

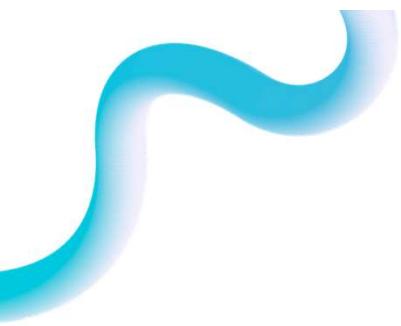
Are you there?

Hi!

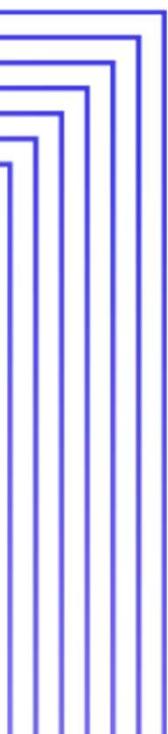


Smart Medicine Donation Platform

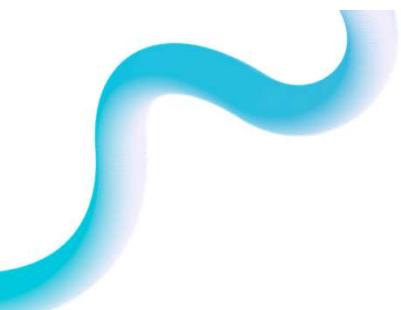
#for_humanity



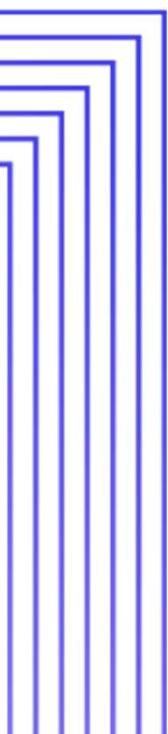
Supervised by



- ❖ Dr. Ahmed Said
 - ❖ T.A. Abdelrahman Essam
 - ❖ T.A. Ahmed Magdy
- 



Team Members



- ❖ **Islam Essam Samir Mohamed**
 - ❖ **Mostafa Ahmed Ali Ahmed**
 - ❖ **El-Syed Ahmed Abdalla El-Borei**
 - ❖ **Yousef Ahmed Safy Eldin Ahmed**
 - ❖ **Tamer Adel Sayed Saied**
 - ❖ **Rahma Abdallah Gaber Abdallah Seliman**
 - ❖ **Ahmed Mohamed Saad Ahmed**
 - ❖ **David Emad Abdel Kodous Wanis**
- 

Agenda

- 01 Problem Definition**
- 02 Objectives**
- 03 Project Outline**
- 04 Background**
- 05 Related Work**
- 06 Approach**
- 07 Project Planning**
- 08 System Design**
- 09 UI&UX Design**
- 10 Implementation**
- 11 Testing**
- 12 Future work**
- 13 Conclusion**

01

Problem Definition



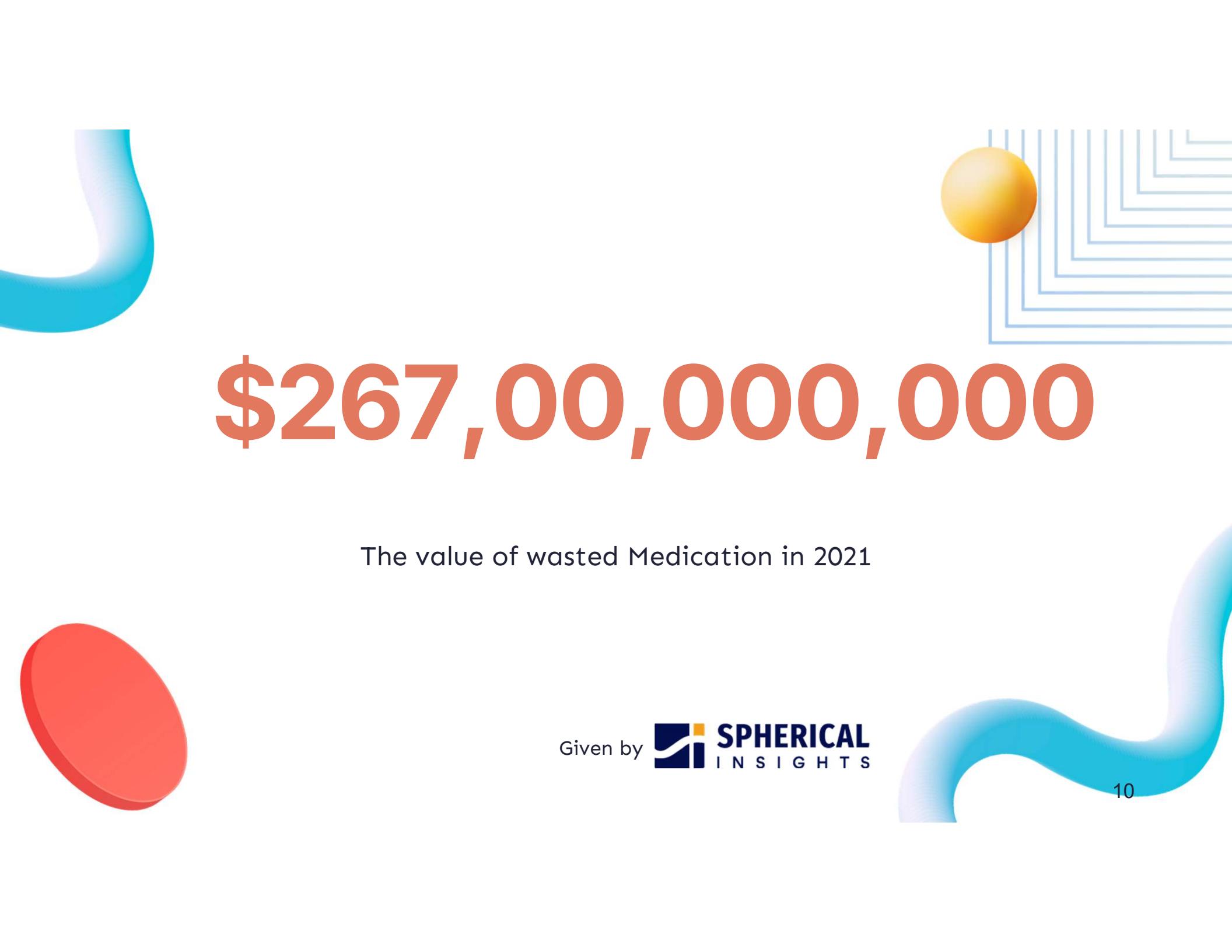


Problem Definition

**Who does not use
Medications ?**

Problem Definition

- ❖ Pharmaceutical industry
- ❖ Medication waste
- ❖ Public health
- ❖ Current solutions limitation
- ❖ Inaccessibility issues



