

SPL - 2 SRS

**Personal Health Tracker using
Automated Report Scanning**

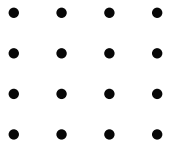
**Md. Mahfuz Ibne Ali Ayon
BSSE 1421**

**Mohammad Ismail Hossain
BSSE 1433**



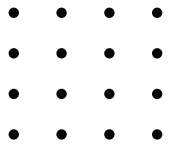
**Supervised by
Dr. Ahmedul Kabir
Associate Professor**





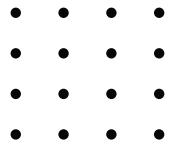
Quality Function Deployment **Normal Requirements**

- User Authentication
- User Profile
- Image Upload Capability
- Report scanning functionality
- Report Storage and Retrieval



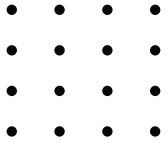
Quality Function Deployment **Expected Requirements**

- User-Friendly Interface
- High Accuracy in Data Extraction
- Fast Upload and Processing Time
- Automatic Report Categorization
- Report Search
- History Visualization
- Report sharing
- Health condition warning



Quality Function Deployment **Exciting Requirements**

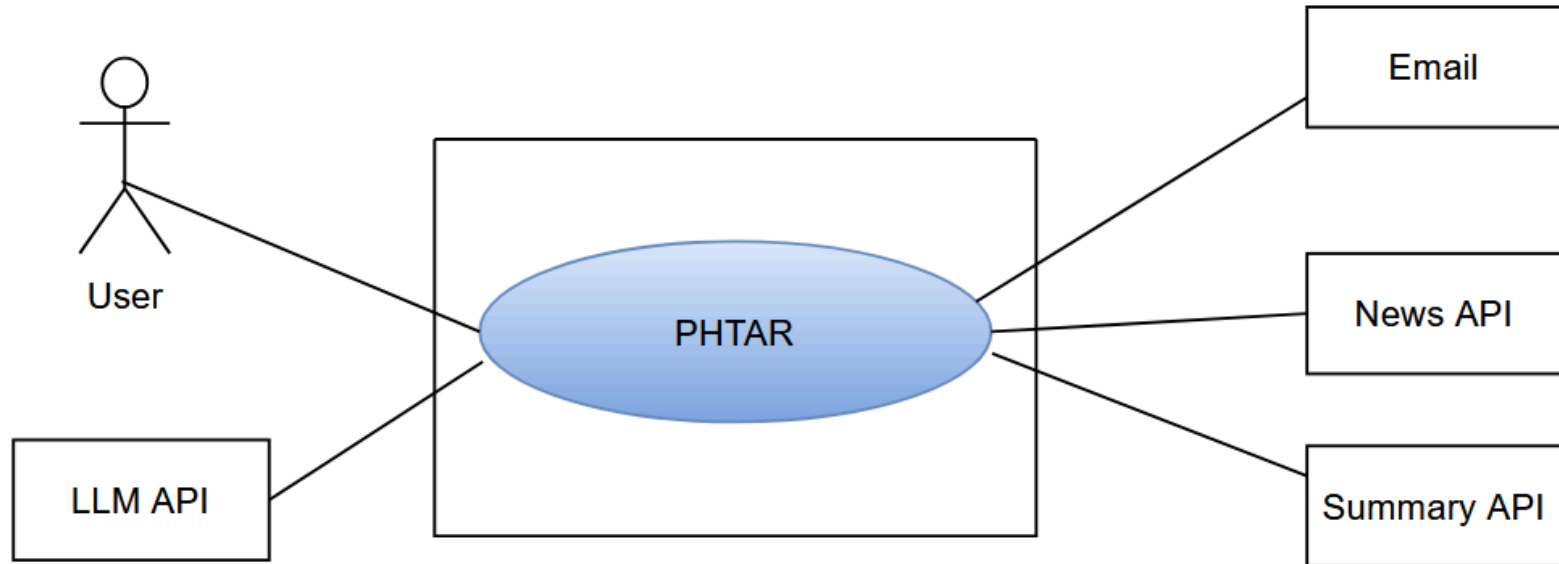
- Health Insights or Trends
- Report Summarization
- Notify connected users
- Easily find other users
- Offline Upload
- Cross-Platform Availability



Scenario-Based Modeling (**Use Case**)

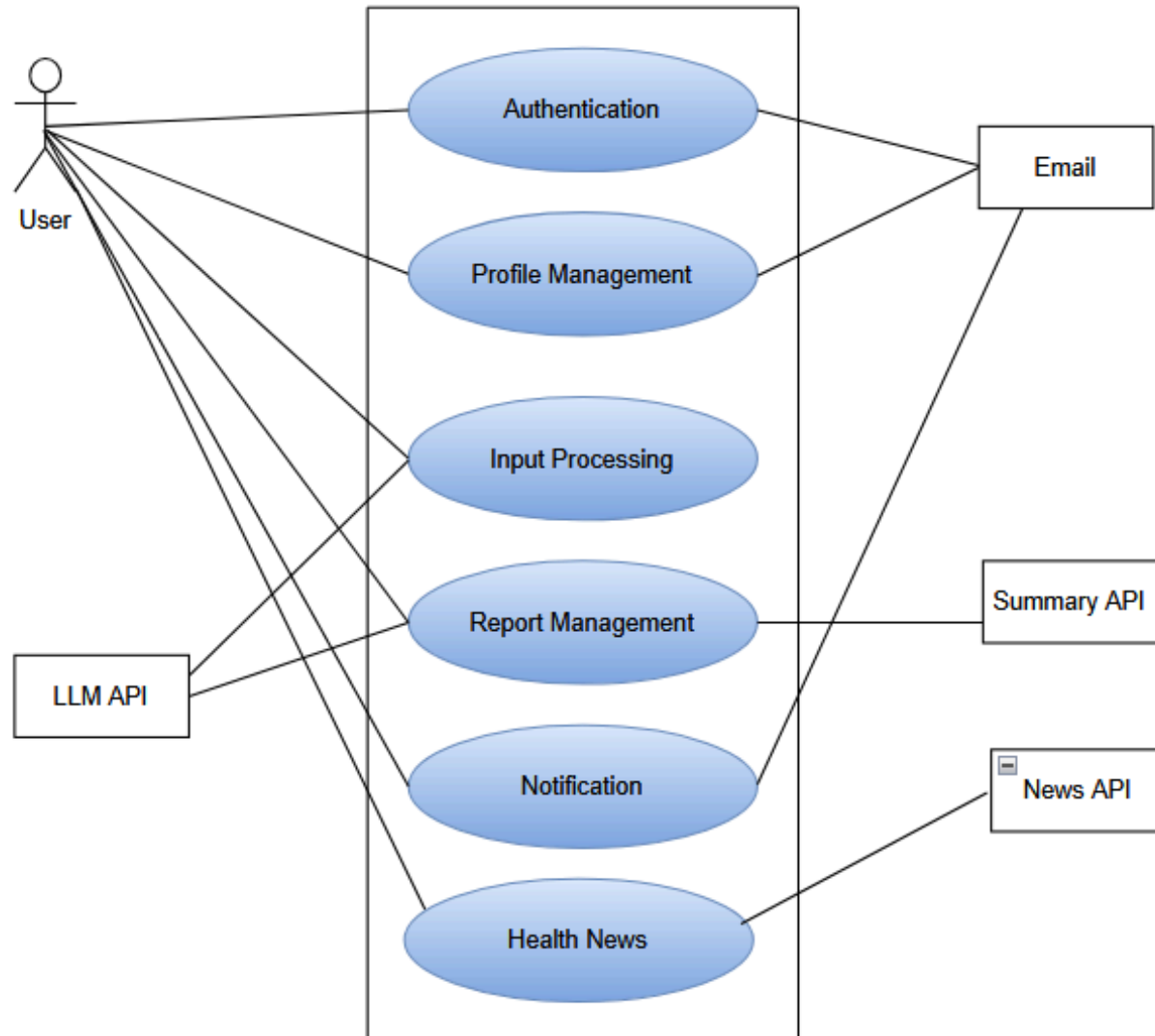


Use case level 0



Use case level 1

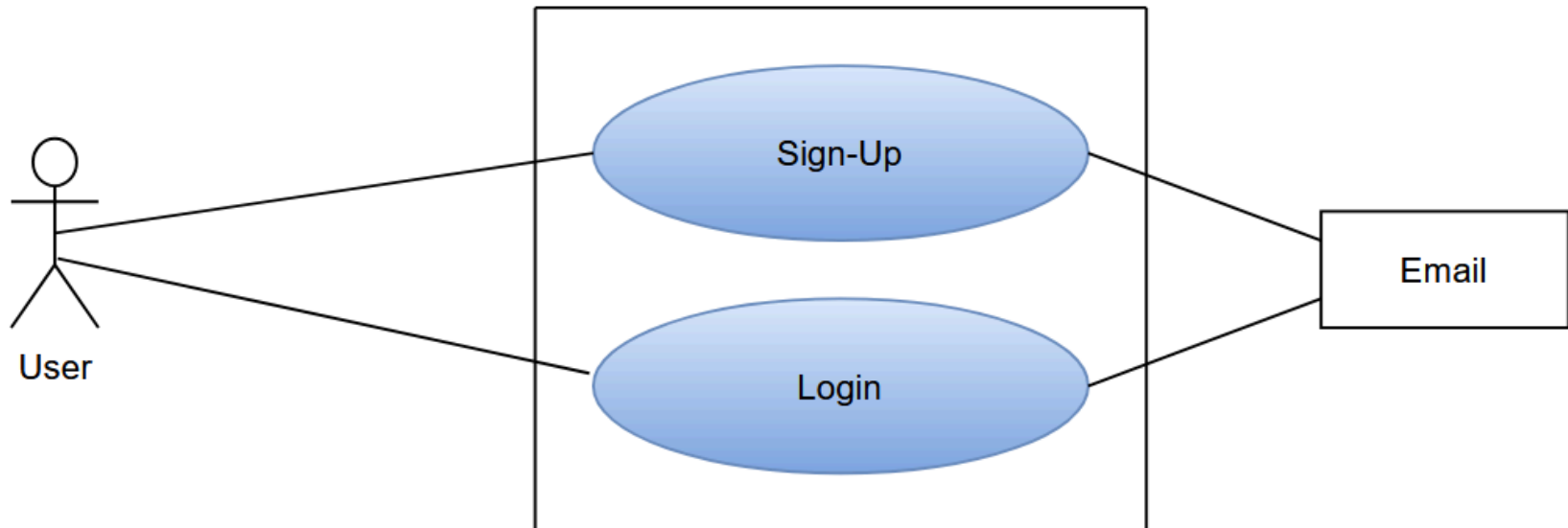
Personal Health Tracker using Automatic Report Scanning (PHTAR) (Detailed)



