PROJECT NAME: [Ghaya Application]

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PHASE: 1

1.1 INTRODUCTION:

The first stage contains a definition of the problem, stakeholders, user requirements, system requirements, and non-functional requirements of the system.

1.2PROJECT DESCRIPTION AND PURPOSE:

The application text reading for blind individuals helps overcome challenges in reading written texts, accessing essential information, reading their own writings, achieving independence, and experiencing a reading process similar to sighted individuals. The application can also rely on volunteer assistance, granting them the freedom to choose how they provide support.

1.3STAKEHOLDERS:

1. Blind individuals
2. Visually impaired individuals
3. Children
4. People with disabilities
5. volunteer

1.4 FUNCTIONAL REQUIRMENTS:

Write the Functional Requirements of proposed system in terms of User Requirements and System Requirements

1.4.1 USER REQUERMENTS:

1. Users and volunteers will register in application.
2. Users and volunteers can login.
3. Users can choose either the camera icon or the volunteer icon.
4. Users can capture text, in the camera icon.
5. Users can select the volunteer icon and choose from available volunteers.
6. Users can call the volunteers.
7. Volunteers can receive user communications.

1.4.2 SYSTEM REQUERMENTS:

1.1 personal info

1.2 System will make users choose to be regular user or a volunteer.

1.3 The system must include the volunteer for the volunteer field.

2.1The system must allow the user to log in via the face fingerprint and the fingerprint.

2.2 The system must allow the volunteer to log in via e -mail, the eight -box password and username.

3.1 The system must be asked to choose one of the two icons (the camera, the volunteer), after registration of the user.

4.1 The system must if the user chooses the camera icon, the user is directed towards the text to be captured.

4.2The system must after taking the image. The text is converted into an audible text.

5.1The system must provide the names of the volunteers and read it to the user, if the volunteer icon is chosen.

5.2 The system must send user requests to the volunteer.

6.1 The system must allow the contact box to communicate between the user and the volunteer.

6.2 The system will show a message of thanking both the user and the volunteer for choosing the application after the end of the call.

7.1 The system must send the volunteer's response to the user's request if the call is accepted or not accepted.

7.2 The system must allow him access to the call if a volunteer wants to contact a user.

7.3 The system must return the volunteer to the volunteer list if he is unable to communicate with the user.

1.5 NON-FUNCTIONAL REQUERMENTS:

1. The application should be capable of reading texts with high accuracy and converting them into understandable text in a correct manner. Errors in speech recognition and interpretation should be avoided.

2. The application text reading should be done quickly and efficiently to provide a smooth user experience. There may be a need to improve the performance of the application to ensure its responsiveness and optimal use of system resources.

3. The application the application will handle Personal data and user information with confidentiality and security. The application should be secured through encryption and the implementation of appropriate security practices.
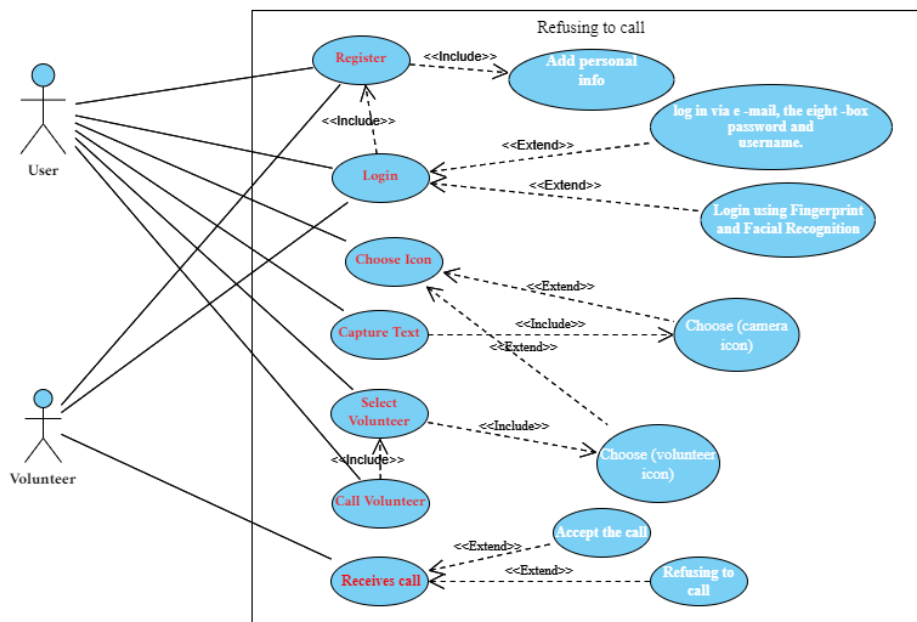
PHASE: 2

2.1 INTRODUCTION:

The second stage contains a set of diagrams that provide a model of the project in a detailed and clear way for the system's operations to be used when needed.

