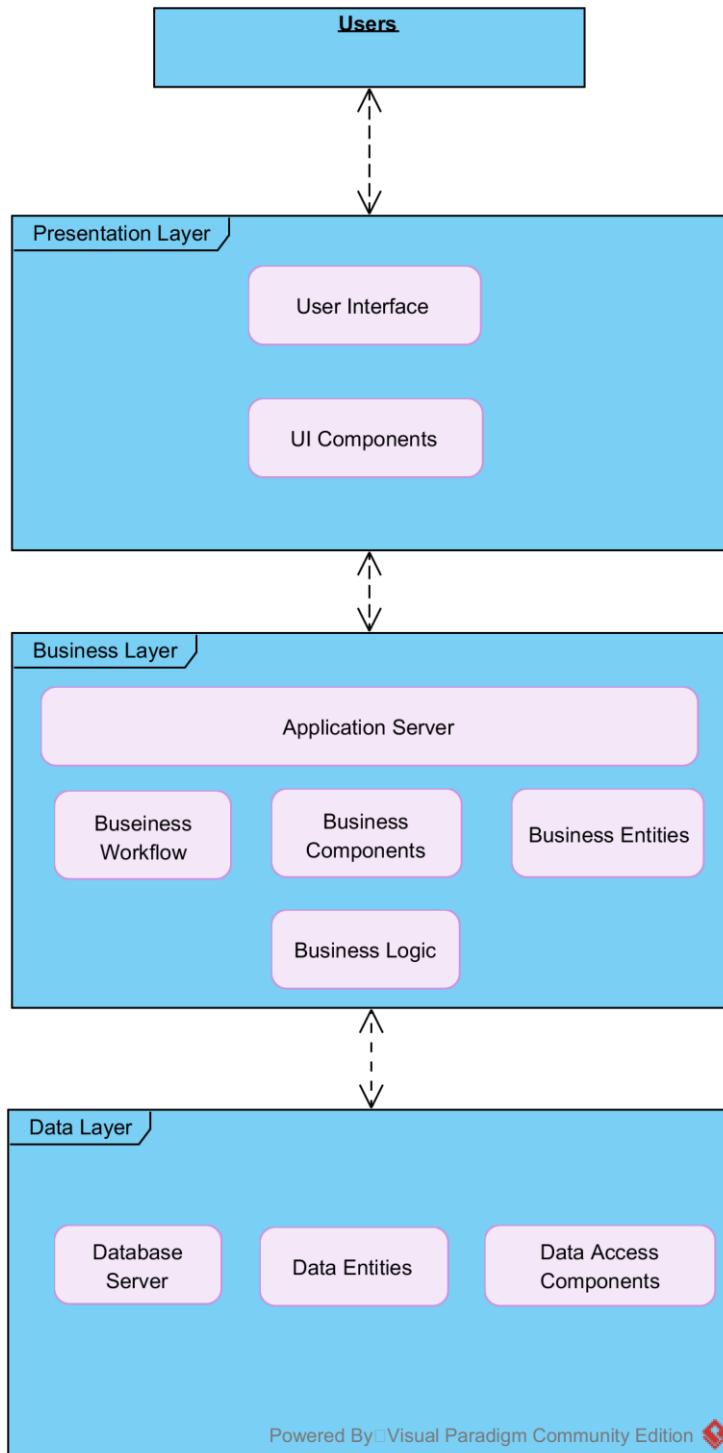
6.2 Entity-Relationship Diagram



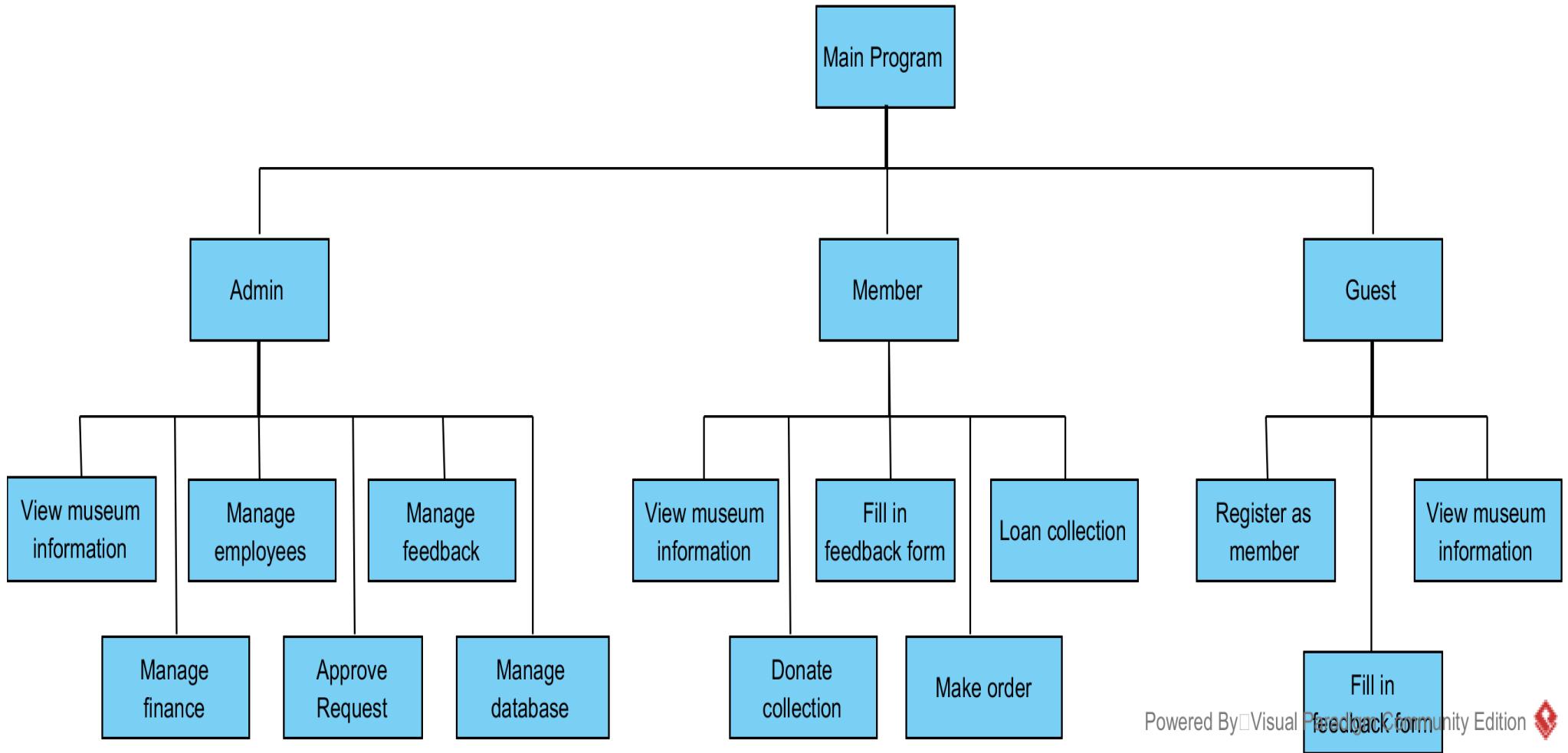
7 Architecture Design

7.1 Software Architecture

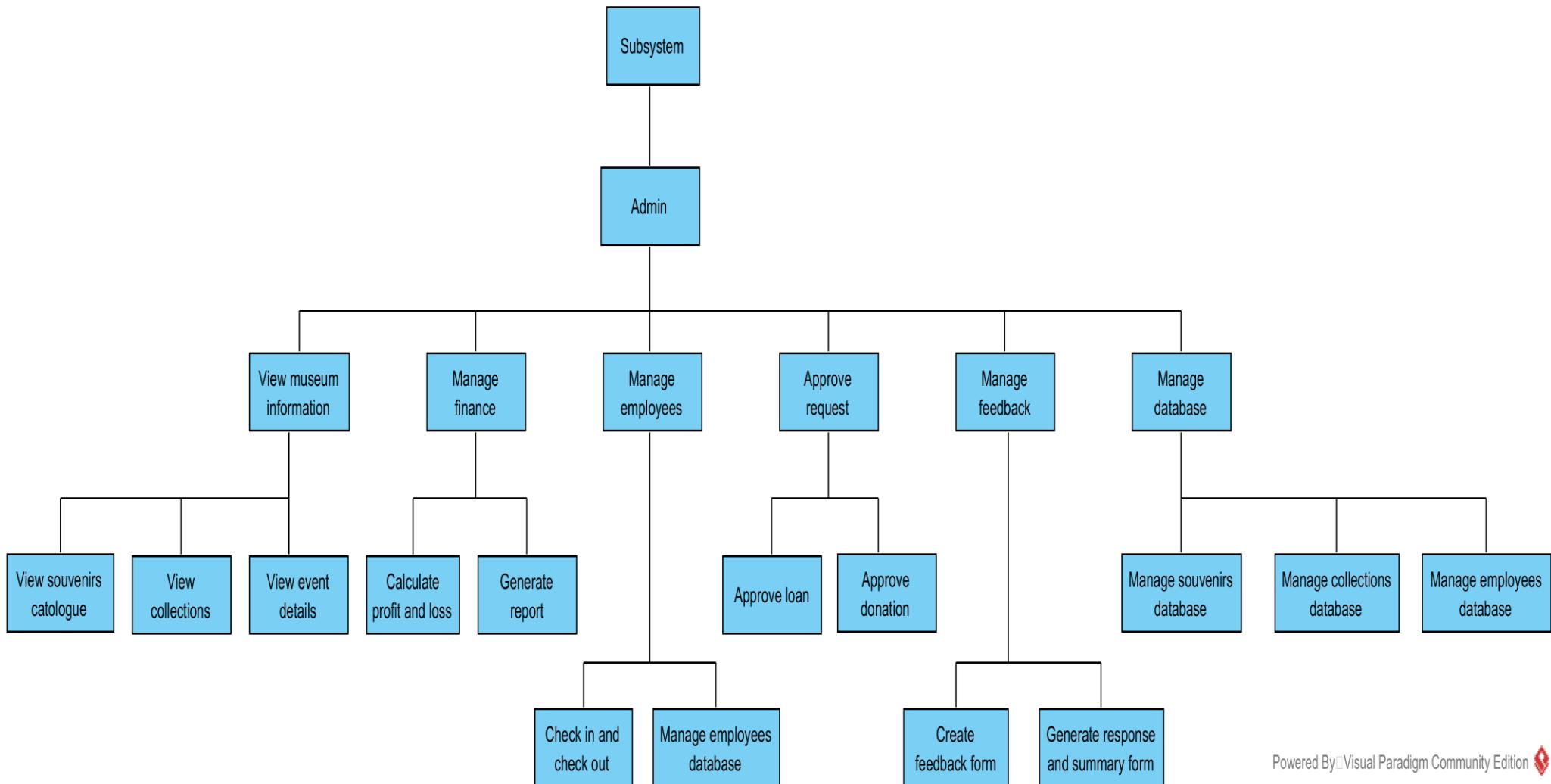
Generic Architecture Diagram with 3 layers



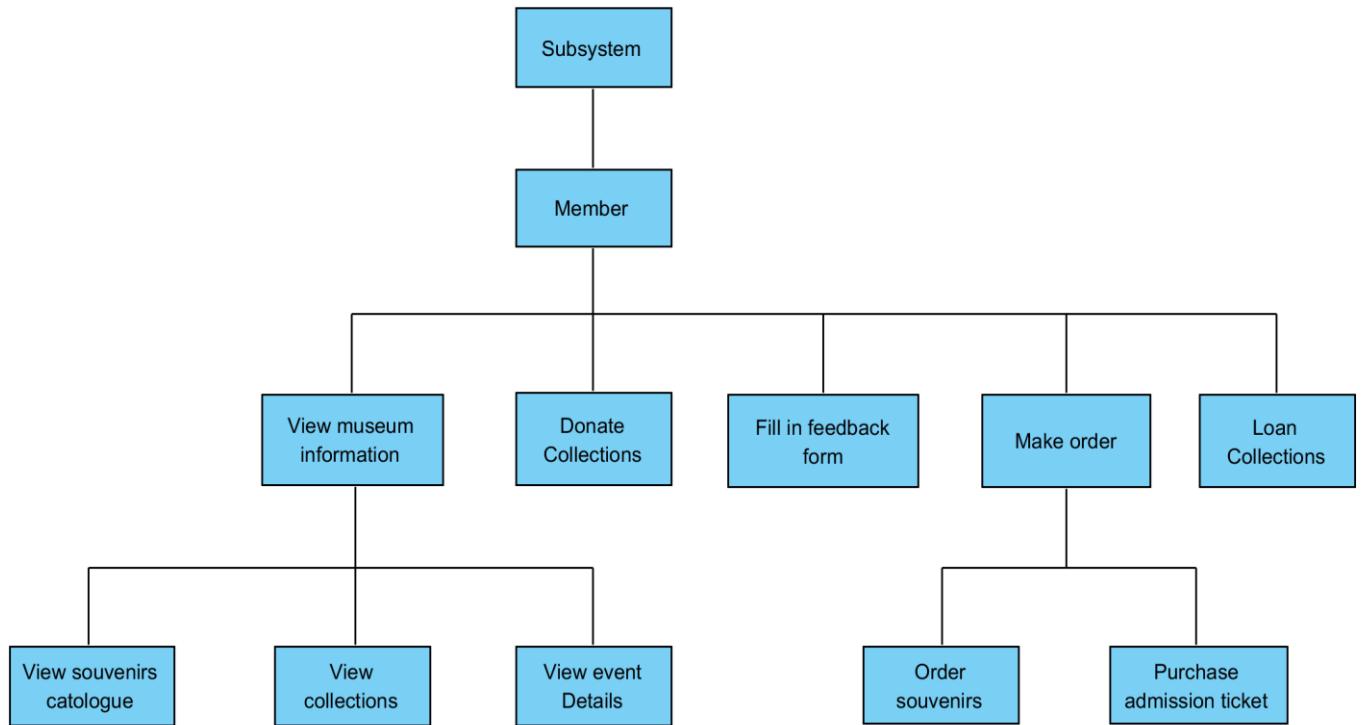
In this project, we use call-and-return architecture to develop our software.



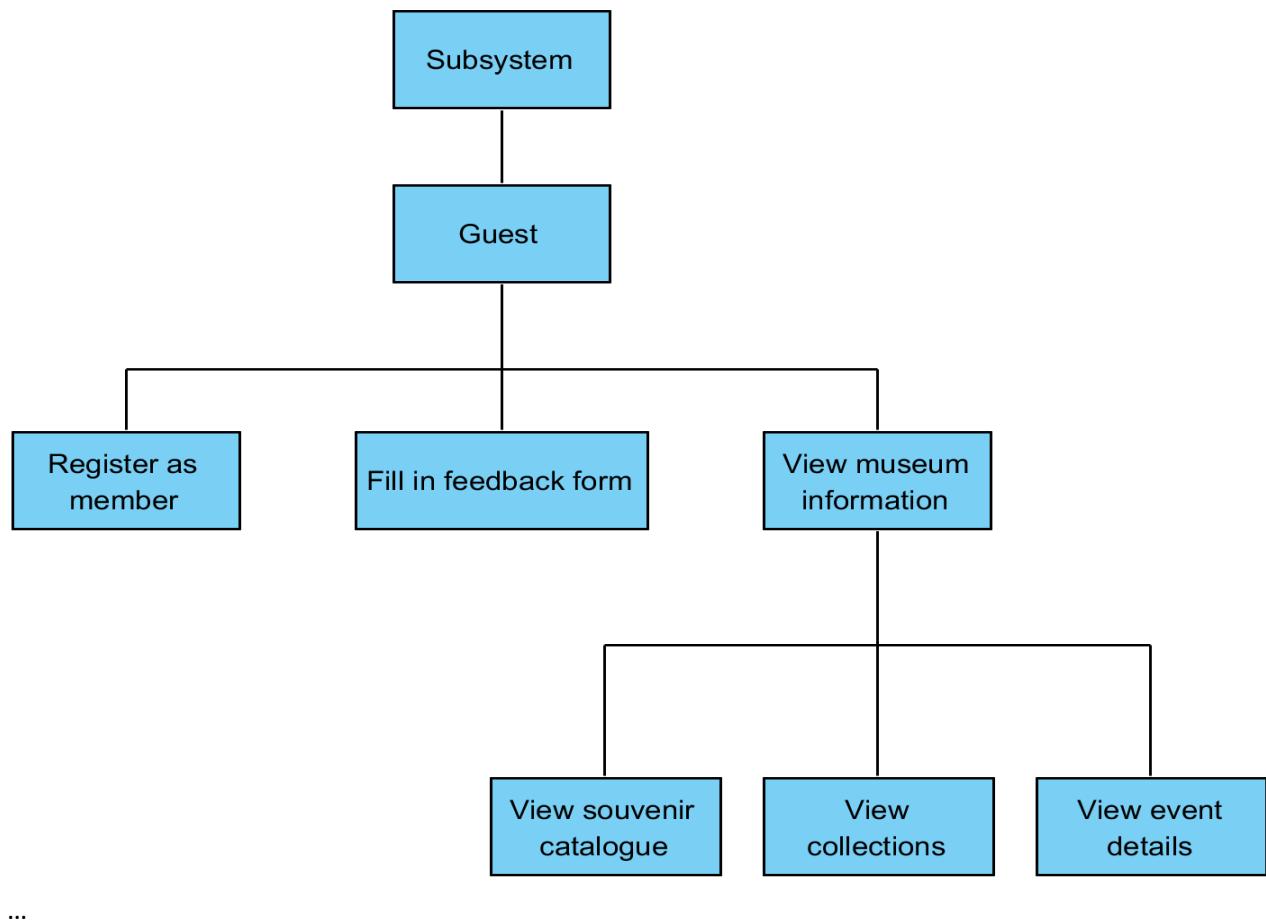
7.1.1 Subsystem 1: Admin



7.1.2 Subsystem 2: Member



7.1.3 Subsystem 3: Guest



8 Interface Design

8.1 Main Screens

8.1.1 Main

User can login as admin or member.

