Assignments - 2:

Main Idea: Safety

Epic 1: Providing safety to the elders homes through equipment such as camera monitoring, smoke detection and break-in detection. The camera monitoring system is capable of recording and storing footage while the smoke detections system includes CO2 and carbon monoxide detection. The alarm system includes perimeter motion detection, alarm for break in attempts for doors and windows and a simple door unlocking system.

- Providing safety to elderly through proper camera monitoring. Camera monitoring includes.
    - ✔ Upload of camera footage
    - ✔ Record and store footage for reference
    - ✔ Directly connect with mobile and other monitors in the house with camera
- Smoke detection includes.
    - ✔ CO2 and carbon monoxide detection,
    - ✔ alarm system.
- Break in detection includes:
    - ✔ Perimeter motion detection, alarm for break in attempts for doors and windows.

    - ✔ Door locking and unlocking system

Main idea: Calls & Connections:

Epic 2: Develop a mobile app that can be used for Emergency and non-Emergency calls. The app is to be downloaded by the seniors as well as their immediate family members and family doctors. Family members and family doctors are restricted to only receiving calls and alerts. Family members, family doctors and app technicians can be contacted at the press of a button to ensure straightforward usability for users.

   Seniors can use the mobile app for:

- Emergency uses:
    - ✔ Fire,
    - ✔ Urgent Health issues
    - ✔ Theft in house