\$267,00,000,000

The value of wasted Medication in 2021

Given by



02

Objectives



Objectives

1 Simplify the donation process

2 Validate the donation process

3 Simplify the request process

4 Match donations with needs

5 Facilitate secure and reliable delivery

6 Ensure safety and quality control

7 Establish standard guidelines for donation

AKREM

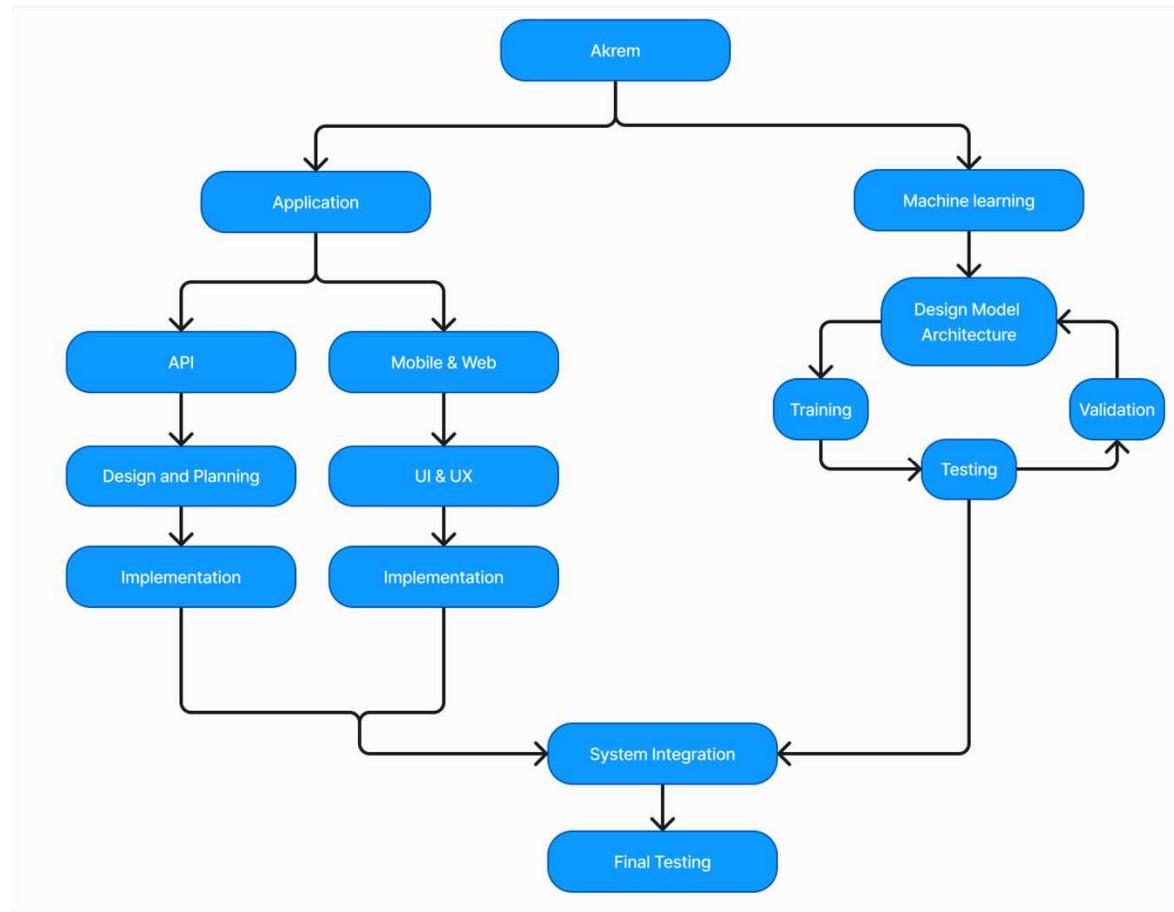


03

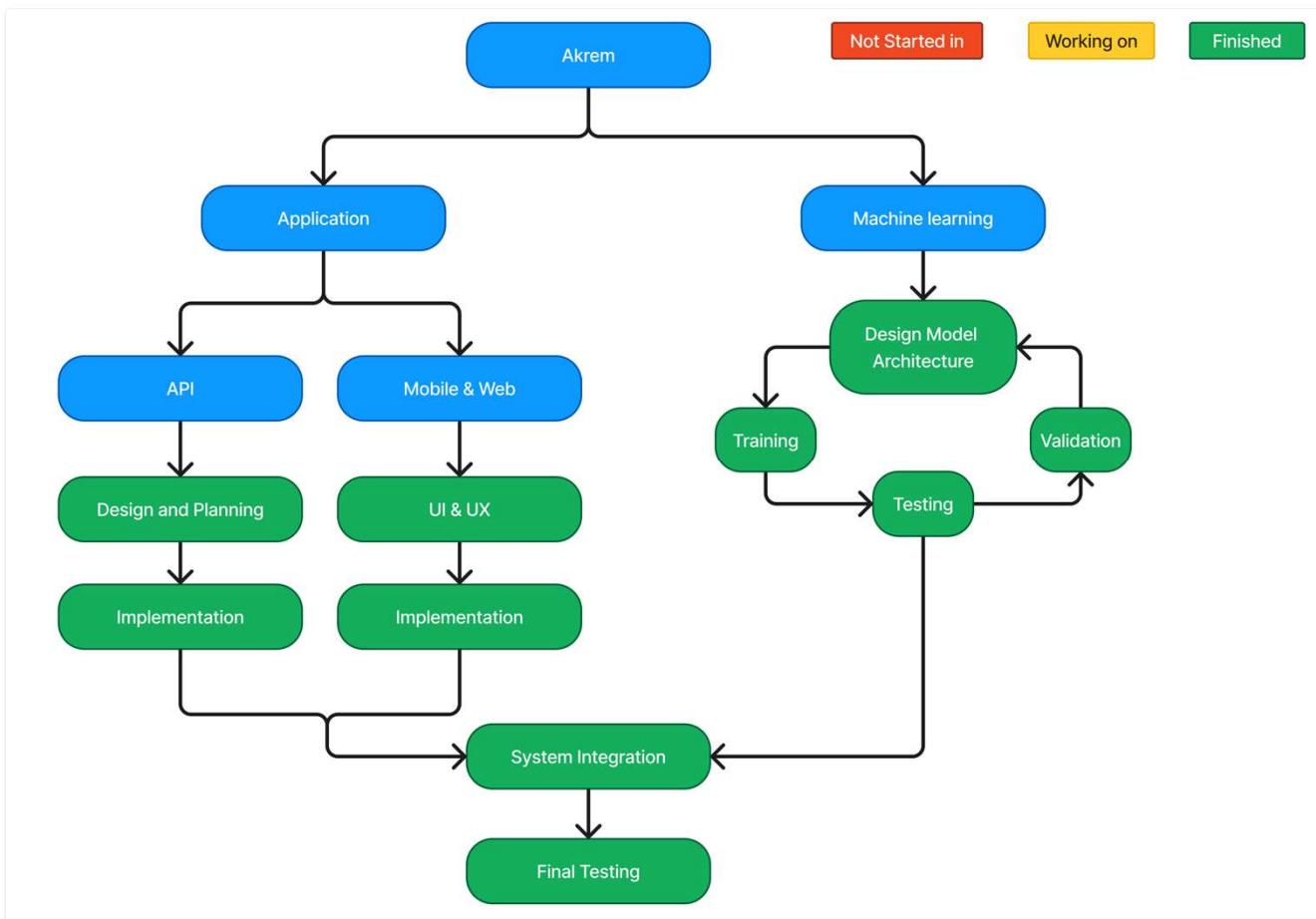
Project Outline



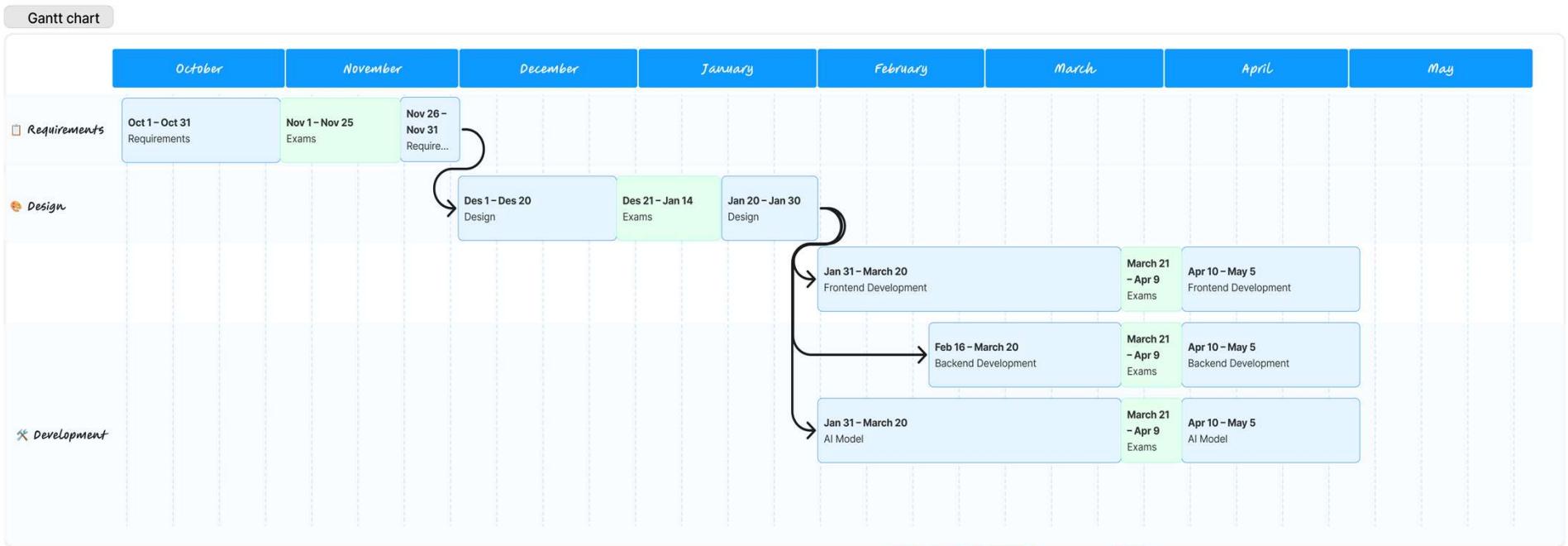
Project Outline



Project Outline



Project Gantt chart



04

Background





Background

Some Definitions:

- ❖ **Donor:** individuals who have unused or partially used medications that they generously choose to donate.
- ❖ **Patients:** individuals who benefit from the generosity of donors.



Background

Some Definitions:

- ❖ **Akrem Web App:** it's the Web application that help patent and donor.
- ❖ **Akrem delivery Mobile App:** it's the mobile application that help Akrem delivery man to improve its efficiency.



Background

Some Definitions:

- ❖ **Smart Donate Box:** Secure and accessible drop-off point for donors
- ❖ **Akrem Mobile App:** it's the mobile application that help patent and donor.



Background

Some Definitions:

