CS251 Intro SWE Assignemnt 1

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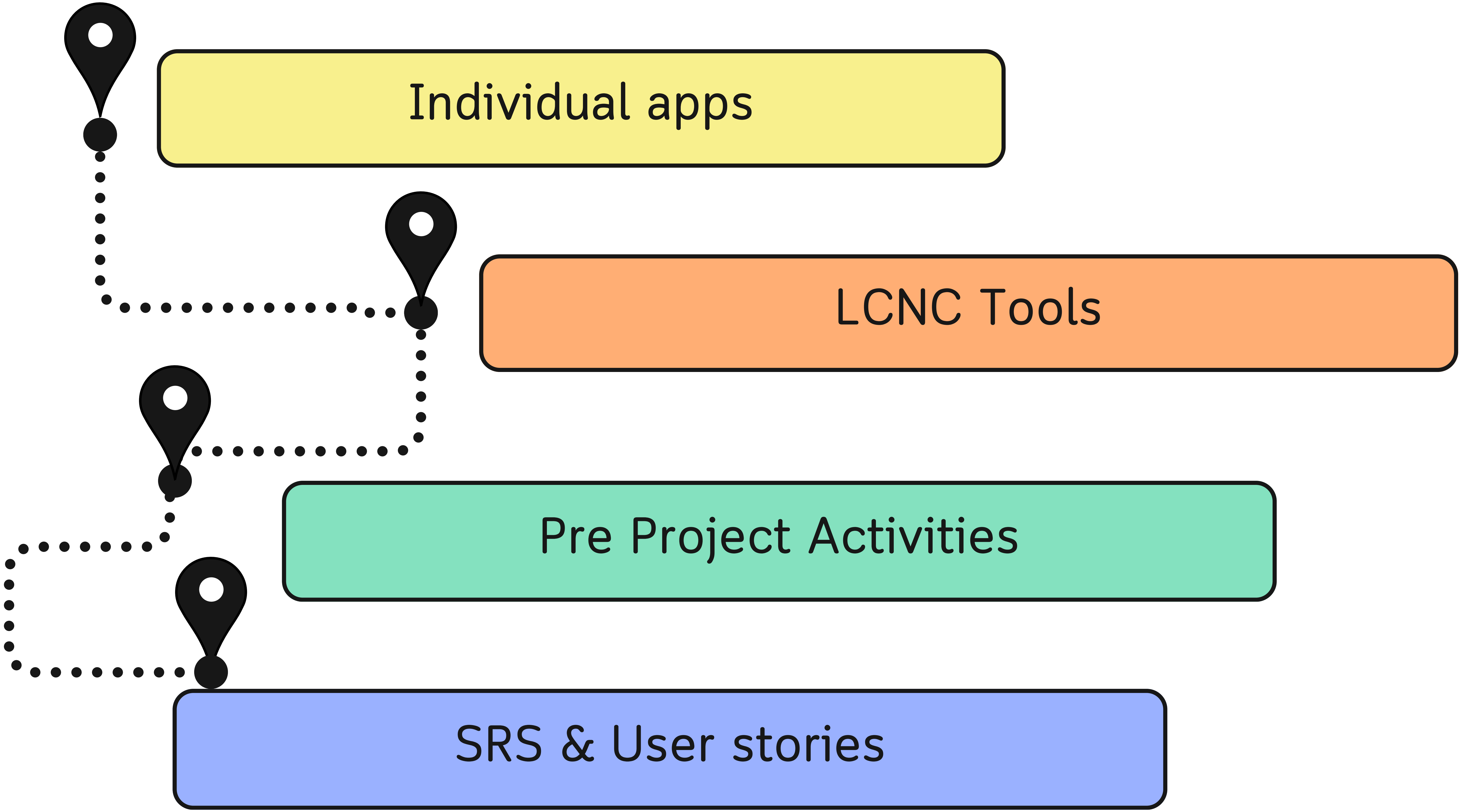
Today's Roadmap