- 1 .Register button for guest to register as member.
- 2 .Column that guest can choose what type of data to view.
3. Link to the feedback page that provide the function every actor to submit own feedback.
4. Button to view more detail about the data.
5. Text box to type in data name to search the existence of data.

The screenshot shows the 'Main' interface window. At the top right is a close button (X). Below it is a login section with 'Email:' and 'Password:' input fields, a 'Still not register?' link (labeled 1), and a 'Login' button. Below the login section is a search bar with a placeholder '5.' and a 'Search' button. At the bottom left is a navigation bar with tabs: 'Collection' (selected), 'Event', and 'Souvenir'. A large central area is labeled 'display data'. At the very bottom is a footer bar with a 'Feedback' link (labeled 3) and a 'View Details' button (labeled 4).

8.1.2 View Details

Detail screen of different type of data.

The image displays three separate detail screens, each with a title bar and a close button (X). The first screen, titled "Collection", contains fields for ID, Name, Detail (with a note "display collection picture"), Date, Status (checkbox for Available), and Charge. The second screen, titled "Event", contains fields for No, Title, Date, and Detail (with a note "display collection picture"). The third screen, titled "Souvenir", contains fields for ID, Name, Detail (with a note "Display souvenir picture"), and Price.

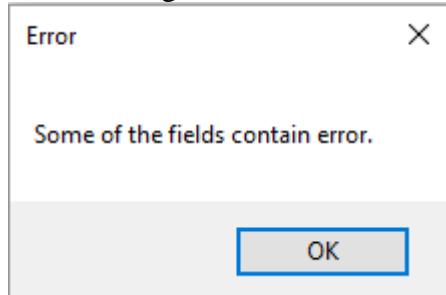
8.2 Guest

8.2.1 Register as Member

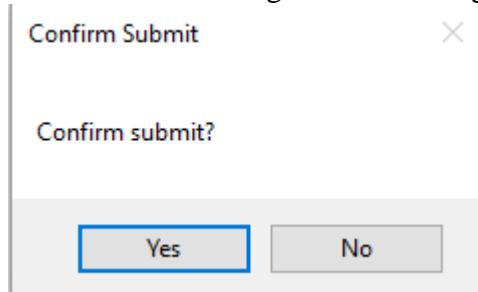
Register screen for guest to become member. Guest need to fill up all information correctly.

The "Register" screen has a title bar and a close button (X). It contains four input fields: "Name" (text box), "Email" (text box), "Password" (text box), and "Confirm Password" (text box). Below the fields are two buttons: "Ok" and "Cancel".

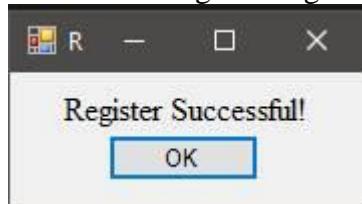
Error message.



Confirmation message for submitting registration.

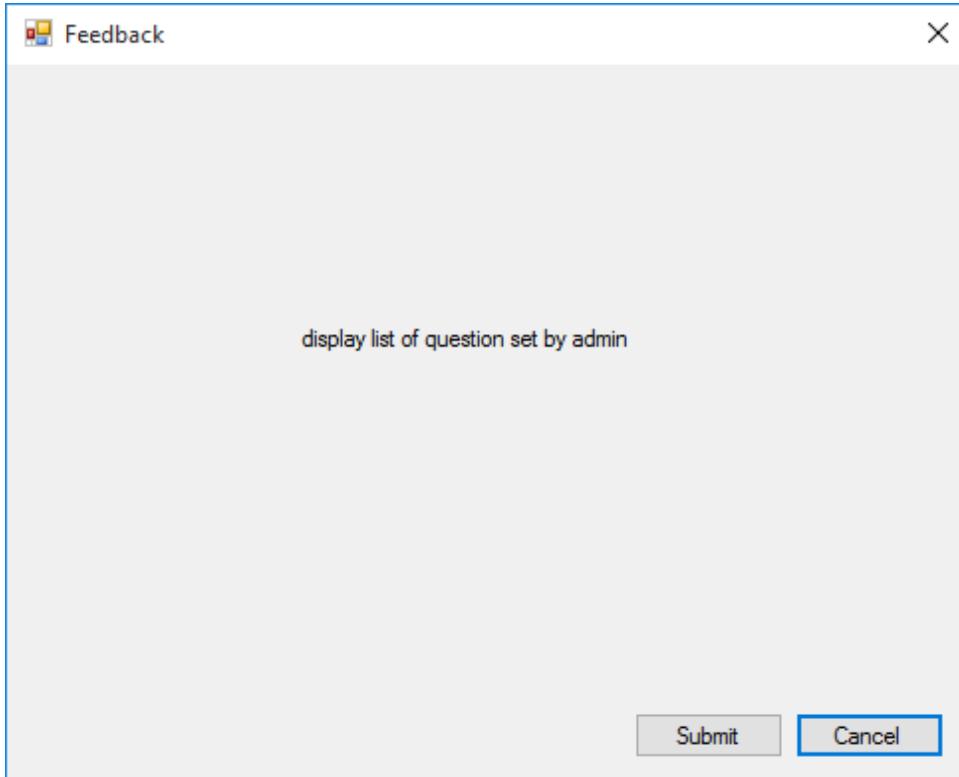


Success message for registration.

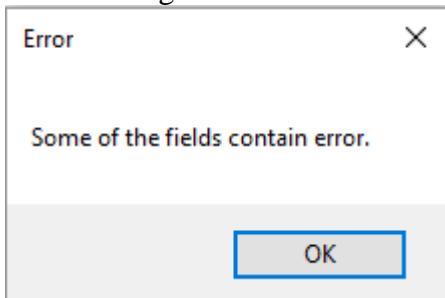


8.2.2 Submit Feedback

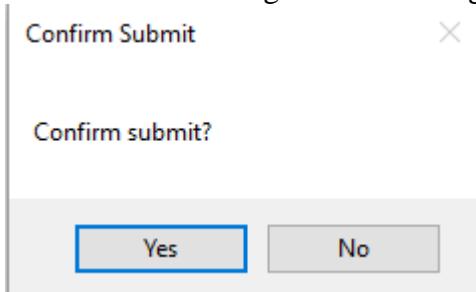
This is the feedback screen.



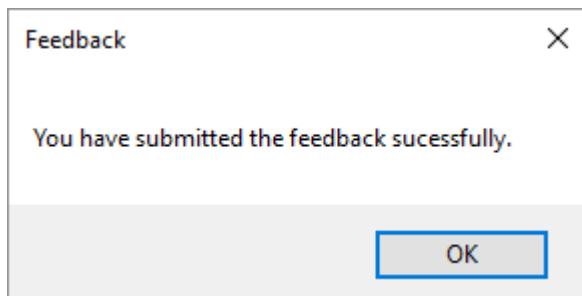
Error message.



Confirmation message for submitting feedback.



Success message for submitting feedback.



8.3 Member

8.3.1 Submit Feedback

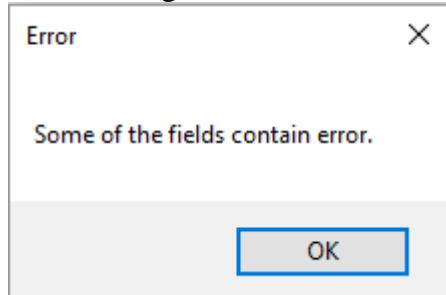
Same as Guest. Refer to 8.2.2.

8.3.2 Donate Collection

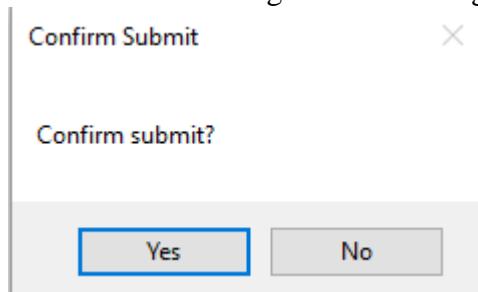
Donate screen for member to donate collection to museum. If a member decide to voluntarily donate a collection, put price to 0.

A screenshot of a Windows-style application window titled "Member". The title bar includes a user icon and a close button. The header says "Welcome , Member" and has a "Log Out" button. Below the header is a navigation bar with tabs: "Donate" (selected), "Loan", and "Order". The main area contains fields for "Name :" (text input), "Detail :" (text area), "Price :" (text input), and a "Browse" button. To the right of the "Detail :" field is a "display picture" link. At the bottom are "Submit" and "Discard" buttons.

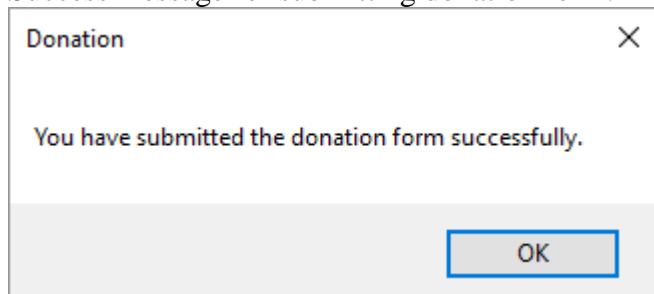
Error message.



Confirmation message for submitting donation form.



Success message for submitting donation form.



8.3.3 Loan Collection

Loan screen for member to loan collection from museum.

Member

Welcome , Member

Log Out

Donate Loan Order

Collection Name :

Loan Charge :

Loan Period : 2016年 8月26日 Start

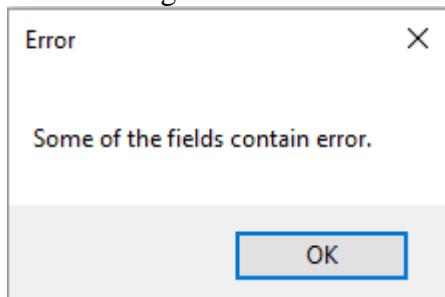
2016年 8月26日 End

Loan Purpose :

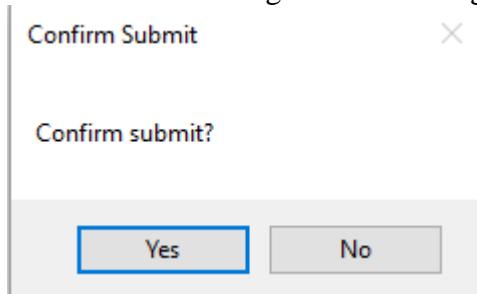
Browse

Submit Discard

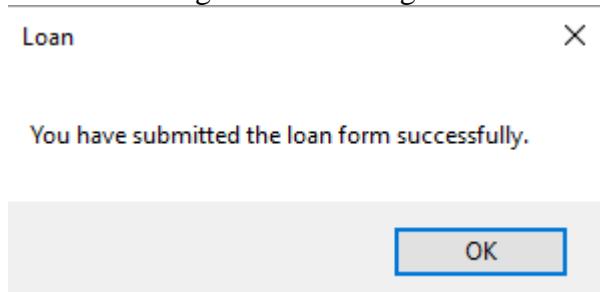
Error message.



Confirmation message for submitting loan form.



Success message for submitting loan form.

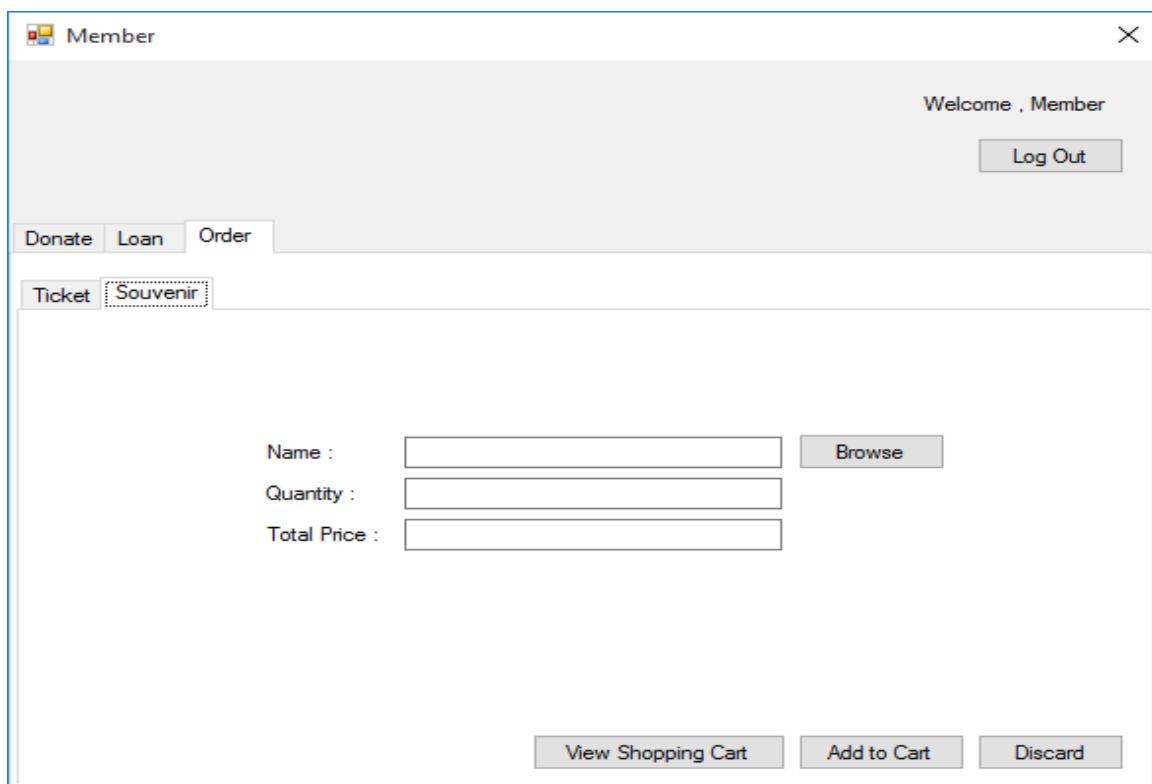


8.3.4 Order Ticket and Souvenir

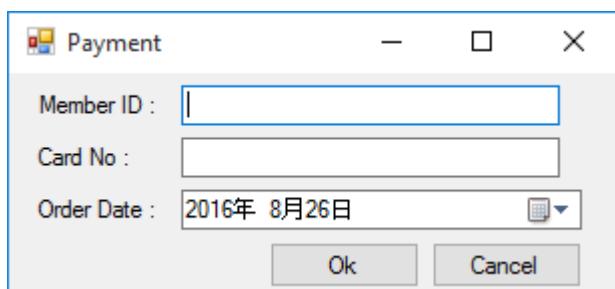
Order ticket screen for member to purchase ticket online.

A screenshot of a Windows application window titled "Member". The title bar includes a logo and the word "Member". The header contains the text "Welcome , Member" and a "Log Out" button. Below the header is a menu bar with "Donate", "Loan", and "Order" buttons, where "Order" is highlighted. Underneath the menu is a sub-menu with "Ticket" and "Souvenir" buttons, with "Ticket" being the active tab. The main content area contains five input fields labeled "Visit Date:", "Quantity:", "Number of Adult:", "Number of Children:", and "Total Price:". The "Visit Date:" field shows the date "2016年 8月26日" with a calendar icon. The other four fields are empty. At the bottom right are "Proceed" and "Discard" buttons.

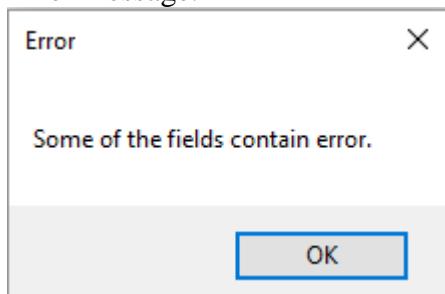
Order souvenir screen for member to purchase souvenir online.



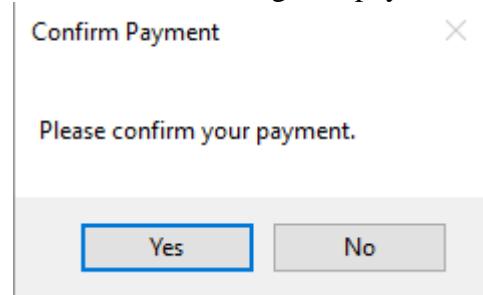
Payment souvenir for member to fill in payment information to complete order operation.



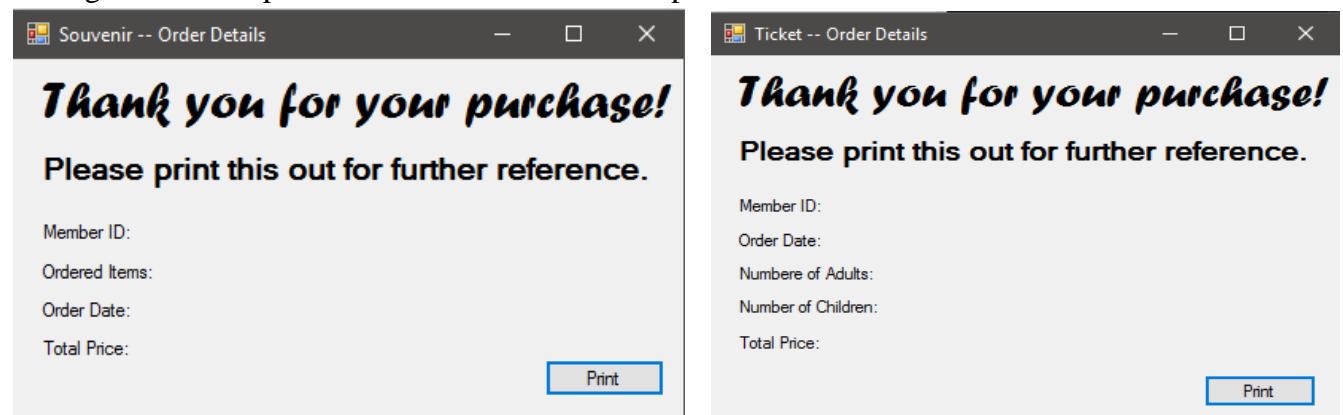
Error message.