- ❖ **Akrem Web admin App:** it's the Web application that help management to manage operations for Akrem platform.
- ❖ **Akrem Mobile App:** it's the mobile application that help patent and donor.



Background

Backend API and Database:

- ❖ **API**(Application Programming Interface): Explain in simple terms that the API acts like a messenger, connecting the website and apps with the database.
- ❖ **Database**: Describe it as a secure storage system where all user information, medication details, and donation records are kept organized.



Background

Backend API and Database:

- ❖ **Postman:** Allows us to rigorously test our API and ensure it's working correctly.
- ❖ **Swagger:** Helps us clearly document our API, making it easy for developers to understand and use.



Background

AI-Powered Medicine Identification:

- ❖ **Image Recognition:** Explain that the AI model uses advanced image recognition technology to quickly identify the medicine from a photo taken by the donor.
- ❖ **Accuracy and Efficiency:** Emphasize how this saves time, reduces errors, and ensures the right medications are matched with those in need.

05

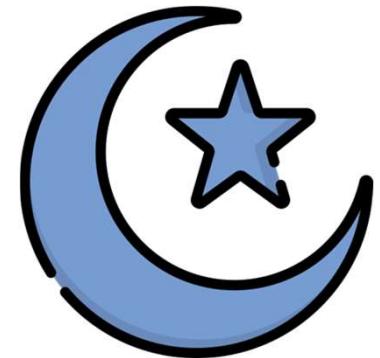
Related Work



Related Work Globally

Pre-20th Century:

- ❖ Religious groups.
- ❖ Communities organizations.