- Non-emergency options include:
    - ✔ Connection with family doctor
    - ✔ Call to friends.
    - ✔ Call to family members.
- Mobile app can be used to:
    - ✔ find some online friends via text or video call.
- Contact system administration.
    - ✔ For reporting bugs, spam or errors in the app.
    - ✔ Asking for assistance in solving a problem with the app
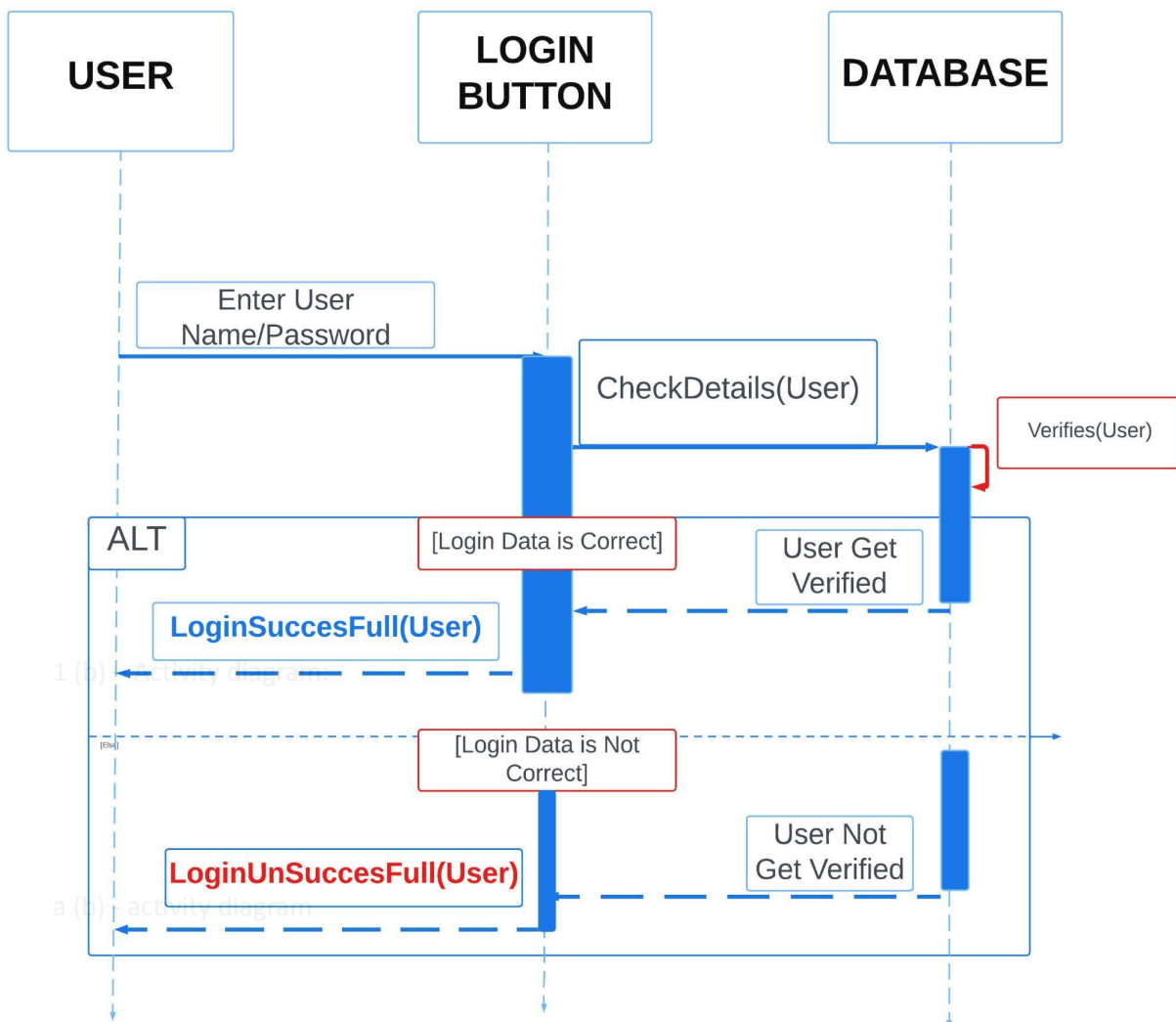
1.Use Case Diagram for Epic 2:
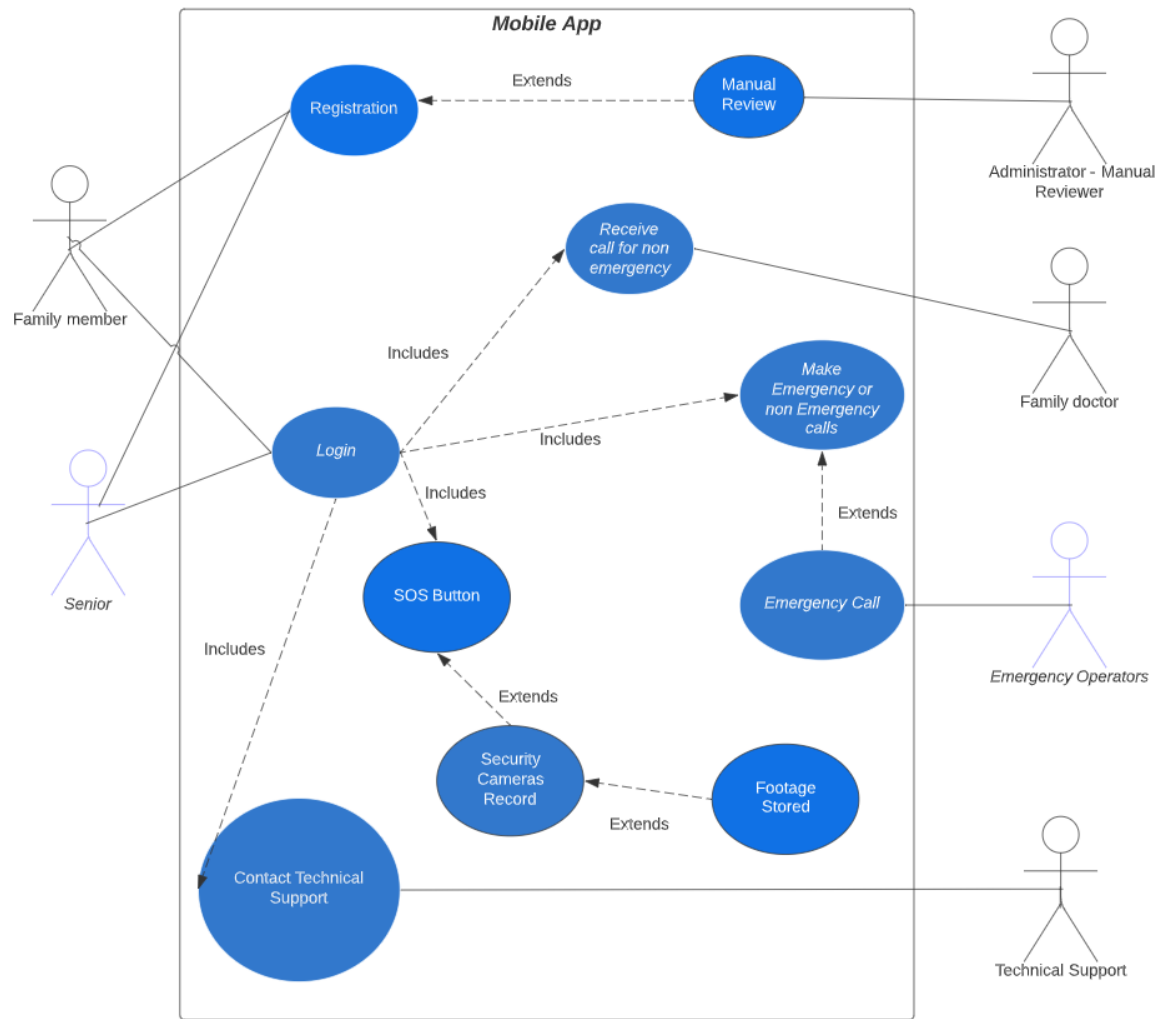
1(a). Sequence Diagram:
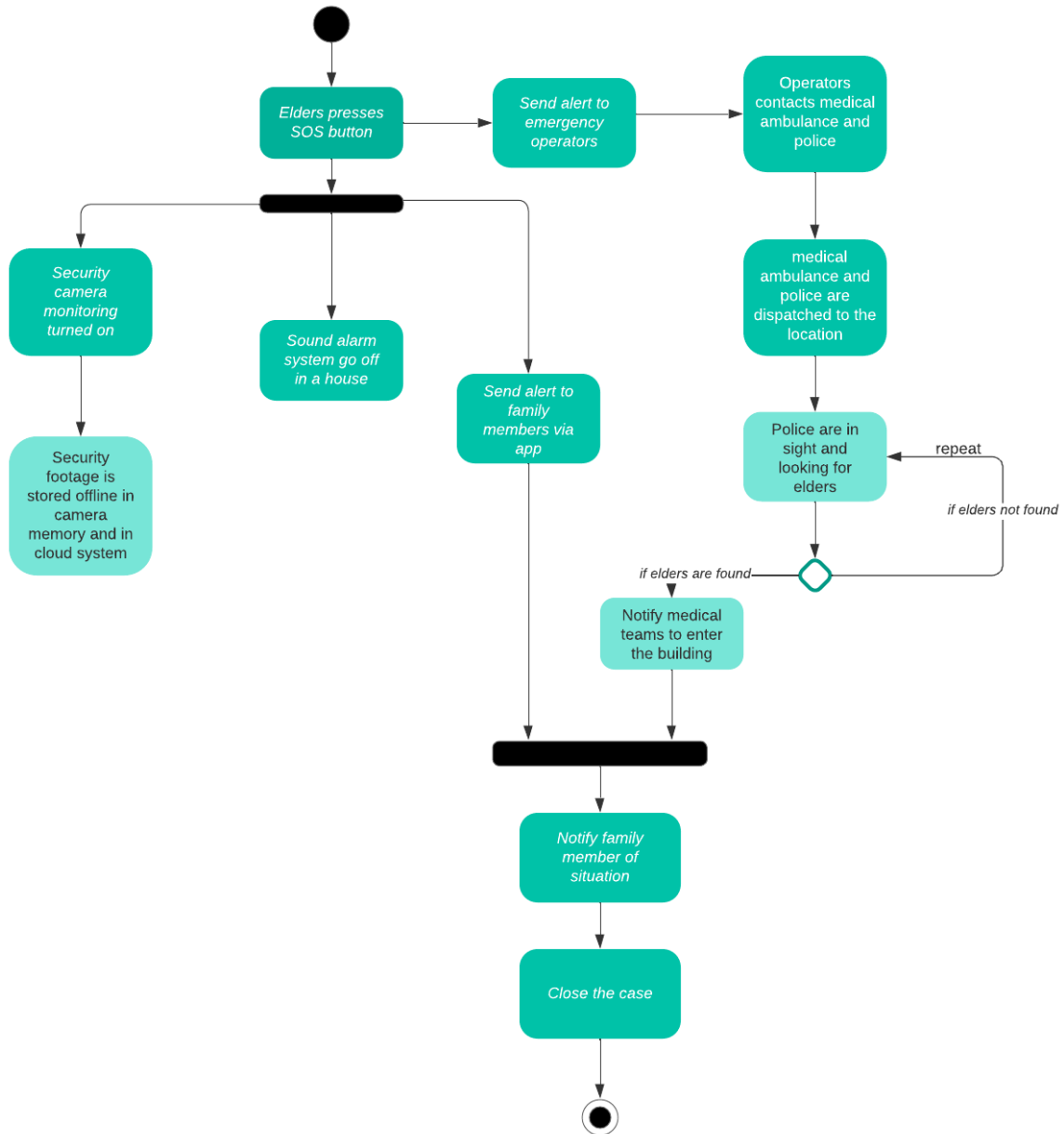
Use Case : User tries to login on mobile app