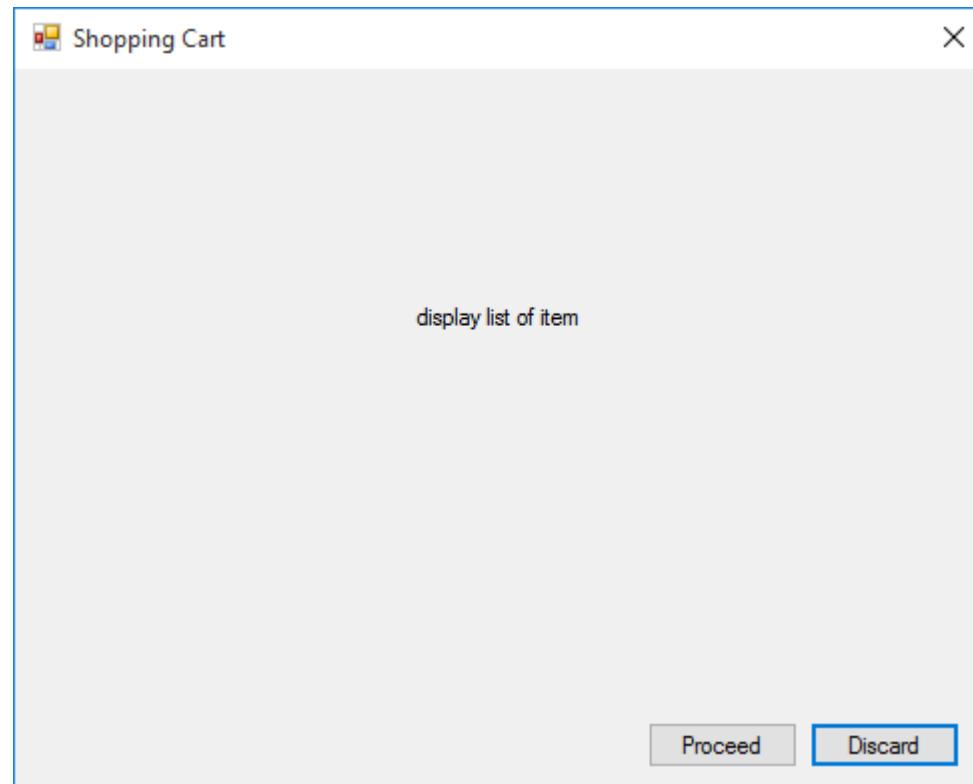
Confirmation message for payment.



Auto generate receipt for the order of souvenir and purchase of tickets.



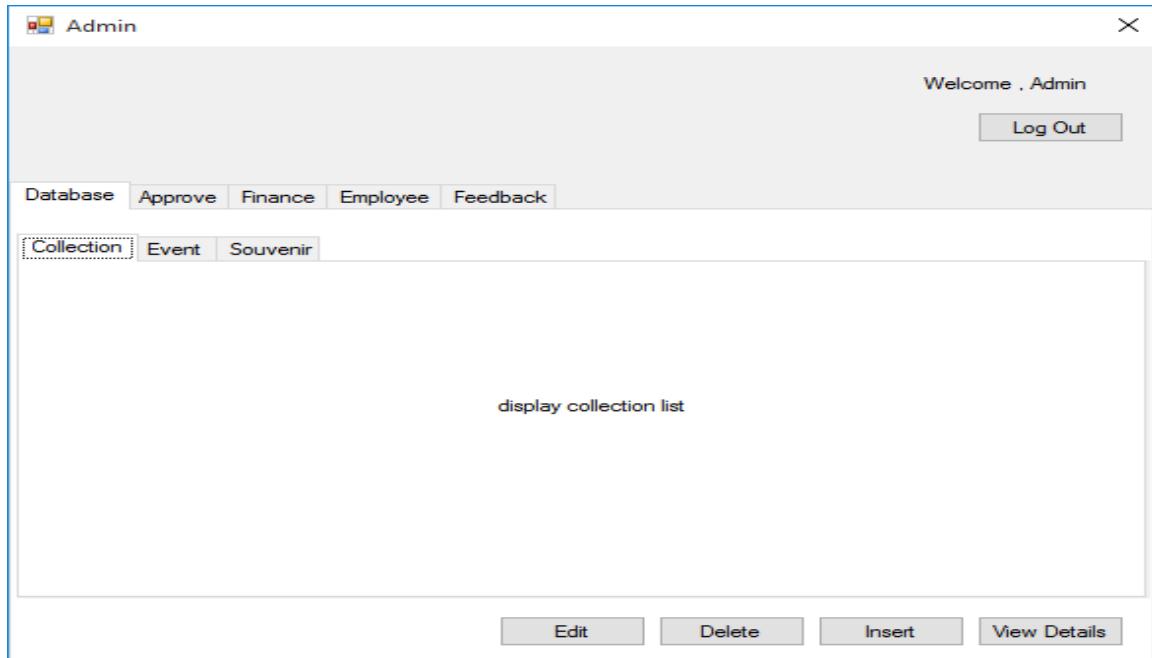
Screen show the list of souvenir that member add to cart.



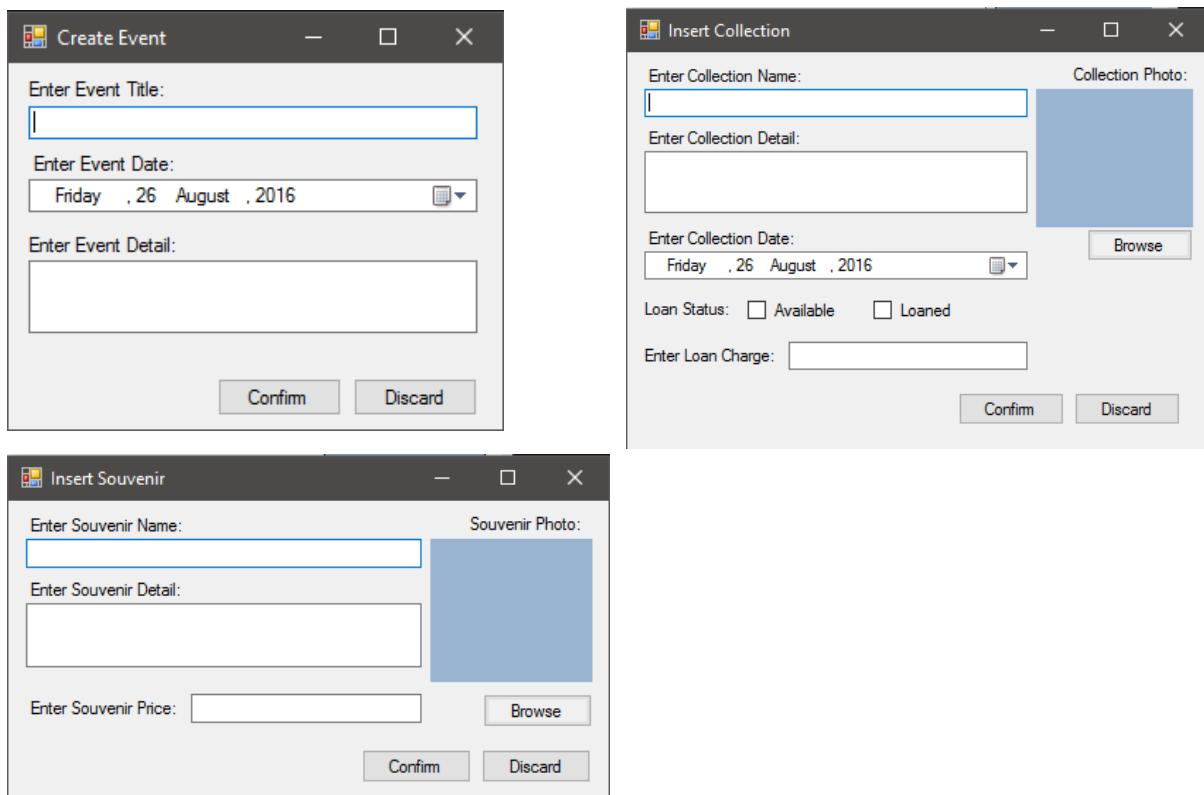
8.4 Admin

8.4.1 Manage Database

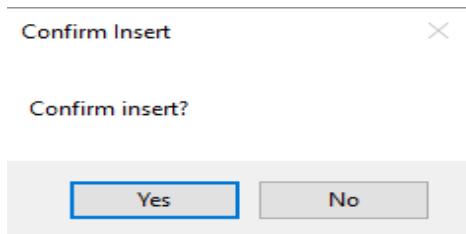
Database screen for admin to manage data.



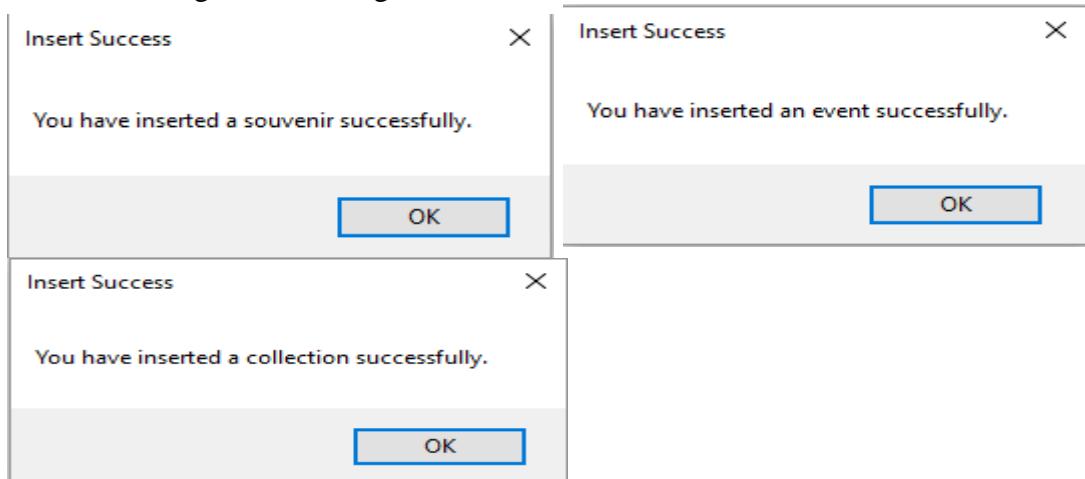
Insert screen of different data



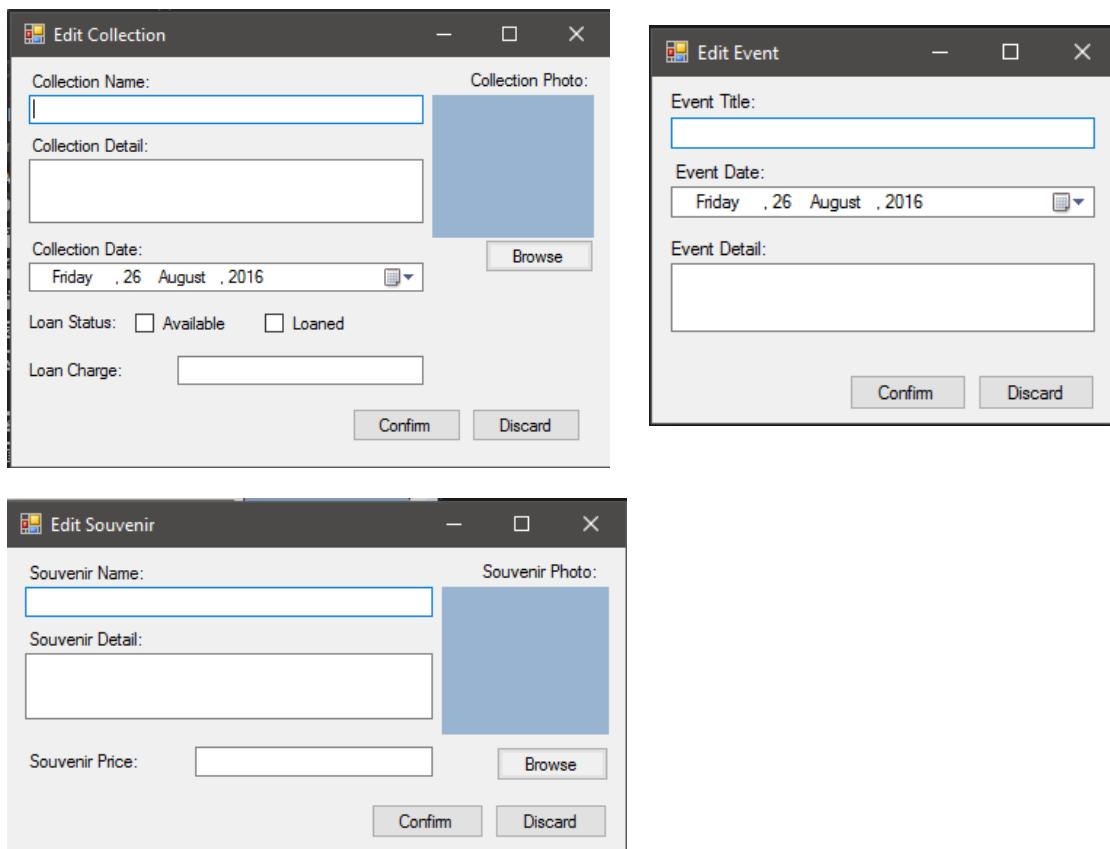
Confirmation message for insert.



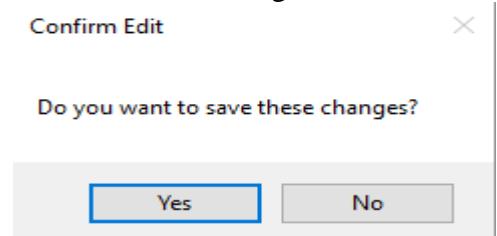
Success message for inserting different data.



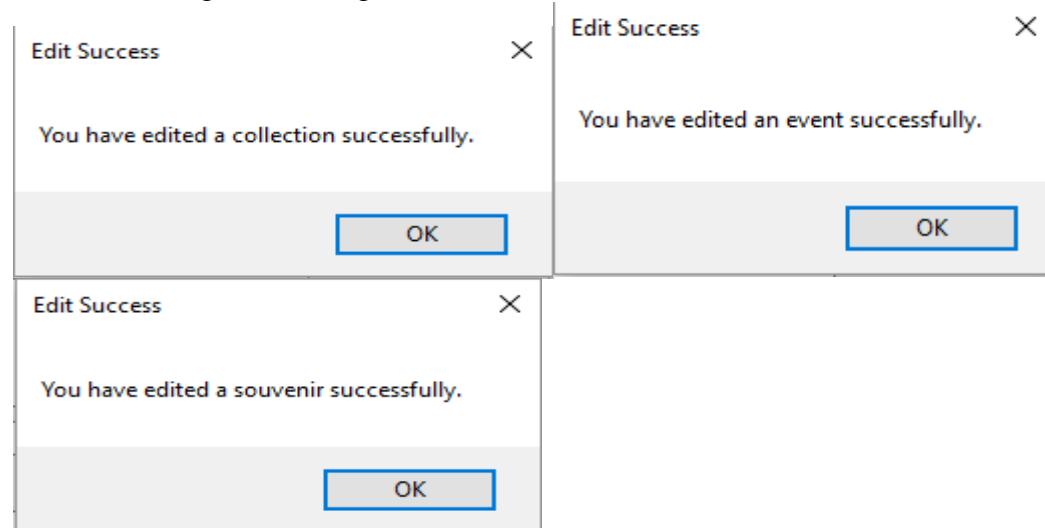
Edit screen of different data



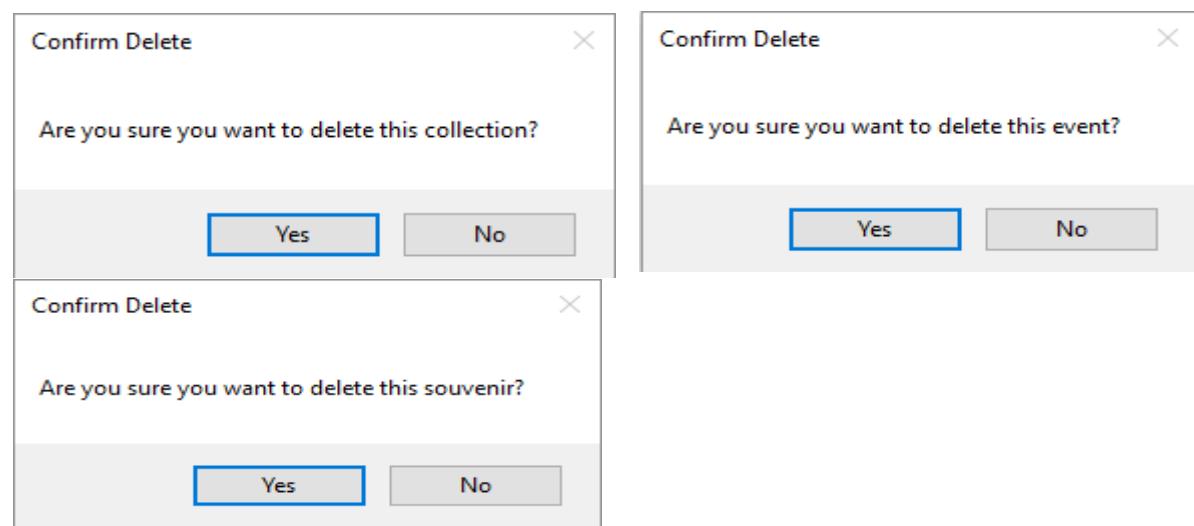
Confirmation message for edit.