Related Work Globally

Traditional Models:

- ❖ **Pharmaceutical Donation Programs.**
- ❖ **Hospital and Clinic Donation Programs.**



Related Work Globally

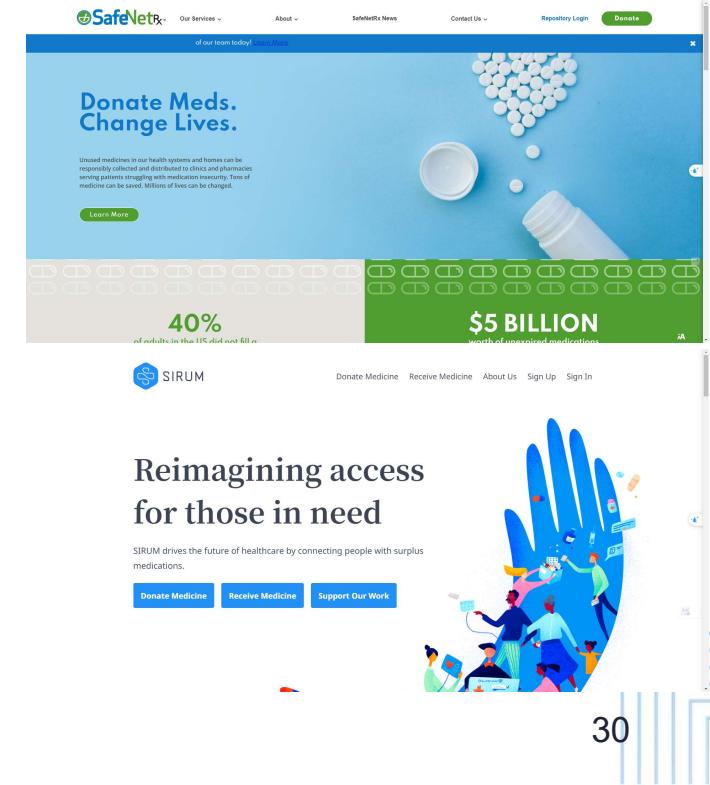
Traditional Models Limitations:

- ❖ **Limited Reach.**
- ❖ **Lack of Transparency.**
- ❖ **Inefficient Logistics.**

Related Work Globally

Non-Governmental Organizations:

- ❖ **SafeNetRx (Web)**
- ❖ **SIRUM (Web)**
- ❖ **Doctors Without Borders**
- ❖ **AmeriCares**
- ❖ **MAP International**



Related Work Egypt

The closest charities to us:

- ❖ Resala (رسالة)
- ❖ Medicine For All (الدواء للجميع)
- ❖ Elrousheta (الروشتة)



Related Work Difficulties

Challenges & Opportunities:

- ❖ **Lack of Trust**
- ❖ **Accessibility**
- ❖ **Weak Infrastructure**
- ❖ **Lack Technology**



06

Approach

Approach

- ❖ Mobile & Web APP
- ❖ Ensuring Medication Safety
- ❖ Streamlining Distribution
- ❖ Fostering Community Engagement

Approach

Akrem VS Others:

	Mobile App	Web App	AI model	Accessibility	Medication Validation	Delivery System	Community Engagement
Akrem	✓	✓		Online & offline options, convenient donation points	matching based on medication type and location	Efficient, reliable, and trackable delivery	Smart Donation Boxes increase visibility, awareness, and local involvement
Traditional Donation Programs	✗	✗	✗	Restricted to locations	manual matching	limited or unavailable,	Limited outreach
Existing Digital Platforms	✗	✓	✗	Dependent on internet	matching based on medication type and location	Dependent on partnerships with delivery	Dependent on online promotion

07

Project Planning

Project Allocation

Modern University for Technology and Information
Faculty of Computers & Artificial Intelligence

Department: Computer Science



ALLOCATION OF FINAL PROJECT

A- Basic Information:

- 1) Semester: Fall 2023 (Academic Year 2023-2024)
- 2) Field: Machine Learning – Web & Mobile Applications
- 3) Title of Project: **Smart Medicine Donation Platform**
- 4) Group members:
 - [1] Islam Essam Samir Mohamed
 - [2] Mostafa Ahmed Ali Ahmed
 - [3] El-Syed Ahmed Abdalla El-Borei
 - [4] Yousef Ahmed Safty Eldin Ahmed
 - [5] Tamer Adel Sayed Saeid
 - [6] Rahma Abdallah Gaber Abdallah Seliman
 - [7] Ahmed Mohamed Saad Ahmed
 - [8] David Emad Abdel Kodous Wanis
- 5) Supervisor: Dr. Ahmed Said
T.A. Abdelrahman Essam
- 6) Consultant(s): None
- 7) Allocation received on: August 2023
- 8) Expected Date of Submission: May 2024

B- Description Of the Task:

This medicine donation platform is about the collection of medicine, which is unused by the patient who recovers completely, and remaining medicines becomes waste, those medicine can be collected and used further by the needy. Through this platform (Web & mobile Apps), the user can donate medicines, which will further divide it among the needy. The medicines can be donated by providing images of the donated medicine or manually filling in the details.

Donations should benefit the recipient and meet the needs of the end-users and patients. These remaining medicines can be used by individuals, Non-profit Organizations (NGOs), and

Hospitals who are indeed for those medicines. By using this platform there will be less wastage of medicines.