Use case level 1.1



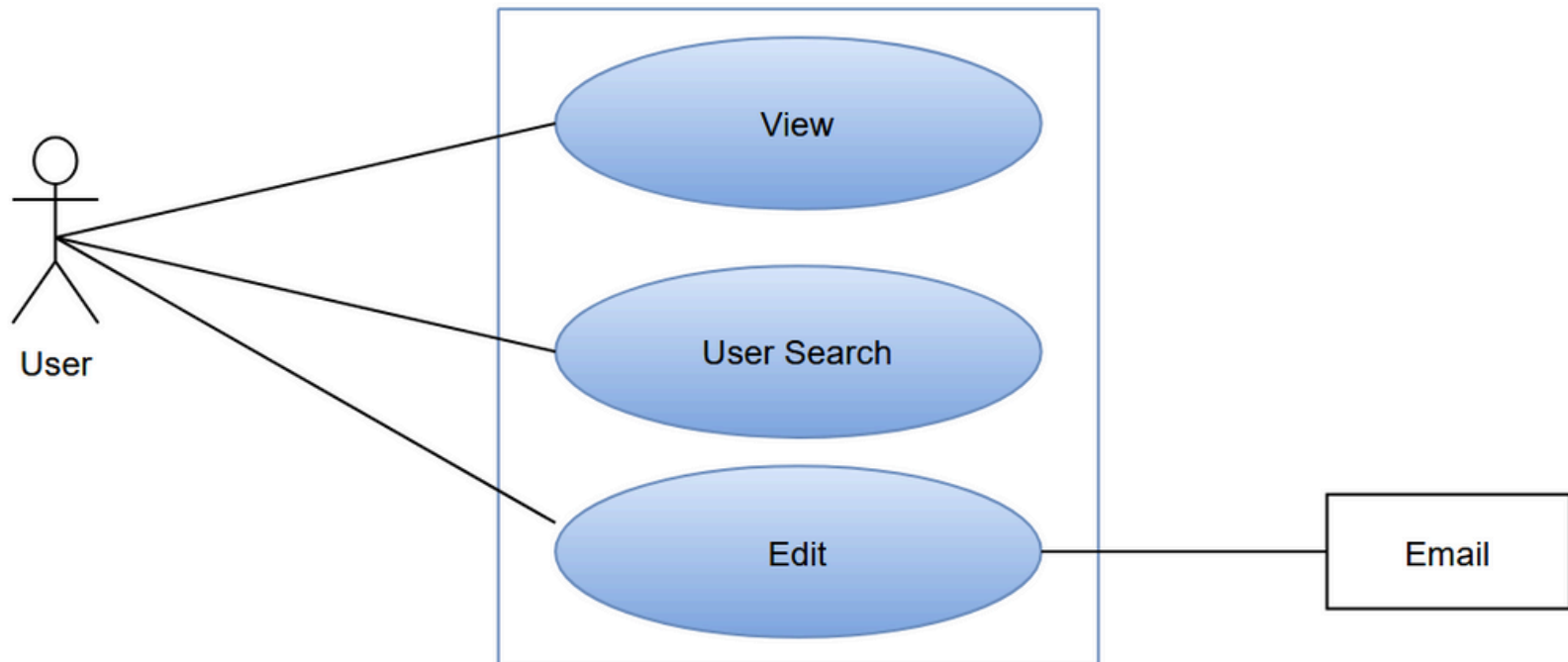
Registration and Authentication System



Use case level 1.2



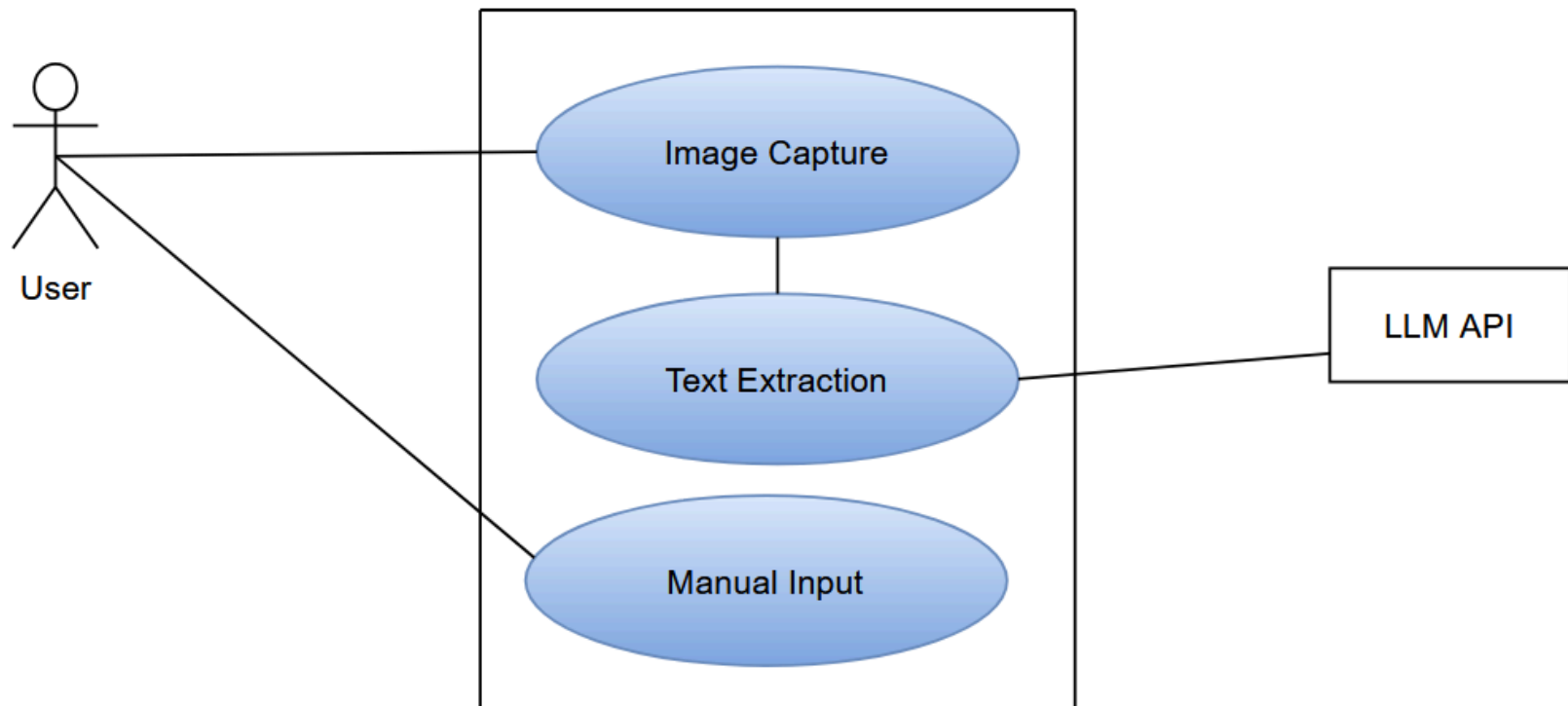
Profile Management



Use case level 1.3



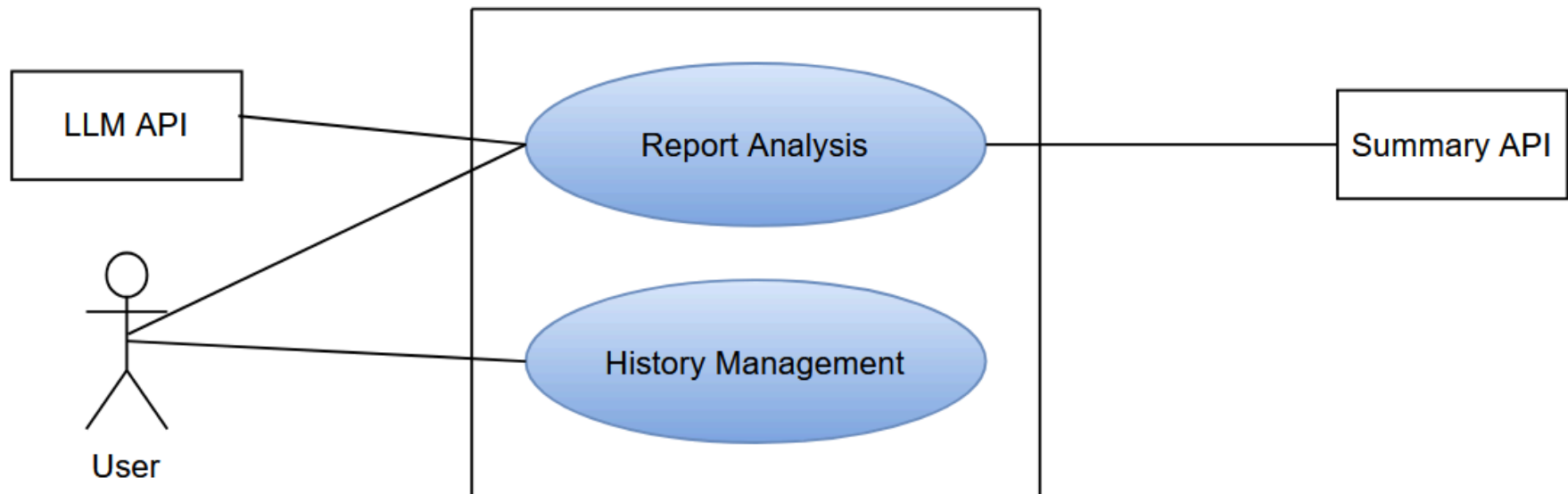
Input Processing



Use case level 1.4

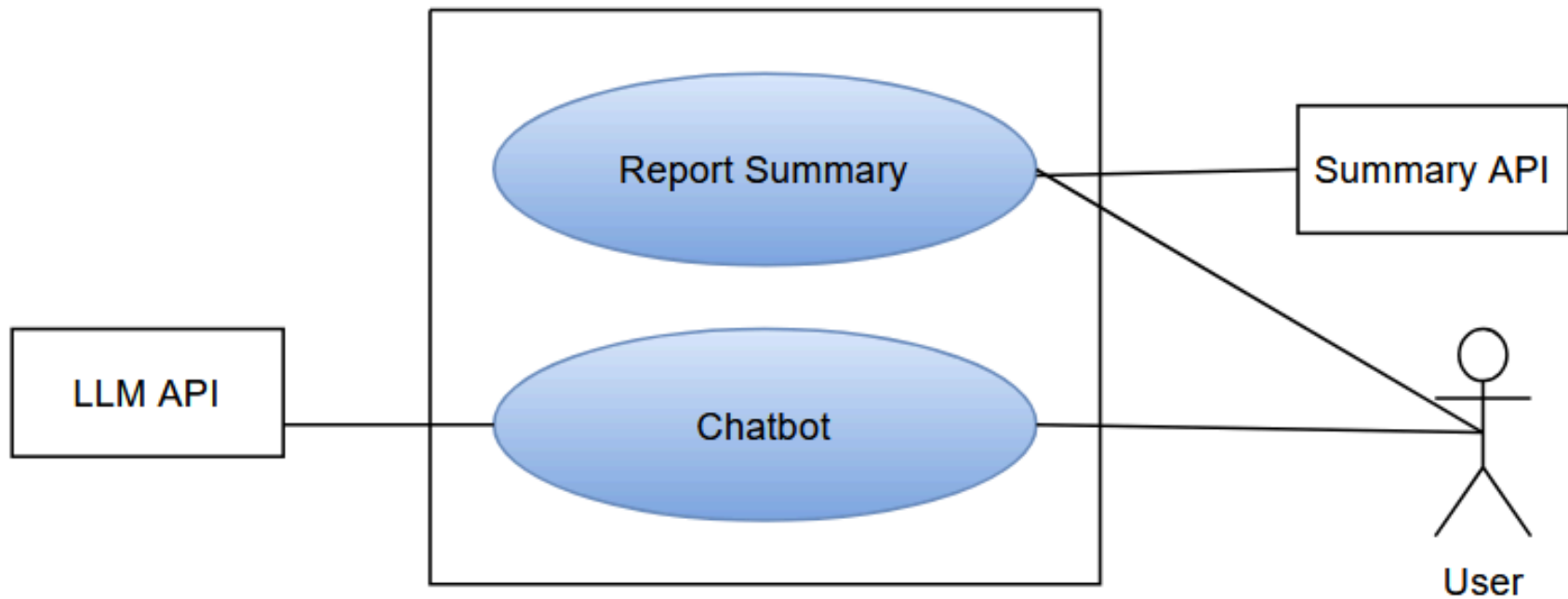


Report Management



Use case level 1.4.1

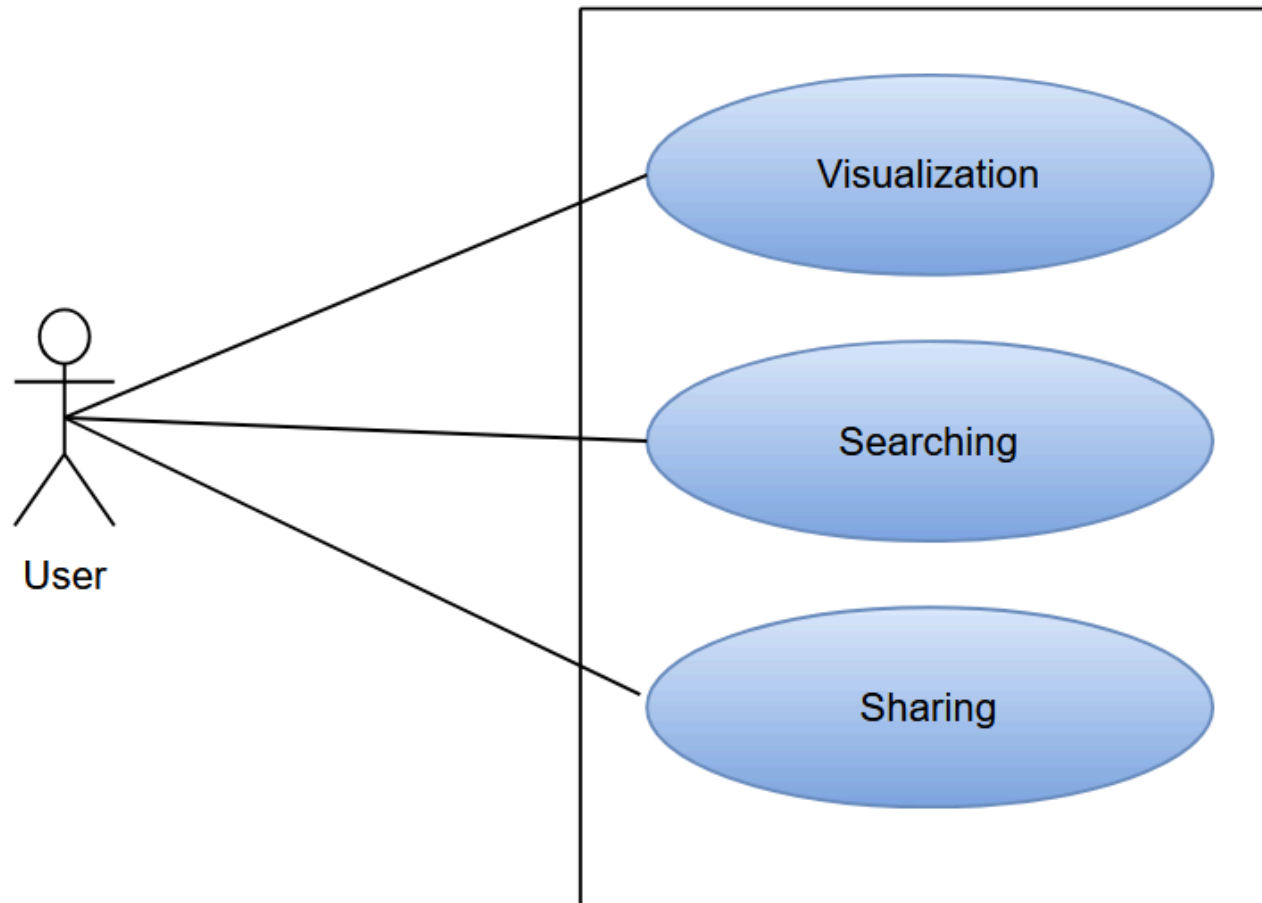
Report Analysis



Use case level 1.4.2



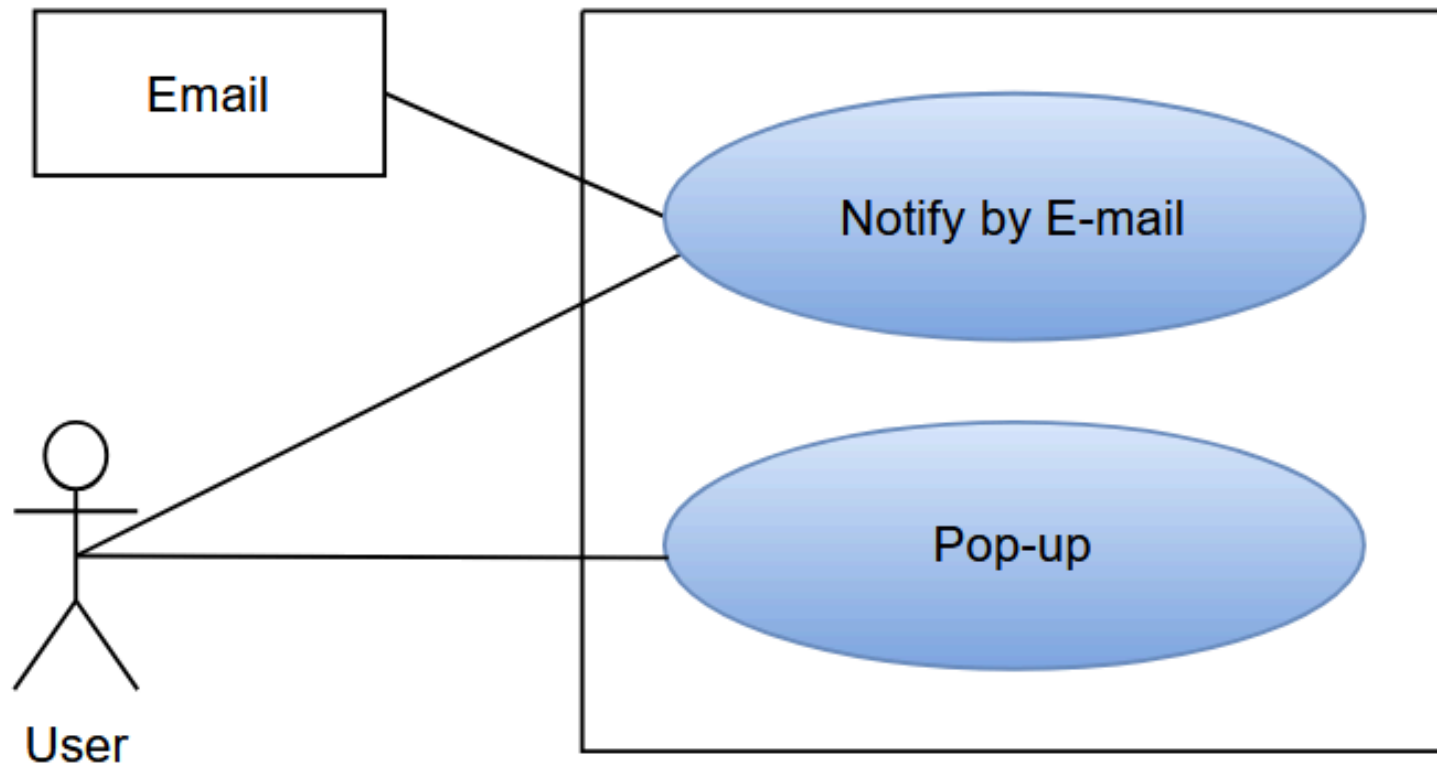
History Management

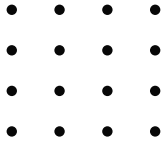


Use case level 1.5



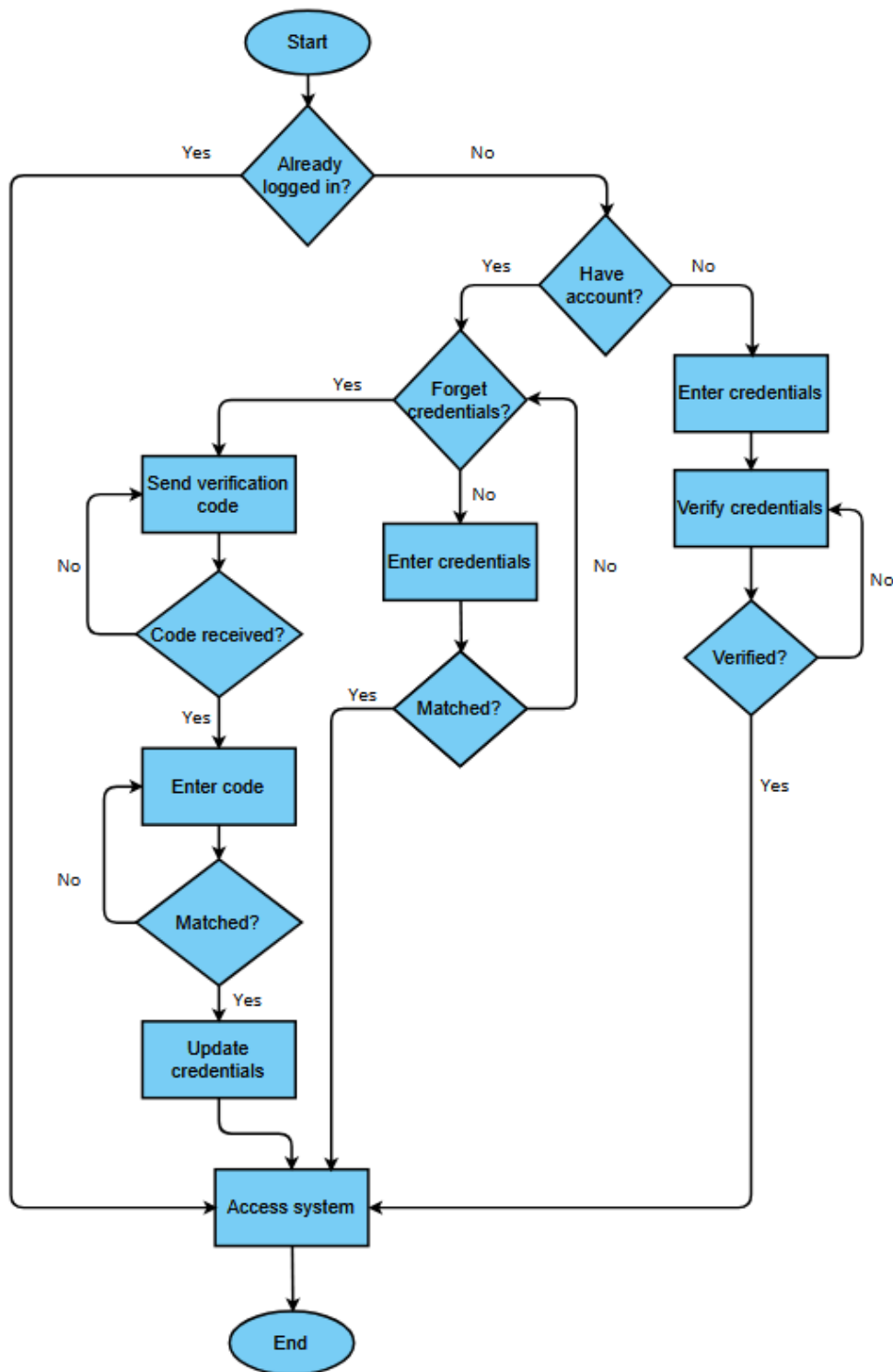
Notification





Scenario-Based Modeling (**Activity Diagram**)