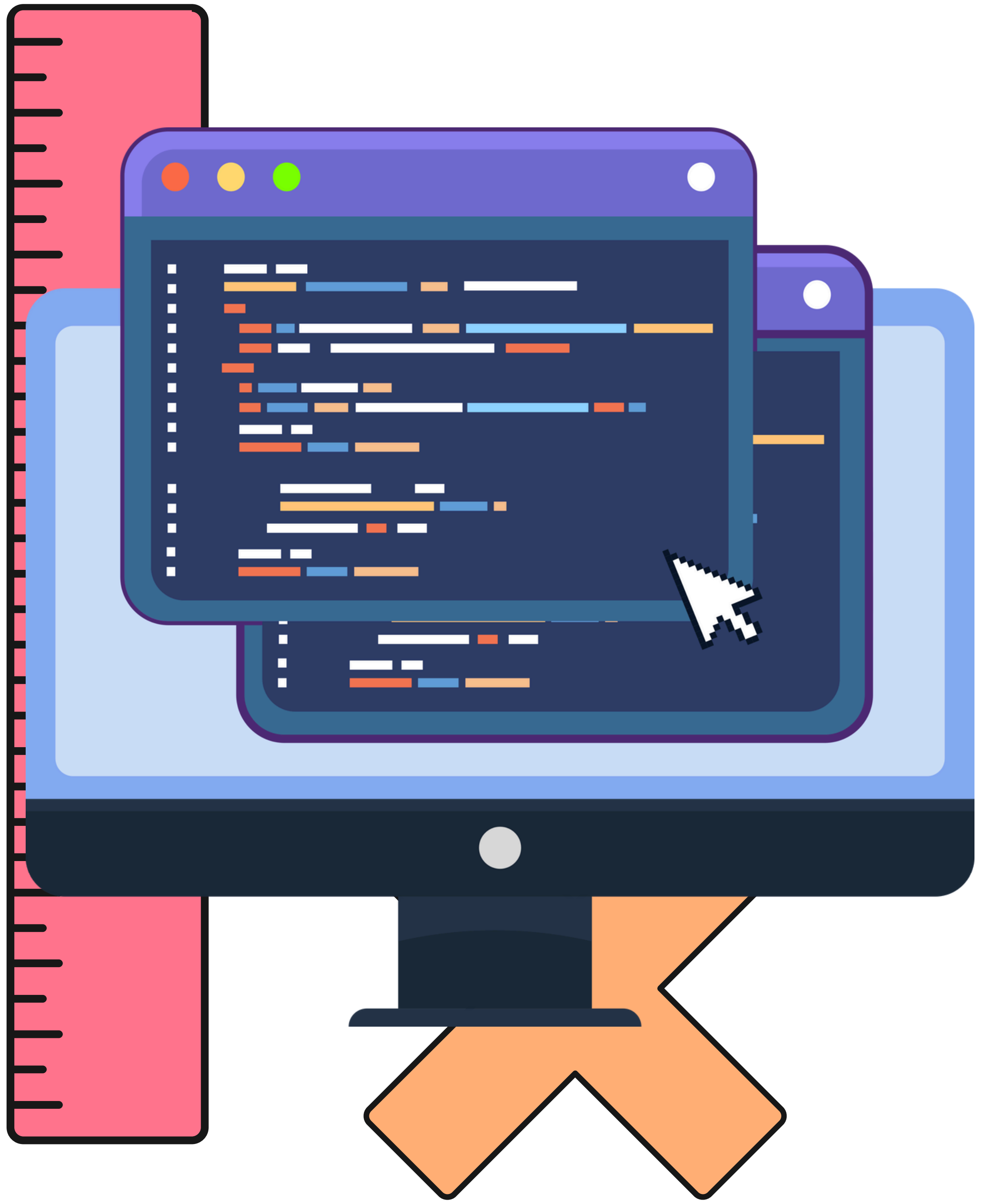


Individual apps

LCNC Tools

Pre Project Activities

SRS & User stories



Individual Apps

3 Individually made apps

- Using Java
- Organized into seperate &organized classes
- User friendly interfaces

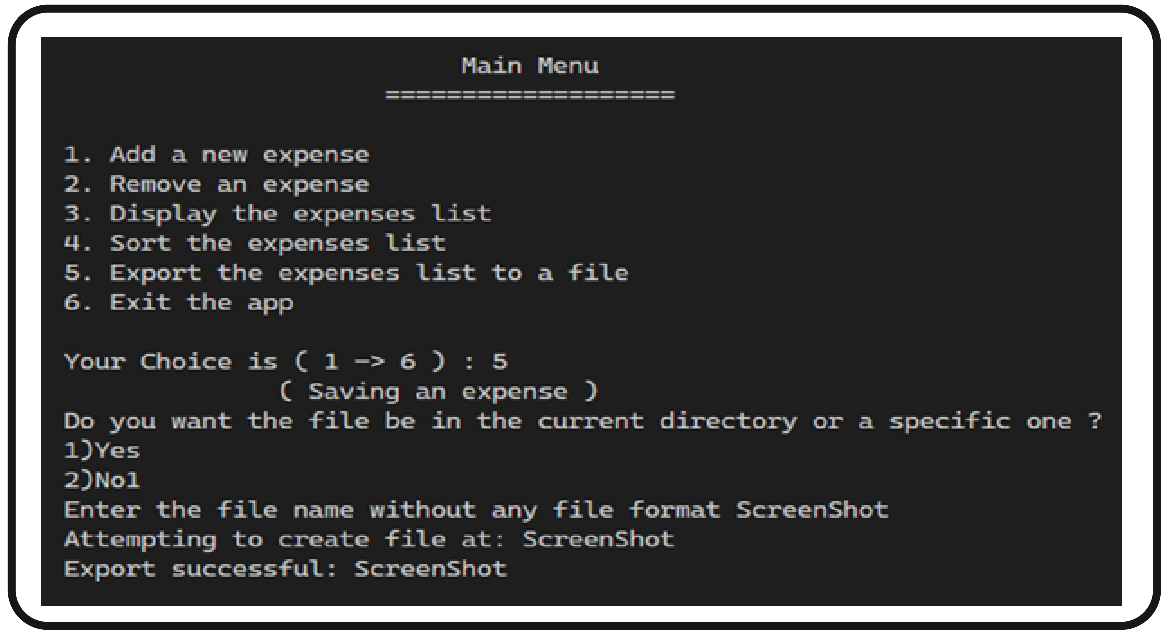
Budget Tracker

Features:

