Software Engineering

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Aim : Identify scenarios & develop UML Use case and class Diagram for the project.

Theory : Use Case Diagram :-

Actors of the system :-

- Users : The primary actor who interacts with the mobile application to avail of its financial services & functionalities
- Bank : A financial institution that facilitates UPI payments, account management, and potentially loan application.
- Utility Provider : An entity providing utility services like electricity, water, etc.
- Mobile service Provider : An entity providing mobile network connectivity and recharge services.
- Loan service Provider : An institution that provides loan products to users.
- Ticket service Provider : A service Provider that facilitates booking movie or event tickets through the mobile application.
- Insurance company : A company offering insurance products that could potentially be browsed or applied for through the mobile application.
- Easypay Admin : An administrative persona managing the Easypay System.

① User Scenarios :-

P.T.O.

i. User :-

⊙ Main task / functions :-

- Login and logout securely.
- View current account balance.
- View utility bills from various providers.
- Initiate and process payments for bills, mobile recharges, and potentially loans, tickets, or insurance
- Browse and potentially apply for loans.
- Browse tickets for events and book tickets.
- Browse & potentially purchase insurance plans.

⊙ System Information acquired :-

- Account balance Information.
- Utility bill details.
- Mobile recharge plan options.
- Loan product details.
- Event ticket information.
- Insurance plan details.
- Payment Processing system.

⊙ System Information produced :-

- Login credentials
- Payment requests
- Loan applications
- Ticket booking requests.
- Insurance plan selections.

⊙ Informing about external changes :-

- The user might need to inform the system about changes in their account details.

⊙ Desired information from the system :-

- Secure login and access to their account.
- Real-time account balance information
- Ability to view bills & make payments conveniently.

- Access to various financial services if offered by the system.
- Transaction status updates

⑥ Being informed about unexpected changes:
- The user would likely want to be informed about unexpected changes like failed transactions or critical system updates.

CLASS DIAGRAM:

– External entity:
- User - This is the primary external entity interacting with the system to initiate and manage UPI Payments.

– Things (information domain):
- Payment request: It includes details about a specific payment request, such as payee information, amount of bill details.
- Payment Response: It represents the system's response to a payment request, indicating success, failure and potentially a reason for failure.

– Occurences (events):
- Initiate Payment: This event signifies the user's action to initiate a UPI payment process.

– Attributes of classes:
- User: • userName
  • user ID
  • userBalance
  • User Pin
- Easpay Admin: • admin ID
  • admin Name

– operations that manipulate the attributes.
- User: • initiate Payments ()
  • viewBalances ()
  • loginOut ()

P.T.O.

- Browse And Apply for loans ()
- book Tickets ()
- access Insurance Plans ()

- EasyPay Admin :
  - manage User Accounts ()
  - monitor System Performance ()
  - analyze User Data ()
  - handle Partnerships ()

Conclusion :-

Analyzing both the use case & class diagrams, we can conclude that the EasyPay system facilitates various financial transactions & services through a mobile application. Users can interact with the system to manage their accounts, view bills, make payments and potentially access additional functionalities like applying for loans, booking tickets or exploring insurance plans. The class diagram provides a glimpse into the potential system structure, with classes representing users, administrators, and interactions with external entities like banks, utility providers, and service providers. This combined analysis provides a comprehensive understanding of the actors involved, their interactions with the system, & the potential underlying class structures for managing these functionalities.

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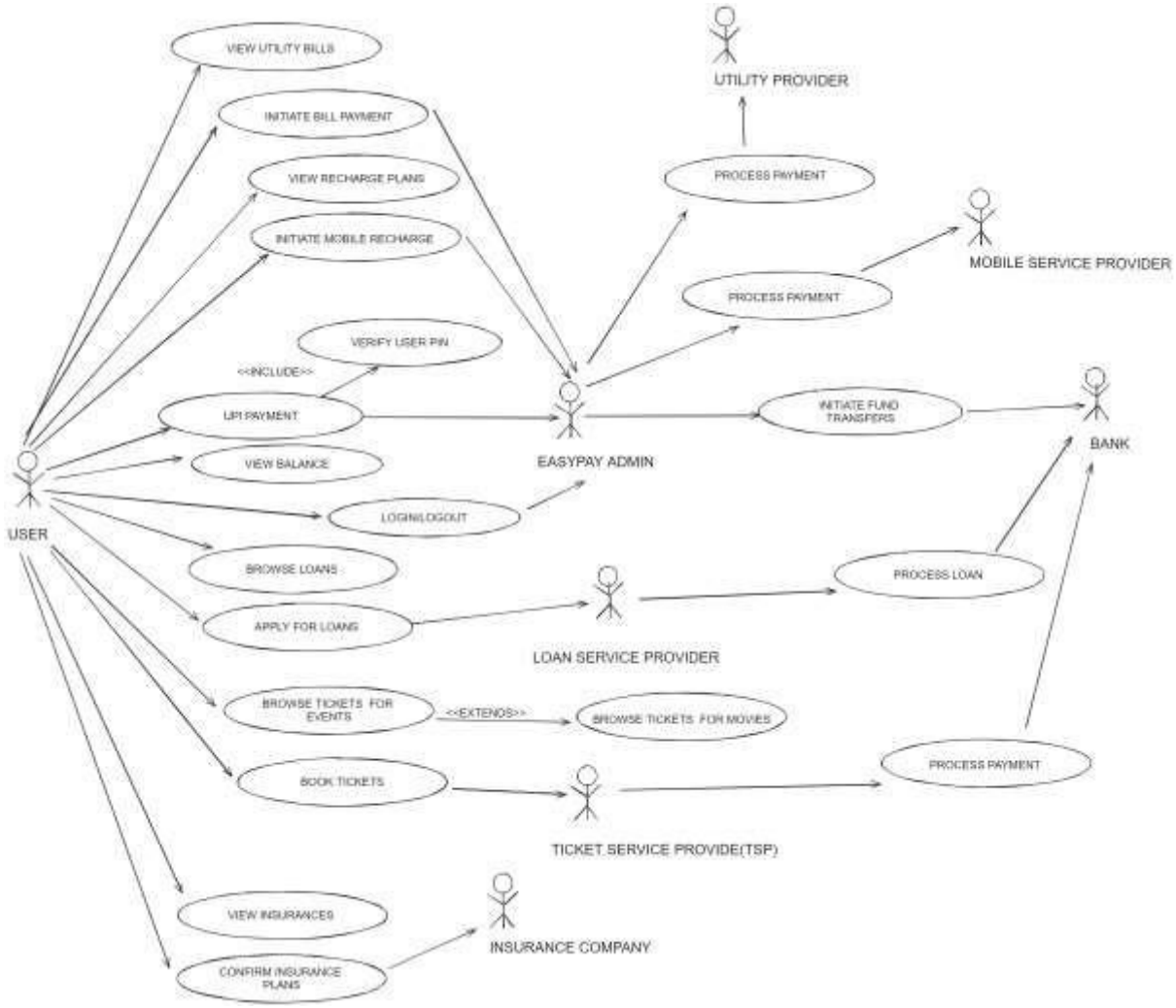
Use case diagram



Class diagram