

## **ASSIGNMENT 2**

**Aim**: Prepare the Use Case Model

### **Problem Statement** :

- Prepare Use Case Model
- Identify Major Use Cases, Identify actors.
- Write Use Case specification for all major Use Cases.
- Draw detail Use Case Diagram using UML 2.0 notations.

### **Objectives** :

- 1.To Identify Major Use Cases, Identify actors
- 2.To Write Use Case specification.
- 3.To Draw detail Use Case Diagram

### **Theory** :

#### **Use case diagram in UML:**

Use-case diagrams model the behaviour of a system and help to capture the requirements of the system. Use-case diagrams describe the high-level functions and scope of a system. These diagrams also identify the interactions between the system and its actors. The use cases and actors in use-case diagrams describe what the system does and how the actors use it, but not how the system operates internally. Use-case diagrams illustrate and define the context and requirements of either an entire system or the important parts of the system. You can model a complex system with a single use-case diagram, or create many use-case diagrams to model the components of the system.

#### **Creating Use case diagram :**

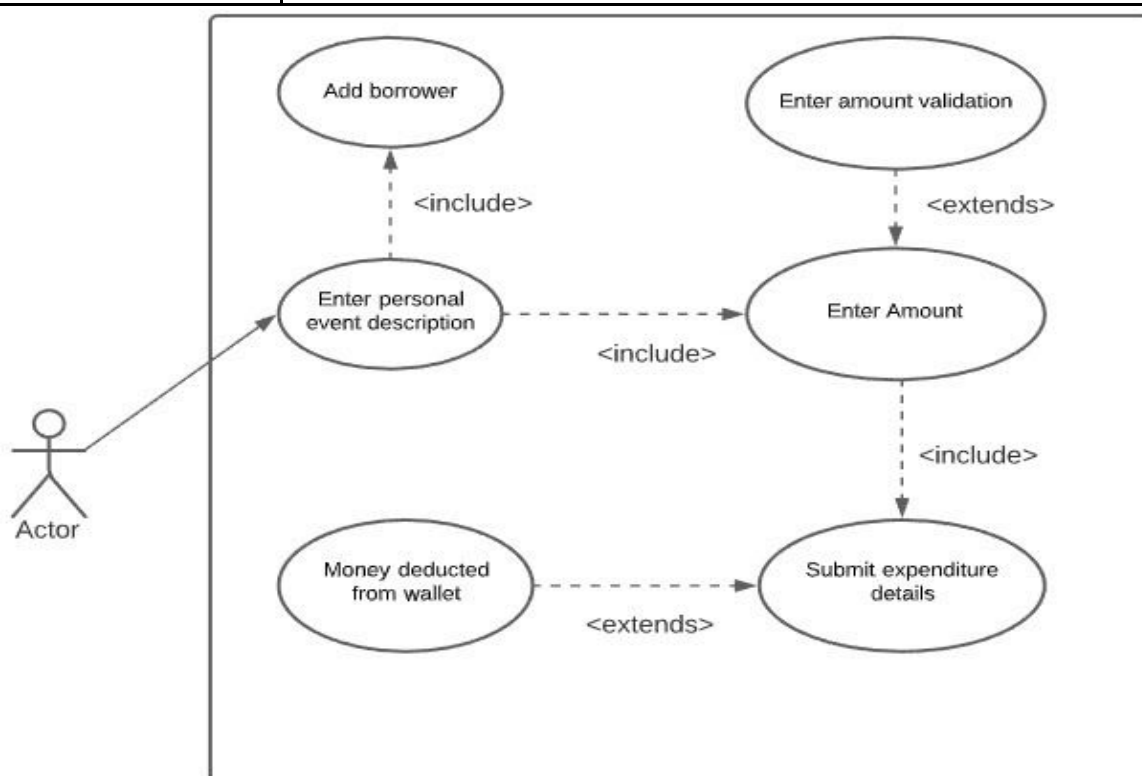
Use-case diagrams describe the main functions of a system and identify the interactions between the system and its external environment, represented by actors. These actors can be people, organizations, machines, or other external systems.