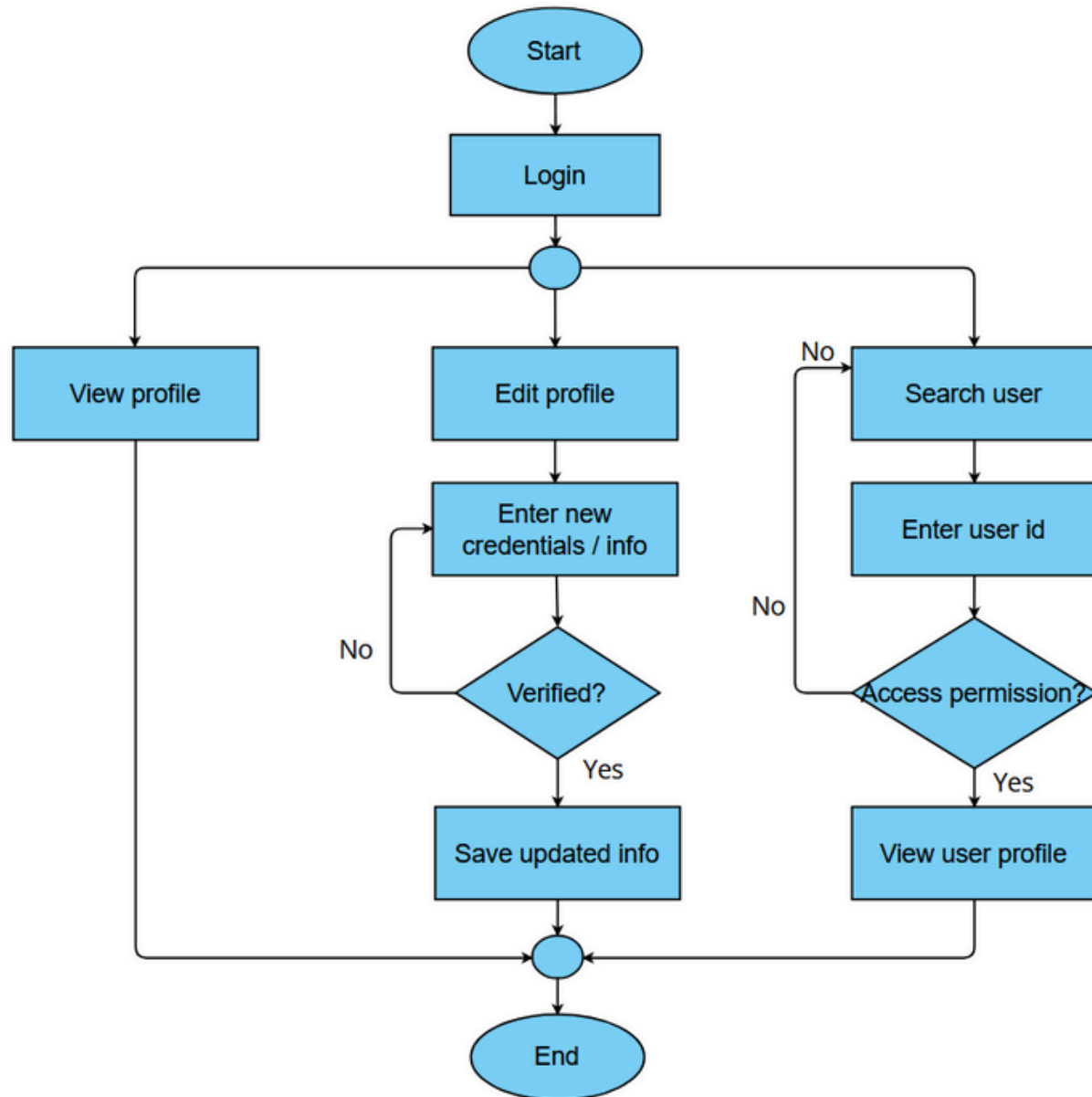


Activity level 1.1

Registration and
Authentication
System

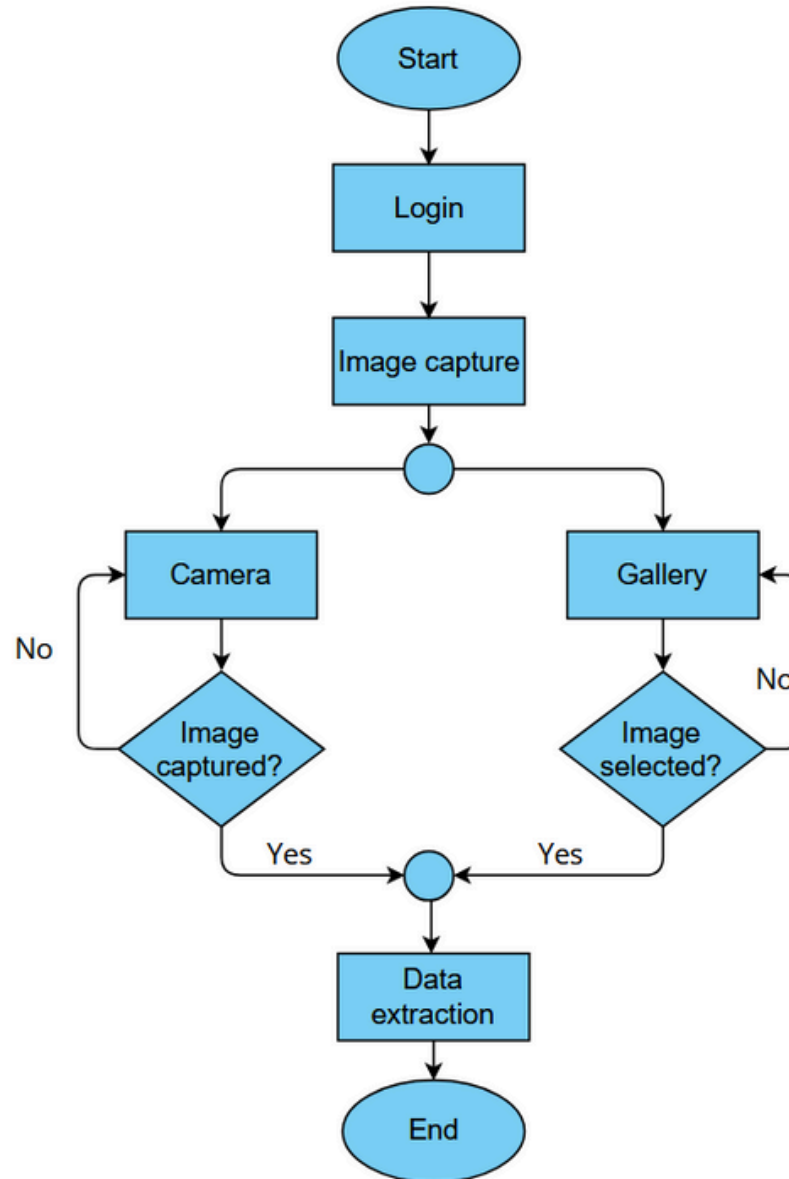
Activity level 1.2

Profile Management



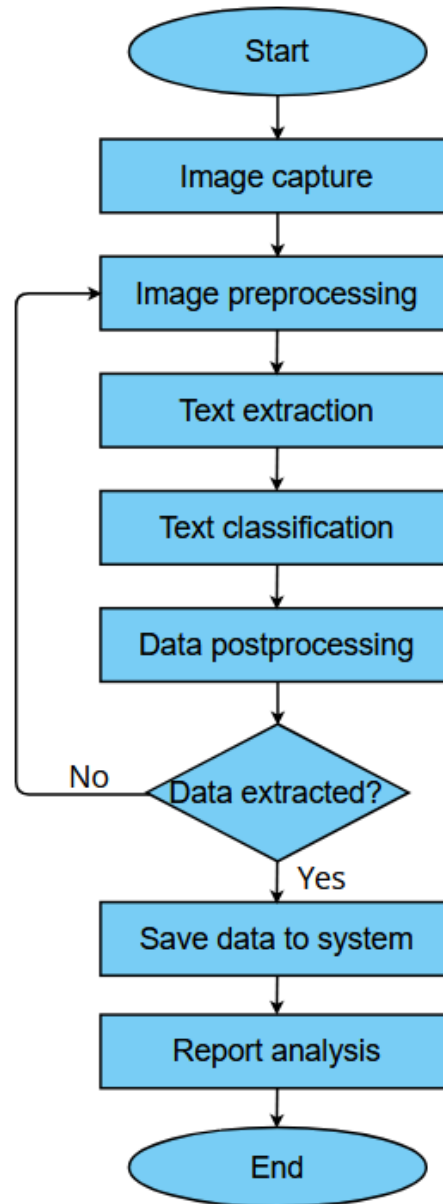
Activity level 1.3.1

Image capture



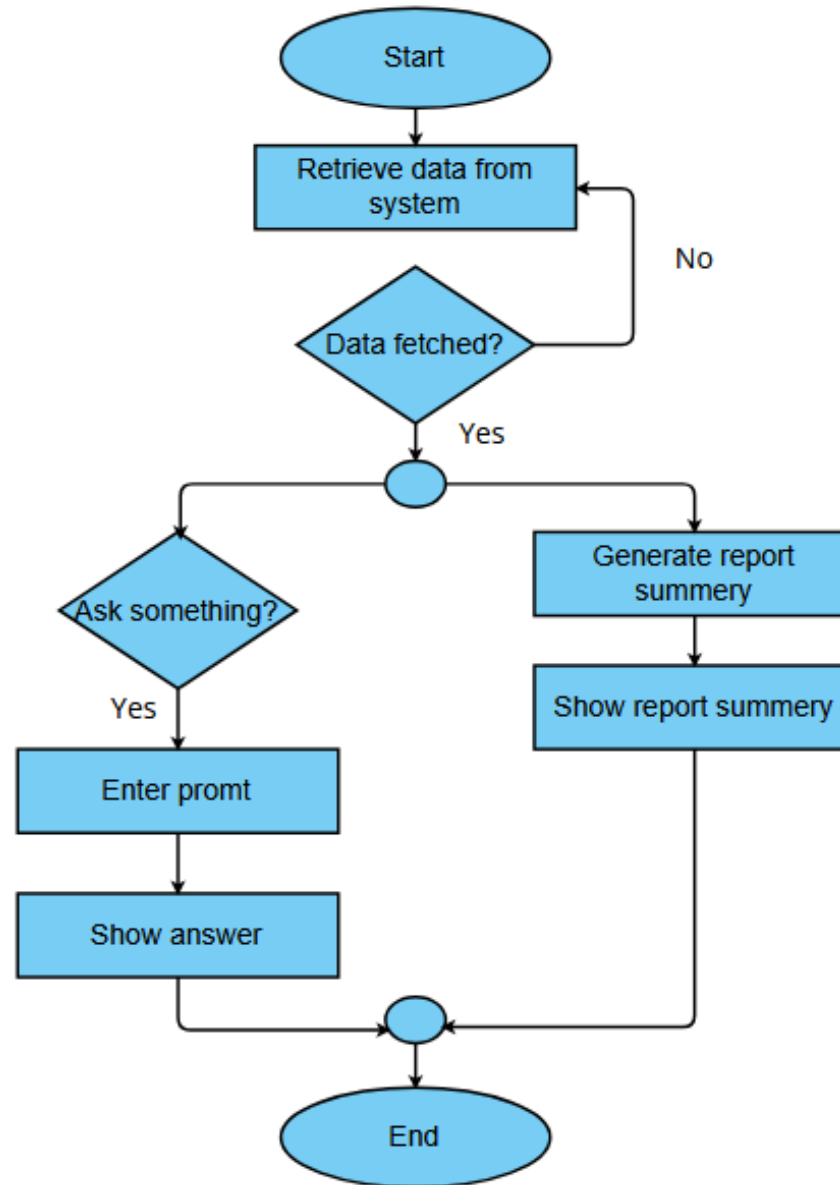
Activity level 1.3.2

Data extraction



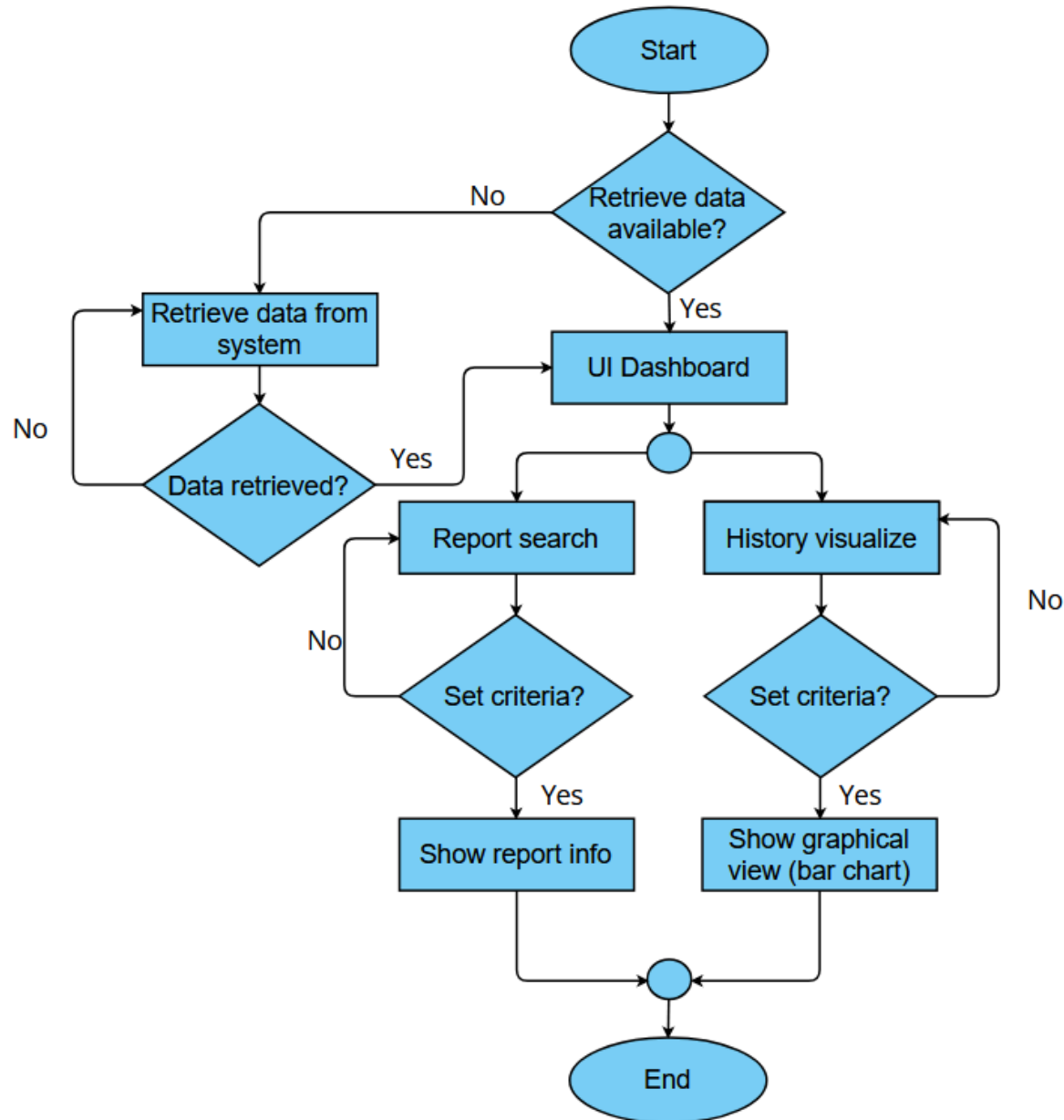