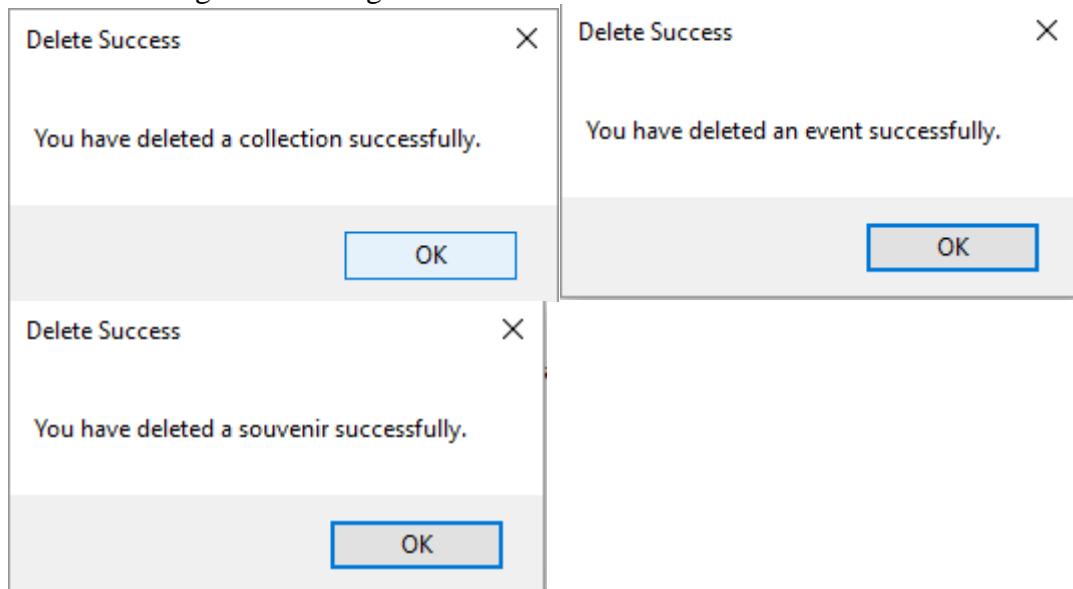
Success message for editing different data.



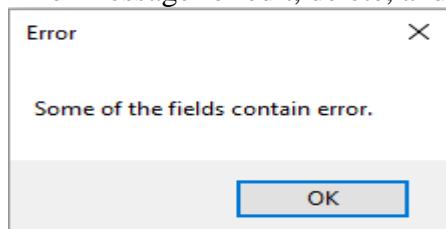
Confirmation message for delete for different data.



Success message for deleting different data.

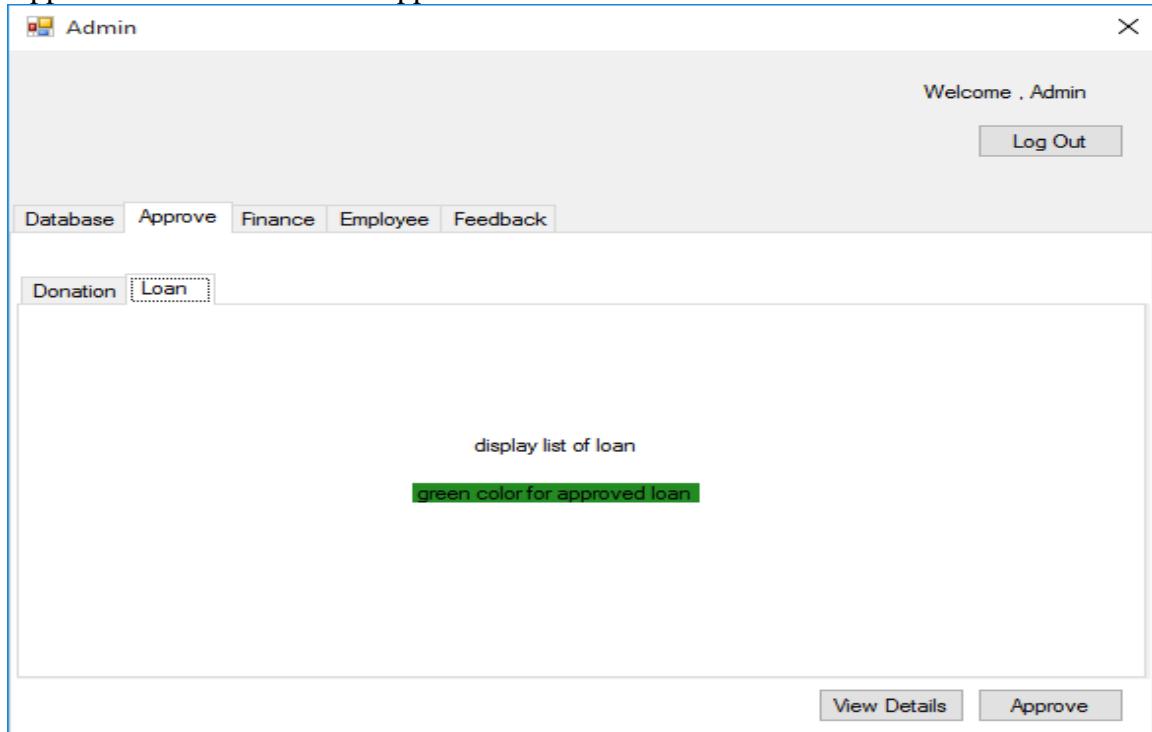


Error message for edit, delete, and insert.



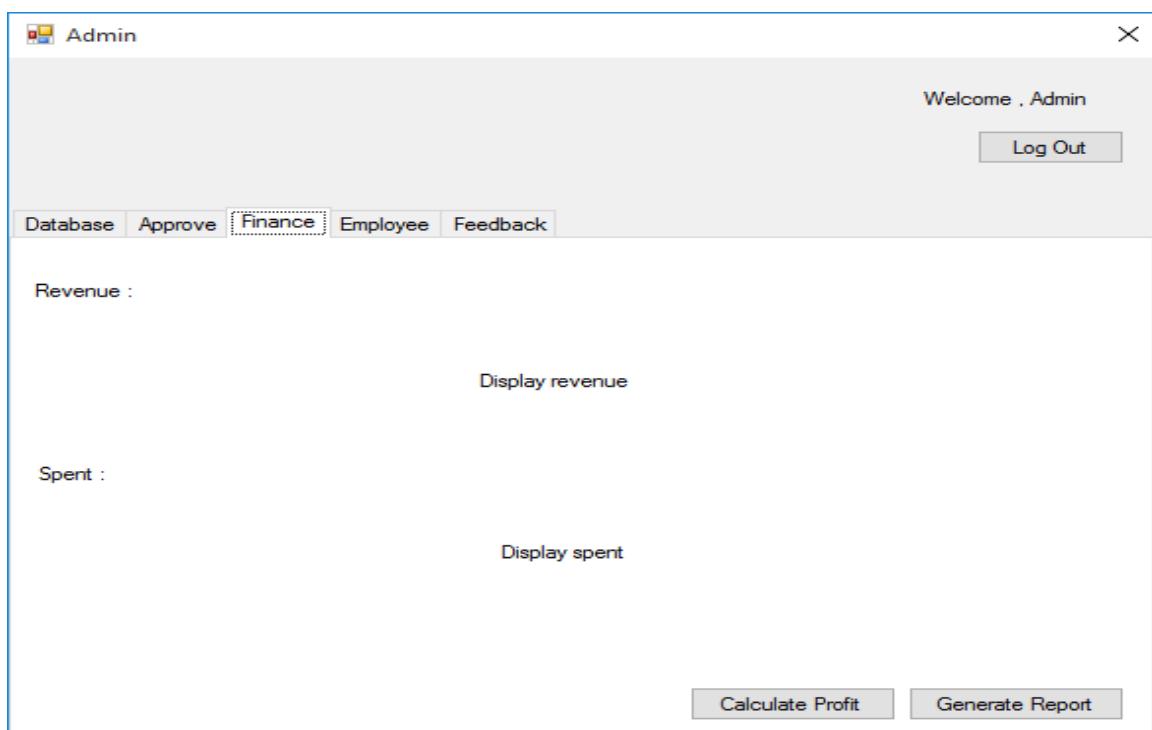
8.4.2 Approve Donation and Loan

Approve screen for admin to approve the donation and loan from member.



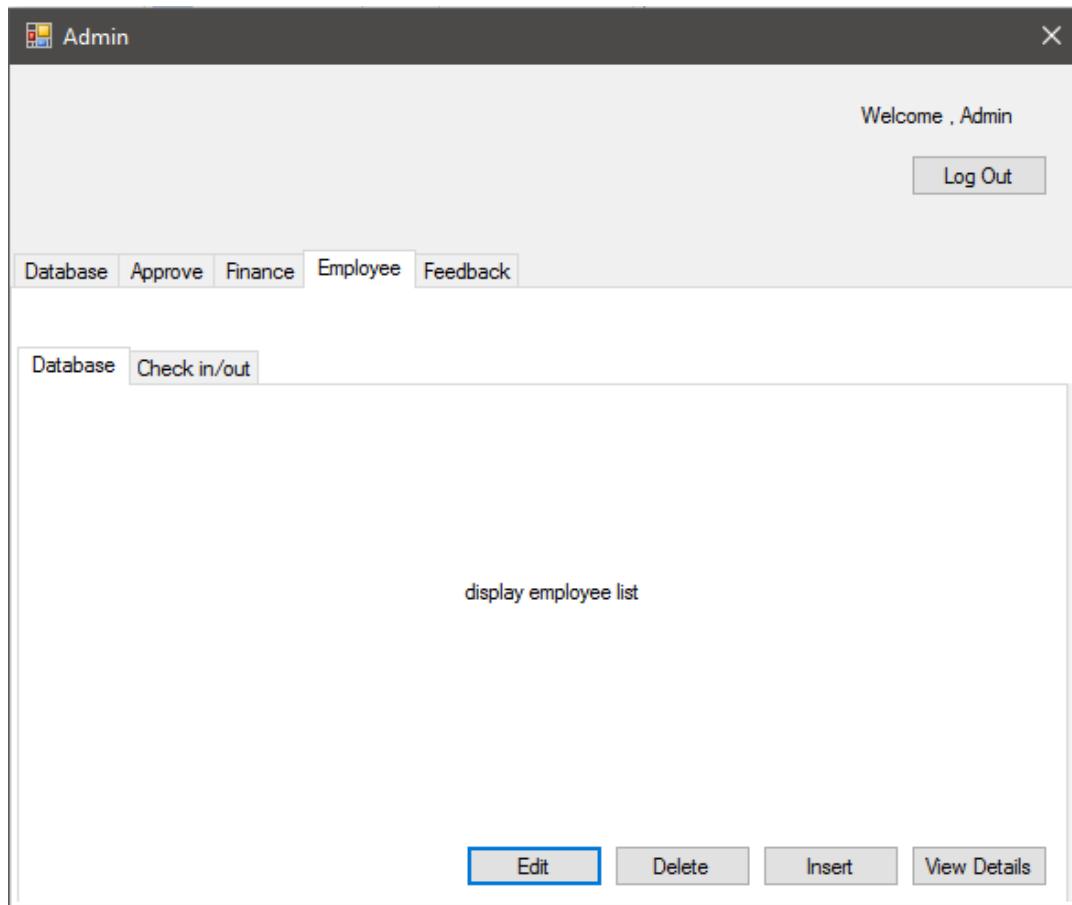
8.4.3 Manage Finance

Finance screen for admin to calculate profit of museum and generate final report.

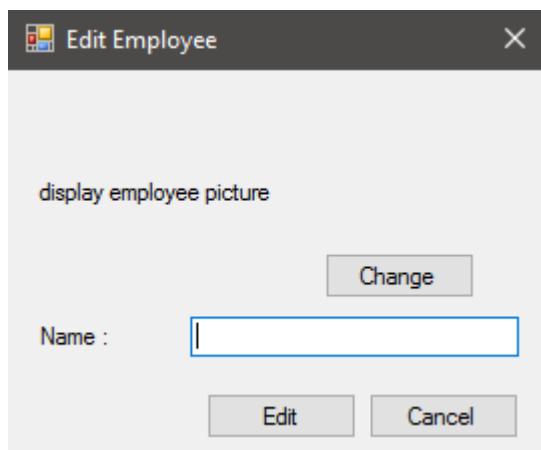


8.4.4 Manage Employee

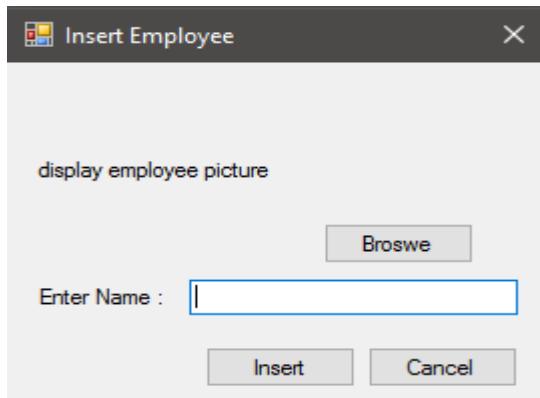
Screen for employee database management.



Screen for edit employee information after Edit button is clicked.

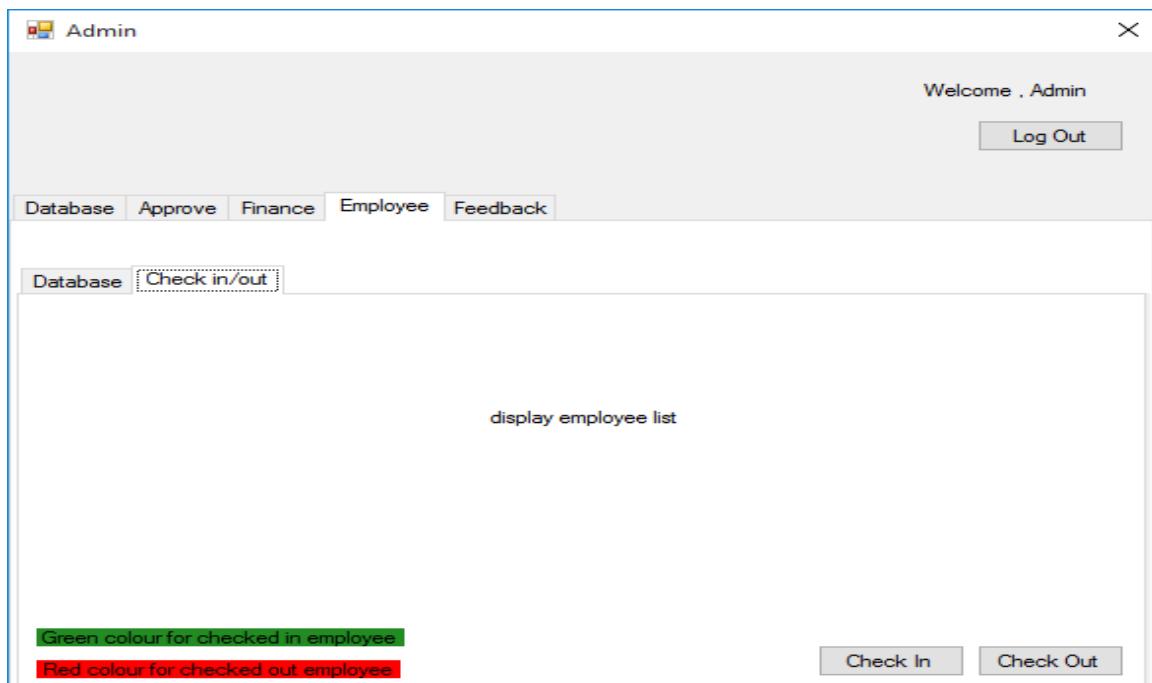


Screen for insert new employee after Insert button is clicked.



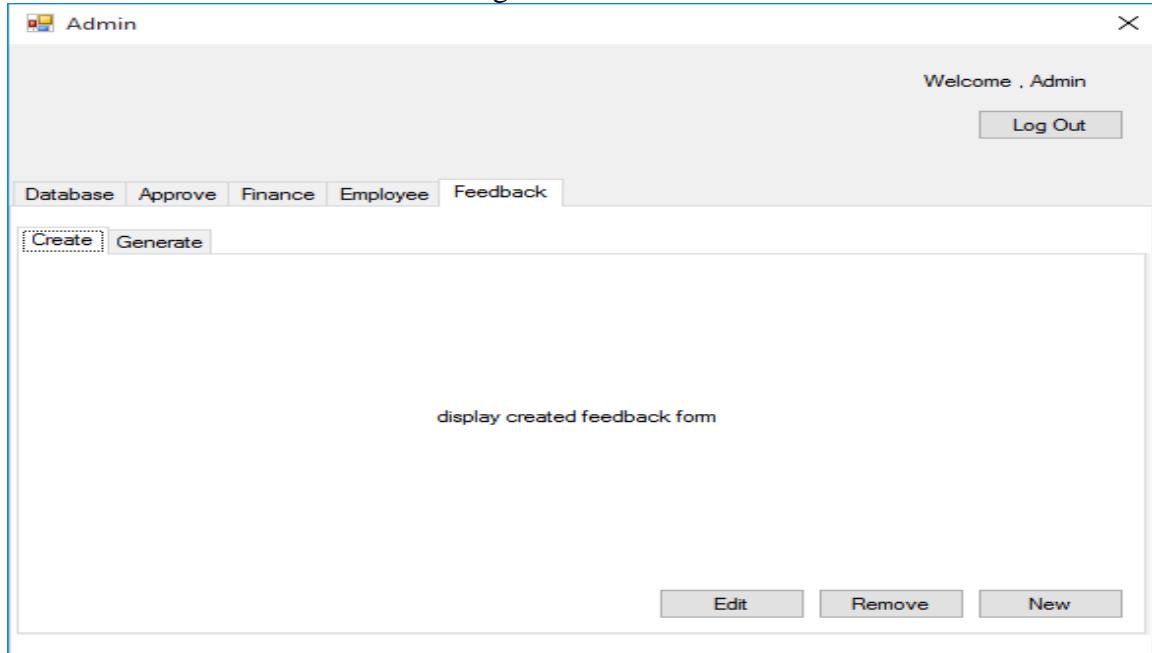
8.4.5 Check-in and Check-out Employee

Employee screen that admin can check in/out of employee.