C- Time Schedule:

No.	Date	Task	Assigned to
1	Oct. 2023	Project Initiation and Planning: <ul style="list-style-type: none"> • Define Project scope, objectives, and deliverables. • Identify Tools and Technologies • Create a detailed project plan, including tasks, milestones, and dependencies. • Breakdown the project into manageable tasks. 	All Students
2	Nov. 2023	Requirements Gathering and Analysis: <ul style="list-style-type: none"> • Gather and document functional and non-functional requirements. • Analyze requirements to identify potential challenges or gaps. 	All Students
3	Dec. 2023	System Design and Architecture: <ul style="list-style-type: none"> • Create high-level diagrams and more detailed designs. • Define system architecture. 	All Students
4	Feb 2024	Building Dataset	
		Prototyping applications UI/UX	
5	Mar. 2024	Modeling Training & Testing	
		App Implementation	
6	Apr. 2024	System Integration & Testing	All Students
7	May 2024	Project Documentation	All Students
8	June 2024	Final Project Presentation	All Students

Method Of Assessment:

- | | |
|--|-----|
| 1) Year Work (20% for each Semester) | 40% |
| 2) Project quality, presentation and oral discussion | 60% |

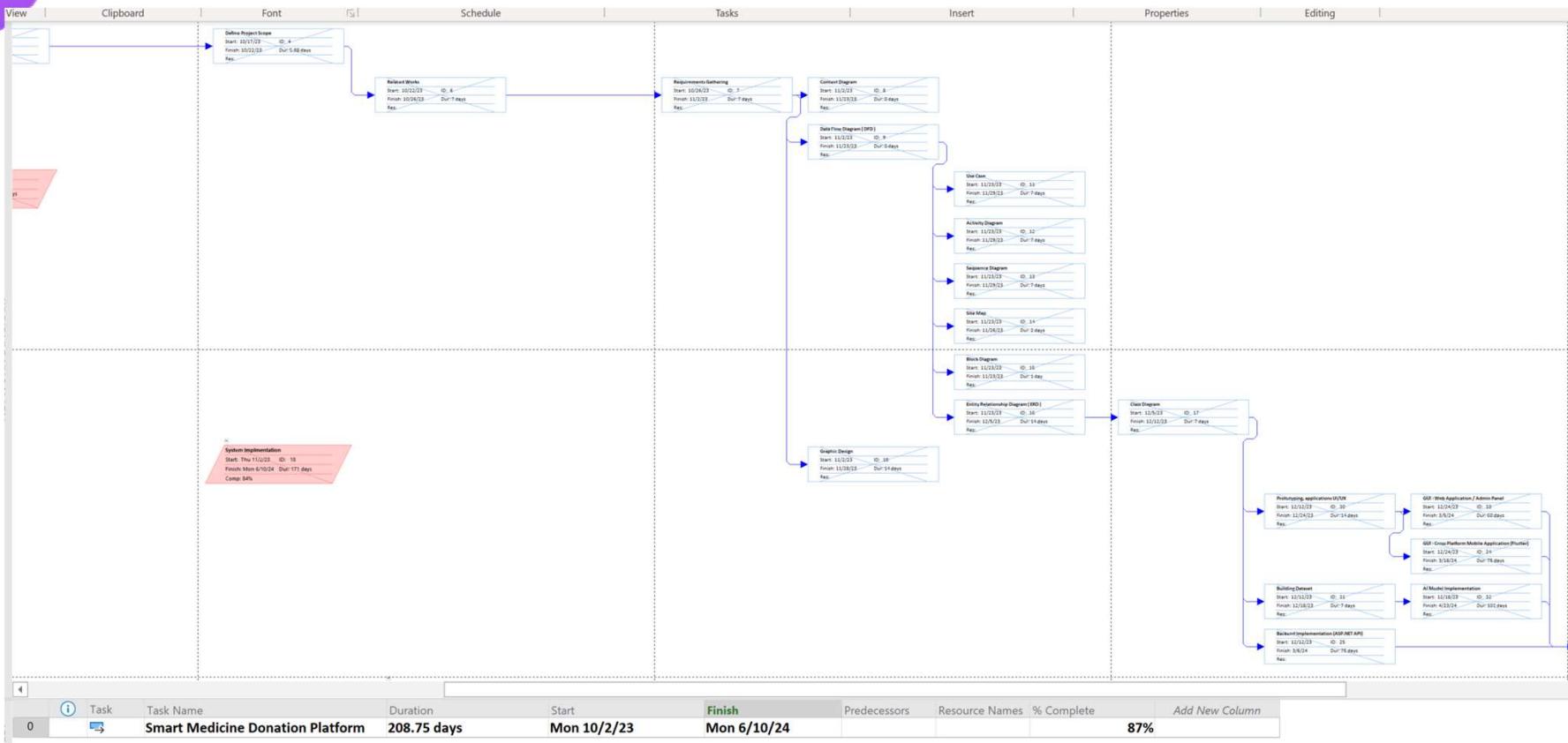
() () ()

(Supervisor) (Head Of Department) (Dean Of Faculty)