2.2 SYSTEM DIAGRAMS:

2.2.1 USE CASE DIAGRAM

2.2.2 USE CASE DESCRIPTION

System	Ghaya System
Use Case	**Register**
Actor	Users and Volunteers
Description	• Users and volunteers, they will register in the application and add personal info.
Preconditions	none
Postconditions	Users and Volunteers, they registered in the application.

System	Ghaya System

Use Case	**Login**
Actor	Users and Volunteers
Description	• Users log in using fingerprint and facial recognition. • Volunteers log in via e -mail, the eight -box password and username.
Preconditions	Users and volunteers, they registered in the application.
Postconditions	Users and volunteers, they logged in successfully.

System	Ghaya System
Use Case	**Choose Camera Icon**
Actor	Users
Description	• Users can choose either the camera icon or the volunteer icon.
Preconditions	User is logged in successfully.
Postconditions	User is presented with the chosen icon.

System	Ghaya System
Use Case	**Capture Text**
Actor	Users
Description	• Users can capture text using the camera icon.
Preconditions	User has chosen the camera icon.
Postconditions	Text is captured and displayed to the user.

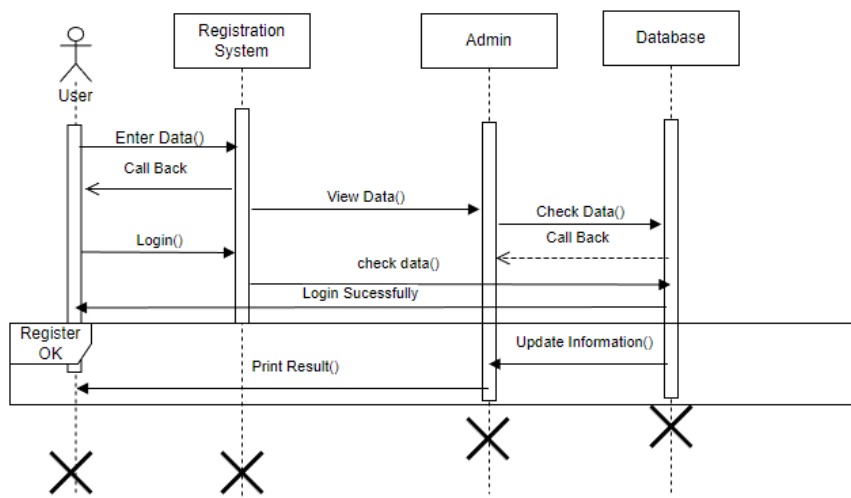| System	Ghaya System
Use Case	**Choose Volunteer Icon**
Actor	Users
Description	• Users can choose from available volunteers using the volunteer icon.
Preconditions	User is logged in successfully.
Postconditions	User is presented with a list of available volunteers.

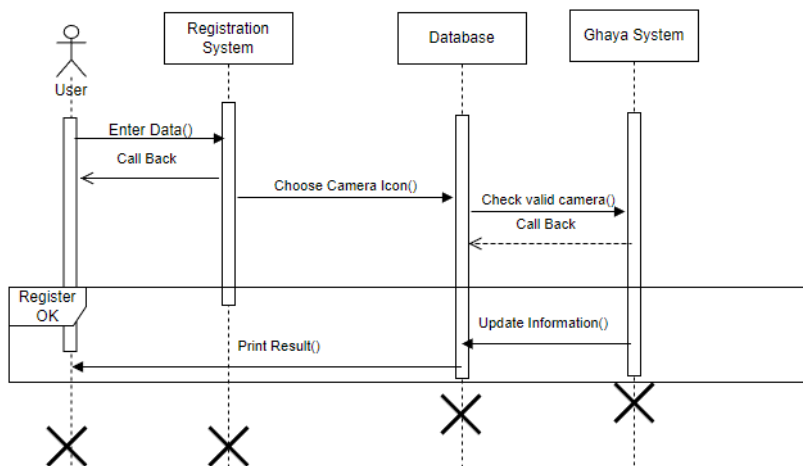| System	Ghaya System
Use Case	**Call Volunteer**
Actor	Users
Description	• Users can call the selected volunteer.
Preconditions	User has chosen a volunteer icon and selected a volunteer.
Postconditions	Call is initiated to the selected volunteer.

