

Budget Management Application

Domain : Financial management service

The project is about the database for a mobile app that will help its users in personal financial budget management. The users will be asked to enter personal information like name, age, financial goals, etc. Also, we will have options to store user's bank details, credit card details, and the loan details so any transactions from any of these can be fed into the app automatically. All this information can be saved at the time of registration (Sign up) to the app and also any other time user wants to update it. The expenses that are made using the bank accounts and cards of the user that are linked with this app will automatically be updated as "Transactions". These transactions are classified in "categories of purchases" (for example, rent, entertainment, utilities, travel expenses, education, etc). All these modes can be saved in the app for monitoring the expenses that a user makes. In addition, the user can save the recurring expenses like example monthly mobile bill payments, credit card dues, and loan installments. Using this data app will give a reminder to users to pay before the due date which we term as "Future Payments". Overall, this business application will give a clear view of the user's budget and expenses. This can give us many interesting analytical findings like most spent categories, week wise spendings, etc. Also, we can club many such reports to give the user an interactive dashboard of the transaction for a current and recent month.

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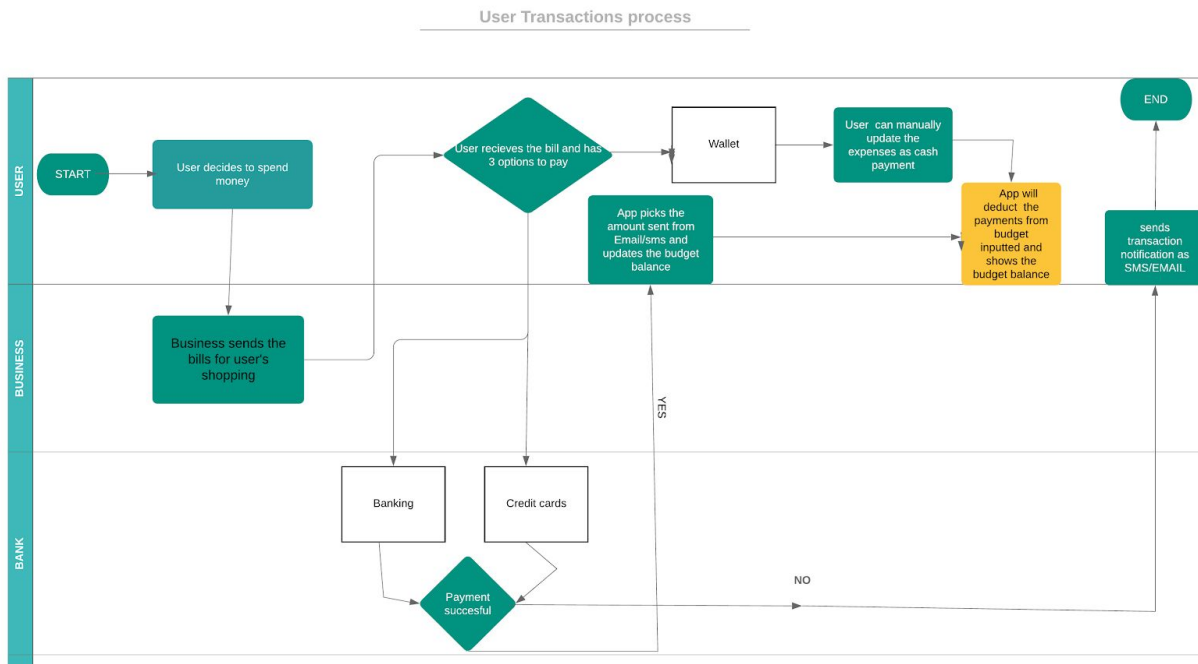
graph TD
    subgraph Users
        Start([Start]) --> UserDownloads[User downloads the app]
        UserDownloads --> Registers[Registers in the system]
        Registers --> Login[Login]
        Login --> AccessGranted[Access Granted]
        AccessGranted --> FillsDetails[Fills Personal details in the app]
        FillsDetails --> SetsBudget[Sets the monthly budget]
        SetsBudget --> End([End])
        UserDecides{User decides to spend} --> PaymentDone[Payment done by user through Wire transfer]
        UserDecides --> BusinessBills[Businesses will generate bills for user to pay]
        UserDecides --> PhoneList[The phone contact list is updated to the app]
        AppAsks{APP asks user if payment needs to be splitted among his phone contacts list} --> AppSplits[App splits the payment among contacts]
        AppSplits --> AppUpdates[APP Updates/creates the category of the transaction automatically]
        AppUpdates --> ShowsMonthly[Shows monthly spending of user and budget remaining]
        ShowsMonthly --> End
        AppUpdates --> AppNotifications[App picks notifications and suggest the future payments with deadlines to the user based on past transaction history]
        AppNotifications --> RegularBills[Regular bill payments from business is sent as email notification]
        RegularBills --> BusinessBills
        AppNotifications --> PhoneList
    end