Activity level 1.4.1

Report analysis



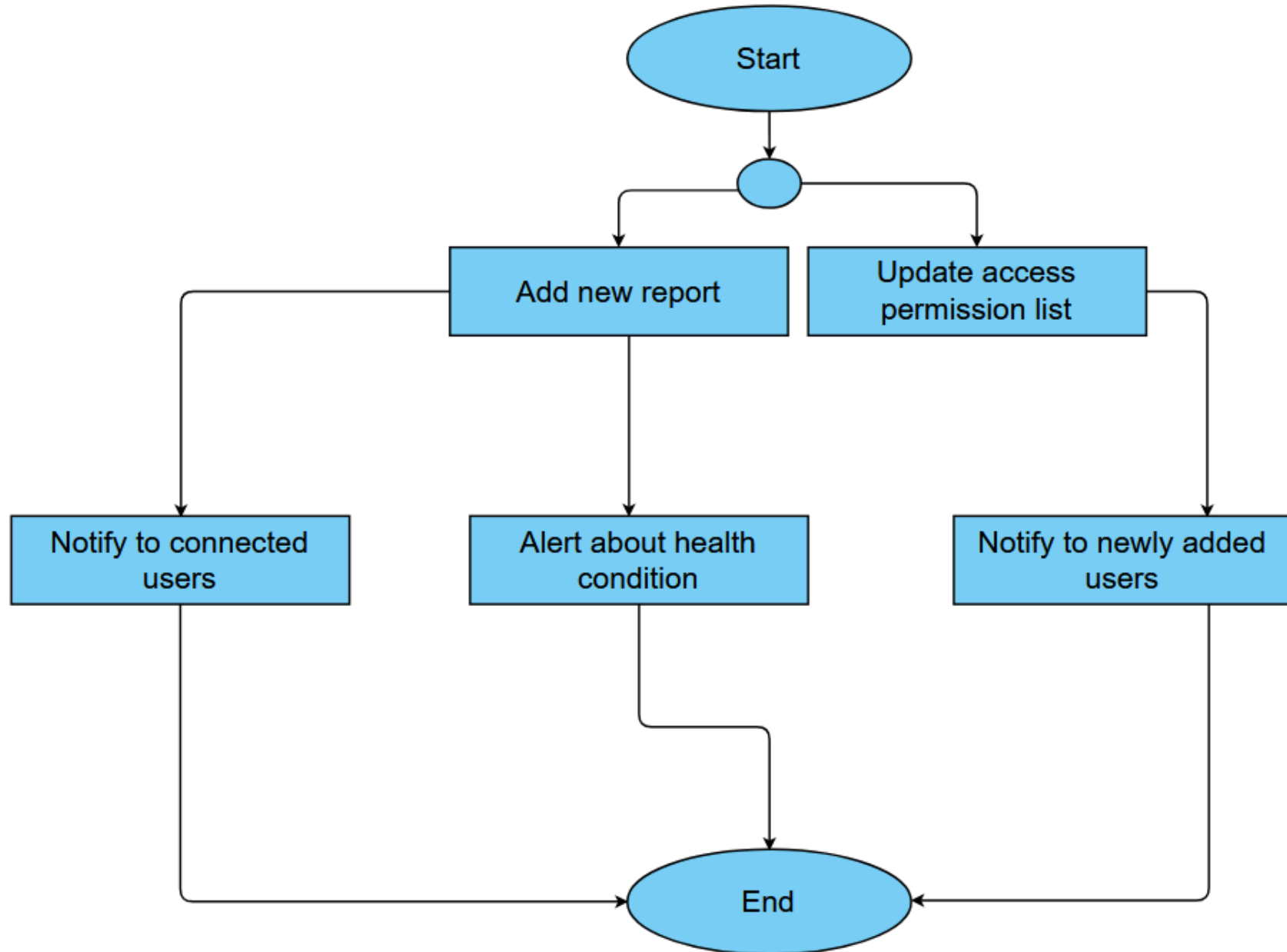
Activity level 1.4.2

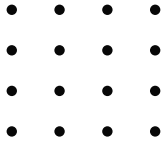
History management



Activity level 1.5

Notification

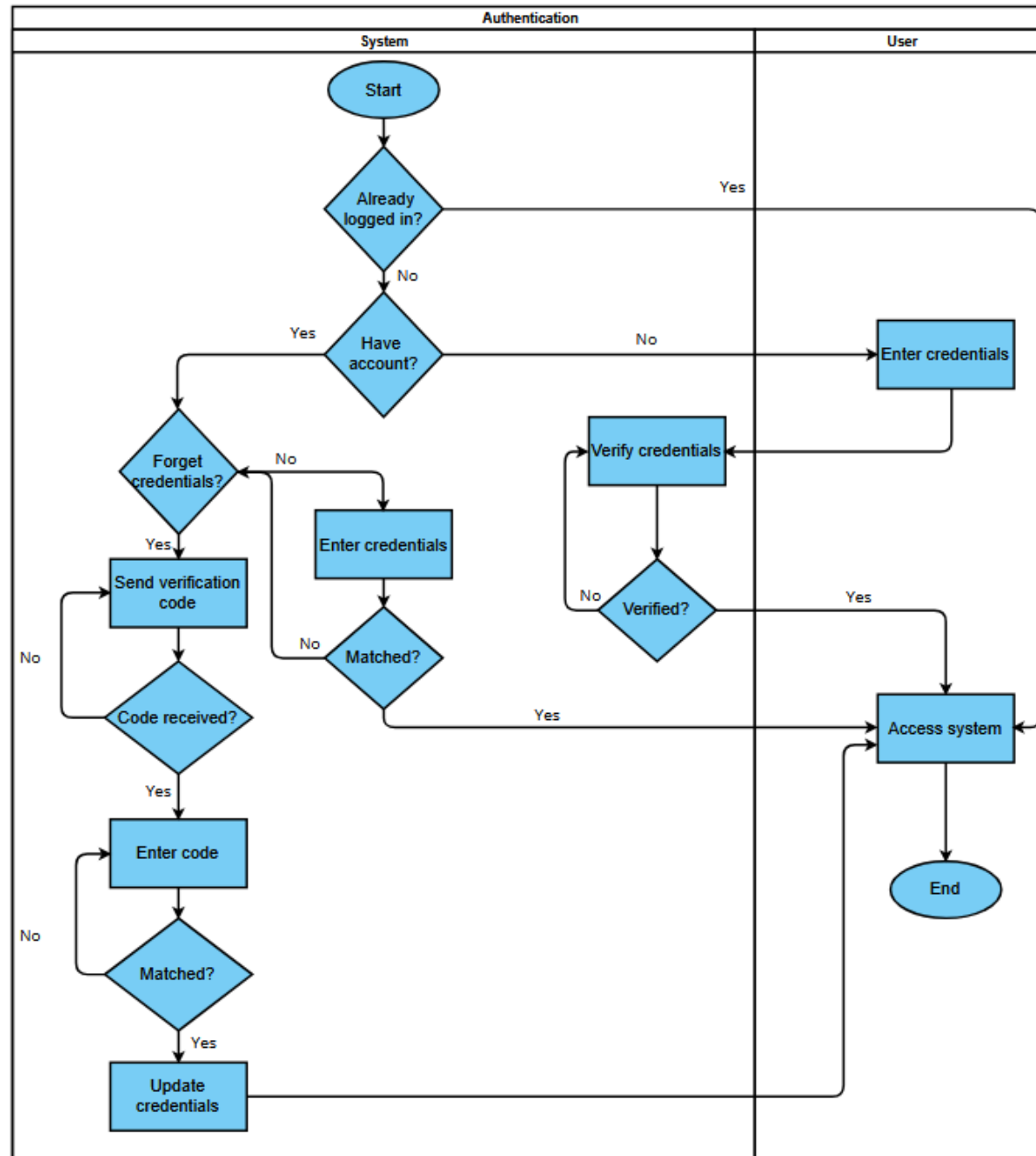




Scenario-Based Modeling (Swim lane Diagram)



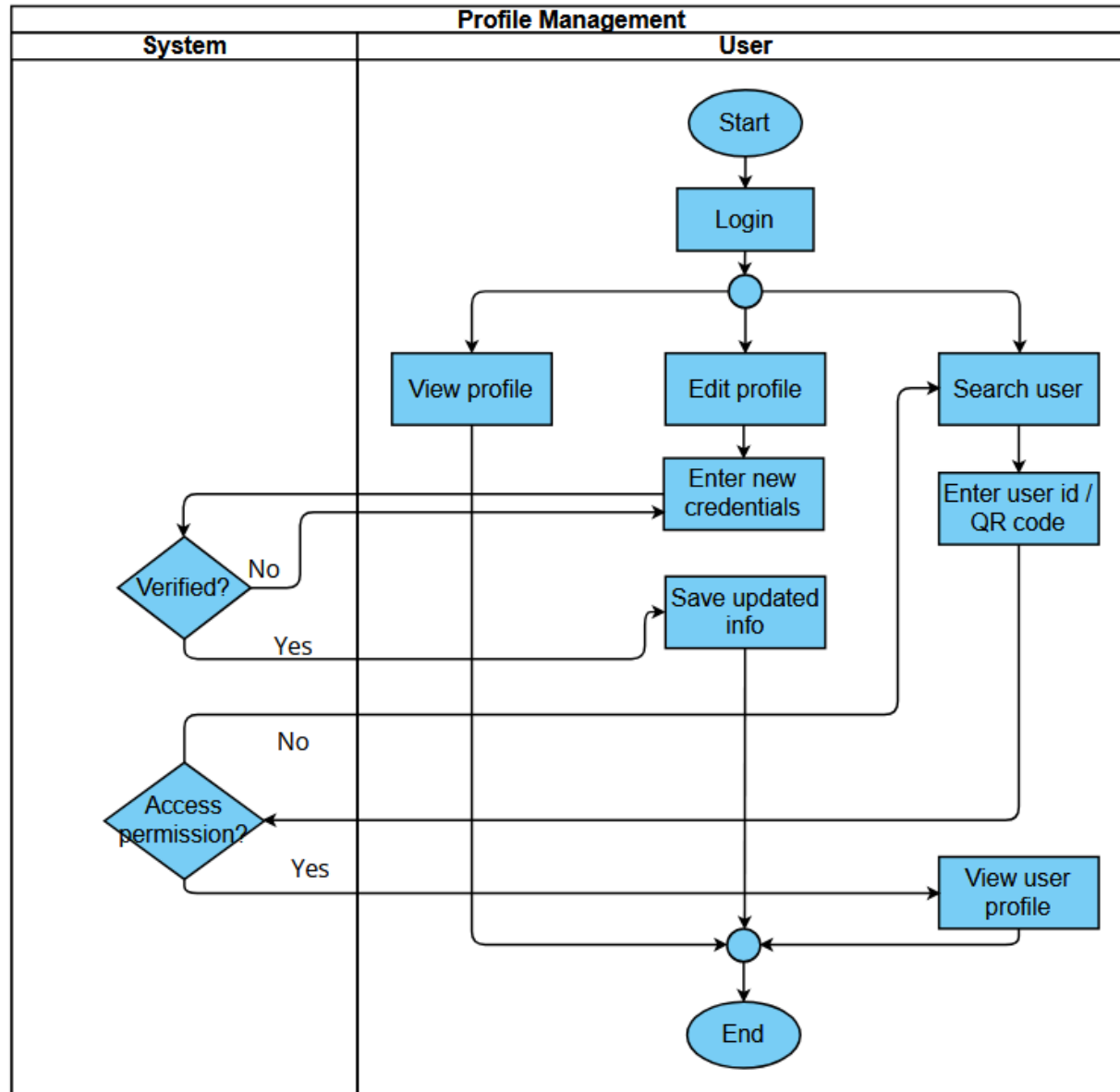
Swim lane level 1.1 Registration and Authentication System