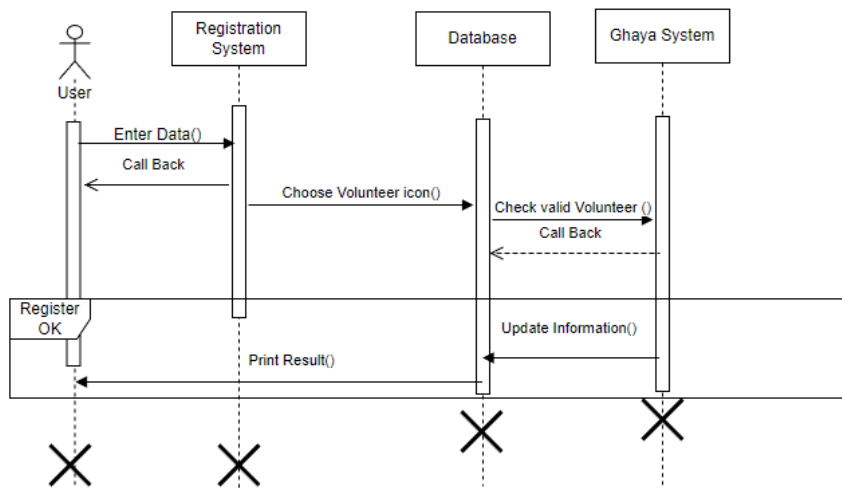| System	Ghaya System
Use Case	**Receives call**
Actor	Volunteers
Description	• The volunteer sends a response to the user with acceptance and communicates with the user • Volunteer, in the event of refusing the call, a message is sent to the user because of the refusal • The volunteer is returned if he is refused to the list of volunteers to wait for another user
Preconditions	The user has submitted a contact request
Postconditions	Contact between volunteer and user

2.2.3 SEQUENCE DIAGRAM

Sequance diagram of Registration and Login of User
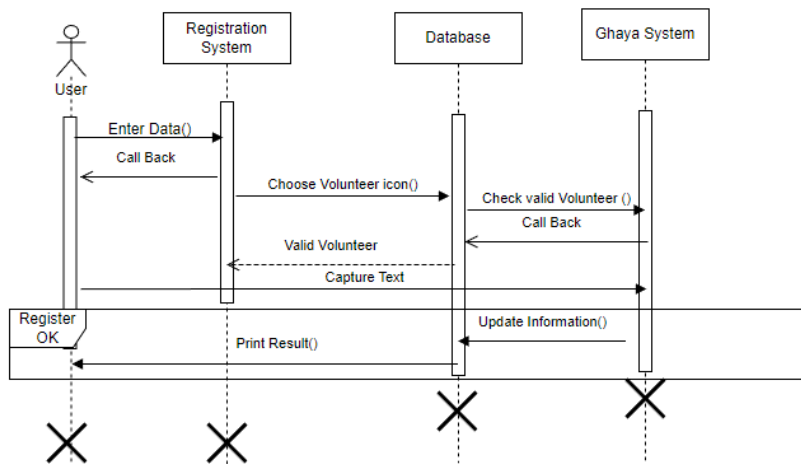

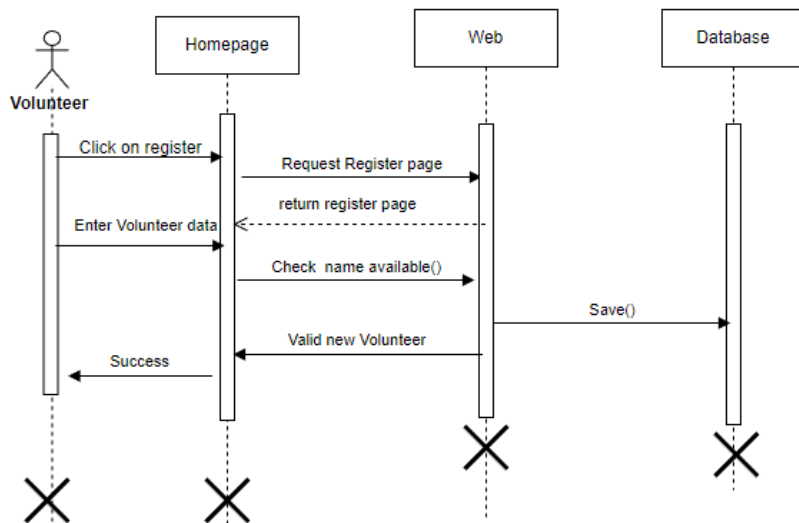Sequence diagram of choose camera icon in user
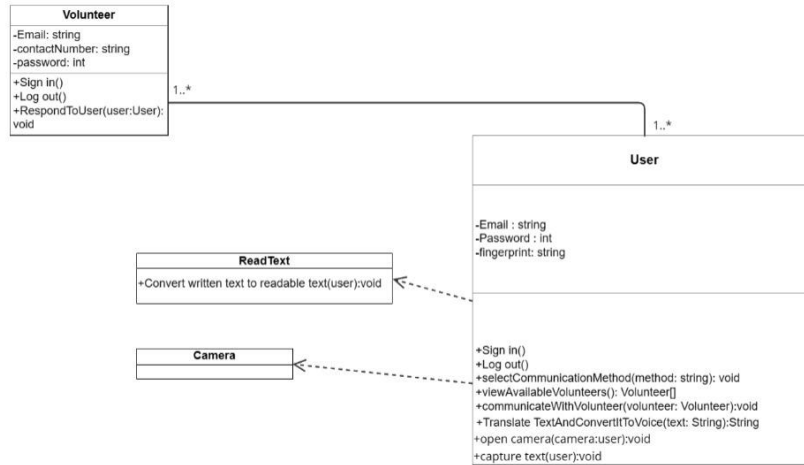
Sequence diagram of choose Volunteer icon in user.