- **Step1:** Primary user enters their user name and password and presses the Login Button.
- **Step2:** The app authenticates the user's details and verifies it from the system's stored database.
- **Step3:** The database response:
  - If the system verifies the credentials the user can login to the app.
  - Else, the system sends the user a message and clears the field for the re-entry of user credentials.

1 (b) - Activity diagram

2.0 Activity diagram

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- Elders presses SOS button
- Send alert to emergency operators
- Operators contacts medical ambulance and police
- Security camera monitoring turned on
- Sound alarm system go off in a house
- Send alert to family members via app
- medical ambulance and police are dispatched to the location
- Security footage is stored offline in camera memory and in cloud system
- Police are in sight and looking for elders
- repeat
- if elders not found
- if elders are found
- Notify medical teams to enter the building
- Notify family member of situation
- Close the case

1 (c) – Text description:

- See text description files uploaded to repository

Part - 4: User Stories:

Epic 2: Develop a mobile app that can be used for Emergency and non-Emergency Calls

User Story 1:

As an elderly person with very low memory capabilities, I want to call my friends and family members with one click on my mobile app so that I do not have to remember all my different numbers.

Acceptance criteria: GHERKIN

Scenario: Quickly call friends and family members through the mobile app.

Given: I am elder person with very low memory

If   I click on name of my friend or family member on my mobile app

Then it should do a voice call to my friends or family members.

User Story 2:

As an elderly person with beginner level knowledge of technology, I want to forward unknown calls to my family members so that I am not misled by unknown persons asking about money or bank details.

Acceptance criteria: GHERKIN

Given: I am elder person with very less understanding of technology

If   Any person calls on my mobile number who is unknown

AND   ask about bank details or other information.

Then   The call should be forwarded to my family.

User story 3:

I am an elderly person who has woken up in distress and I am experiencing trouble breathing and speaking. I am unable to talk on the phone. I want to contact emergency services as soon as possible.

Given: I am an elderly person who is facing a medical emergency

And: I am unable to talk.

When: I press the emergency SOS button on my mobile app

Then: the app will directly contact an emergency operator with an SOS alert

And: my home monitoring system will begin recording and storing footage of my emergency situation.

As an elder using the app I want to report a bug I found when calling my family members. I want to contact a technician to fix the issue so that I can talk to my family.

Acceptance criteria: GHERKIN

Given: An elder who cannot fix an issue while calling family members

If I click on the call the technician button

Then A ticket will be opened, and a technician will attempt to solve my technical issue.

if   the technician can not solve the issue, it is escalated to a senior technician.

Part - 5 - EARS:

1. Ubiquitous Requirements:

Examples:

    I.   **The mobile app shall be available on the app store.**

2. State Driven Requirements:

Examples:

    I.   **While the user is logged out, the login feature shall show a prompt that says "please enter username/password".**

3. Event Driven Requirements:

Example:

    I.   **When smoke is detected, the alarm shall ring and alert emergency services.**

4. Optional feature Requirements:

Example:

    I.   **Where the senior has a family doctor, the app shall display the family doctor as a call option.**

5. Unwanted behaviour Requirements:

Example:

    I.   **If an unknown or spam number calls the elder, the mobile app shall forward the call to the family members and record the calls.**

6. Complex Requirements:

Examples:

    I.   **While medical registration information has not been reviewed, when the senior presses the SOS button, the app shall not respond to emergency calls.**