CREATIVE AND INNOVATIVE PROJECT

SRS DOCUMENT

SMARTBUD-SMART BUDGET APP

DOMAIN: APP DEVELOPMENT USING AI

SHREENIDHI SRIRAM

OBJECTIVE:

- The smart budget is one of the most easy and convenient ways for students to manage and control their personal finances.
- Often times, students find it difficult to stick to a budget plan. The app offers the unique ability for users to categorize their purchases and plot detailed statistics based on their daily, monthly and annual expenditures in the form of a handy pie chart.
- There is an integrated search facility for users to quickly retrieve their past expenses. The data is also backed up frequently.

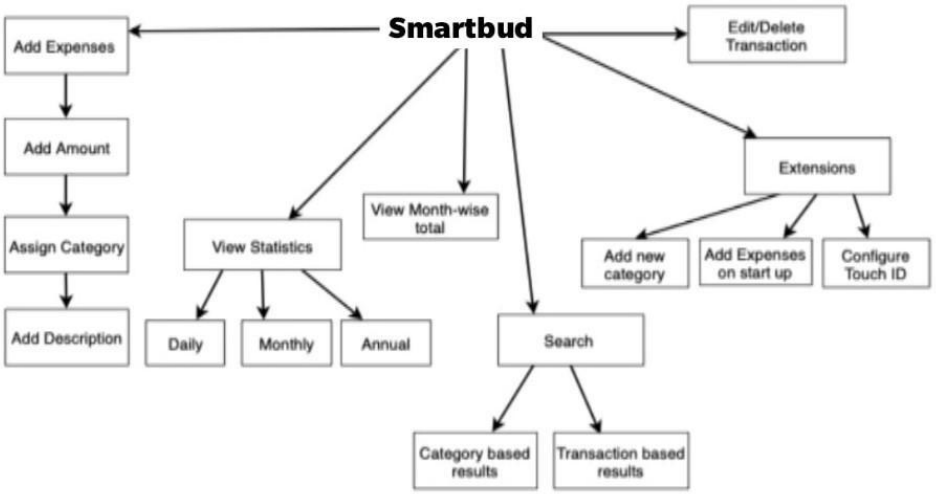
METHODOLOGY:

The SMARTBUD-SMART BUDGET is an application for tracking students' budgets and is implemented using AI techniques.

DETAILED DESIGN:

- We have decided to divide the application into three main categories
- One, for adding and viewing expenses. The user can register their daily expenses under a specific target category with the date and time at which the purchase was made.
- The second for performing a spotlight search. All such past records that are supposed to be displayed inside a table view within the search section, which also happens to be the second page of the application. The search bar helps us query and retrieve the desired results.
- The third, for managing extensions. The extensions section contains the provision of adding or removing categories and securing the application with a touch id if necessary.
- In addition to this, a pie chart which plots the daily, monthly and annual expenditures under various categories is also embedded in the main page of the application

BLOCK DIAGRAM:



LIST OF MODULES:

- Transaction entry
- Edit/Delete transactions
- Search
- Add new category
- Sort transactions
- Pop-up display
- Configure touch-id
- Comprehensive Pie-chart

INPUT AND OUTPUT:

- ***Transaction:***

Entry The input of this module is the date-time, description and category of the expense. The output of this module is the addition of this expense to the sum total of the expenses under that category, the pie-chart, the table view on the home page and search table.

- ***Edit/Delete transactions:***

The input of this module in case of editing transactions is to modify the date-time, description, category and total amount spent or several of these operations. In case of deleting a transaction, a modal box asking for the user's confirmation is displayed. All changes are subsequently reflected on the total amount displayed under the respective category, the search view and pie-charts.

- ***Search:***

The input of this module is an input string which is fed into the search bar placed on top of the page. The string-matching algorithm, compares the character sequence predicate to all the entries in the table view and 12 categorizes these results under two divisions. These are the transaction-based division and category based division. A user may choose to edit or delete a transaction from the output of this module

- ***Add new category:***

The input of this module is the description entry and icon selection for a new category. The output of this module is the successful addition of a new category.

- ***Sort transactions:***

The input of this module is the set of all transactions that fall under a particular category within the time span of the current month. The transactions can be viewed in two aspects. One, sorted by date and the other, sorted by amount. In the former event, the transactions are listed in the earliest-oldest manner whereas in the latter case, the transactions are sorted in descending order.

- ***Pop-up display:***

The pop-up display shows the total amount spent every month. This module makes use of the inbuilt calendar application in its back-end. An entry for the new month is made when the calendar date is set to the first day of the next month. The user may choose to go back and view the expenses in any of the months displayed.

- ***Configure touch-id:***

A touch-id is used to secure the application. The touch-id uses the inbuilt fingerprint facility on the iPhone. As an alternate option, the user may also choose to use a passcode as opposed to their fingerprint. In such circumstances, the user is prompted to enter a 4-digit passcode twice; once for setting the passcode and the other for confirmation.

- ***Pie-chart:***

The input of this module is the collection of all transactions. The chart has three views, namely, the daily, monthly and annual views. The daily view displays all transactions that have been made on the current day, the monthly view displays all transactions that have been made in that particular month and the annual view displays all purchases that have been made in that year.