1-Add expense records (Category, amount, date, ...)
2-Delete expenses
3-View expense records
4-Sort expenses
5-Export expenses to a file

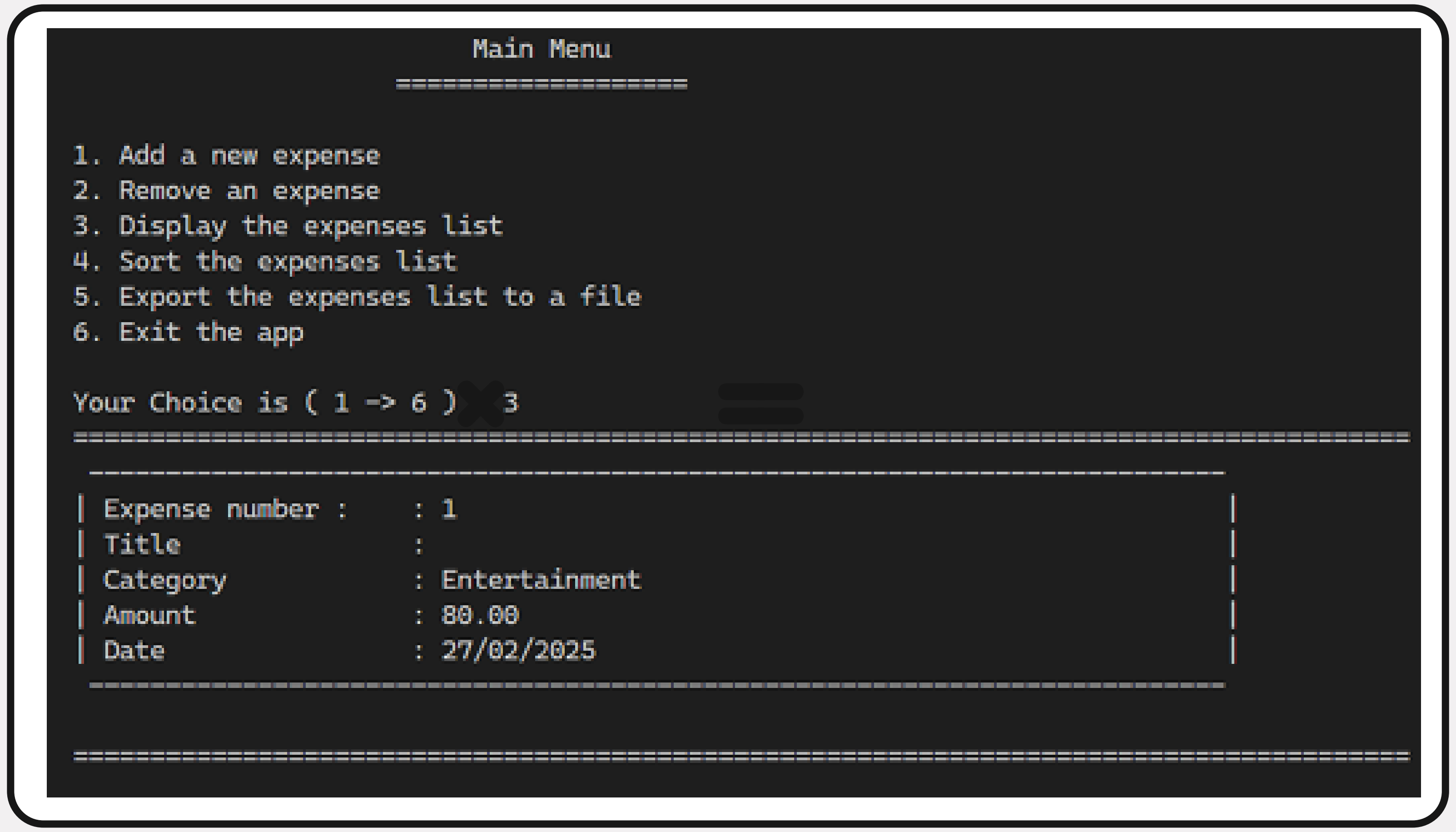
A program to help track your expenses.

Delete record



```
                    Main Menu
               ===================

1. Add a new expense
2. Remove an expense
3. Display the expenses list
4. Sort the expenses list
5. Export the expenses list to a file
6. Exit the app

Your Choice is ( 1 -> 6 ) : 5
              ( Saving an expense )
Do you want the file be in the current directory or a specific one ?
1)Yes
2)No1
Enter the file name without any file format ScreenShot
Attempting to create file at: ScreenShot
Export successful: ScreenShot
```

Display Expenses



```
                 Main Menu
             ===================

1. Add a new expense
2. Remove an expense
3. Display the expenses list
4. Sort the expenses list
5. Export the expenses list to a file
6. Exit the app

Your Choice is ( 1 -> 6 )   3
=================================================================================
 ----------------------------------------------------------------------
| Expense number :    : 1                                              |
| Title               :                                                |
| Category            : Entertainment                                  |
| Amount              : 80.00                                          |
| Date                : 27/02/2025                                     |
 ----------------------------------------------------------------------

=================================================================================
```