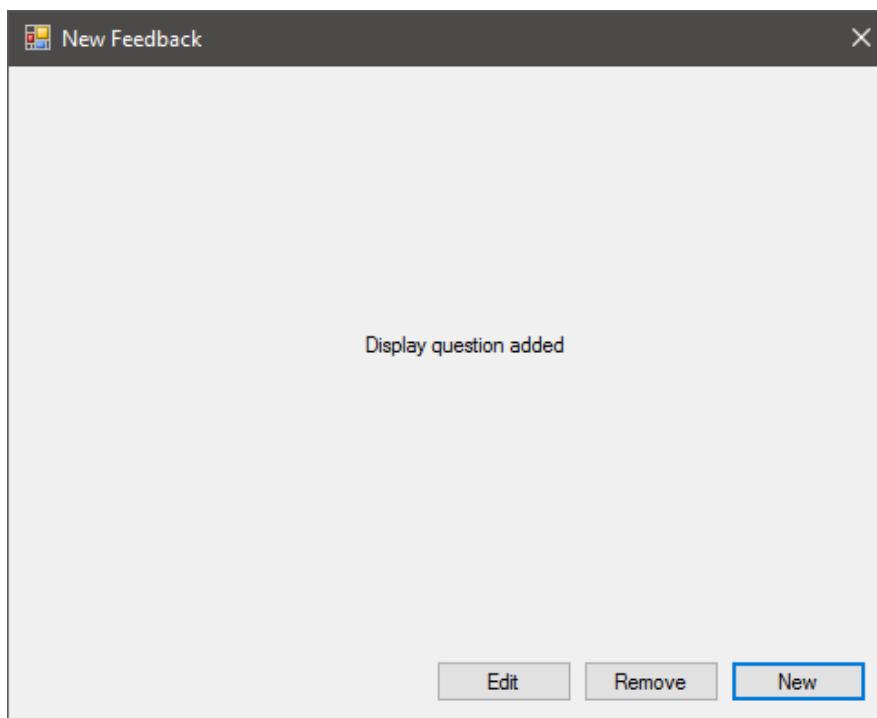


8.4.6 Manage Feedback

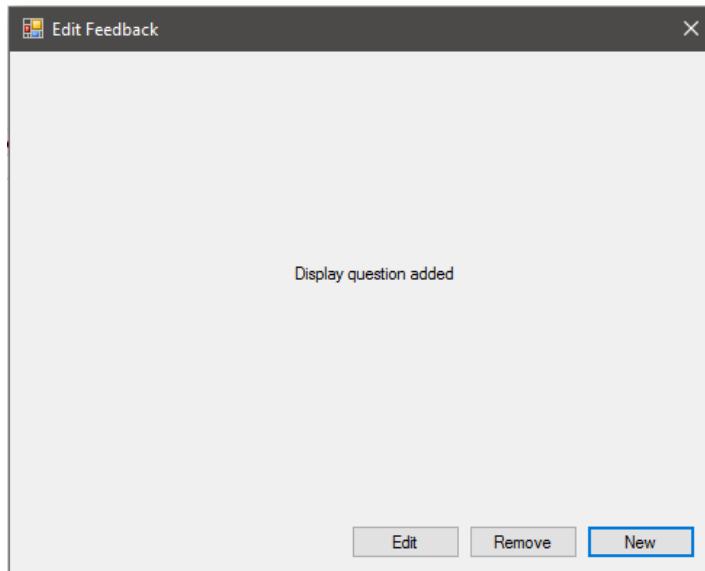
Feedback screen that admin can manage the feedback form.



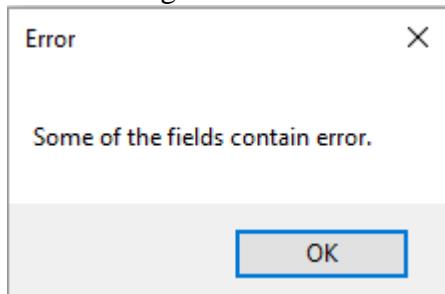
Screen for create new feedback after click New.



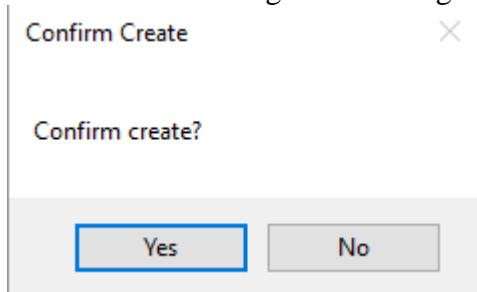
Screen for edit feedback form after click Edit.



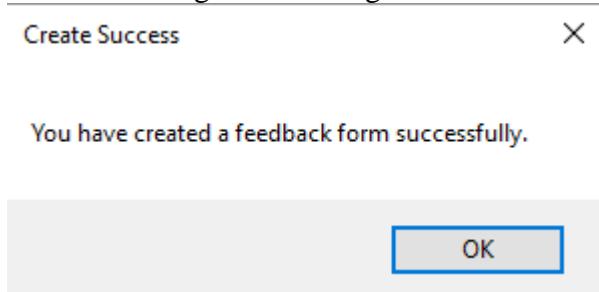
Error message for edit and create (new).



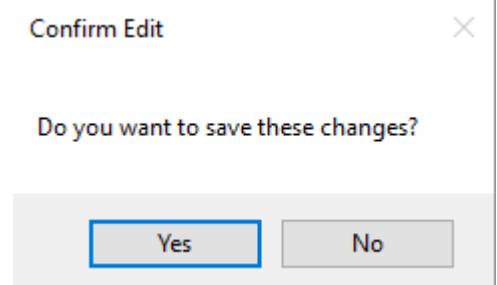
Confirmation message for creating a (new) feedback form.



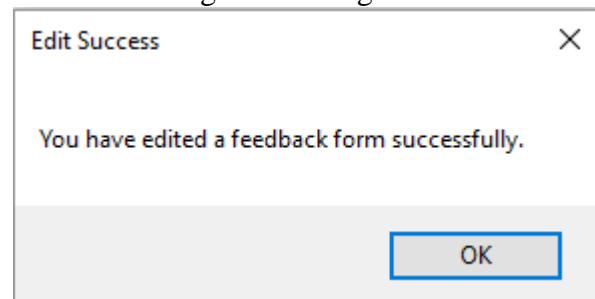
Success message for creating a feedback form.



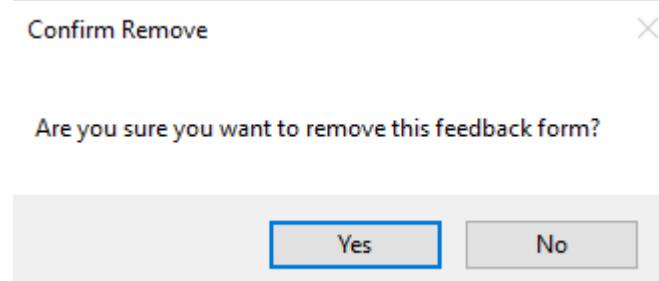
Confirmation message for editing a feedback form.



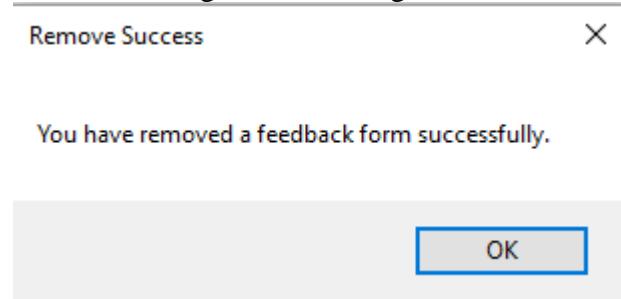
Success message for editing a feedback form.



Confirmation message for removing a feedback form.

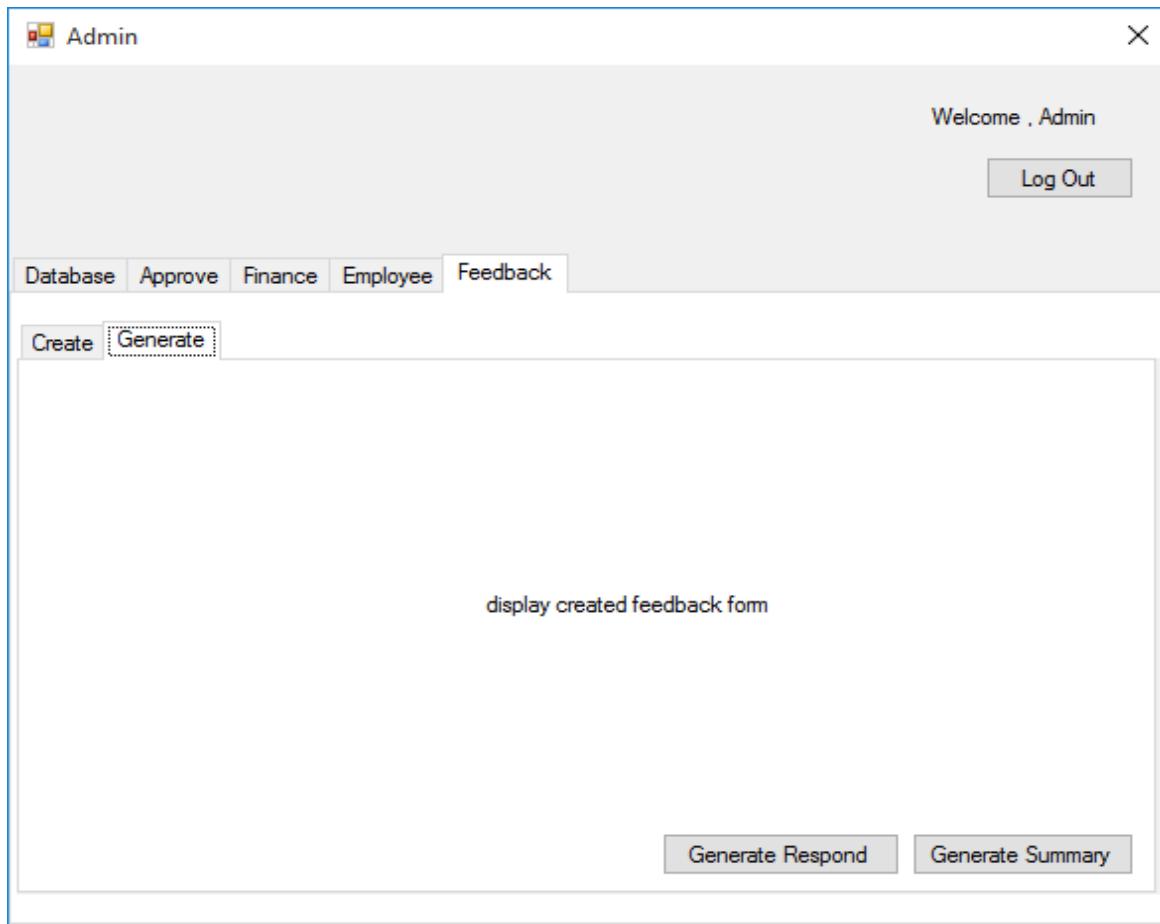


Success message for removing a feedback form.

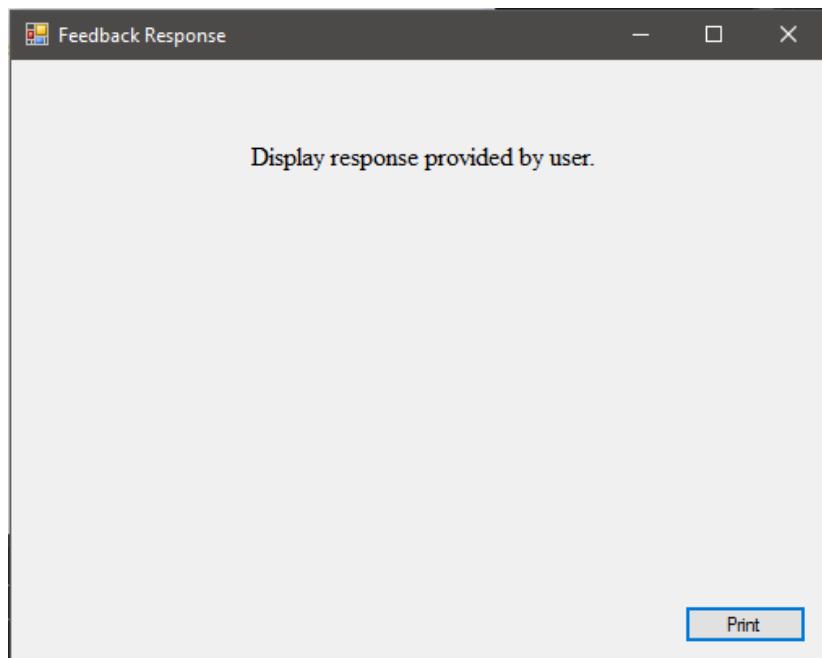


8.4.7 Generate Response and Summary of Feedback Form

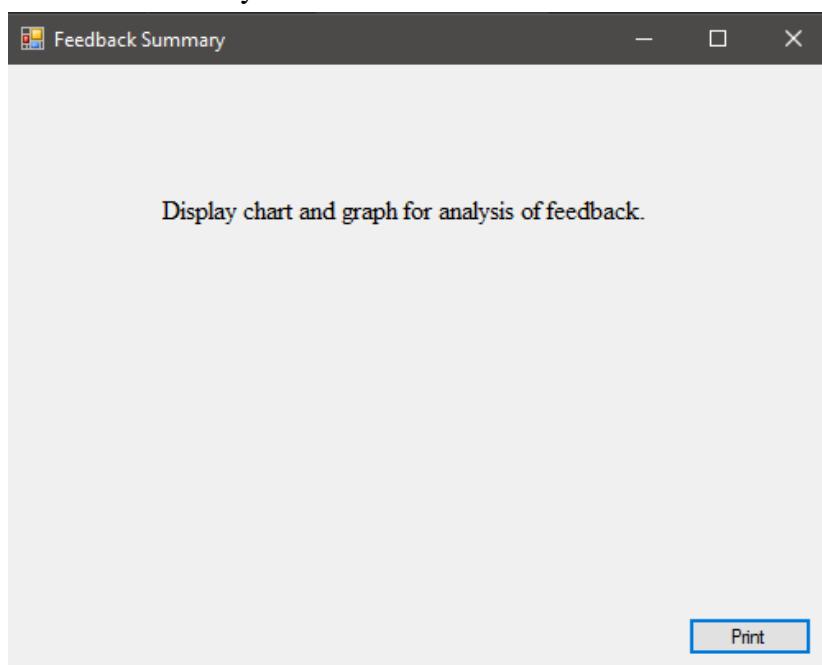
Screen that admin can generate respond and summary of feedback form.



Generate Respond

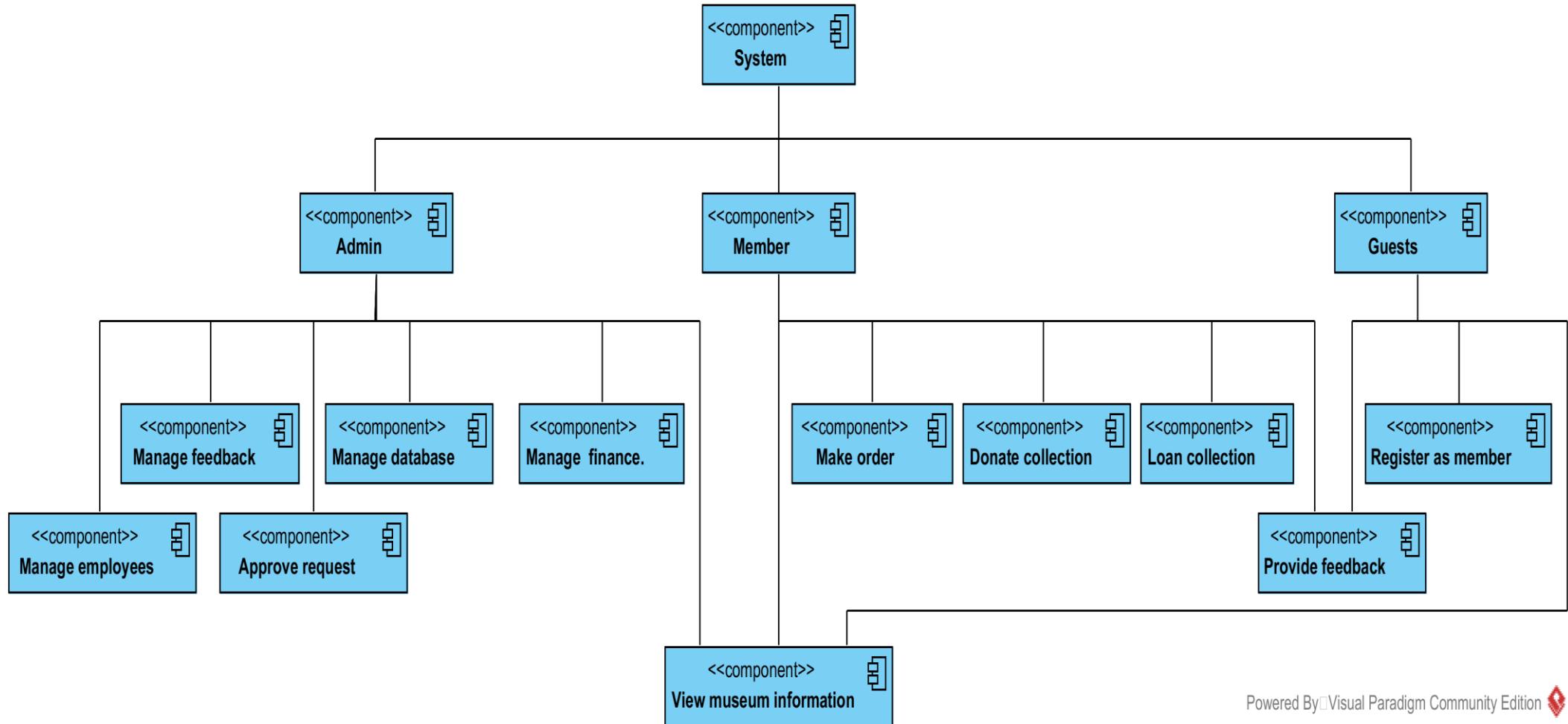


Generate Summary



9 Component Design

9.1 Main Components



9.2 Admin

9.2.1 Manage Employees

To manage employee database and check-in/out employees, the admin has to login into the system. Then, the admin will need to click the employee tab and select database if he/she wish to manipulate employees' data. If the admin wants to check in/out employees to record their working hours, he/she will have to click the check in/out tab and select check in or check out option. After that, green colour will appear on the row of the checked in employee's name and red colour for checked out.