    subgraph Bank
        AccountLocked[Account Locked] --> Registers
        HasAttempts{Has 3 Attempts Failed} --> Login
        HasAttempts --> AppAsks
        PaymentDone --> BankDebits[Bank debits the bank account]
        BankDebits --> SendMsg[sends transaction message to the user]
        SendMsg --> AppPicks[App picks the transaction amount from the text messages]
        AppPicks --> AppAsks
    end

    subgraph Business
        BusinessBills
    end

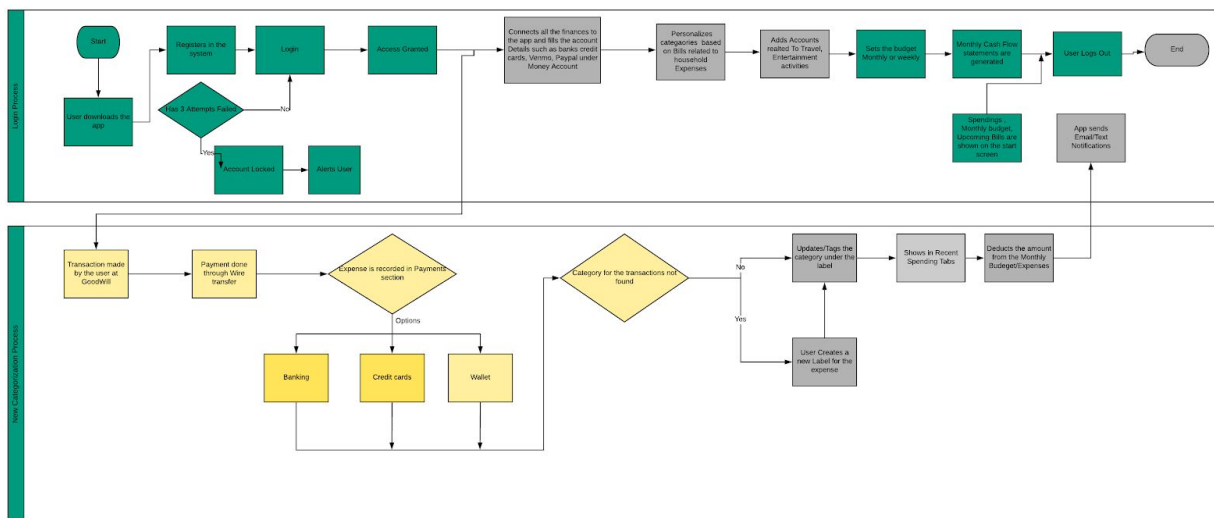
    subgraph Users_Contacts
        PhoneList
    end