## Use cases :

### 1. Personal Expense :

Use case ID	1
Use Case Name	Making a Personal expense
Created by	Omkar Deshpande
Date	03/10/2020
Actor	User(Lender), User(Borrowers)
Description	The lender can create a new transaction with a borrower by entering their phone number and transaction amount
Preconditions	<ol style="list-style-type: none"><li>1. The User(Lender) must be logged into his/her account by using their credentials.</li><li>2. They should know the RMN of the Borrower.</li></ol>
Postconditions	<ol style="list-style-type: none"><li>1. The user request should be accepted by the borrower to convert it into a transaction.</li><li>2. The Transaction will be automatically created into the dashboard of the Borrower as pending requests and once accepted it will automatically get converted into personal expense.</li></ol>
Normal flow	<ol style="list-style-type: none"><li>1. User(Lender) must login to the web app.</li><li>2. He or she should enter the personal expense section and click on create a new expense.</li><li>3. Enter the RMN of the borrower and valid transaction amount to create a pending request in the borrower's account.</li><li>4. Borrower accepts or rejects the request. If accepted the transaction is added to Personal expenses of both users.</li></ol>
Alternate flow	-
Exceptions	None

Includes	Authenticate User's Identity, Check borrower's RMN
Priority	High
Frequency of use	Approximately 3 times a week
Business Rules	-
Special Requirements	<ol style="list-style-type: none"> <li>1. Active internet connection .</li> <li>2. Pre-installed application on device.</li> </ol>
Assumptions	The event has already occurred in real life and no actual money is involved.
Notes and Issues	-