Sequence diagram of choose Capture Text in user.
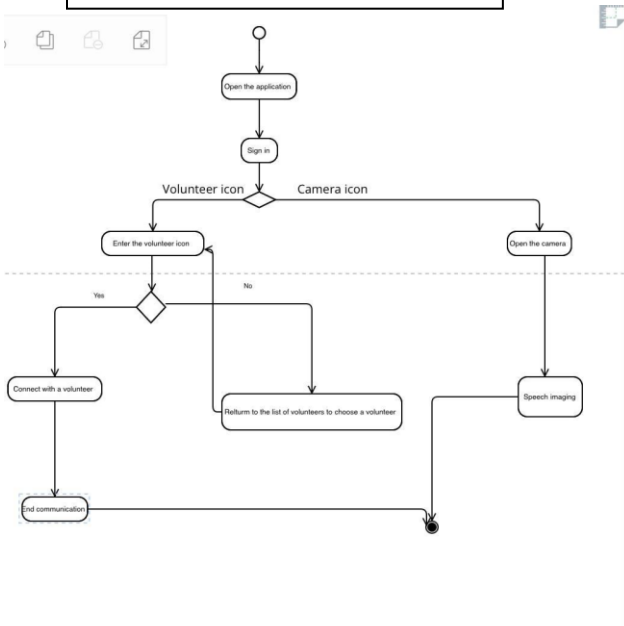

Sequance diagram of **Volunteer**

2.2.4 CLASS DIAGRAM

Volunteer
-Email: string
-contactNumber: string
-password: int
+Sign in()
+Log out()
+RespondToUser(user:User): void

User
-Email : string
-Password : int
-fingerprint: string
+Sign in()
+Log out()
+selectCommunicationMethod(method: string): void
+viewAvailableVolunteers(): Volunteer[]
+communicateWithVolunteer(volunteer: Volunteer):void
+Translate TextAndConvertItToVoice(text: String):String
+open camera(camera:user):void
+capture text(user):void

ReadText
+Convert written text to readable text(user):void
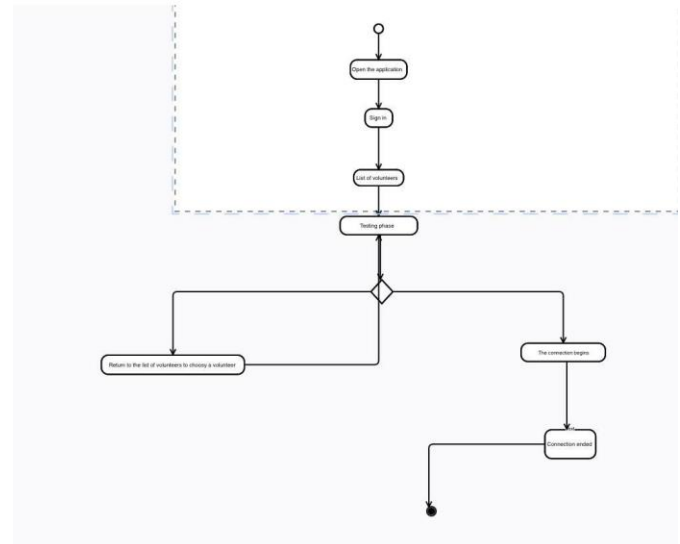
Camera

2.2.5 ACTIVITY DIAGRAM

User Activity diagram

Volunteer Activity diagram.

2.3 CONCLUSION:

- An application that helps blind people meet their special needs.
- Stakeholders include the blind, visually impaired, and volunteers.
- The user's requirements include logging in, creating optional icons, transcribing texts and converting them to audio text.
- We used diagrams to clearly detail the processes used in the application.

2.4 FUTURE WORK:

- One of the future works is to develop the application to a global scale and expand the scope of the application to serve a larger number of users and improve the quality in terms of creating other additional operations.

REFERENCES:

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2. https://www.wrike.com/blog/what-is-a-use-case/#What-is-a-use-case-model
3. http://draw.io