Pseudocode:

```
Login into admin account
While password is incorrect
    Enter password
Click Employee tab
Select option
    If option is database
        Display a list of employees
        Click one of the rows in the list
        Select option
        If option is edit
            Select an employee to edit
            Confirm changes
            Edit employee data in the table
        Else if option is delete
            Select an employee to delete
            Confirm changes
            Delete employee data in the table
        Else if option is insert
            Fill in employee data
            Confirm changes
            Insert employee data into the table
        Else if option is View Detail
            View employee data detail
    Else if option is Check in/out
        If option is check-in
            Check-in employees
```

```

        Confirm changes
Else if option is check-out
    Check-out employees
        Confirm changes
Display successful changes message
Update database accordingly

```

9.2.2 Manage Feedback

The admin of the system can create a feedback form which to be filled by members or guests. The admin must have logged into their account in order to create a feedback form. Then, the admin will need to click on the ‘Feedback’ tab to create a feedback form. The feedback form contains several columns and text fields which to be filled with required questions to ask the members and guests. After filled in the form, all of the question will be stored inside the database table which is also called ‘Feedback’. Those questions will be stored as the columns inside the table. Each intersection will be the answers to the questions.

Pseudocode:

```

Login into admin account
While password is incorrect
    Enter password
Click Feedback tab
Select one of the options
While option is not view and option is not generate and changes are not confirmed
    If option is create
        Display created feedback forms
        If option is New
            Fill in the required blank fields
            Click create
            Confirm changes
    Else if option is edit
        Display feedback forms
        Select a feedback form to edit
        Edit the fields in feedback form
        Confirm changes
    Else if option is remove
        Display feedback forms
        Select a feedback form to remove
        Remove chosen feedback form
        Confirm changes

```

```

Else if option is generate
    Select choice
        If choice is response
            Generate response form in a table
        Else if choice is summary
            Generate summary of responses
            View summary of response
    If option is not view and option is not generate
        Update feedback database accordingly
        Display successful changes message

```

9.2.3 Approve Request

To approve the loan or donation requested by the member, the admin will have to log in to the system. Then he/she will need to click on the approve tab and select donation or loan tab to proceed. The admin can view the details of the loan or donation by click on the view details before approve the request. Then, the admin will need to click on the approve button to approve the loan or donation request.

```

Approve Request
Login into admin account
While password is incorrect
    Enter password
Click Approve tab
Select one of the option
    If option is Approve Loan
        Display list of loan requested by member
        Click one of the request
        Select option
            If option is View Detail
                View the detail of the loan request
            Else if option is Approve
                Approve the loan
                Turn the row into green colour
    Else if option is Approve Donation
        Display list of donation requested by member
        Click one of the request
        Select option

```

```

If option is View Detail
    View the detail of the donation request
Else if option is Approve
    Approve the donation
    Turn the row into green colour
Update the database accordingly
Display successful update message

```

9.2.4 Manage Database

The admin of the system will need to login to the system to do database CRUD. Then, the admin will need to select one of the table inside the database (e.g. souvenir, collection, employee, etc.) that they wish to make change. After they enter the interface for the table, there will be 4 options which are view, insert, edit and delete. They can choose one of them to start making changes to the particular table inside the database. After enter the command, the system will ask them to confirm their decision and finally make changes to the database.

Pseudocode:

```

Login into admin account
While password is incorrect
    Enter password
Click Database tab
Select one of the tables' name inside the database
Display list of data
Click one of the row in the data list
Select one of the options
    If option is View Detail
        View the data details
    Else if option is insert
        Fill in data
        Confirm changes
        Insert data into the table
    Else if option is edit
        Select a data to edit
        Confirm changes
        Edit data in the table
    Else if option is delete
        Display data

```

```
Select a data to delete  
Confirm changes  
Delete data in the table  
  
If option is not View Detail  
    Display successful changes message  
    Update database accordingly
```

9.2.5 Manage Finance

To manage the finance of the museum, the admin will have to log in to the system. Then, the admin will need to click on the finance tab. The list of revenue and spent will show in the screen after the click. The admin can choose to calculate the profit by click the calculate button or click on generate report after calculating the profit. If the generate report button is clicked before calculate button, the system will automatically calculate the profit before generate the report.

Pseudocode:

```
Login into admin account  
While password is incorrect  
    Enter password  
Click Finance tab  
Display lists of revenue and spent  
Select one of the options  
    If option is Calculate Profit  
        Calculate profit and loss  
        Display results  
    Else if option is Generate Report  
        Calculate and generate financial report  
        Input option  
        If option is print  
            Print out the report
```

9.2.6 View Museum Information

The admin can view the information of the museum without log in to the system. He/she will need to select one of the tab to view the information either souvenirs, collections or events of the museum. To view in more detail, he/she will need to click on one of the item.

Pseudocode:

```
Select one of the options to view
    If option is collection
        Display collections
        Select whether to search for a collection
        If search is true
            Enter collection name to be searched
            Search for a collection
        Select a collection
        View a collection's details
    Else if option is souvenir
        Display souvenirs
        Select whether to search for a souvenir
        If search is true
            Enter souvenir name to be searched
            Search for a souvenir
        Select a souvenir
        View a souvenir's details
    Else if option is event
        Display events
        Select an event
        View an event's details
```

9.3 Member

9.3.5 View Museum Information

The member can view the information of the museum without log in to the system. He/she will need to select one of the tab to view the information either souvenirs, collections or events of the museum. To view in more detail, he/she will need to click on one of the item. *Refer to 5.2.6.*

9.3.6 Make Order

To make an order, the member has to log in to the system. Then, the member will need to click on the order tab. He/she will need to select one of the tabs to order either souvenirs or tickets for events of the museum. After member has fill in the required details, he/she has to confirm the order. Once the order is confirmed, the member will be directed to select payment method and then proceed to payment. He/she may choose to print order details.

Pseudocode:

```
Login into member account
While password is incorrect
    Enter password
Click Order tab
Select one of the options to order
    If option is souvenir
        Select a souvenir
        Enter quantity
        Display total price
        Click order
    Else if option is ticket
        Fill in visit date and ticket quantity
        Fill in number of adults and children
        Click order
Confirm order
If order is confirmed
    Select payment method
    Proceed to payment
    If payment if confirmed
        Display successful paid message
        Display history order detail
        Select option
            If option is print
                Print out the order detail
```

9.3.3 Donate Collection

To donate a collection, the member has to log in to the system. Then, the member will need to click on the donate tab. After member has fill in the required details, he/she has to confirm the information. Then the member has to click submit.

Pseudocode:

```
Login into member account
While password is incorrect
    Enter password
Click Donate tab
While information entered is not confirmed
    Fill in required information in donation form
    Confirm information entered
Click submit
```

9.3.4 Loan Collection

To loan a collection, the member has to log in to the system. Then, the member will need to click on the loan tab. After member has fill in the required details, he/she has to confirm the information. Then the member has to click submit.

Pseudocode:

```
Login into member account
While password is incorrect
    Enter password
Click Loan tab
Select collection to be loaned
While correct information is not entered
    Fill in required information in loan form
    Confirm correct information is entered
Click submit
```

9.3.5 Provide Feedback

To provide feedback, the member has to log in to the system. Then, the member will need to click on the feedback tab. After member has fill in the required details, he/she has to confirm the information. Then the member has to click submit.

Pseudocode:

```
Click Feedback tab
While required questions are not answered
    Fill in questions given in the feedback form
    Confirm required questions are answered
Click submit
```

9.4 Guests

9.4.3 View Museum Information

The guest can view the information of the museum without log in to the system. He/she will need to select one of the tab to view the information either souvenirs, collections or events of the museum. To view in more detail, he/she will need to click on one of the item. *Refer to 5.2.6 (except no log in is required).*

9.4.4 Register as Member

To register as a member, the guest will need to click on the register tab. After member has fill in the required details, he/she has to confirm the information. Then the member has to click register.

Pseudocode:

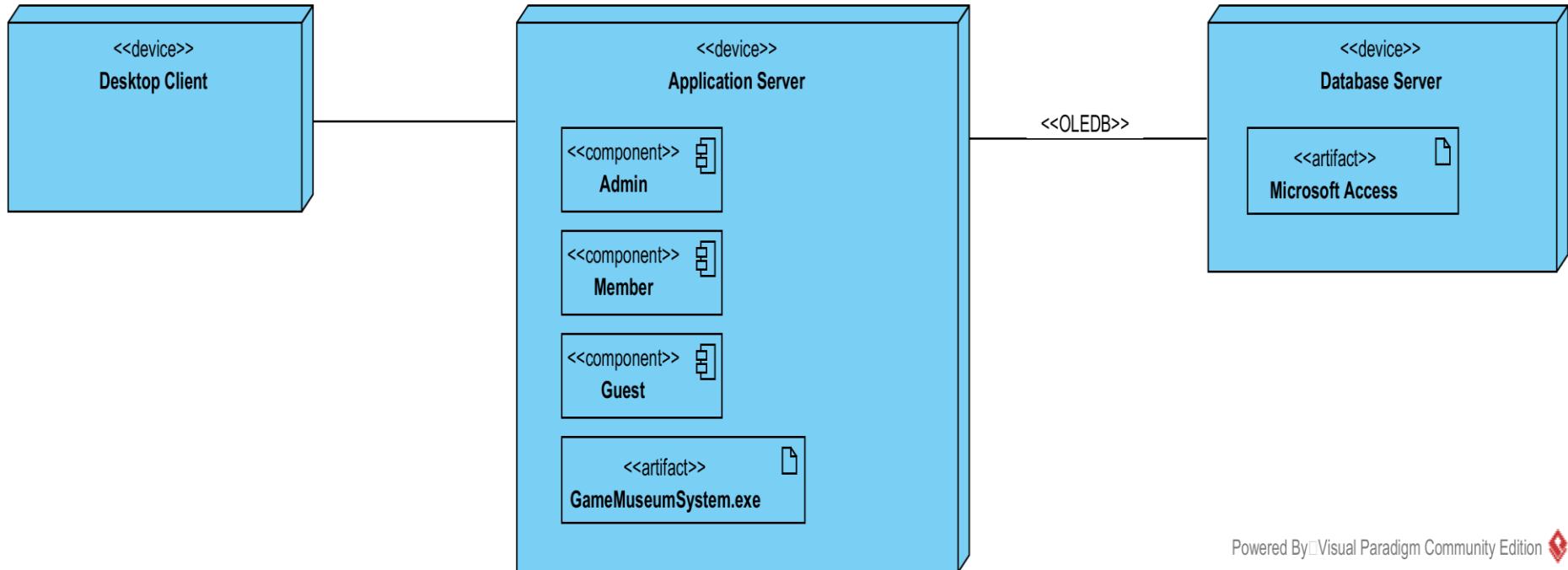
```
Click Register
While correct information is not entered
    Fill in required information
    Confirm correct information is entered
Click register
```

9.4.5 Provide Feedback

The guest can provide feedback without log in to the system. The guest will need to click on the feedback tab. After the guest has fill in the required details, he/she has to confirm the information. Then the guest has to click submit. *Refer to 5.3.5 (except no log in is required).*

10 Deployment Design

10.1 Deployment Diagram



Powered By Visual Paradigm Community Edition

11 Test Data

11.1 Register as Member

<Empty> means leaving the field empty.

Field of Attribute	Valid Data	Invalid Data
Name	john	<Empty>
Email	john@gmail.com	abc
Password	123	123
Confirm Password	123	456

11.2 Login

Field of Attribute	Valid Data	Invalid Data
Email	ahkong@gmail.com	abc
Password	123	abc

11.3 Donate Collection

Field of Attribute	Valid Data	Invalid Data
Name	Guide to Final Fantasy	<Empty>
Detail	A guide book.	<Empty>
Price	RM30.00	abc
Picture	<Image>	<Empty>

11.4 Loan Collection

Field of Attribute	Valid Data	Invalid Data
Loan Period – Start date	<One day later than today>	<Today, before today or bigger than end date>
Loan Period – End date	<One day later than today>	<Today or before today>
Loan Purpose	abc	<Empty>

11.5 Order Ticket

Field of Attribute	Valid Data	Invalid Data
Visit Date	<One day later than today>	<Today, before today>
Number of Adult	2	abc
Number of Children	2	abc

11.6 Order Souvenir

Field of Attribute	Valid Data	Invalid Data
Quantity	2	abc

11.7 Insert Collection into Database

Field of Attribute	Valid Data	Invalid Data
Collection Name	Guide to Final Fantasy	<Empty>
Collection Detail	A guide book.	<Empty>
Collection Date	<Today or before today>	<Later than today>
Loan Status	<Click Available or Loaned>	<Empty>
Loan Charge	RM 30.00	abc
Picture	<Image>	<Empty>

11.8 Edit Collection from Database

Field of Attribute	Valid Data	Invalid Data
Collection Name	Guide to Final Fantasy	<Empty>
Collection Detail	A guide book.	<Empty>
Collection Date	<Any date>	<Empty>
Loan Status	<Click Available or Loaned>	<Empty>
Loan Charge	RM 30.00	abc
Picture	<Image>	<Empty>

11.9 Insert Event into Database

Field of Attribute	Valid Data	Invalid Data
Event Title	History of Game Graphics	<Empty>
Event Date	<Any date>	<Empty>
Event Detail	A talk about history of game graphics.	<Empty>

11.10 Edit Event from Database

Field of Attribute	Valid Data	Invalid Data
Event Title	History of Game Graphics	<Empty>
Event Date	<Any date>	<Empty>
Event Detail	A talk about history of game graphics.	<Empty>

11.11 Insert Souvenir into Database

Field of Attribute	Valid Data	Invalid Data
Souvenir Name	Mascot	<Empty>
Souvenir Detail	Our museum mascot doll.	<Empty>
Souvenir Price	RM10.00	abc
Picture	<Image>	<Empty>

11.12 Edit Souvenir from Database

Field of Attribute	Valid Data	Invalid Data
Souvenir Name	Mascot	<Empty>
Souvenir Detail	Our museum mascot doll.	<Empty>
Souvenir Price	RM10.00	abc
Picture	<Image>	<Empty>

11.13 Insert Employee into Database

Field of Attribute	Valid Data	Invalid Data
Name	Ali	<Empty>
Working Hour	8	abc

11.14 Edit Employee from Database

Field of Attribute	Valid Data	Invalid Data
Name	Ali	<Empty>
Working Hour	8	abc

12 Acceptance Test

12.1 Common

Criteria	Fulfill	Remark
View collection	Yes	
Search collection	Yes	
View souvenir	Yes	
Search souvenir	Yes	
View event	Yes	
Search event	Yes	

12.2 Guest

Criteria	Fulfill	Remark
Register as member	Yes	
Submit feedback	No	Partially implemented.

12.3 Member

Criteria	Fulfill	Remark
Login	Yes	
Donate collection	Yes	
Loan collection	Yes	
Order souvenir	Yes	
Order ticket	Yes	
Submit feedback	No	Partially implemented.