Swim lane level 1.2



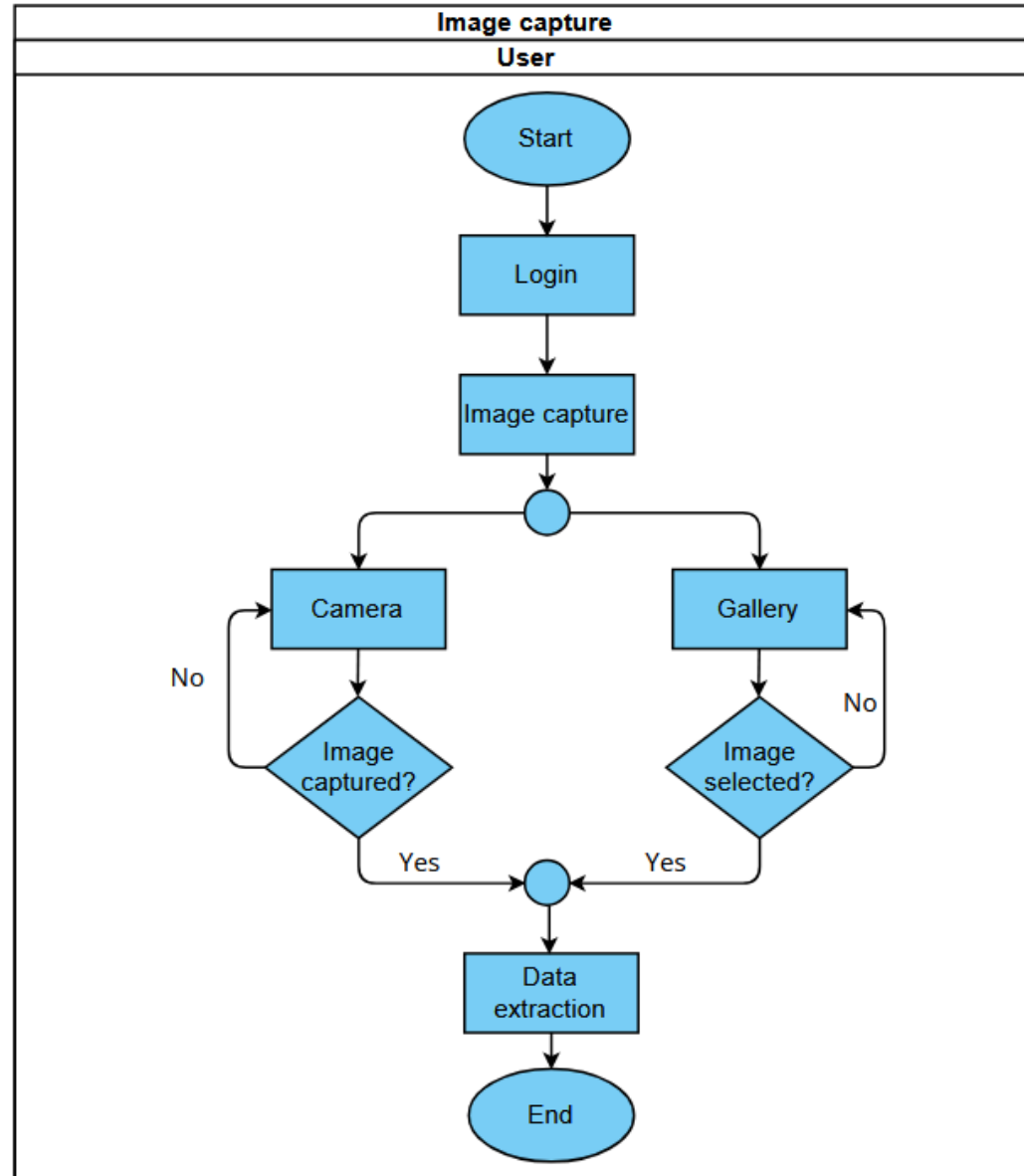
Profile Management



Swim lane level 1.3.1

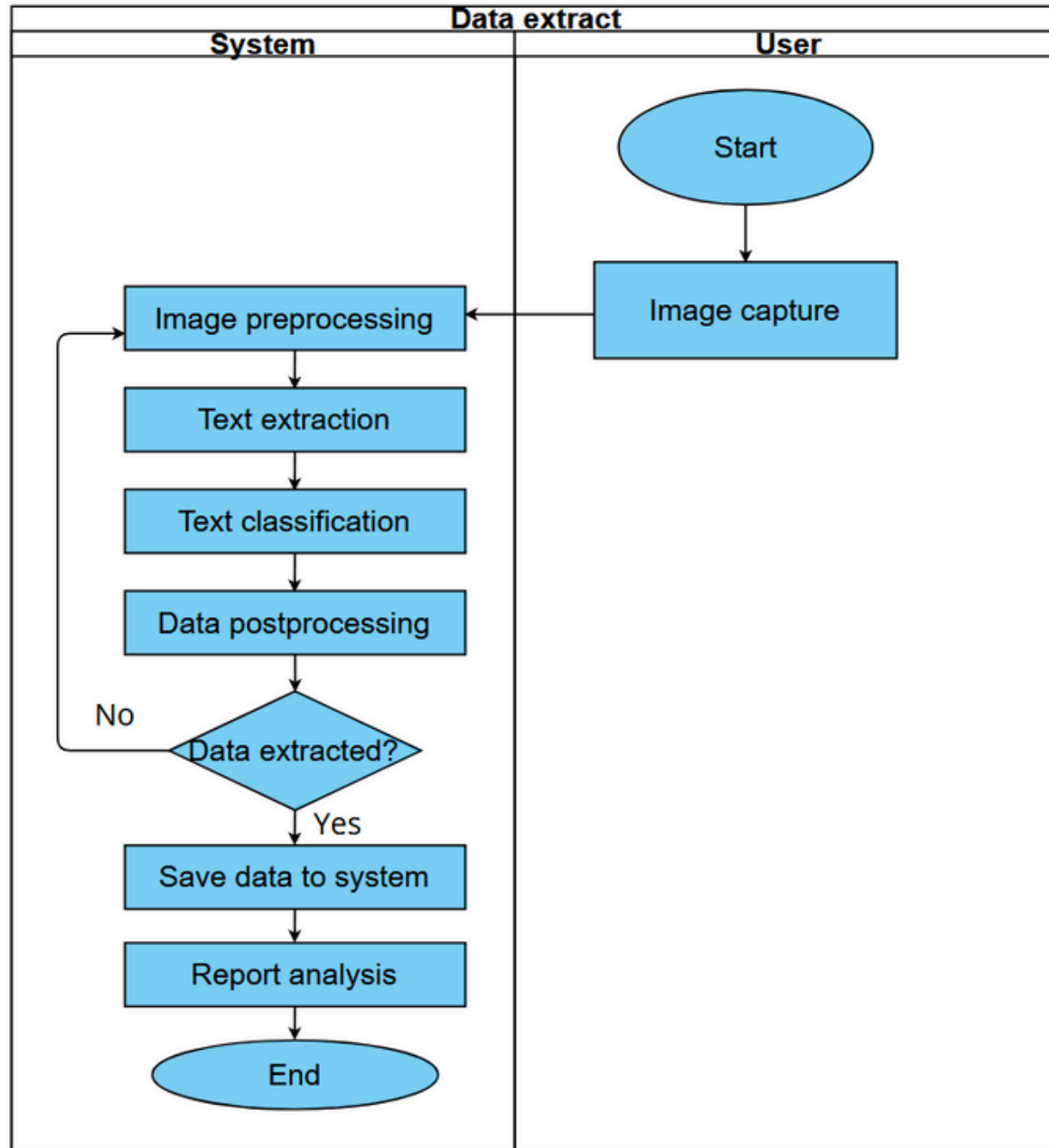


Image capture



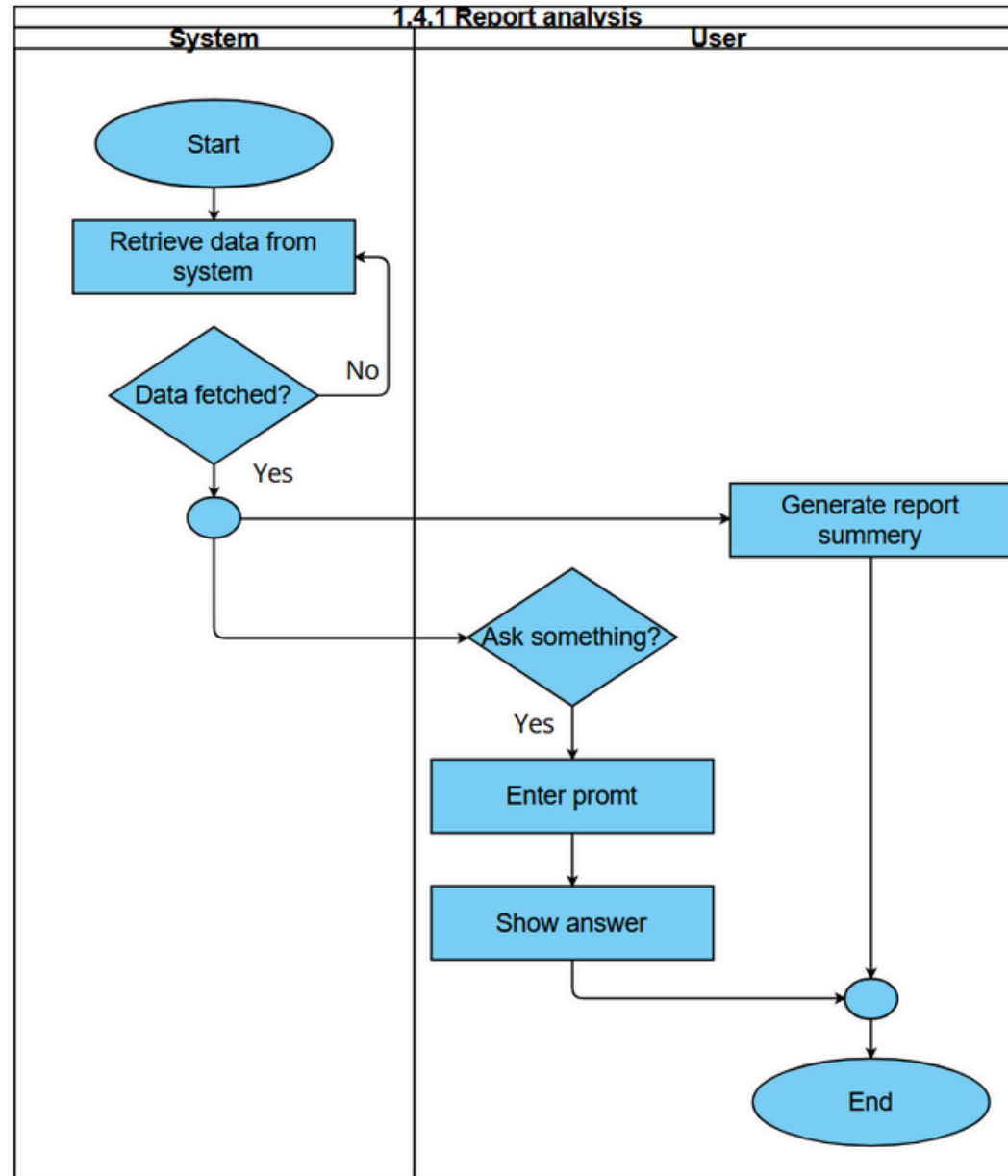
Swim lane level 1.3.2

Data extraction



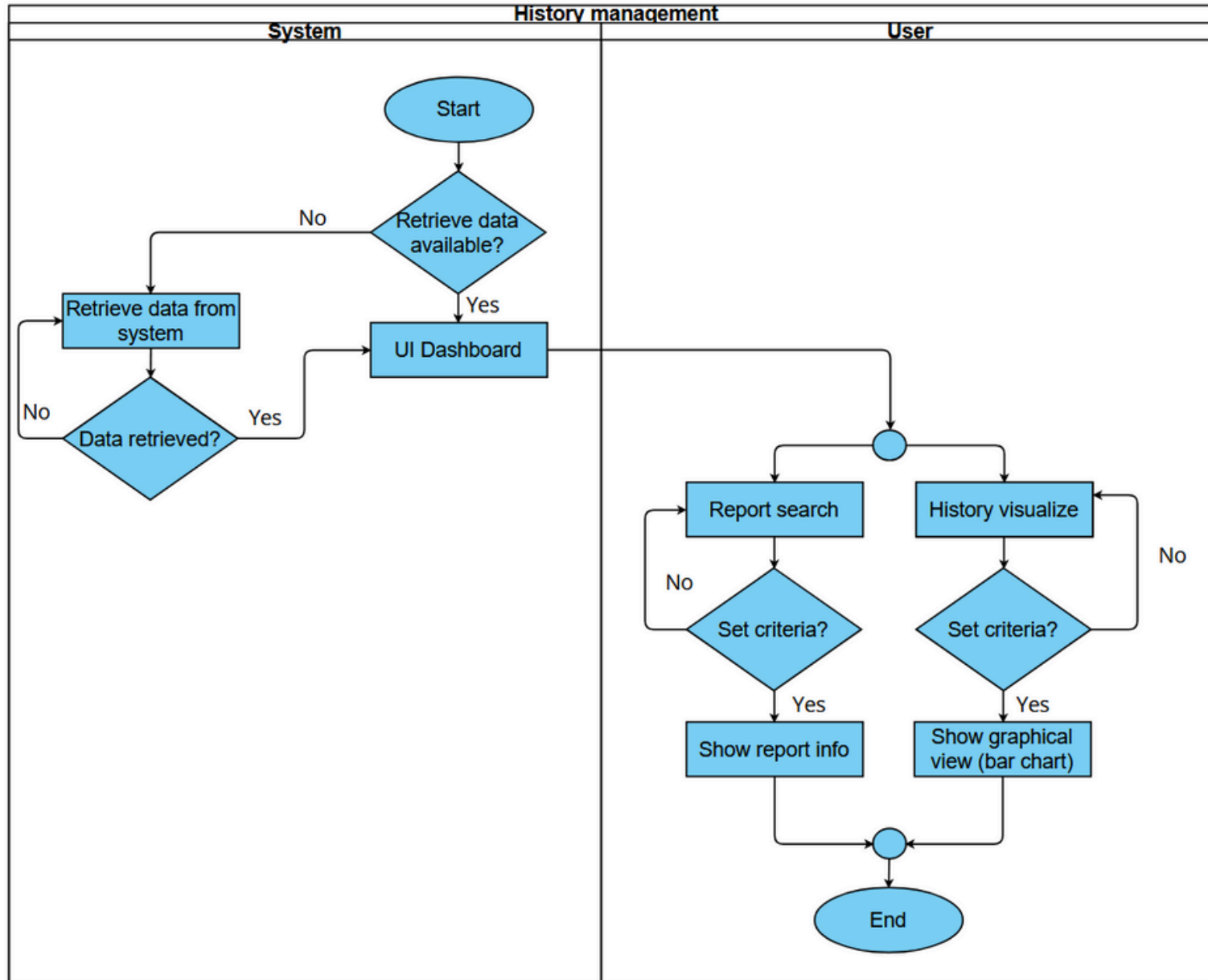
Swim lane level 1.4.1

Report analysis



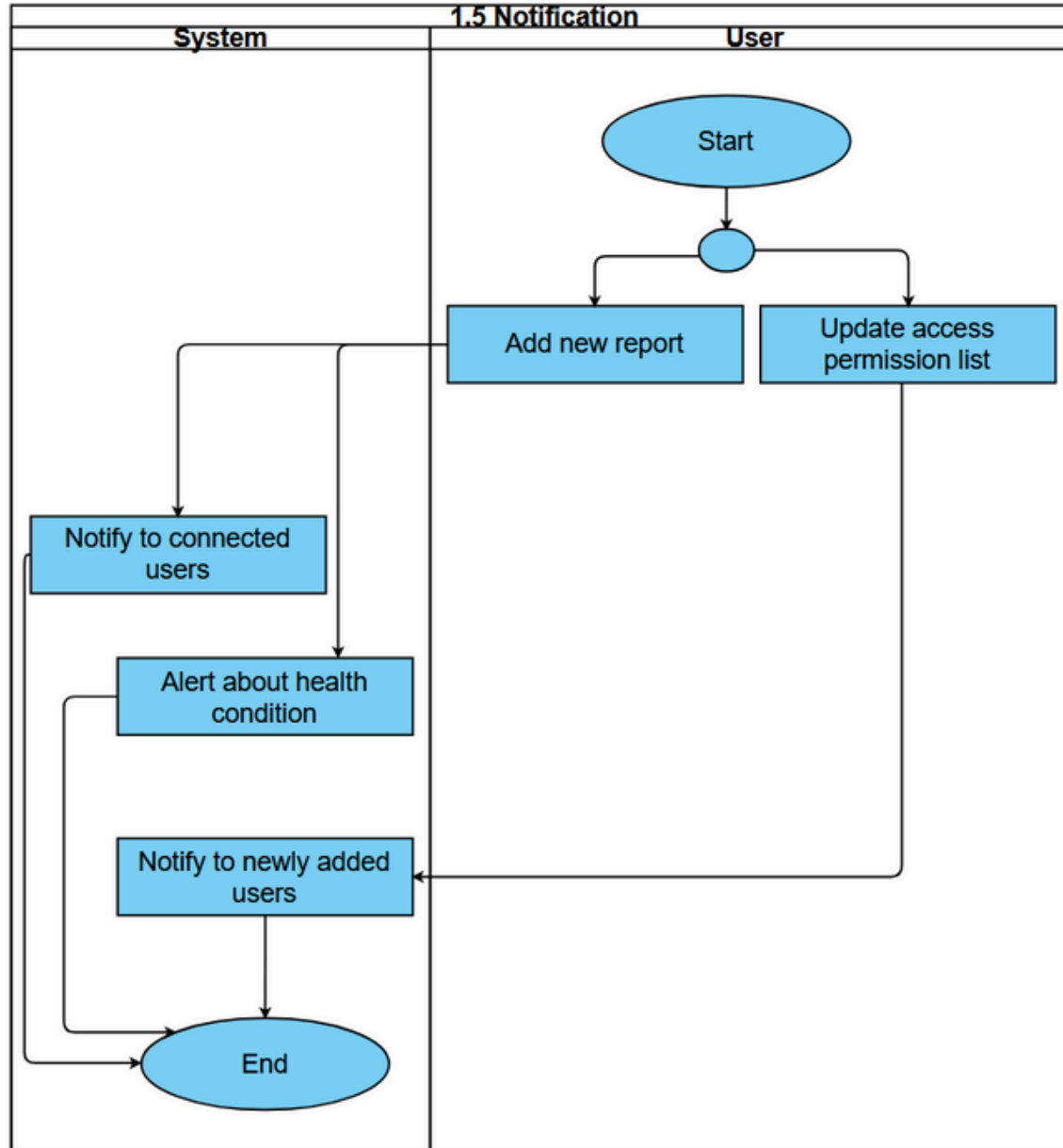
Activity level 1.4.2

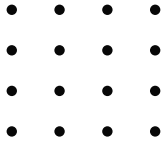
History management



Activity level 1.5

Notification





Databased Modeling

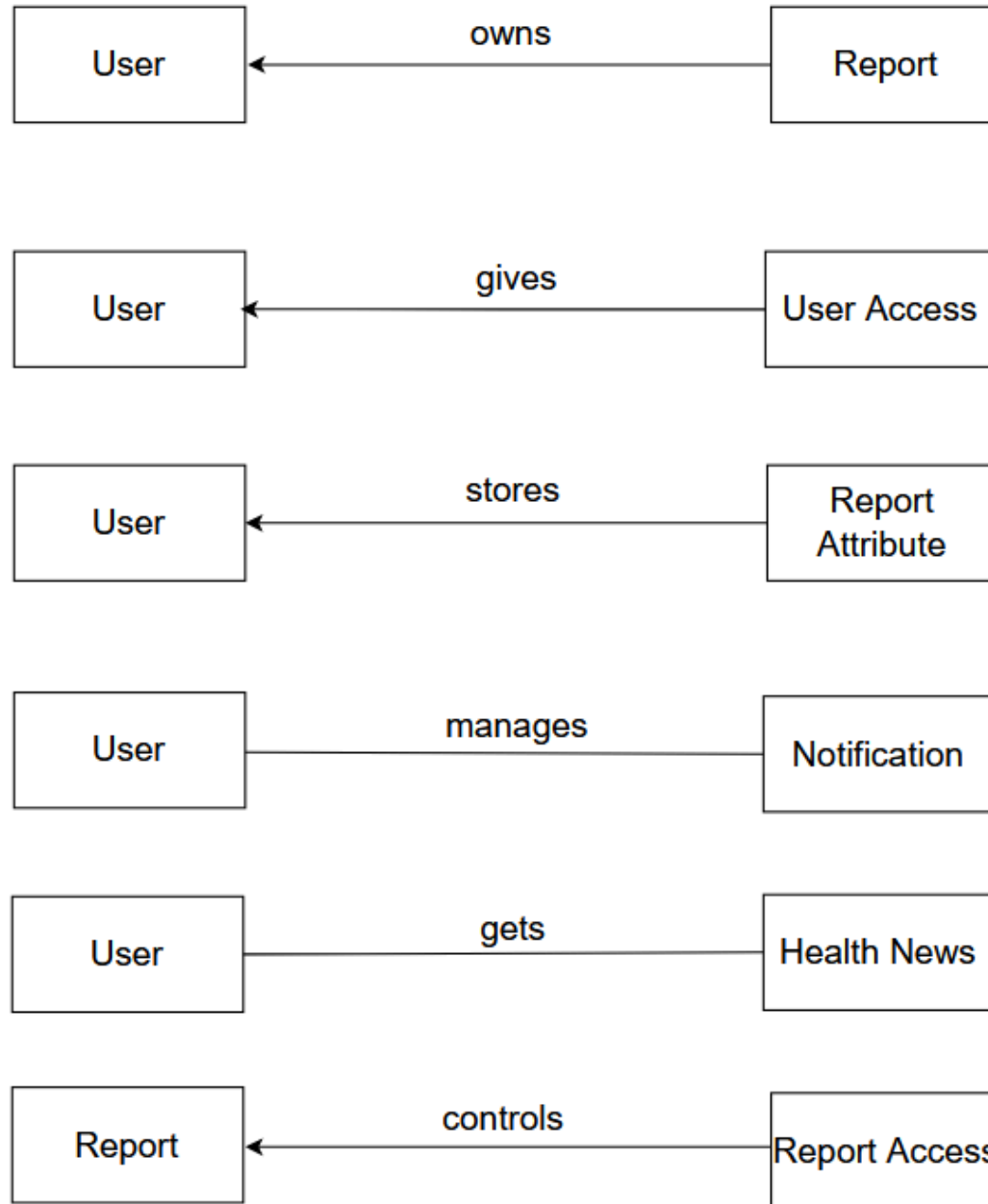


Data Object

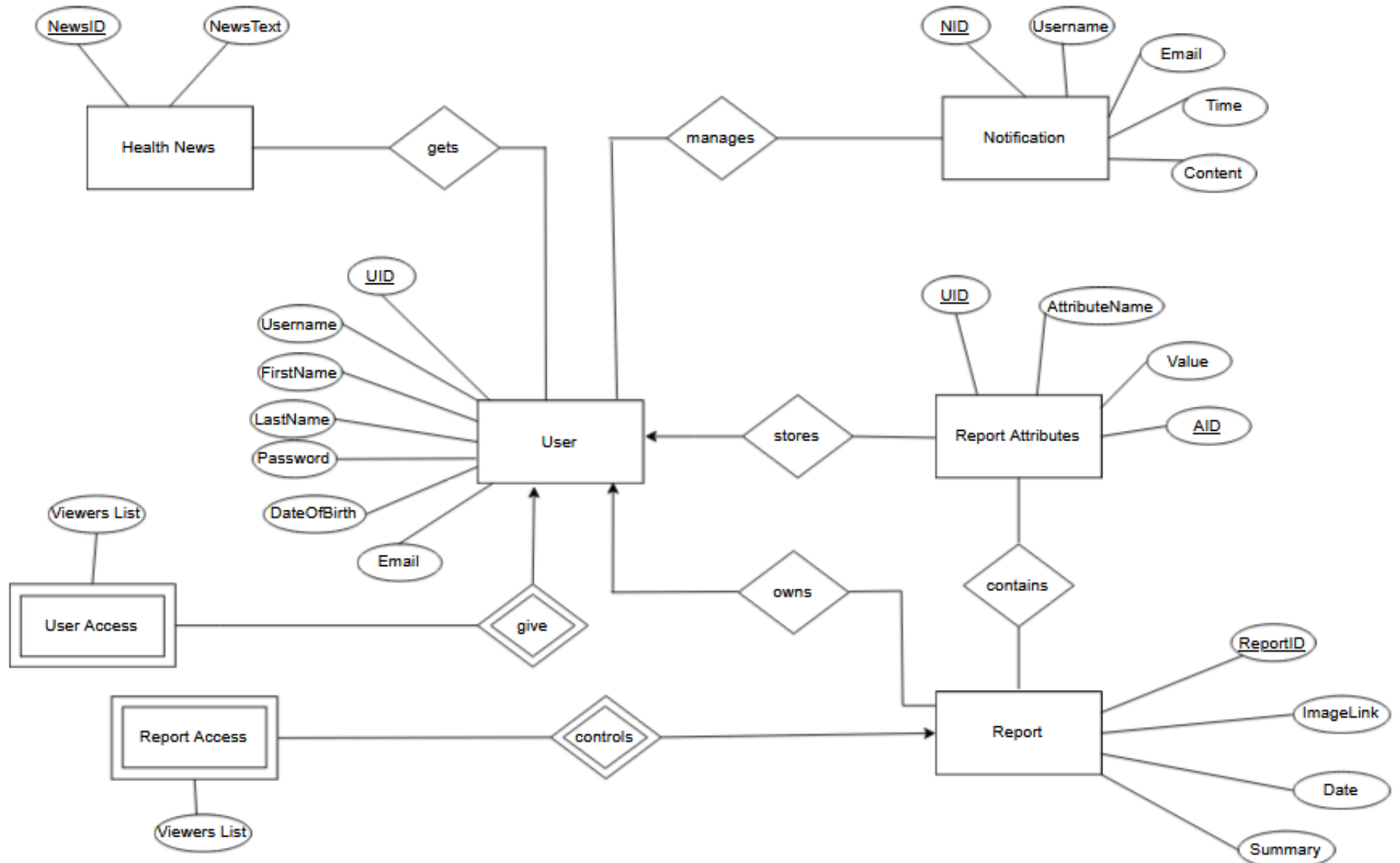
Probable data objects|

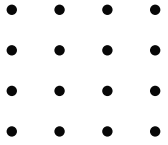
| SI No. | Data Object | Attributes |
|--------|-------------------|--|
| 1. | User | User_id, Username, First name, Last name, email, Password, Date of birth, Blood group, Photo |
| 2. | Report | Report_id, report_image_link, Date, Report_Summary |
| 3. | Notification | User_id, Username, email, Time , Content ,NID |
| 4. | Share Access | User_id,Report_id, viewer_id |
| 5. | Health news | News_id,News_text |
| 6. | Report Attributes | User_id,Report_id,Attribute_name,value ,AID |

Database Relations



ER Diagram





Class based Modeling



Class-1: User



Class-1: User

| Class : User | |
|--|-----------------------------|
| Attribute | Methods |
| -firstName -lastName -userName -password -date_of_birth -bloodGroup -age | change_user_info(), |
| Responsibilities | Collaborator Class |
| Manage User Registration | Database , Authentication |
| Manage User Login | Database , Authentication |
| Password Recovery | Database , Account Recovery |
| General accessibility and Notification | Database , Notification |

Class-2: Authentication




Class-2: Authentication

| Class : Authentication | |
|---|---|
| Attribute | Methods |