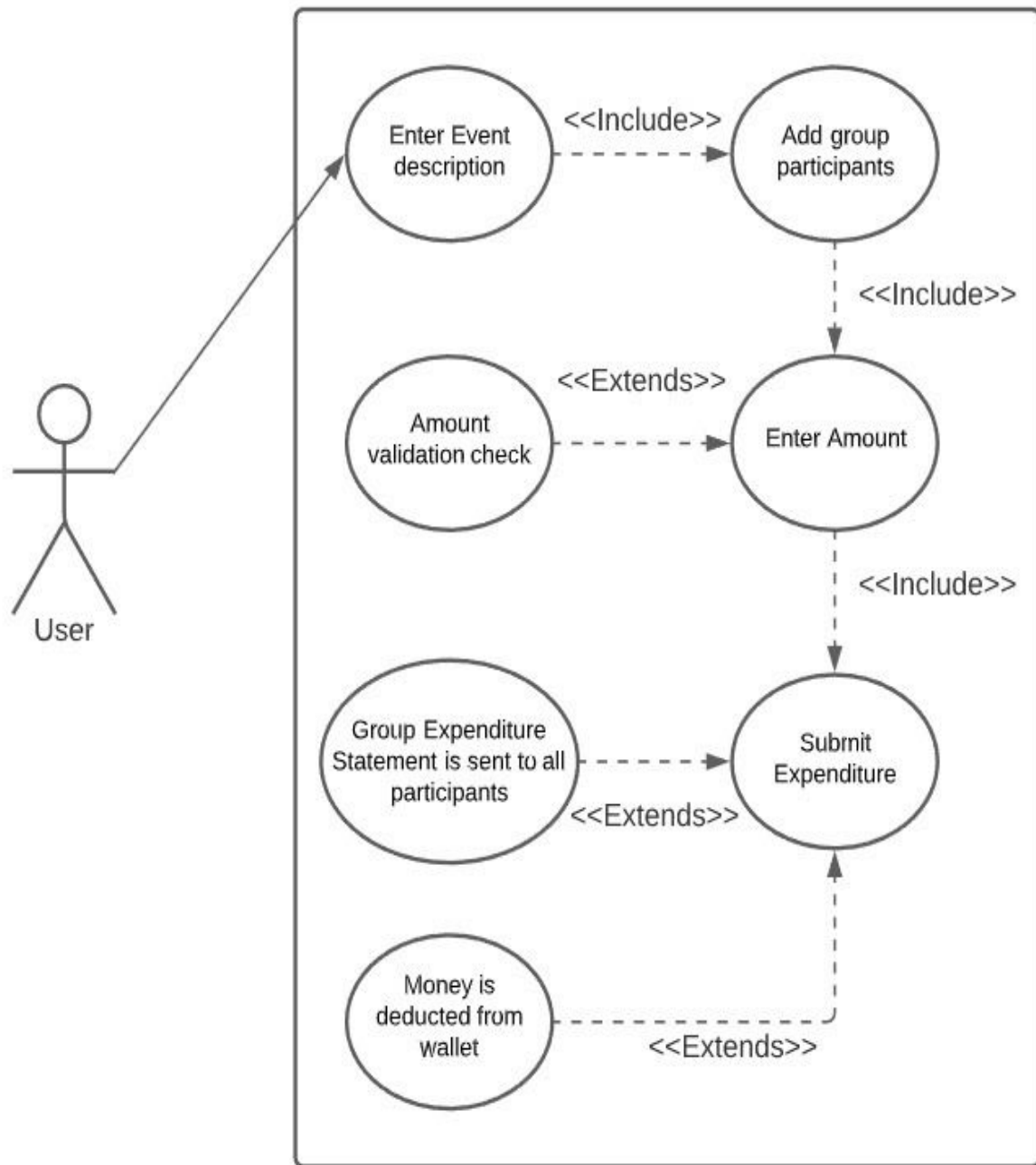


## 2. Group Expense :

Use case ID :	2
Use Case Name:	Group Expense

Created by :	Devesh Chandak
Date Created :	03/10/2020
Actor :	User (Owner) ,Users(Group members)
Description:	The Owner of the group expense has to create a new group expense by entering the amount spent by him/her and add group members by entering their RMNs.
Preconditions :	<ol style="list-style-type: none"> <li>1. The user(Owner) must be logged in the webapp.</li> <li>2. The Owner should know the credentials of the group members.</li> </ol>
Postconditions :	<ol style="list-style-type: none"> <li>1. The request must be accepted by all group members after reviewing the expense amount entered by the owner of the group expense.</li> <li>2. Once accepted, the pending group expense gets converted into a personal event of the borrower with the owner of the group.</li> </ol>
Normal Flow :	<ol style="list-style-type: none"> <li>1. The lender logs in into their account and heads to the group expense section.</li> <li>2. create a new group expense and enter the group expense amount and then add the RMNs of the group members.</li> <li>3. Once accepted and agreed by the group member the transaction is added to the personal expenses of borrower and lender.</li> </ol>
Alternative Flows :	None
Exceptions	Group members can deny the request if they find it unacceptable.
Includes:	Authenticate User's Identity, verifying RMNs of group members
Priority :	High
Frequency of Use:	Approx. once a week
Special Requirements:	<ol style="list-style-type: none"> <li>1. Active Internet Connection</li> <li>2. Pre -installed application on device</li> </ol>