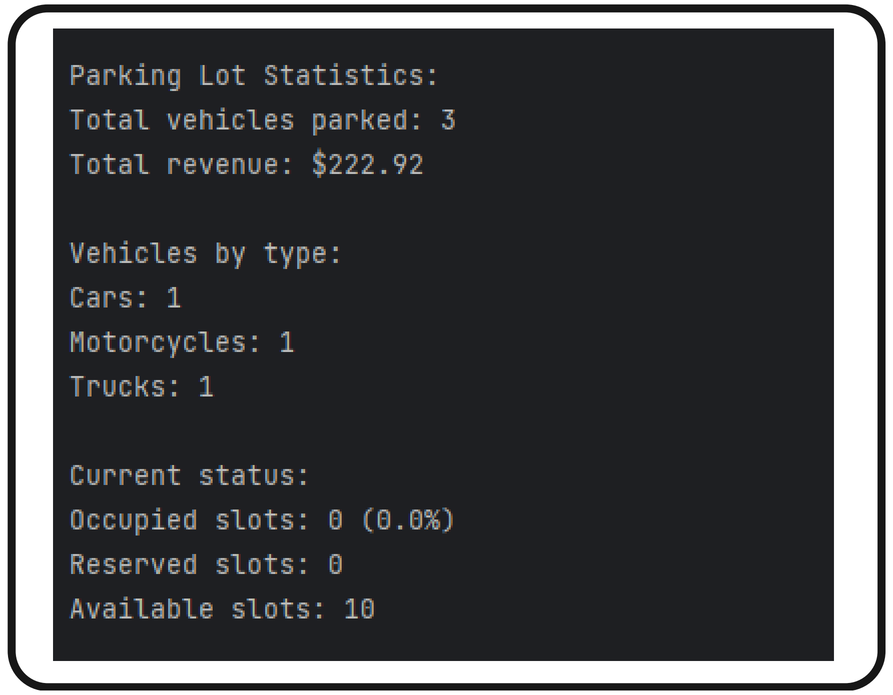
Parking System

Features:

1-Park Vehicle (vehicle type, entry date, est. fee, ...)
2-Reserve Parking Slot
3-View parking history
4-Search vehicle (license plate)
5-Statistical summary