    Start -- new --> Registers
    Login -- No --> HasAttempts
    HasAttempts -- Yes --> AccountLocked
    AppAsks --> End
  
```



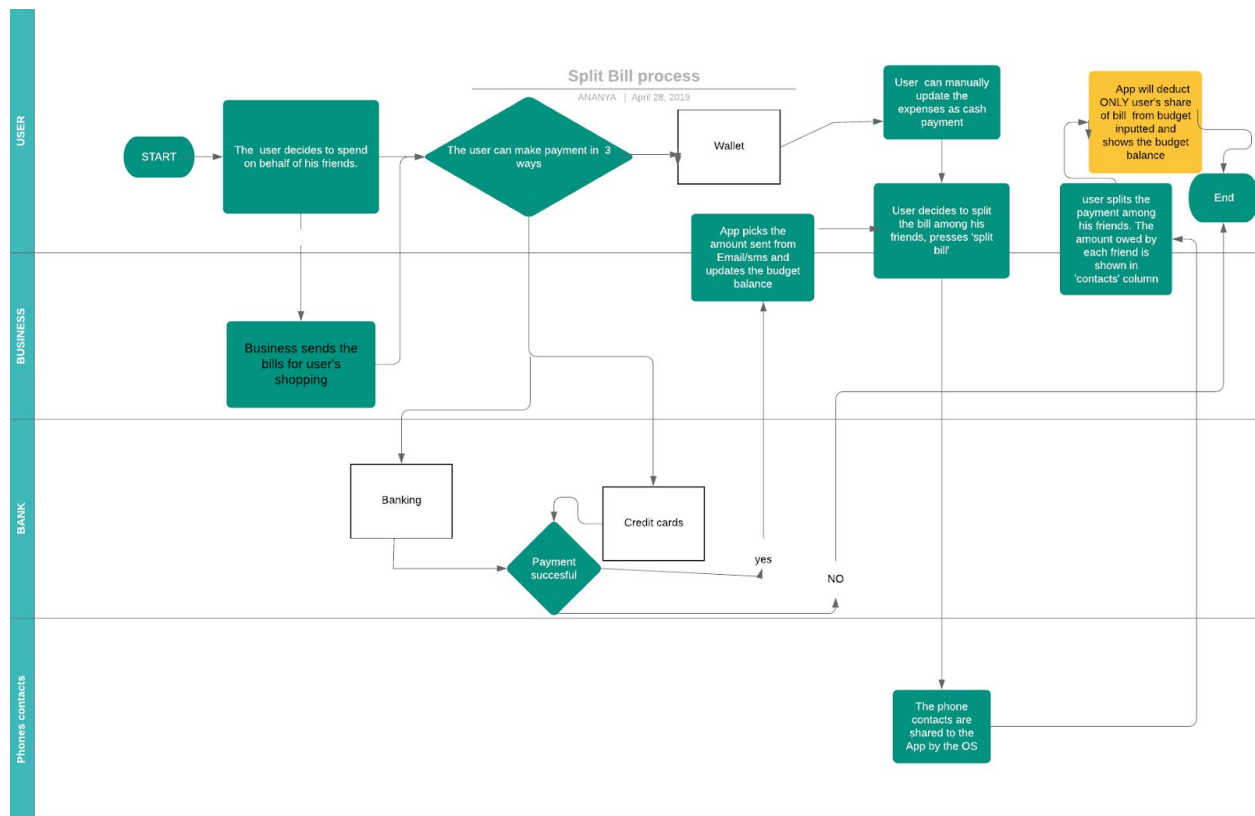
Case 3: New Categorization Process:

User_3 made a donation at GoodWill. The transaction is done through bank wire transfer and the details related to the payment is not specifically categorized in the system. In such a scenario, user can create his own category of spending area, so that transactions related to donations or any service related payments will fall into the specific section.



Case 4 : User Split Bill Process:

John and his three friends go out lunch where their total bill was \$80 which he pays using his credit card. This bill should be equally divided among all of them. They all decided to pay him later. The app recognizes from the transactions sms received on John's mobile phone and marks it as expense. John updates the transaction to mark it as split among contacts and selects his friends from his contact list. App marked that amount as loan given for these contacts.



Analytics use case:

1. Create a report to demonstrate the category wise spendings for the user
2. Create a report to display the summary of previous months spendings.
3. Create a chart to display the week wise spendings.
4. Report demonstrating the most spent categories and its comparison with previous months.
5. Create a chart to display the months in which user overrun the budget.