| <ul style="list-style-type: none">- verification link- userName- password | <div>get_user_info(), validate_user_info(), get_verification_link(), send_verification_link(), login(), register(), isAllowed()</div> |
| Responsibilities | Collaborator class |
| User info verification | User , Database |
| Send verification link | Database |

Class-3: Account recovery



Class-3: Account recovery

| Class : Account recovery | |
|--------------------------|--|
| Attribute | Methods |
| - verification link | recover_password(), recover_email(), update_user_info() |
| Responsibilities | Colaborator class |
| User info verification | User , Database |
| Send verification link | Database  |
| Update user Info | Database |

Class-4: Input processing



Class-4: Input processing

| Class : Input processing | |
|--------------------------|--|
| Attribute | Methods |
| - image | select_image_capture_mode(), choose_image(), get_extracted_text(), create_manual_report() |
| Responsibilities | Colaborator class |
| Extract Text | |
| Store extracted text | Database |

Class-5: Database



Class-5: Database

| Class : Database | |
|--|--|
| Attribute | Methods |
| -user list -report list -report attribute list | create(), delete(), update(), get() |
| Responsibilities | Collaborator class |
| Store information | User , Authentication , Account recovery, Medical report , Report analysis , Report history , Notification , Health news |
| Maintain stable connection | |
| Provide required information | |

Class-6: Medical report



Class-6: Medical report

| Class : Medical report | |
|--|---|
| Attribute | Methods |
| <ul style="list-style-type: none">- report id- report type- date and time- report summary | <code>create_report()</code> , <code>update_report()</code> , <code>provide_report()</code> |
| Responsibilities | Collaborator class |
| Provide report details | Database , User , Report history |