12.4 Admin

Criteria	Fulfill	Remark
Login	Yes	
Insert collection into database	Yes	
Edit collection from database	Yes	
Delete collection in database	Yes	
Insert souvenir into database	Yes	
Edit souvenir from database	Yes	
Delete souvenir in database	Yes	
Insert event into database	Yes	
Edit event from database	Yes	
Delete event in database	Yes	
Approve donation	Yes	
Approve loan	Yes	
Calculate profit	Yes	
Generate financial report	Yes	
Insert employee into database	Yes	
Edit employee from database	Yes	
Delete employee in database	Yes	

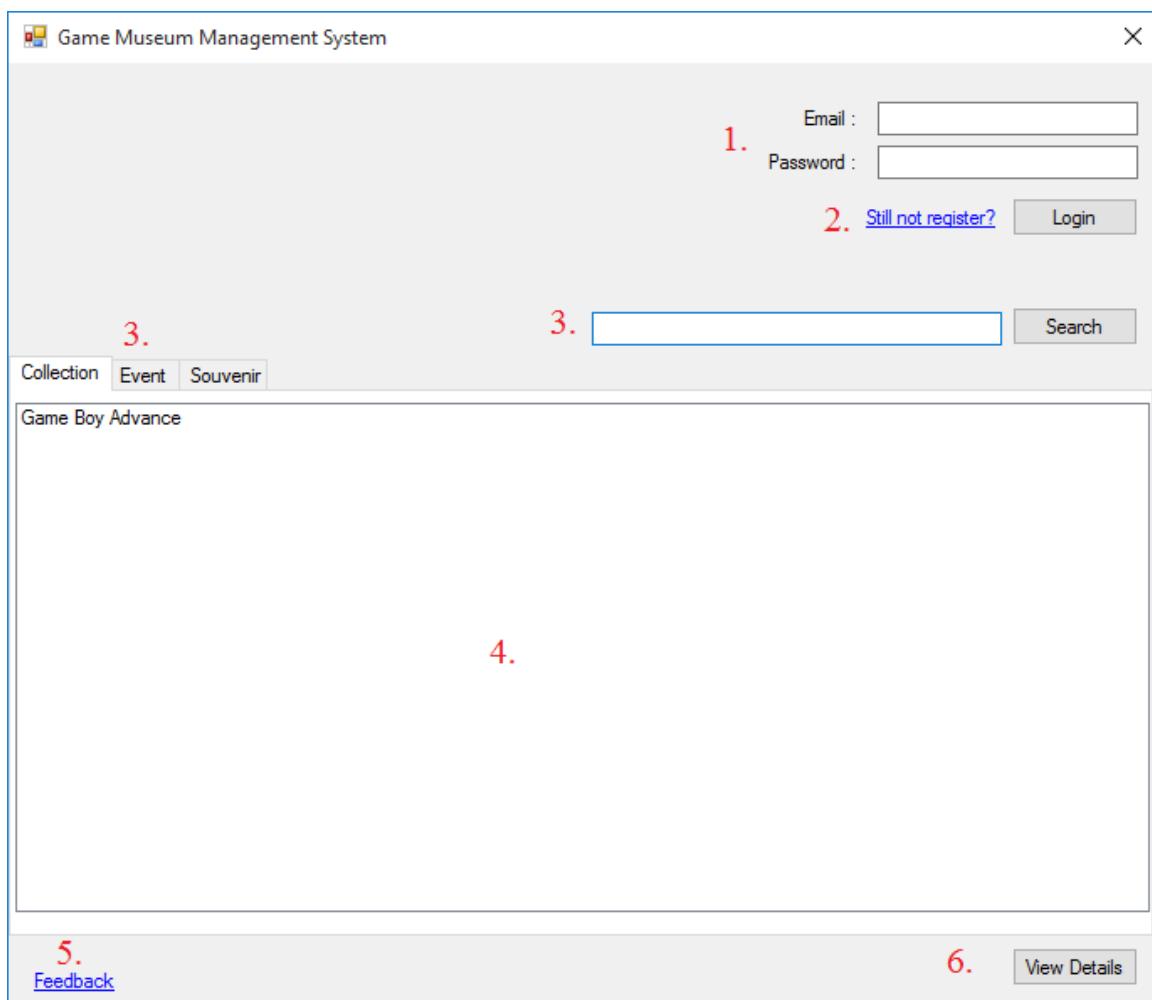
Check-in employee	Yes	
Check-out employee	Yes	
Insert feedback into database	No	Partially implemented.
Edit feedback from database	No	Partially implemented.
Delete feedback in database	No	Partially implemented.
Generate response and summary from feedback	No	Not implemented.

13 Sample Screens

13.1 Main Screen

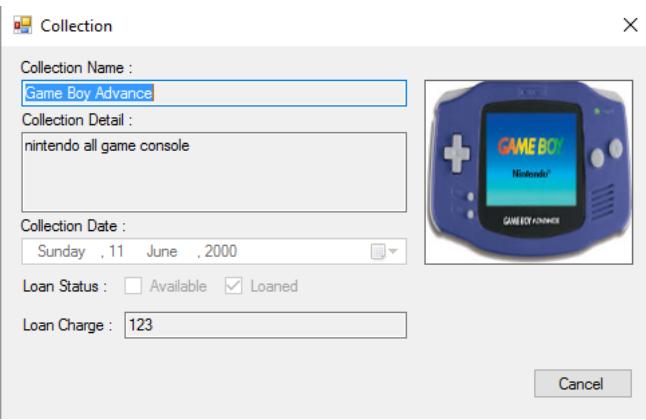
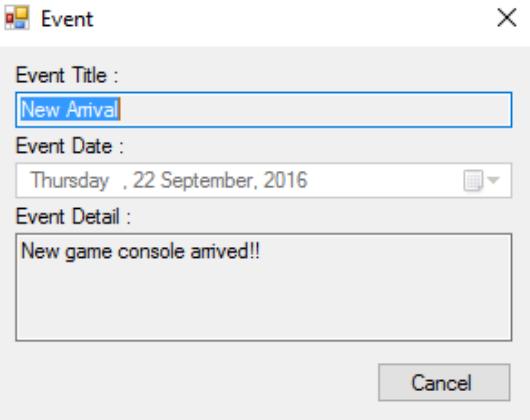
13.1.1 Main

1. Enter email and password to log in as admin or member;
2. Register link
3. Tab to switch between different data type
4. Space to display data
5. Feedback link
6. View button



13.1.2 View Details

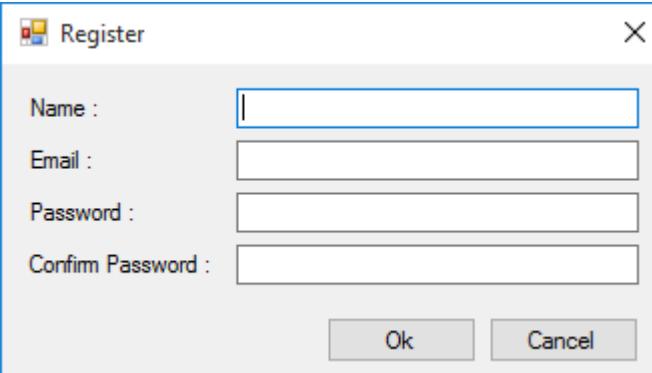
Detail screen of different type of data.

 <p>Collection Name : Game Boy Advance Collection Detail : nintendo all game console Collection Date : Sunday , 11 June , 2000 Loan Status : <input type="checkbox"/> Available <input checked="" type="checkbox"/> Loaned Loan Charge : 123</p>	 <p>Event Title : New Arrival Event Date : Thursday , 22 September, 2016 Event Detail : New game console arrived!!</p>
 <p>Souvenir Name : Key Chain Souvenir Detail : Limited Key Chain Souvenir Price : 5</p>	

13.2 Guest

13.2.1 Register as Member

Guest can register become a member by fill up the information needed in register page.



Name :
Email :
Password :
Confirm Password :

13.3 Member

13.3.1 Donate Collection

Member main page and donation page. Member can donate collection through this page.

The screenshot shows a web-based application window titled "Member". At the top right is a close button (X). Below the title, it says "Welcome, AH KONG" and provides a "Log out" link. A navigation bar at the top includes tabs for "Donate", "Loan", and "Order", with "Donate" currently selected. The main content area contains three input fields labeled "Name :", "Detail :", and "Price :" each with an associated text input box. To the right of these fields is a large, empty gray rectangular area. Below this area is a "Browse" button. At the bottom right of the form are two buttons: "Submit" and "Discard".

13.3.2 Loan Collection

Member can select collection to loan.

Member

Welcome, AH KONG
[Log out](#)

Donate **Loan** Order

Collection Name :

Loan Charge : charge

Loan Period :

Loan Purpose :

Click browse button go into selection page . Loaned collection not show in page.

Member

Welcome, AH KONG
[Log out](#)

Donate **Loan** Order

collection1

13.3.3 Order Ticket

Member can order ticket.

The screenshot shows a Windows-style application window titled "Member". In the top right corner, it says "Welcome, AH KONG" and has a "Log out" link. Below the title bar is a menu bar with "Donate", "Loan", and "Order" buttons, where "Order" is highlighted with a dotted border. Underneath the menu is a sub-menu with "Ticket" and "Souvenir" buttons, also with "Ticket" highlighted. The main content area contains five input fields for ordering: "Visit Date" (set to "2016年 9月23日"), "Number of Adult" (empty), "Number of Children" (empty), "Quantity" (empty), and "Total Price" (empty). At the bottom right are "Proceed" and "Discard" buttons.

Click proceed button will go into payment page . Member need to fill up member id and card no for payment.

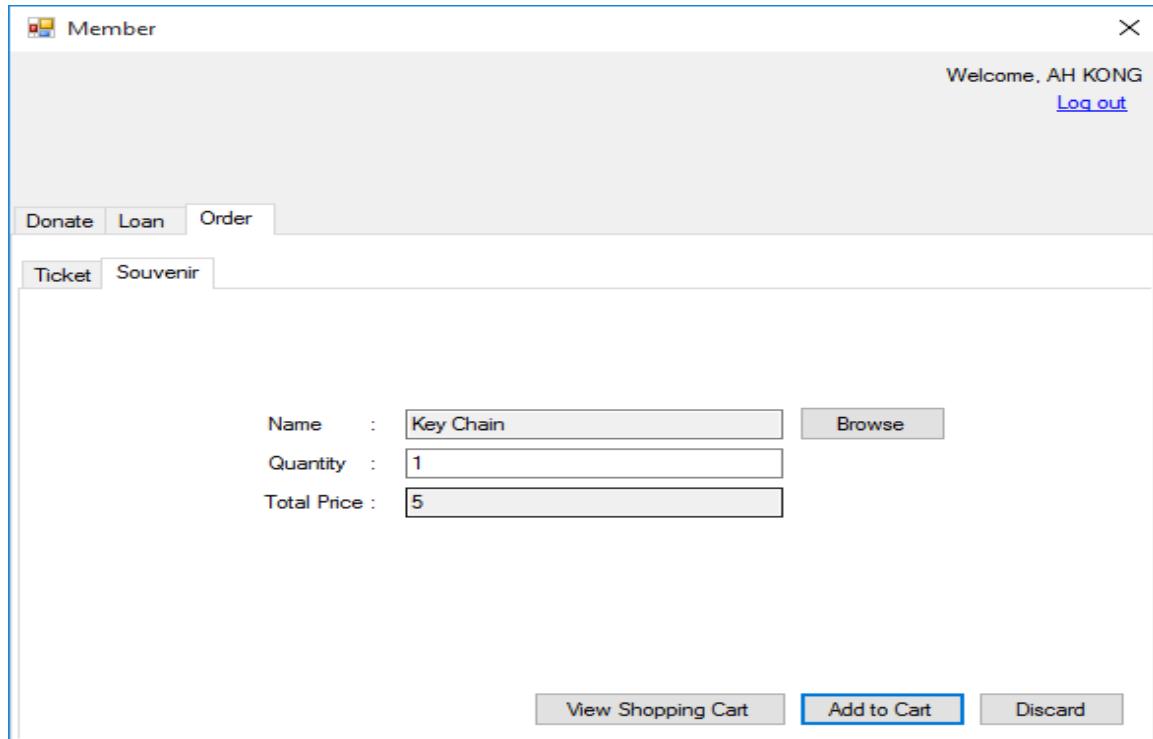
The screenshot shows a "Payment" dialog box. It has three input fields: "Member ID" (empty), "Card No" (empty), and "Order Date" (set to "2016年 9月22日"). At the bottom are "Ok" and "Cancel" buttons.

A receipt will show up if the payment success.

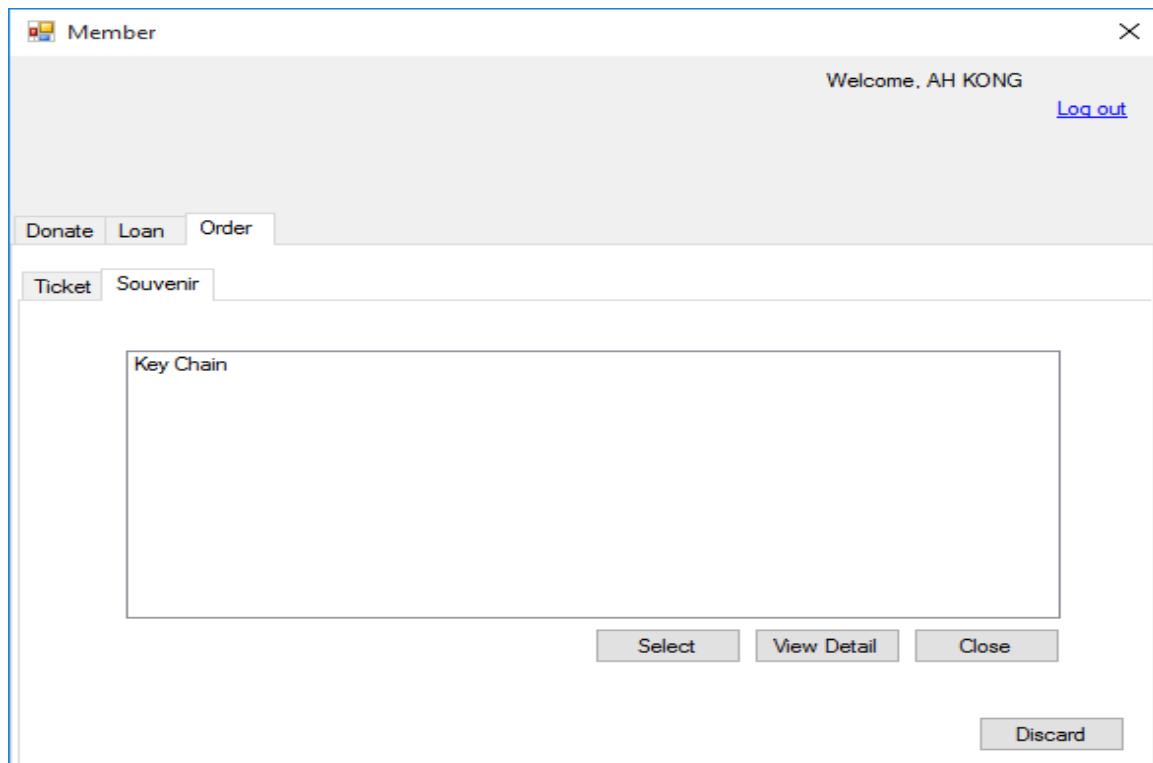
The screenshot shows a "Purchase Detail" dialog box. It displays a large message "Thank you for your purchase!" and "Please print this out for further reference.". Below this, it lists the purchase details: Member ID : 1, Visit Date : 2016/9/23, Number of Adults : 1, Number of Children : 0, Total Price : 10. At the bottom right is a "Print" button.

13.3.4 Order Souvenir

Member can purchase souvenir.



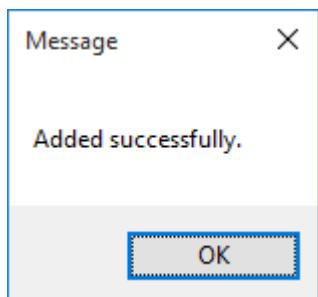
Click browse button go into selection page.



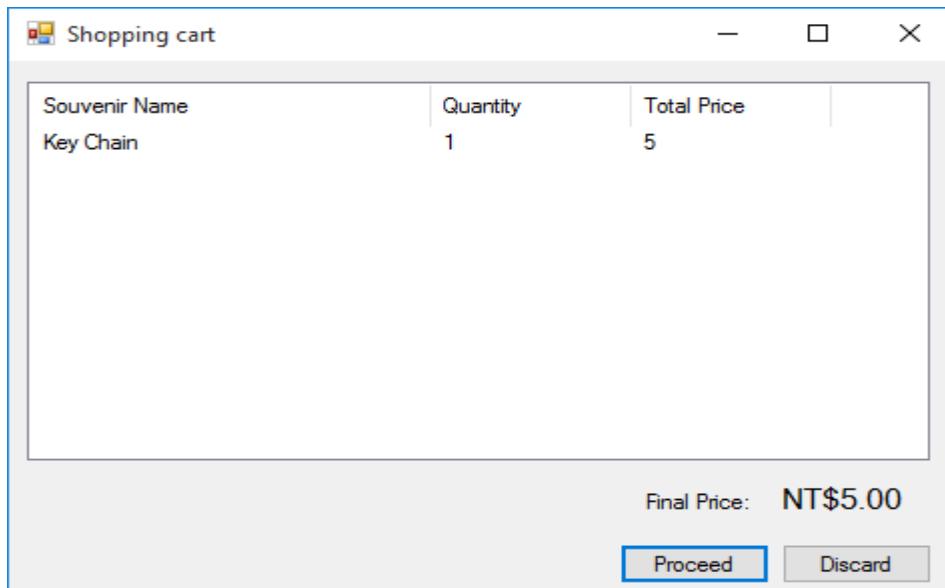
After select, price will show up. Member can set the quantity .

The screenshot shows a web application window titled "Member". At the top right, it says "Welcome, AH KONG" and has a "Log out" link. Below the header, there are tabs for "Donate", "Loan", and "Order", with "Order" being the active tab. Under "Order", there are sub-tabs for "Ticket" and "Souvenir", with "Souvenir" being the active tab. The main content area contains fields for "Name" (Key Chain), "Quantity" (1), and "Total Price" (5). To the right of these fields is a "Browse" button. At the bottom of the form are three buttons: "View Shopping Cart", "Add to Cart", and "Discard".

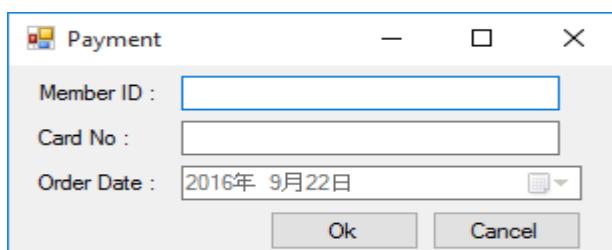
A success message will show when member add souvenir into cart.



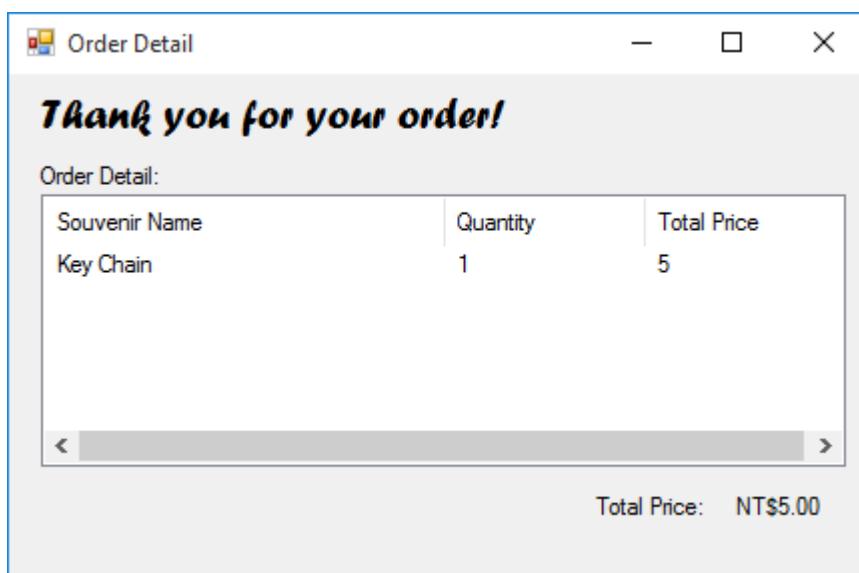
Click view shopping cart button will lead to shopping cart. Member can view souvenir that added into cart.