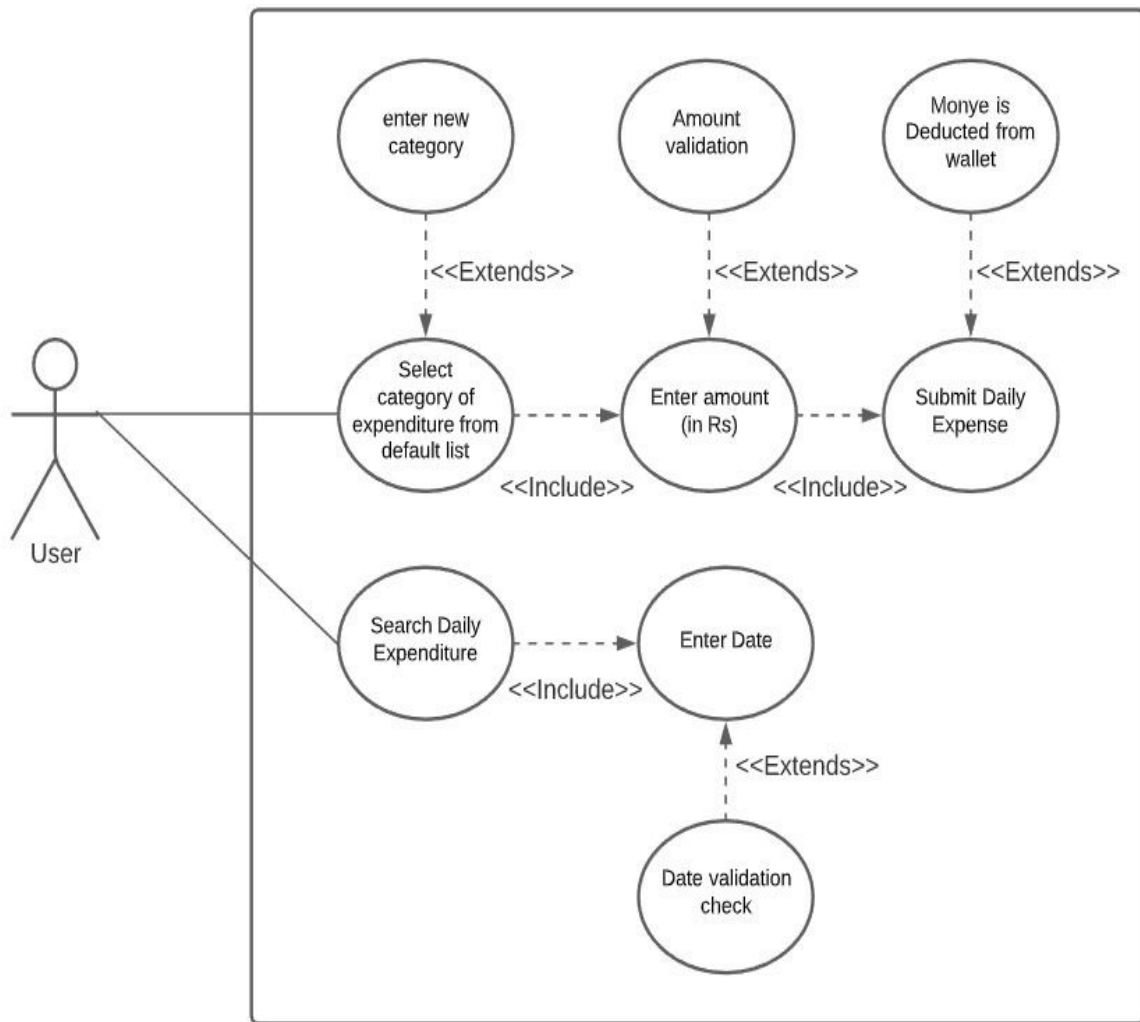
Assumptions:	The event has already occurred in real life and no actual money is involved.
Notes and Issues:	-