Class-7: Report analysis




Class-7: Report analysis

| Class : Report analysis | |
|-------------------------|-------------------------|
| Attribute | Methods |
| - report bar chart | provide_visualization() |
| Responsibilities | Collaborator class |
| Show visualization | Report History |

Class-8: Report history




Class-8: Report history

| Class : Report history | |
|------------------------|---|
| Attribute | Methods |
| - report list | provide_report_details(), show_report_details(), share_report() |
| Responsibilities | Collaborator class |
| Show report history | User , Medical Report  |

Class-9: Notification



Class-9: Notification

| Class : Notification | |
|------------------------------------|--|
| Attribute | Methods  |
| - notification_list - user_list | send_general_notification(), receive_general_notification(), receive_user_info(), send_alert(), send_verification_email(), |
| Responsibilities | Collaborator class |
| Send notification | User |
| User information reception | Database |

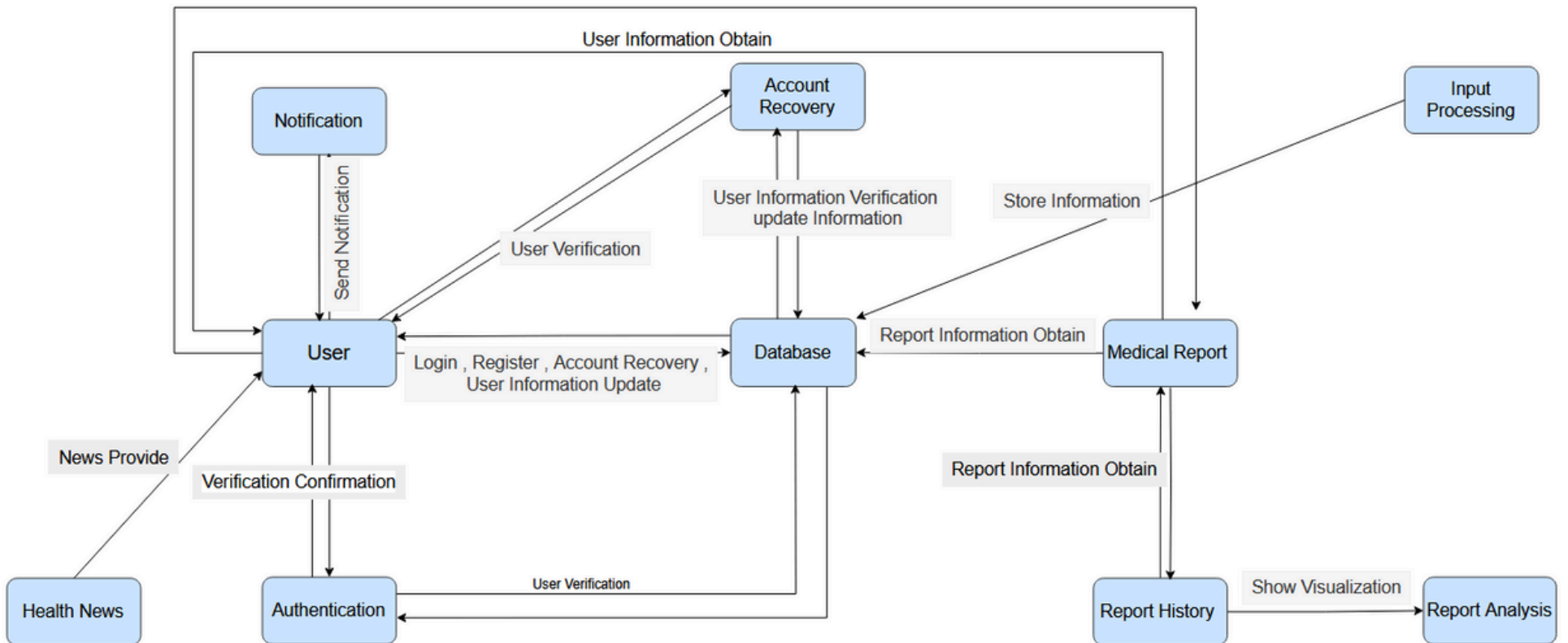
Class-10: Health news

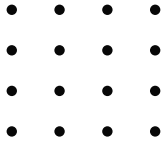


Class-10: Health news

| Class : Health news | |
|---------------------|---|
| Attribute | Methods |
| - new id - news | get_daily_news(), send_news_to_user(), |
| Responsibilities | Collaborator class |
| Send News | User |