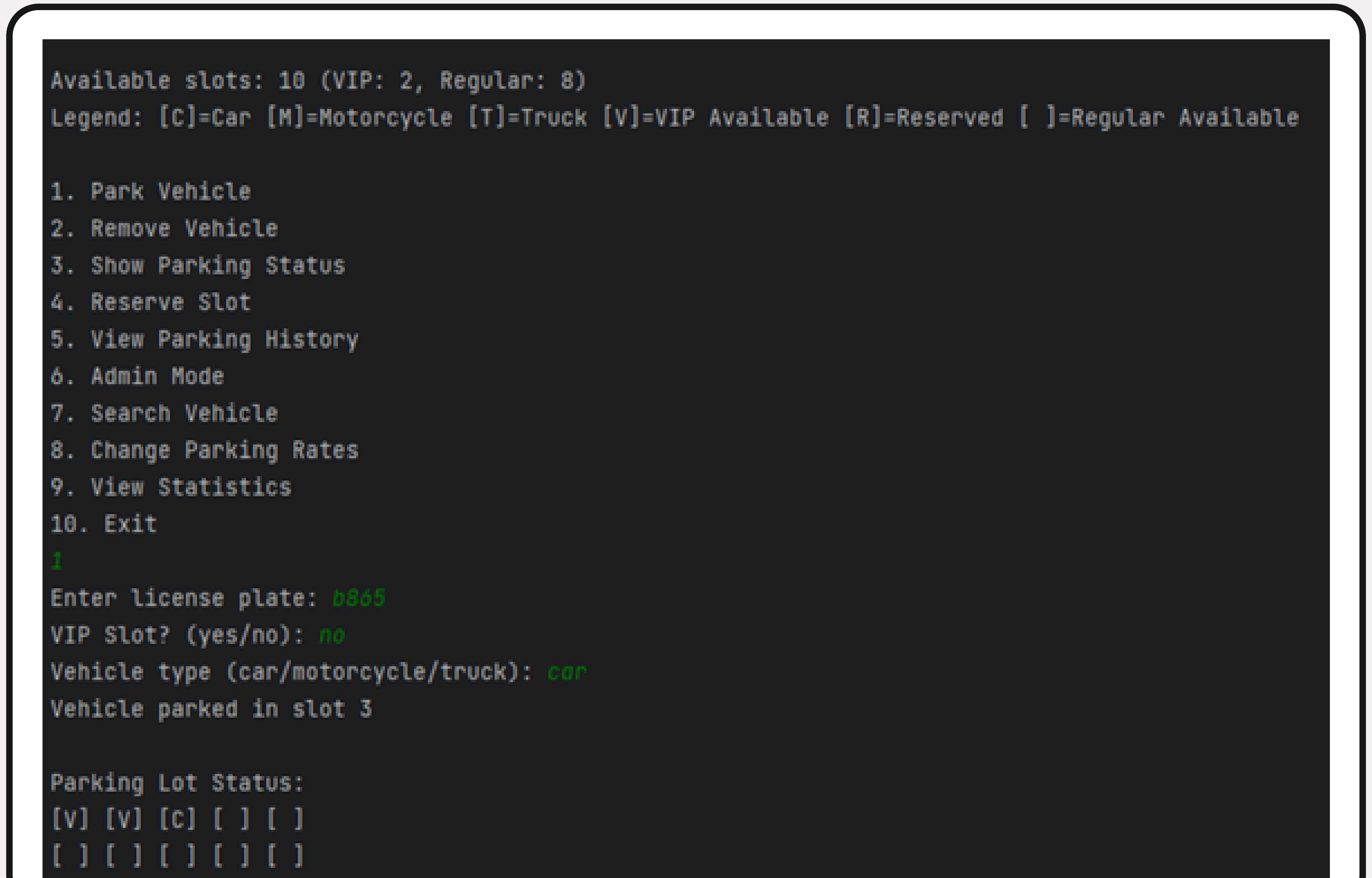
A program to help park your car

Delete record



```
Parking Lot Statistics:
Total vehicles parked: 3
Total revenue: $222.92

Vehicles by type:
Cars: 1
Motorcycles: 1
Trucks: 1

Current status:
Occupied slots: 0 (0.0%)
Reserved slots: 0
Available slots: 10
```

Parking a car



```
Available slots: 10 (VIP: 2, Regular: 8)
Legend: [C]=Car [M]=Motorcycle [T]=Truck [V]=VIP Available [R]=Reserved [ ]=Regular Available

1. Park Vehicle
2. Remove Vehicle
3. Show Parking Status
4. Reserve Slot
5. View Parking History
6. Admin Mode
7. Search Vehicle
8. Change Parking Rates
9. View Statistics
10. Exit
1
Enter license plate: b865
VIP Slot? (yes/no): no
Vehicle type (car/motorcycle/truck): car
Vehicle parked in slot 3

Parking Lot Status:
[V] [V] [C] [ ] [ ]
[ ] [ ] [ ] [ ] [ ]
```

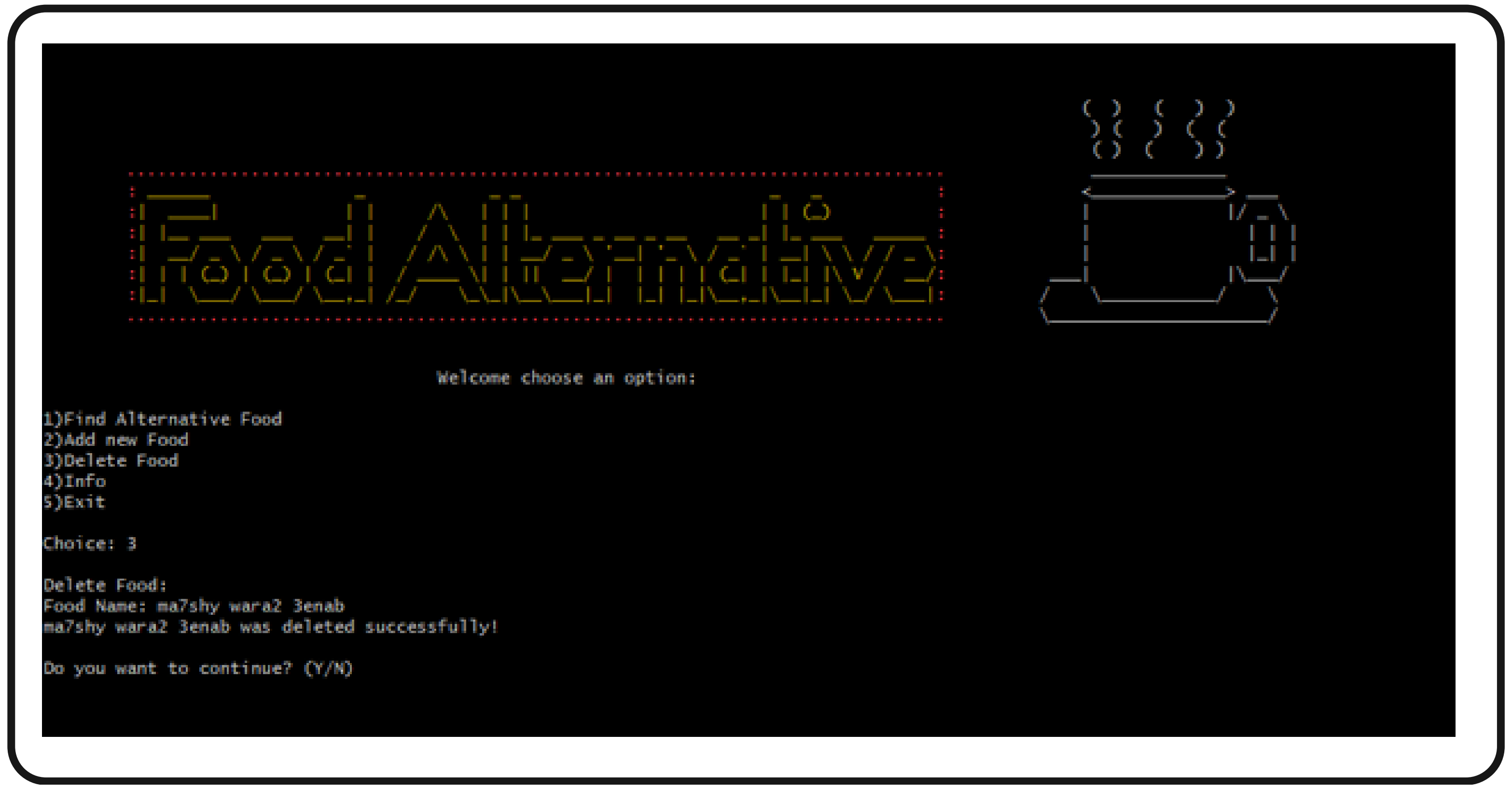
Food Alternative

Features:

1-Search for alternative foods
2-Add new foods and alternatives for them
3-Delete existing foods
4-Load foods from a Json file

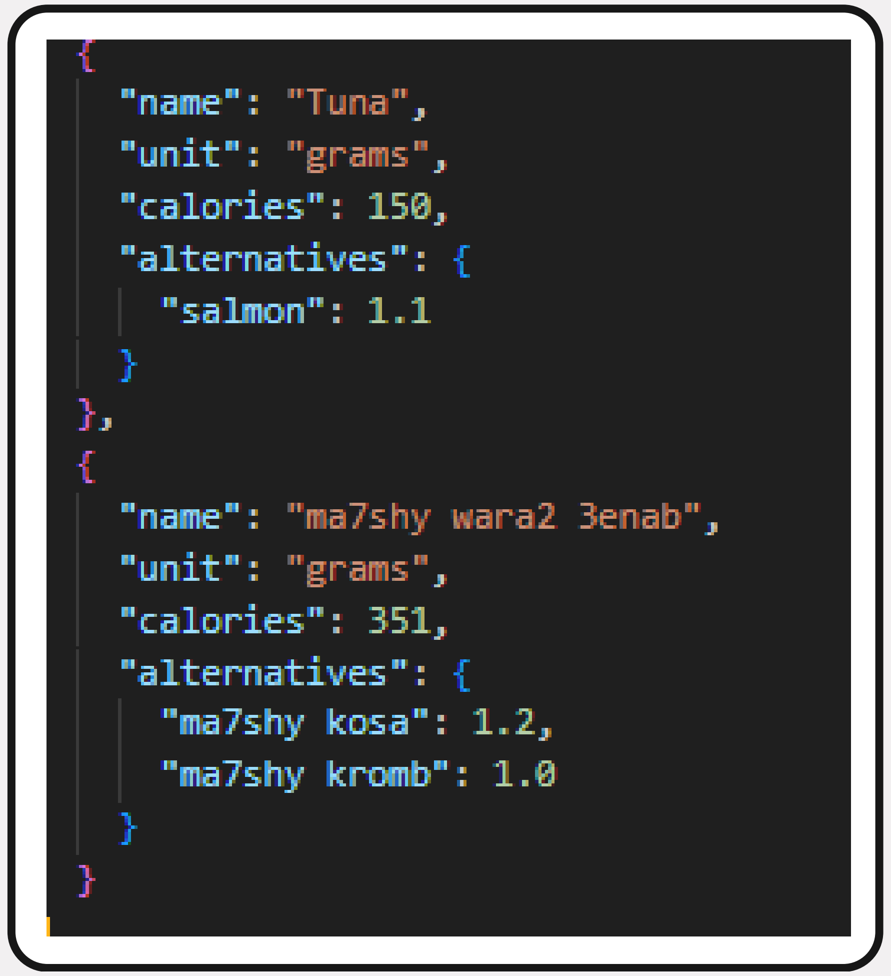
A program to help you find alternative foods for you nutrition &diet

Delete Food



```
                    Welcome choose an option:

1)Find Alternative Food
2)Add new Food
3)Delete Food
4)Info
5)Exit

Choice: 3

Delete Food:
Food Name: ma7shy wara2 3enab
ma7shy wara2 3enab was deleted successfully!

Do you want to continue? (Y/N)
```

Foods Json



```json
{
  "name": "Tuna",
  "unit": "grams",
  "calories": 150,
  "alternatives": {
    "salmon": 1.1
  }
},
{
  "name": "ma7shy wara2 3enab",
  "unit": "grams",
  "calories": 351,
  "alternatives": {
    "ma7shy kosa": 1.2,
    "ma7shy kromb": 1.0
  }
}
```