Click proceed button will go into payment page . Member need to fill up member id and card no for payment.

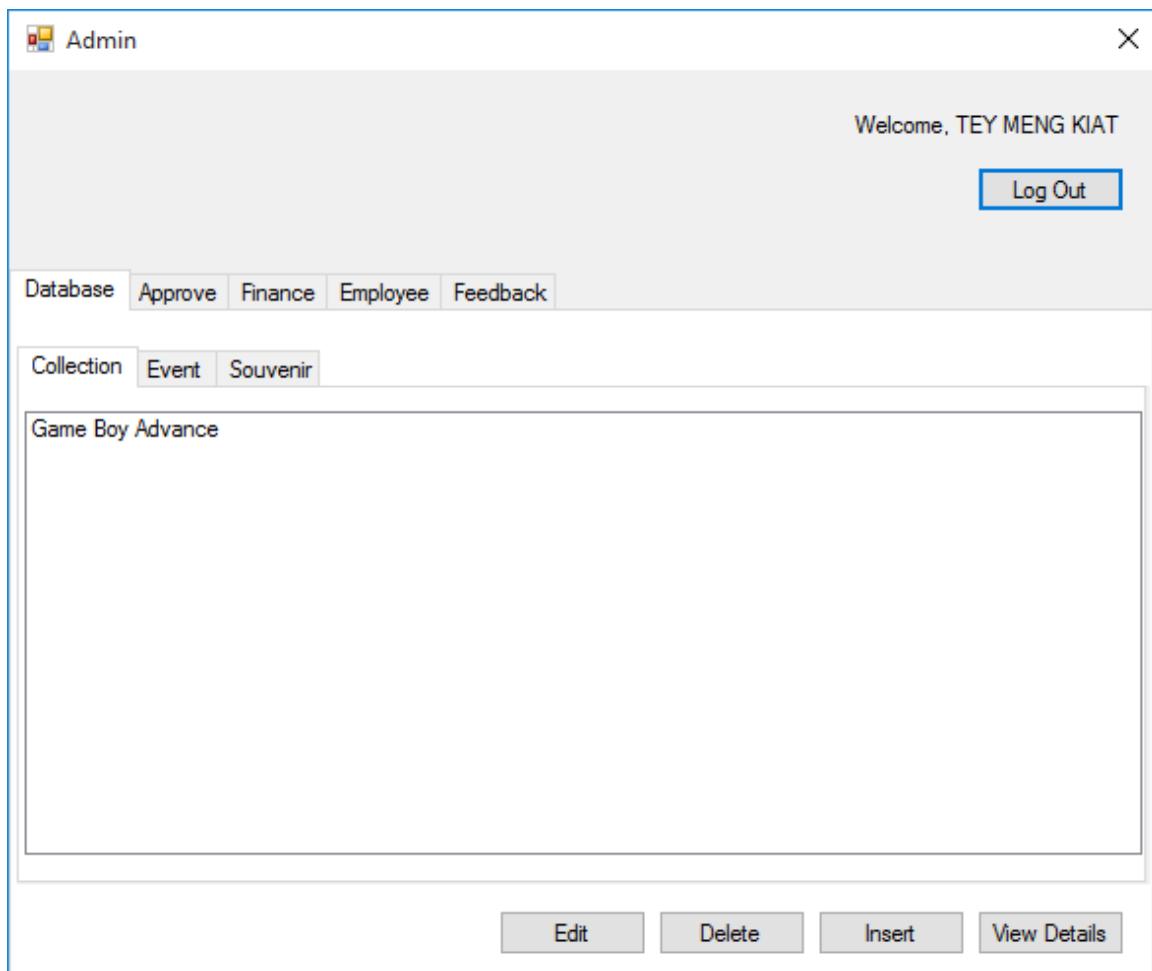


A receipt will show when the payment is success.



13.4 Admin

13.4.1 Manage Database



Insert page for different data.

The image displays four separate 'Insert' dialog boxes, each with a title bar, input fields, and 'Confirm' and 'Cancel' buttons.

- Insert Employee:** Contains fields for Name, Working Hour (0), Check In, and Check Out.
- Insert Souvenir:** Contains fields for Souvenir Name, Souvenir Detail, Souvenir Price, and a 'Browse' button.
- Insert Event:** Contains fields for Event Title, Event Date (2016年 9月22日), and Event Detail.
- Insert Collection:** Contains fields for Collection Name, Collection Detail, Collection Date (2016年 9月22日), Loan Status (Available, Loaned checked), and a 'Browse' button.

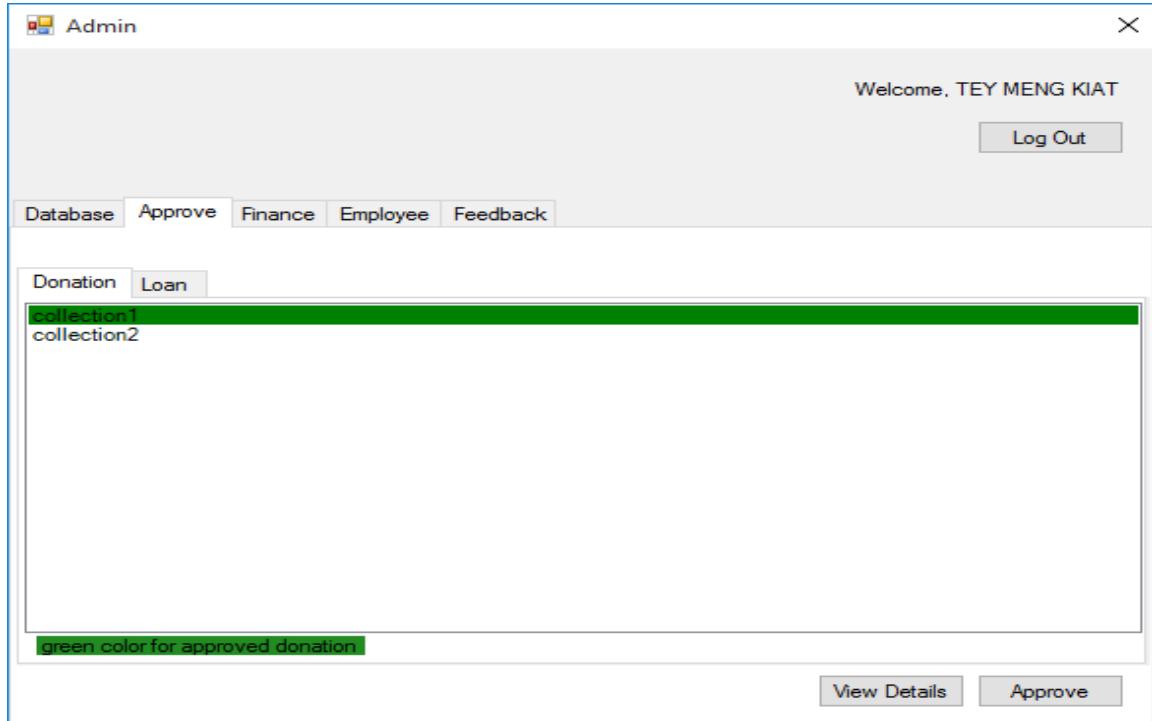
Edit page for different data.

The image displays four separate 'Edit' dialog boxes, each with a title bar, input fields, and 'Confirm' and 'Cancel' buttons, mirroring the structure of the 'Insert' boxes above.

- Edit Employee:** Contains fields for Name, Working Hour (0), Check In, and Check Out.
- Edit Souvenir:** Contains fields for Souvenir Name, Souvenir Detail, Souvenir Price, and a 'Browse' button.
- Edit Event:** Contains fields for Event Title, Event Date (2016年 9月22日), and Event Detail.
- Edit Collection:** Contains fields for Collection Name, Collection Detail, Collection Date (2016年 9月22日), Loan Status (Available, Loaned checked), and a 'Browse' button.

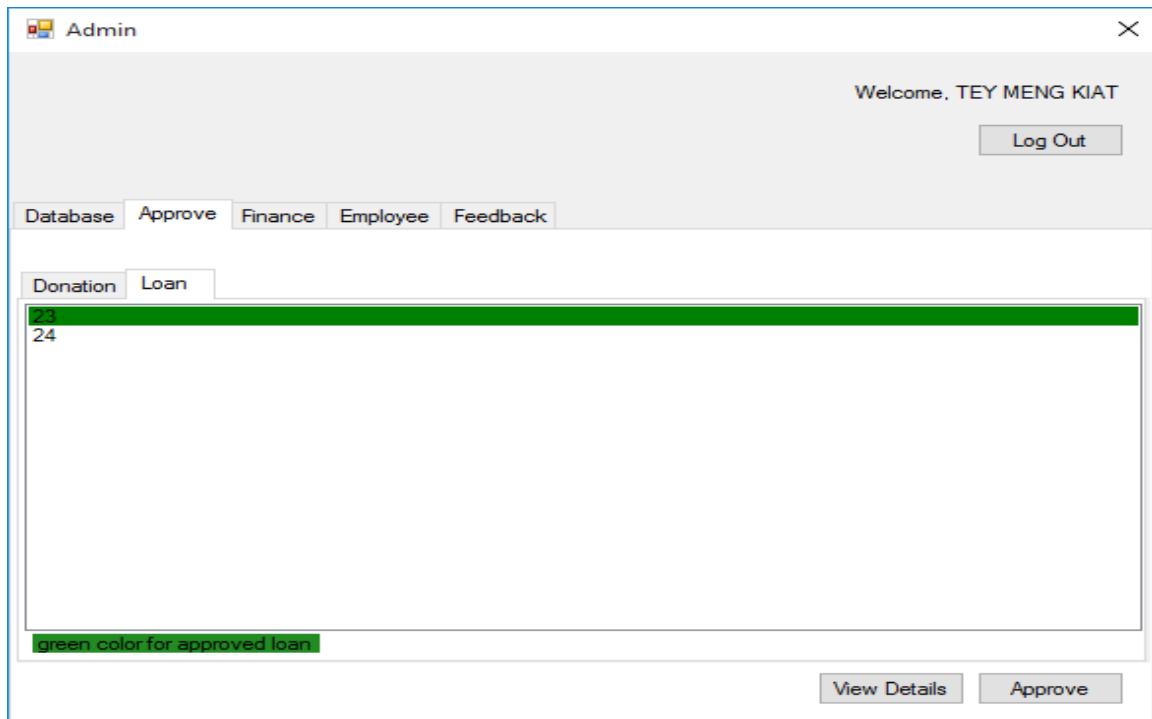
13.4.2 Approve Donation

Admin can approve donation in this page. Approved donation highlight by GREEN.



13.4.3 Approve Loan

Admin can approve loan in this page. Approved loan highlight by GREEN



13.4.4 Manage Finance

Admin can view the finance record

The screenshot shows the 'Admin' application window. At the top, there is a header bar with a logo, the word 'Admin', and a close button ('X'). Below the header, a welcome message 'Welcome, TEY MENG KIAT' is displayed next to a 'Log Out' button. A navigation menu at the top includes tabs for 'Database', 'Approve', 'Finance' (which is selected), 'Employee', and 'Feedback'. The main content area is titled 'Revenue :'. It contains a table with four rows of data:

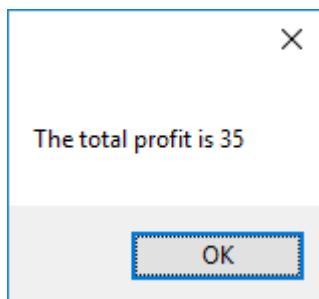
	ID	Date	Type	Revenue
	38	2016/9/22 上午 12:0...	Ticket	10
▶	39	2016/9/22 上午 12:0...	Ticket	0
	40	2016/9/22 上午 12:0...	Ticket	10

Below the revenue section is another table titled 'Spent :'. It has three visible rows:

	ID	Date	Type	Revenue
▶	45	2016/9/22 上午 12:00...	Donation	123
*				

At the bottom right of the main content area are two buttons: 'Calculate Profit' and 'Generate Report'.

Click calculate profit display the total profit



Click generate report display the calculation of profit

The screenshot shows a Windows application window titled "Report". The main content is a table with columns: ID, Date, Type, and Profit. The table contains 10 rows of data. Row 1 (ID 38) is highlighted with a blue background. The last row is marked with an asterisk (*). Below the table, there is a summary line: "Profit : [text box] 35". At the bottom right of the window is a "Print" button.

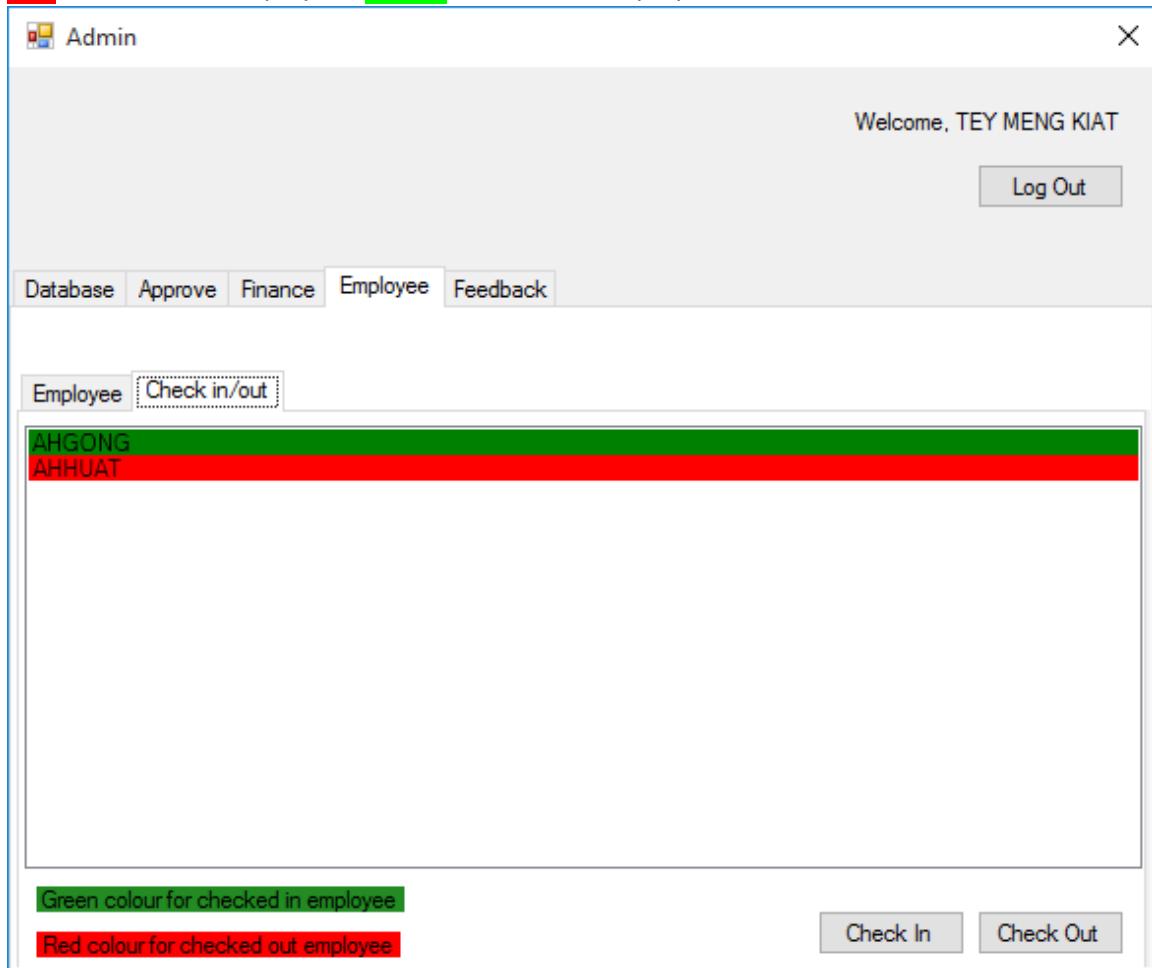
	ID	Date	Type	Profit
▶	38	2016/9/22 上午 1...	Ticket	10
	39	2016/9/22 上午 1...	Ticket	10
	40	2016/9/22 上午 1...	Ticket	20
	41	2016/9/22 上午 1...	Ticket	20
	42	2016/9/22 上午 1...	Ticket	30
	43	2016/9/22 上午 1...	Ticket	30
	44	2016/9/22 上午 1...	Souvenir	35
	45	2016/9/22 上午 1...	Donation	-88
*	46	2016/9/22 上午 1...	Loan	35

Profit :

13.4.5 Check-in and Check-out Employee

Admin can check in or check out employee.

RED for check out employee , GREEN for check in employee.



14 Conclusion

14.1 Summary of Results

We have successfully implemented most of the functionalities except feedback-related functionalities.

Since we follow V-Model, we do implementation phase and testing phase together. This effectively reduces our bugs in software from time to time.

14.2 Problems Encountered

The huge problem we face in this project is consistency between group members. When group members are given separate tasks, they might do the stuff differently. For example, for the same use-case, the activity diagram done by a group member might be different than the sequence diagram done by another group member. Also, group members have different coding style and convention, thus the final program have inconsistent coding style. So next time we must make sure to discuss our style and convention.

14.3 Limitations and Future Enhancements

Because of time limitation, we are unable to implement feedback-related functionalities such as guest and member submit feedback, and admin manage feedback.

In the future, we can improve our software by implementing additional features such as video streaming to introduce the museum, a good security system, a language changing function, etc.