CRC Diagram

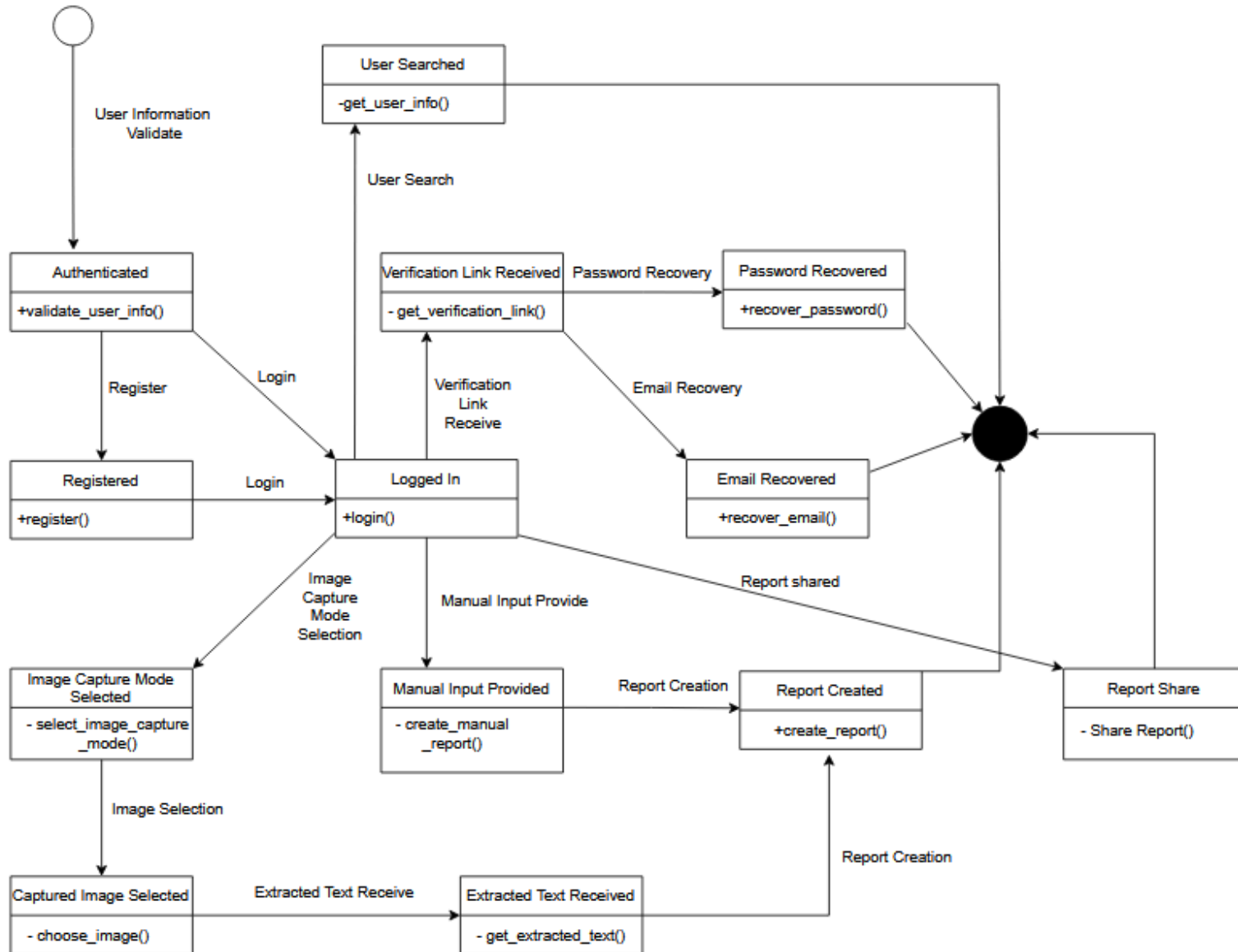




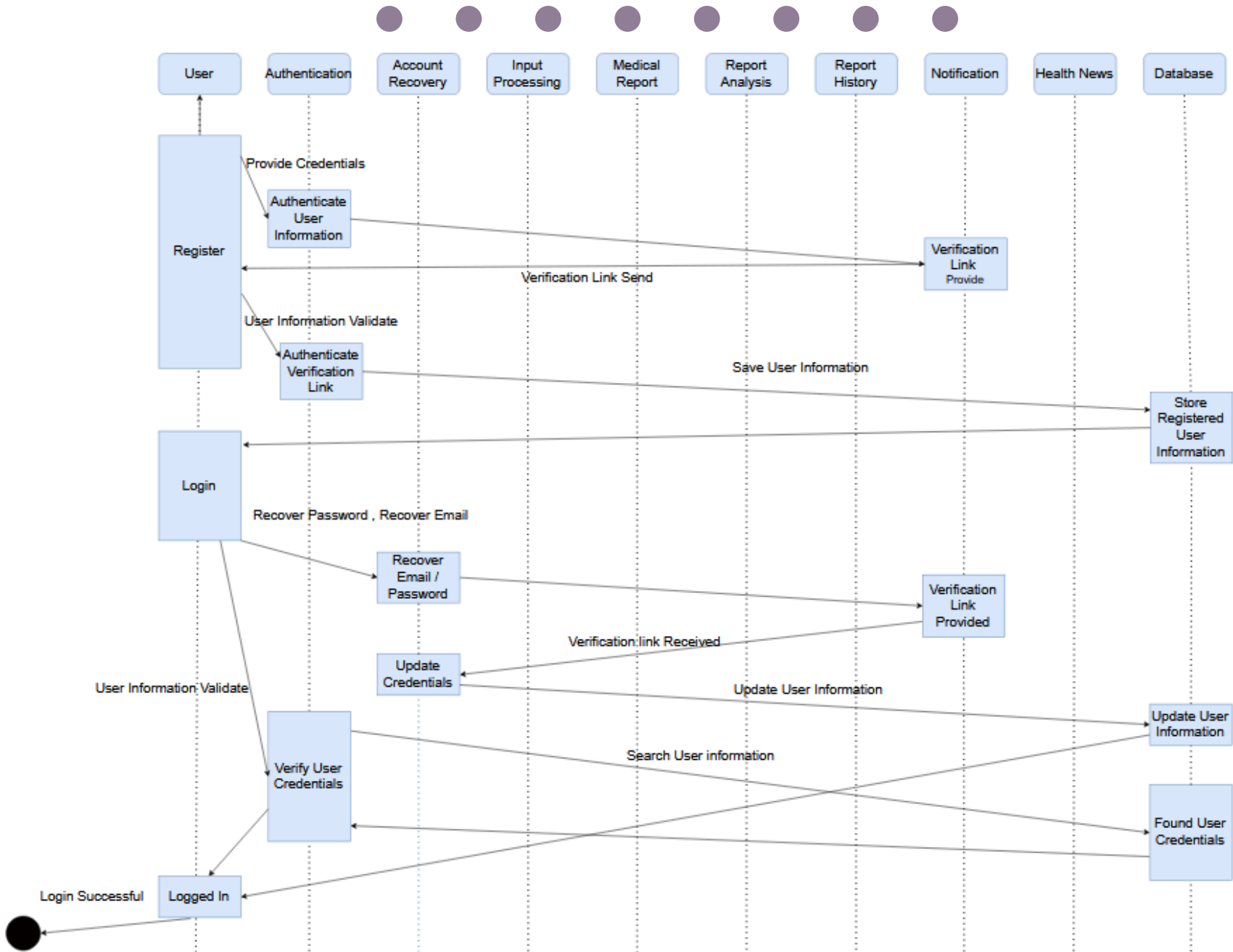
Behavioral Modeling



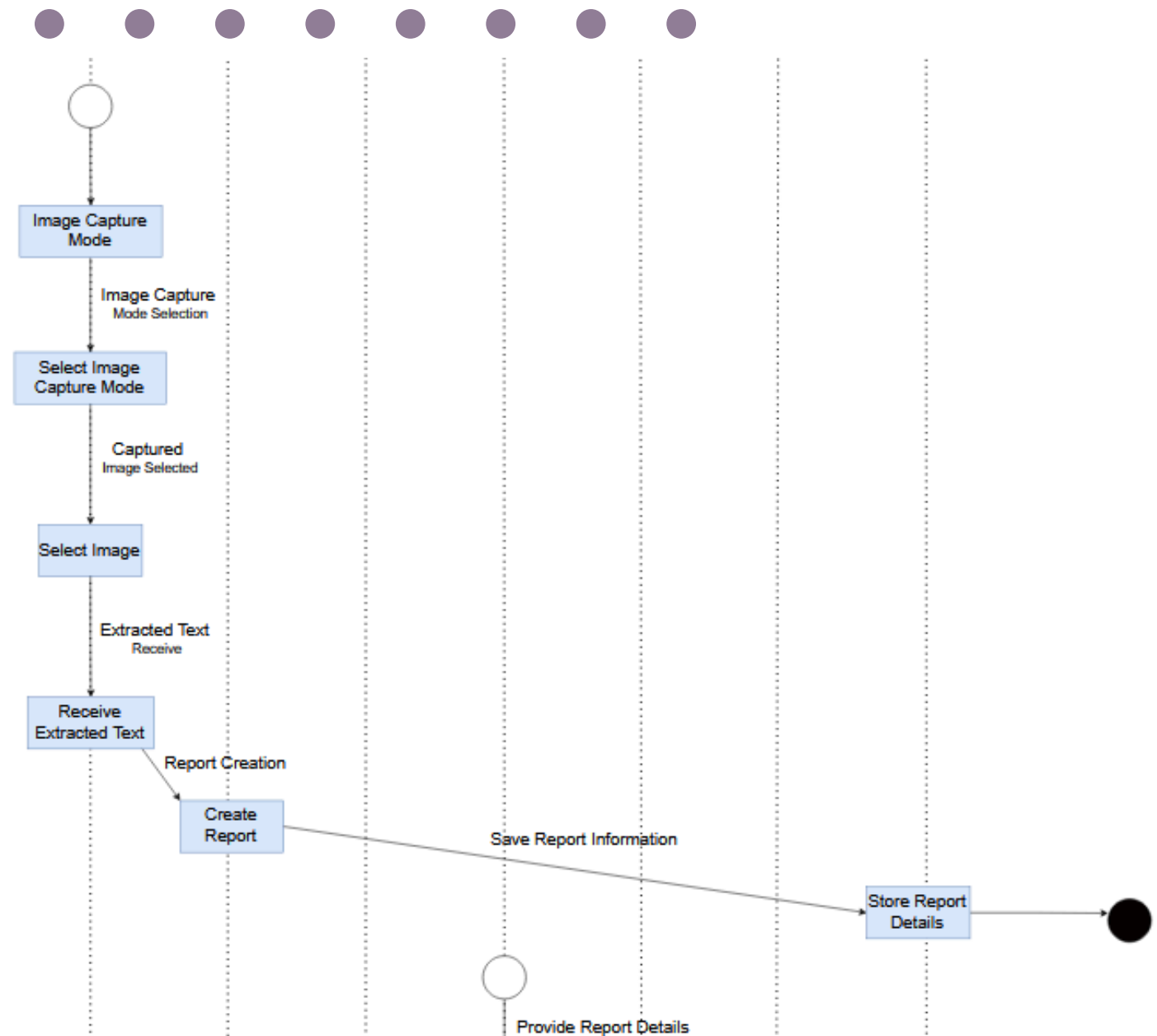
State Transition Diagram



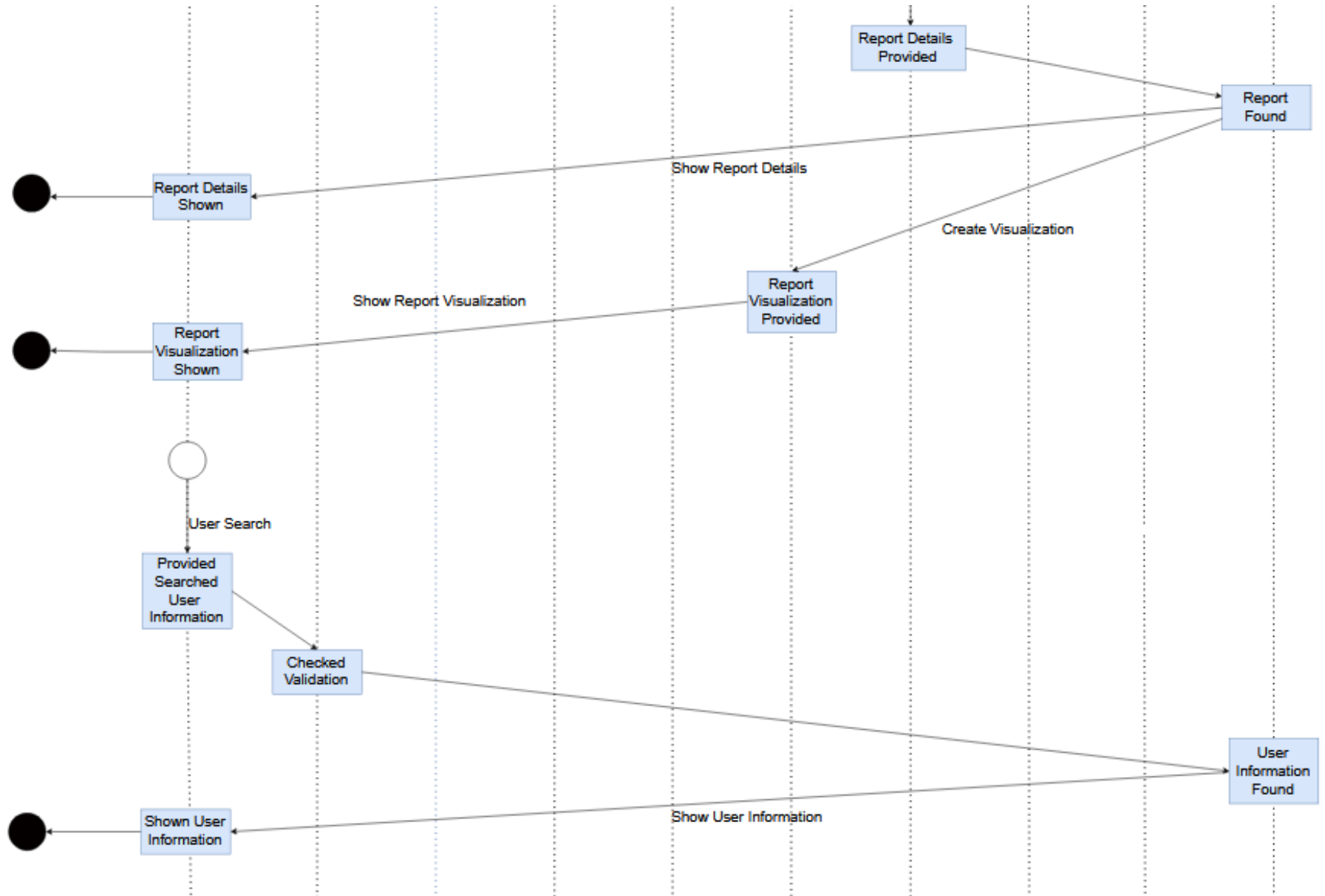
Sequence Diagram



Sequence Diagram



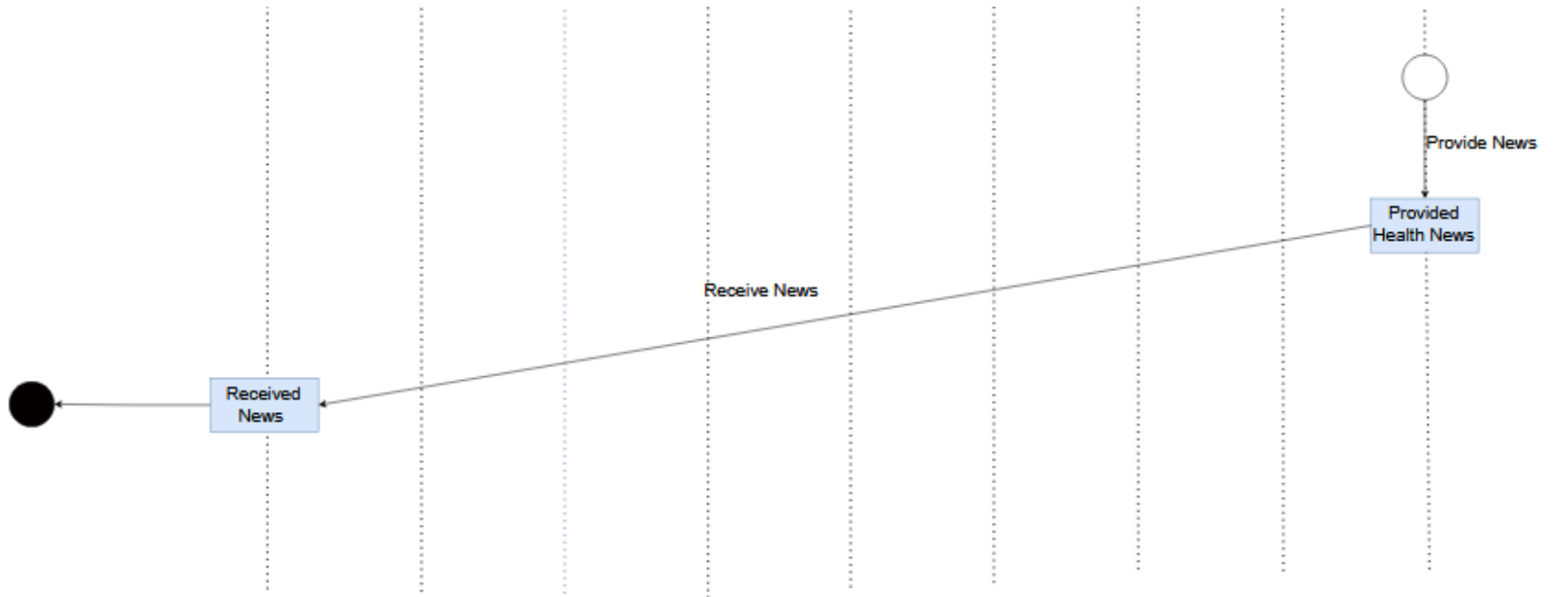
Sequence Diagram

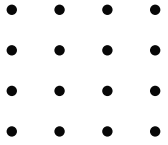


Sequence Diagram



Sequence Diagram



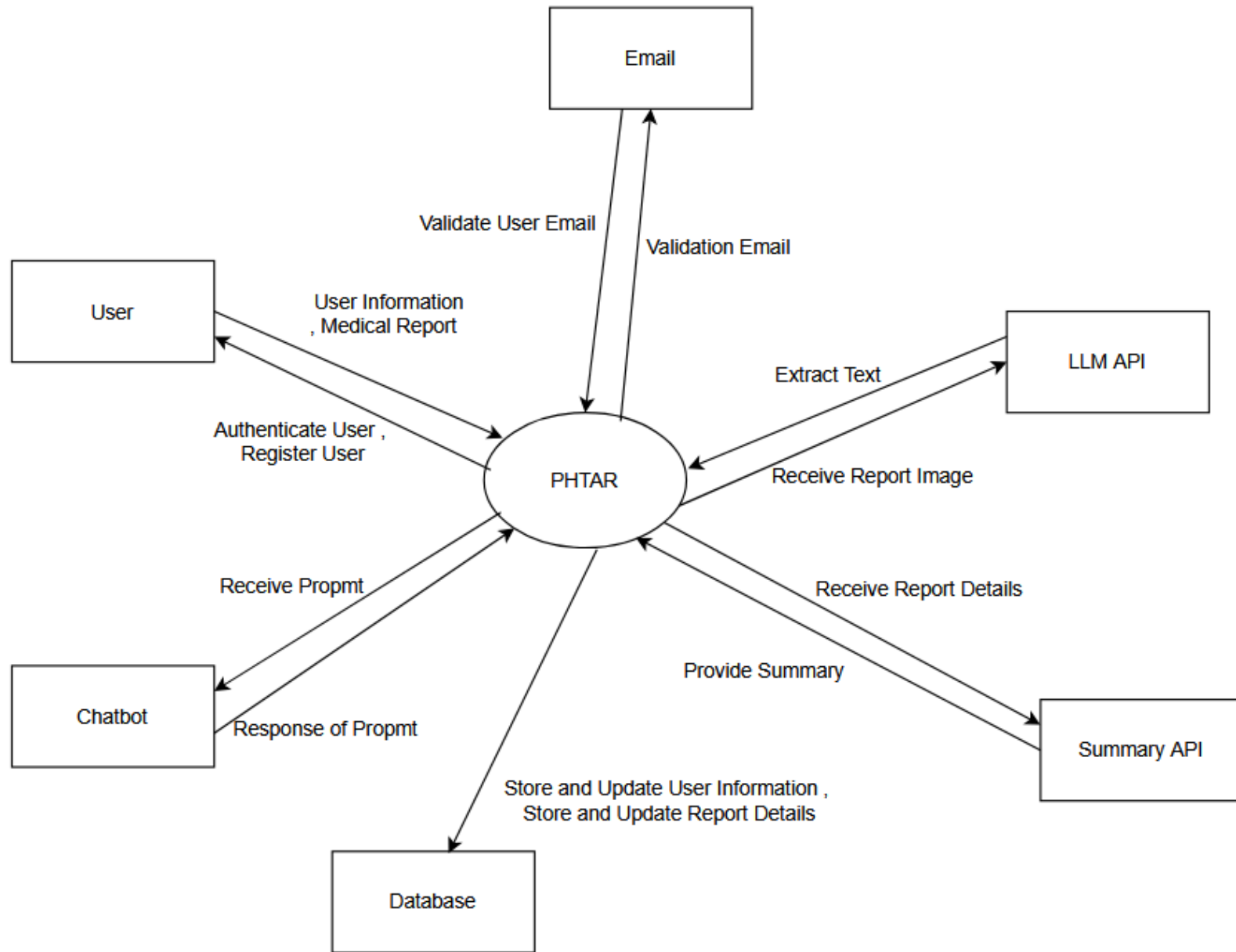


Data Flow Diagram



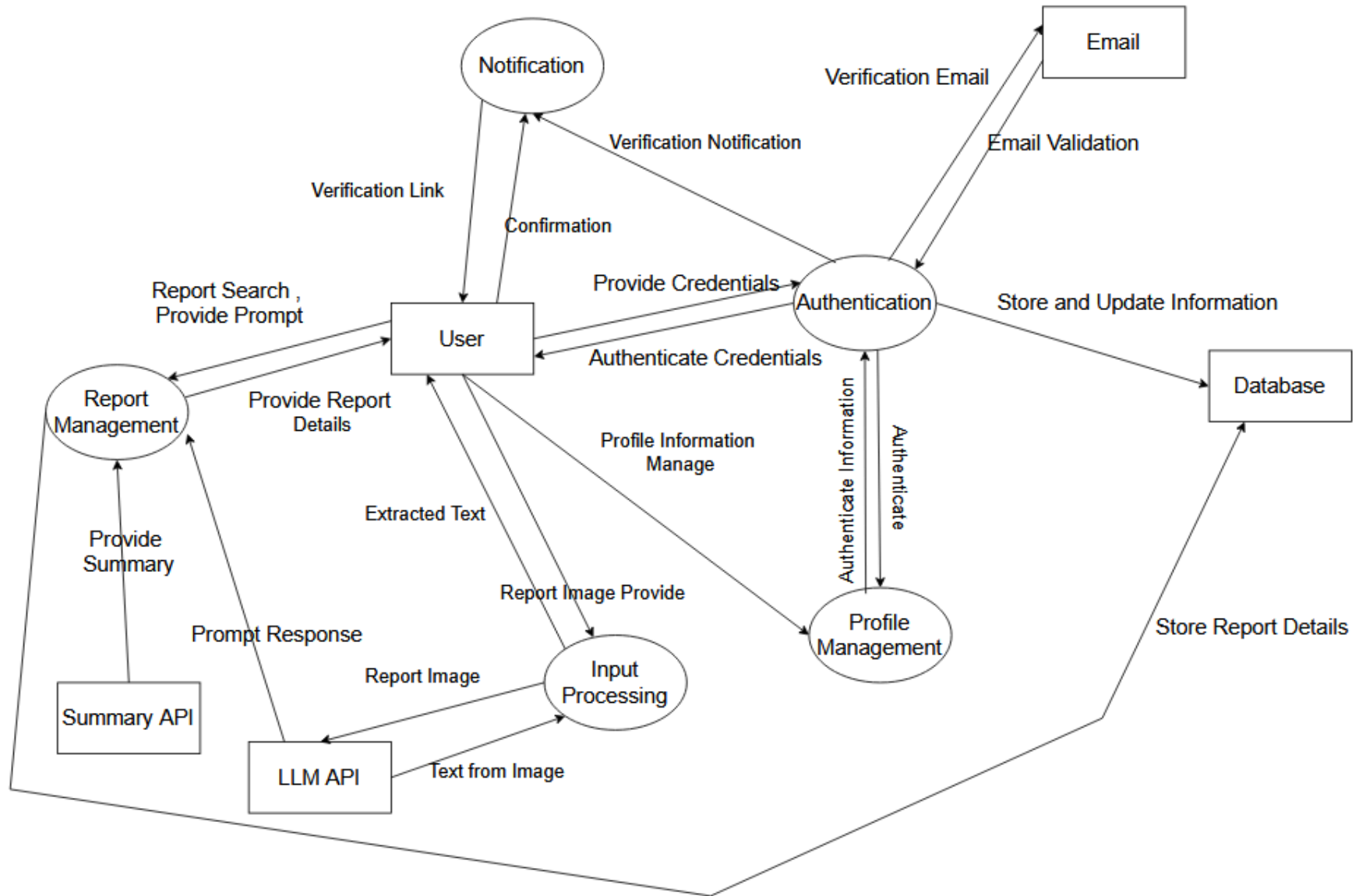
DFD level 0

PHTAR



DFD level 1

PHTAR





Thank You