LCNC Tools

AppGyver

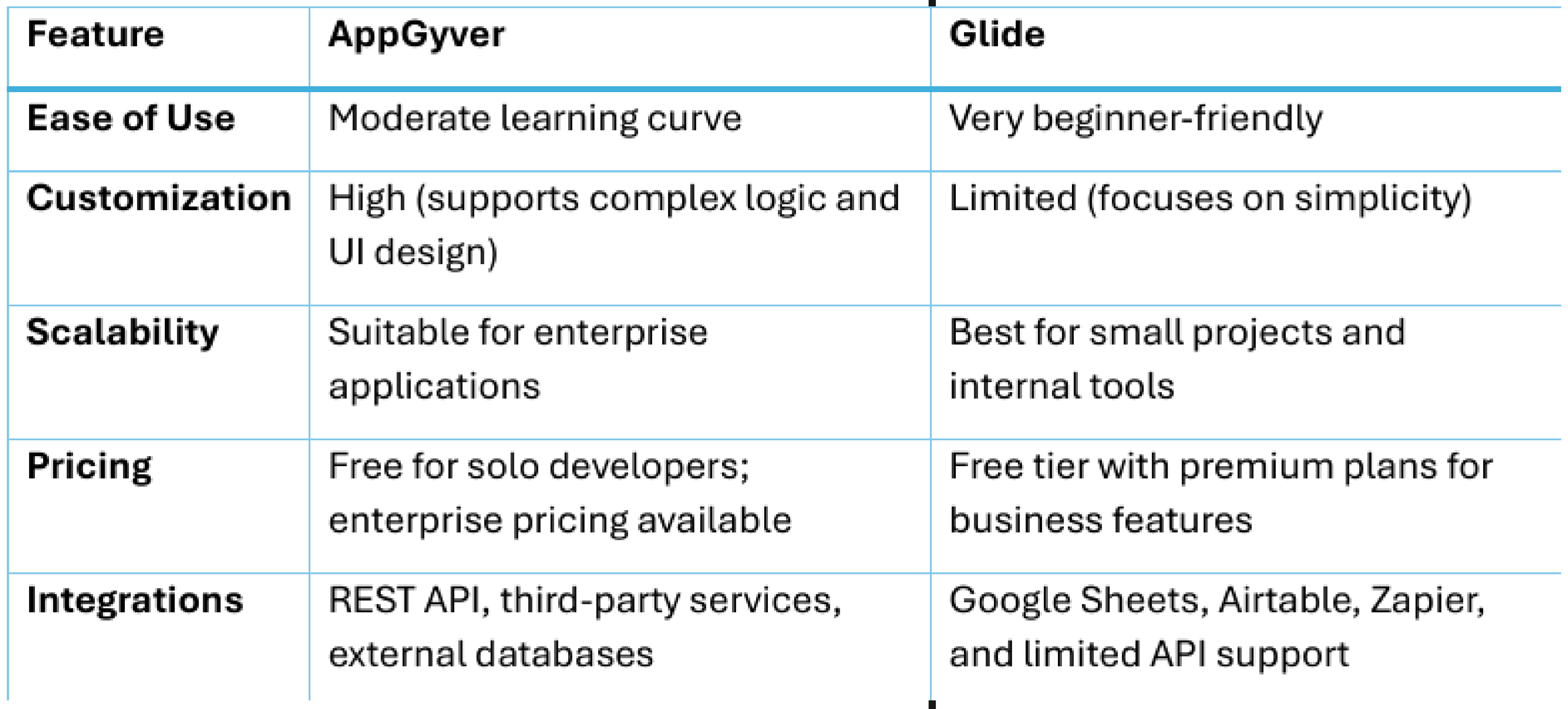
Usability and Features

- Google Sheets Integration: Data is dynamically synced with Google Sheets, making data management straightforward.
- Pre-Built Templates: Provides templates to accelerate app creation.
- Mobile-First Design: Optimized for mobile applications with responsive design.
- Drag-and-Drop Builder: Users can easily add and arrange elements without coding.
- Limited Logic & Automation: Basic workflows can be set up, but advanced logic is limited.

Glide

Usability and Features

- Drag-and-Drop Interface: Offers an intuitive builder for designing app layouts and functionalities.
- Extensive Components: Provides pre-built UI elements and logic modules.
- Data Integration: Supports REST APIs, databases, and third-party services.
- Multi-Platform Deployment: Applications can be deployed on web, iOS, and Android.
- Logic and Automation: Allows users to define workflows and dynamic logic visually.



Feature	AppGyver	Glide
Ease of Use	Moderate learning curve	Very beginner-friendly
Customization	High (supports complex logic and UI design)	Limited (focuses on simplicity)
Scalability	Suitable for enterprise applications	Best for small projects and internal tools
Pricing	Free for solo developers; enterprise pricing available	Free tier with premium plans for business features
Integrations	REST API, third-party services, external databases	Google Sheets, Airtable, Zapier, and limited API support

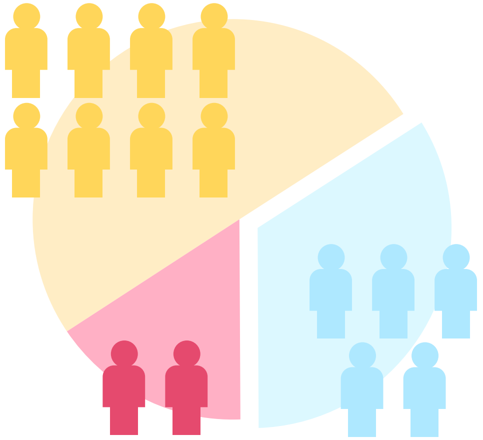
Pre Project

Market and Gap analysis

Local apps tend to focus only on expense tracking without offering deeper financial insights or integration with banking systems.

The apps are fine and do their job but they could really go an extra mile to offer more features in their apps that would be very beneficial for the users such as integrating your bank account so you can track your spendings more accurately.