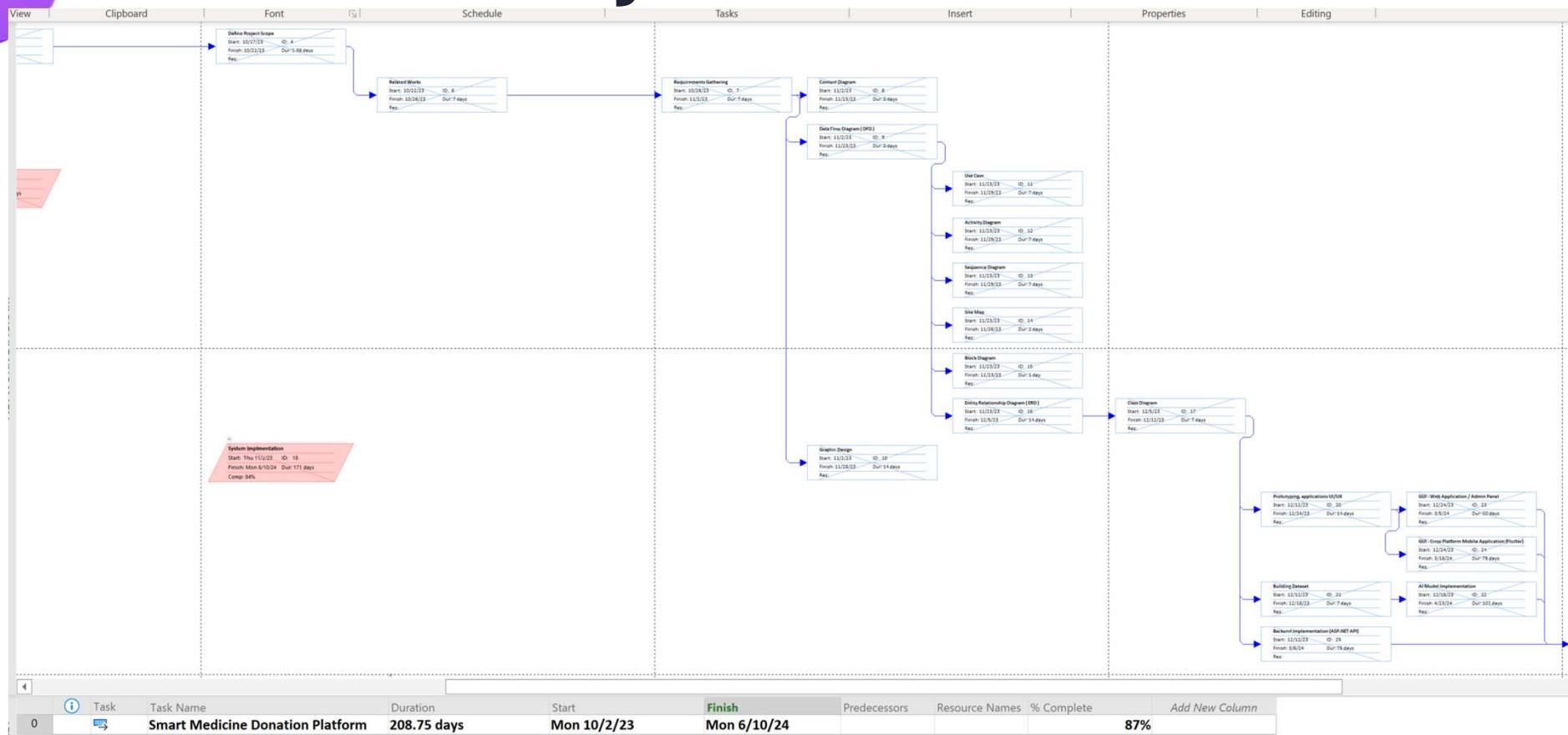
Project Tasks

		Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resources	% Complete
0	✓		Smart Medicine Donation Platform	208.75 days?	Mon 10/2/23 9:00 AM	Mon 6/10/24 3:00 PM			100%
1	✓		System Description	208.75 days?	Mon 10/2/23 9:00 AM	Mon 6/10/24 3:00 PM			100%
2	✓		Problem Definition	8 days	Mon 10/2/23 9:00 AM	Sun 10/8/23 9:00 PM			100%
3	✓		Survey And Data Collection	9 days	Mon 10/9/23 10:00 AM	Mon 10/16/23 5:00 PM	2		100%
4	✓		Define Project Scope	5.88 days	Tue 10/17/23 9:00 AM	Sun 10/22/23 5:00 PM	3		100%
5	✓		System Analysis	208.75 days?	Mon 10/2/23 9:00 AM	Mon 6/10/24 3:00 PM			100%
6	✓		Related Works	1 day?	Mon 10/2/23 9:00 AM	Mon 10/2/23 5:00 PM			100%
7	✓		Requirements Gathering	7 days	Sun 10/22/23 5:00 PM	Thu 10/26/23 9:00 PM	4		100%
8	✓		Context Diagram	7 days	Thu 10/26/23 9:00 PM	Thu 11/2/23 12:00 PM	7		100%
9	✓		Data Flow Diagram (DFD)	8 days	Thu 11/2/23 12:00 PM	Thu 11/23/23 11:00 AM	8		100%
10	✓		System Design	171 days	Thu 11/2/23 12:00 PM	Mon 6/10/24 3:00 PM			100%
11	✓		Use Case	7 days	Thu 11/23/23 11:00 AM	Wed 11/29/23 3:00 PM	10		100%
12	✓		Activity Diagram	7 days	Thu 11/23/23 11:00 AM	Wed 11/29/23 3:00 PM	10		100%
13	✓		Sequence Diagram	7 days	Thu 11/23/23 11:00 AM	Wed 11/29/23 3:00 PM	10		100%
14	✓		Site Map	2 days	Thu 11/23/23 11:00 AM	Sun 11/26/23 2:00 PM	10		100%
15	✓		Block Diagram	1 day	Thu 11/23/23 11:00 AM	Thu 11/23/23 7:00 PM	10		100%
16	✓		Entity Relationship Diagram (ERD)	14 days	Thu 11/23/23 11:00 AM	Tue 12/5/23 7:00 PM	10		100%
17	✓		Class Diagram	7 days	Tue 12/5/23 7:00 PM	Tue 12/12/23 10:00 AM	17		100%
18	✓		System Implementation	171 days	Thu 11/2/23 12:00 PM	Mon 6/10/24 3:00 PM			100%
19	✓		Graphic Design	14 days	Thu 11/2/23 12:00 PM	Tue 11/28/23 8:00 PM	8		100%
20	✓		Prototyping, applications UI/UX	14 days	Tue 12/12/23 10:00 AM	Sun 12/24/23 6:00 PM	18		100%
21	✓		Building Dataset	7 days	Tue 12/12/23 10:00 AM	Mon 12/18/23 2:00 PM	18		100%
22	✓		Backend Implementation (ASP.NET API)	75 days	Tue 12/12/23 10:00 AM	Wed 3/6/24 12:00 PM	18		100%
23	✓		GUI - Web Application / Admin Panel	60 days	Sun 12/24/23 6:00 PM	Tue 3/5/24 5:00 PM	21		100%
24	✓		GUI - Cross Platform Mobile Application (Flutter)	75 days	Sun 12/24/23 6:00 PM	Mon 3/18/24 8:00 PM	21		100%
25	✓		AI Model Implementation	102 days	Mon 12/18/23 2:00 PM	Tue 4/23/24 11:00 AM	22		100%
26	✓		System Integration	15 days	Tue 4/23/24 11:00 AM	Mon 5/6/24 2:00 PM	26,24,25,23		100%
27	✓		System Testing	18 days	Mon 5/6/24 2:00 PM	Mon 6/10/24 3:00 PM			100%
28	✓		Unit Testing	5 days	Mon 5/6/24 2:00 PM	Thu 5/9/24 3:00 PM	27		100%
29	✓		Integrity Testing	5 days	Mon 5/6/24 2:00 PM	Thu 5/9/24 3:00 PM	27		100%
30	✓		Documentation	18 days	Mon 5/6/24 2:00 PM	Mon 6/10/24 3:00 PM	27		100%
31	✓		Final Presentation	15 days	Mon 5/6/24 2:00 PM	Thu 6/6/24 5:00 PM	27		100%