### 3. Daily Expense :

Use case ID :	3
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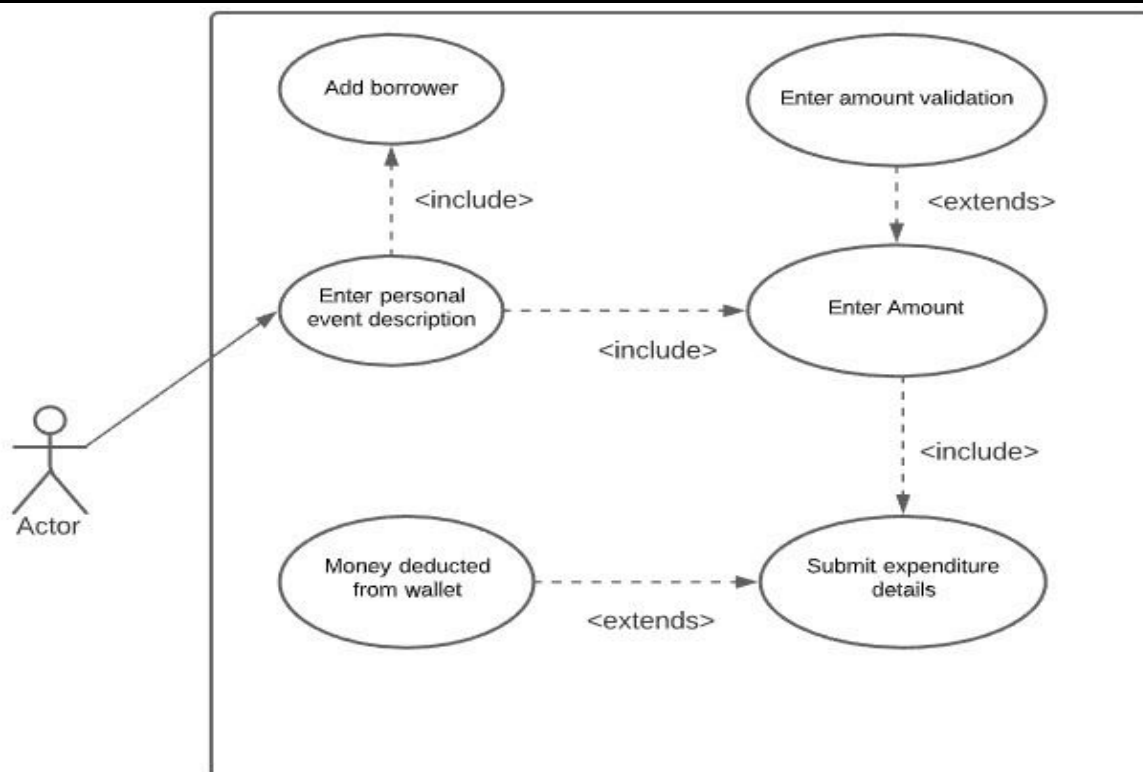
Use Case Name:	Creating a daily expense.
Created by :	Shubham Darak
Date Created :	03/10/2020
Actor :	User
Description:	The user can create a daily expense transaction of an expense that they do daily or a new transaction.
Preconditions :	1. The user must be logged in the webapp with their credentials.
Postconditions :	The changes are saved and reflected on the dashboard.
Normal Flow :	<ol style="list-style-type: none"> <li>1. Users log into their account by entering the credentials and head to the daily expense section.</li> <li>2. create a new daily expense by entering the amount and category of transactions.</li> </ol>
Alternative Flows :	None
Exceptions :	None
Includes:	Authenticate User's Identity, Check if wallet balance is adequate.
Priority :	High
Frequency of Use:	At least once a day.
Special Requirements:	The wallet amount must be enough to fulfill the expense amount
Assumptions:	The event has already occurred in real life and no actual money is involved.
Notes and Issues:	-



#### 4. Manage Wallet:

Use case ID :	4
Use Case Name:	Manage wallet
Created by :	Alrik Fernandes
Date Created :	03/10/2020
Actor :	User
Description:	The User can analyse their spendings by observing and understanding the graphs in the Analysis section and can add money to their wallet.
Preconditions :	<ol style="list-style-type: none"> <li>1. Applications should be downloaded and should have an active internet connection.</li> <li>2. Users must be logged in the webapp.</li> <li>3. Amount to be added to the wallet</li> </ol>

	should be valid.
Postconditions :	-
Normal Flow :	<ol style="list-style-type: none"> <li>1. The User logs in to their account by using the credentials.</li> <li>2. The user can analyse their expenses by heading to the Analysis section and observe the elaborate graphs.</li> <li>3. They can enter the amount to be added to the wallet.</li> </ol>
Alternative Flows :	None
Exceptions :	None
Includes:	Authenticating User's credentials.
Priority :	Medium
Frequency of Use:	Every time user logs in (Approx once a day)
Special Requirements:	<ol style="list-style-type: none"> <li>1. Active Internet Connection</li> <li>2. Pre-installed application on device</li> </ol>
Assumptions:	None
Notes and Issues:	-





## Conclusion:

We created use case diagrams using the UML 2.0 notations for various functionalities of our project.