Market Segmentation



Young Adults (20-30 years old)
Working Professionals (30-45 years old)
Parents & Household Managers
Freelancers & Gig Workers
Independent Investors & Financially proficient Users

Domain Analysis

Potential Clients: Businesses or organizations that might use the program for their clients, including Budgeting tools as a value-added service provided by banks. Employers provide their staff with financial wellness initiatives. Clients can manage their personal finances with the assistance of financial advising firms.

Potential Users: Individual consumers want to manage their monthly budget and keep tabs on their spending. Employees that want to create financial goals in order to reduce their pay. Young adults or students who are handling their limited resources. Budgets and expenses are planned by families. Self-employed people or freelancers keeping tabs on erratic income and expenses.

Software requirements specifications

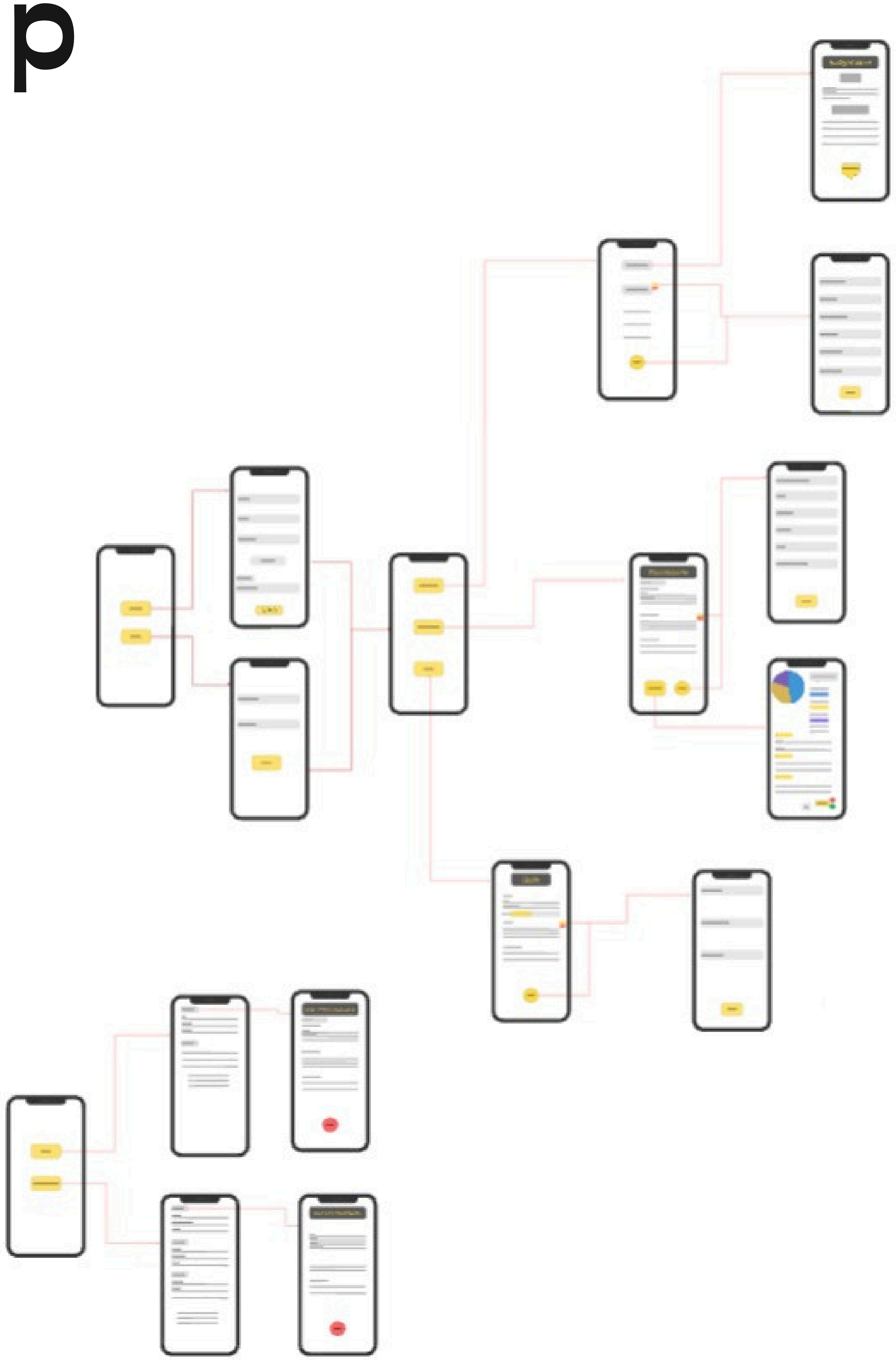
Functional

- **FR01**: Launch the app and display the login/sign-up screen.
- **FR02**: Allow users to log in if they have an existing account.
- **FR03**: Provide a registration option for new users.
- **FR04**: Display the three main screens after login.
- **FR05**: Ensure the Report screen is accessible and functional.
- **FR06**: Notify the user based on predefined conditions.

Non-Functioal

- **Performance**
- **Scalability**
- **Maintainability**
- **Reliability & Availability**
- **Portability & Compatibility**
- **Security**
- **Usability**

Navigation Map



Thank You!