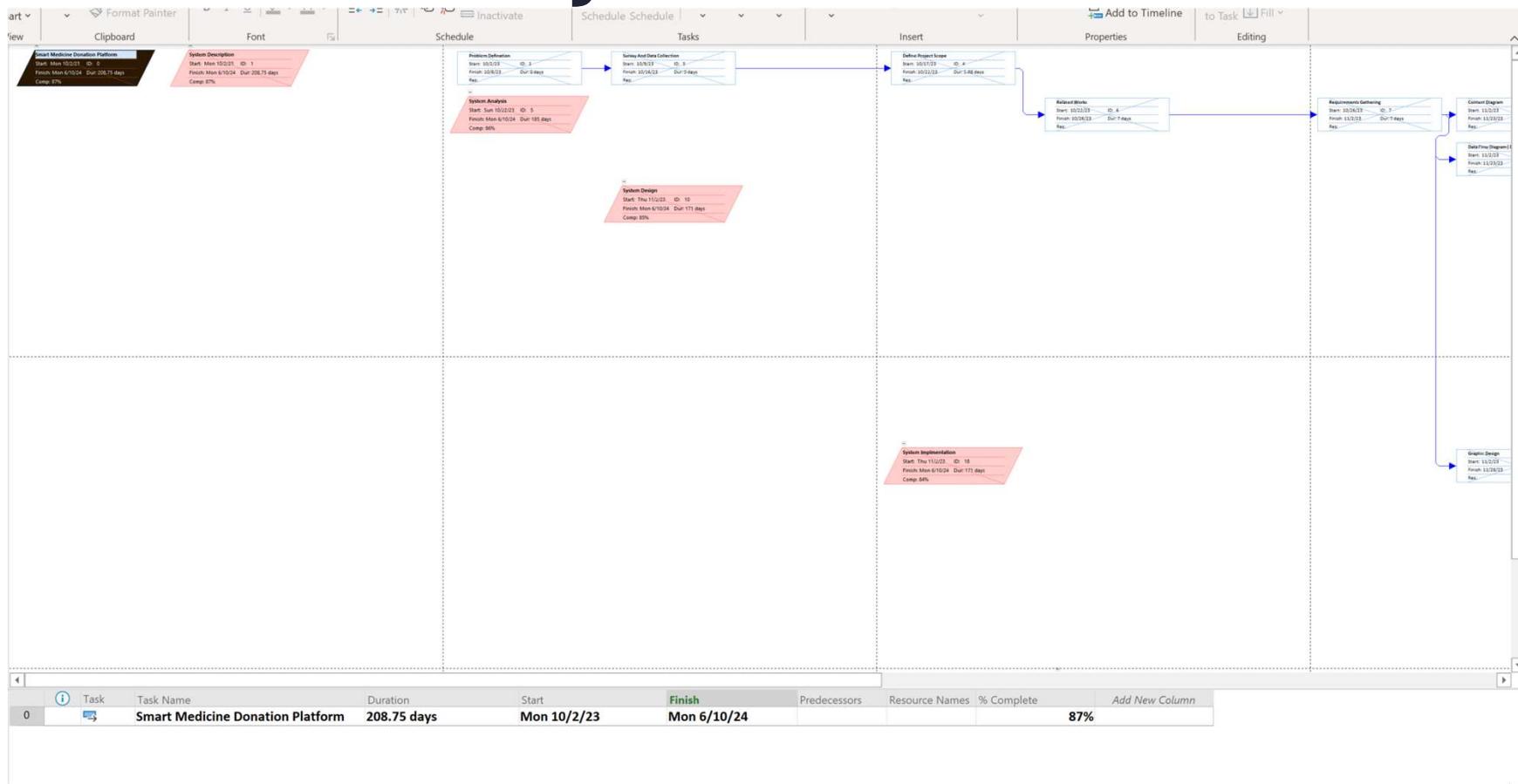
Project Network



Project Network

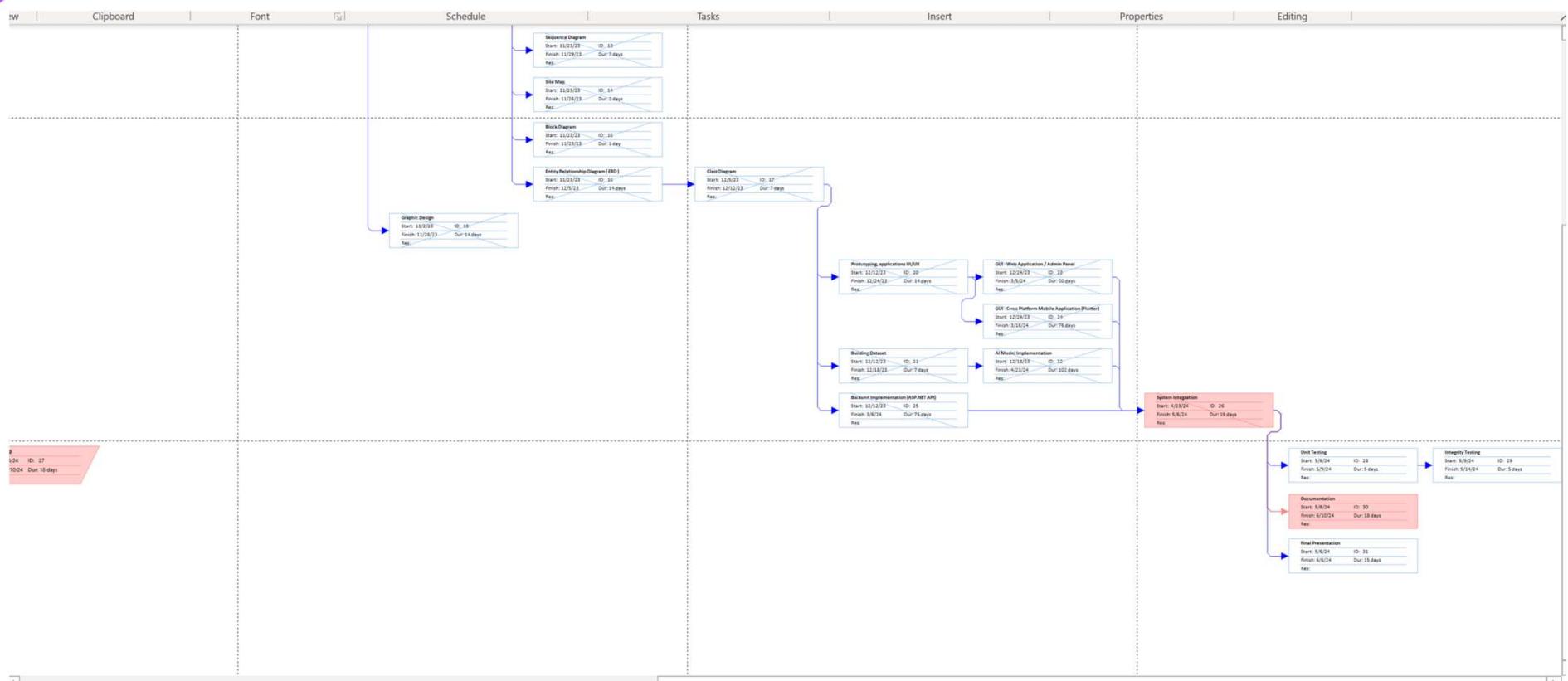


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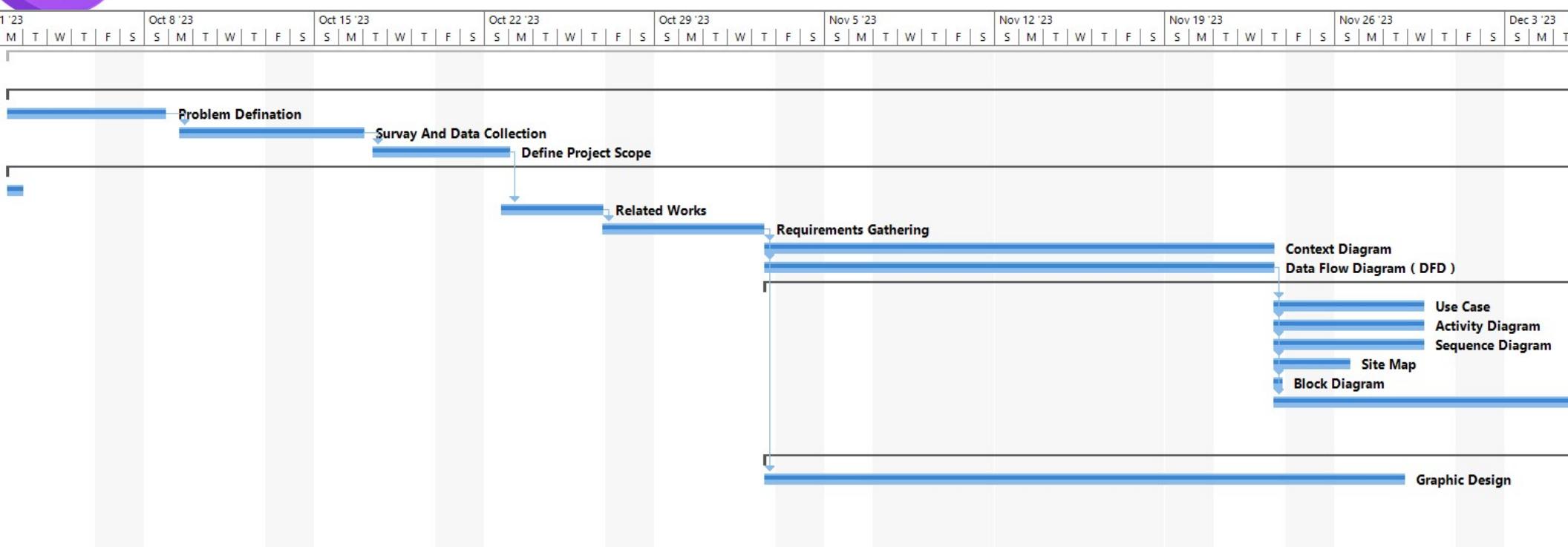


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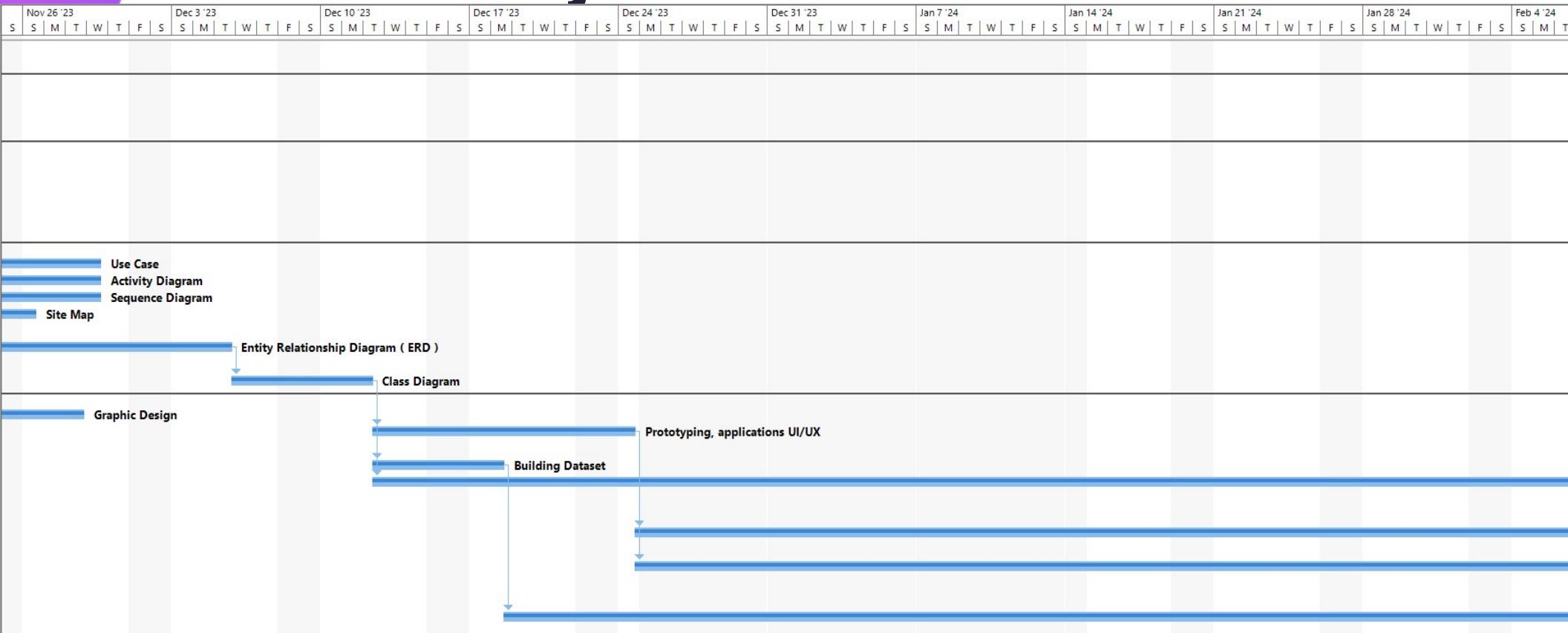
Project Network



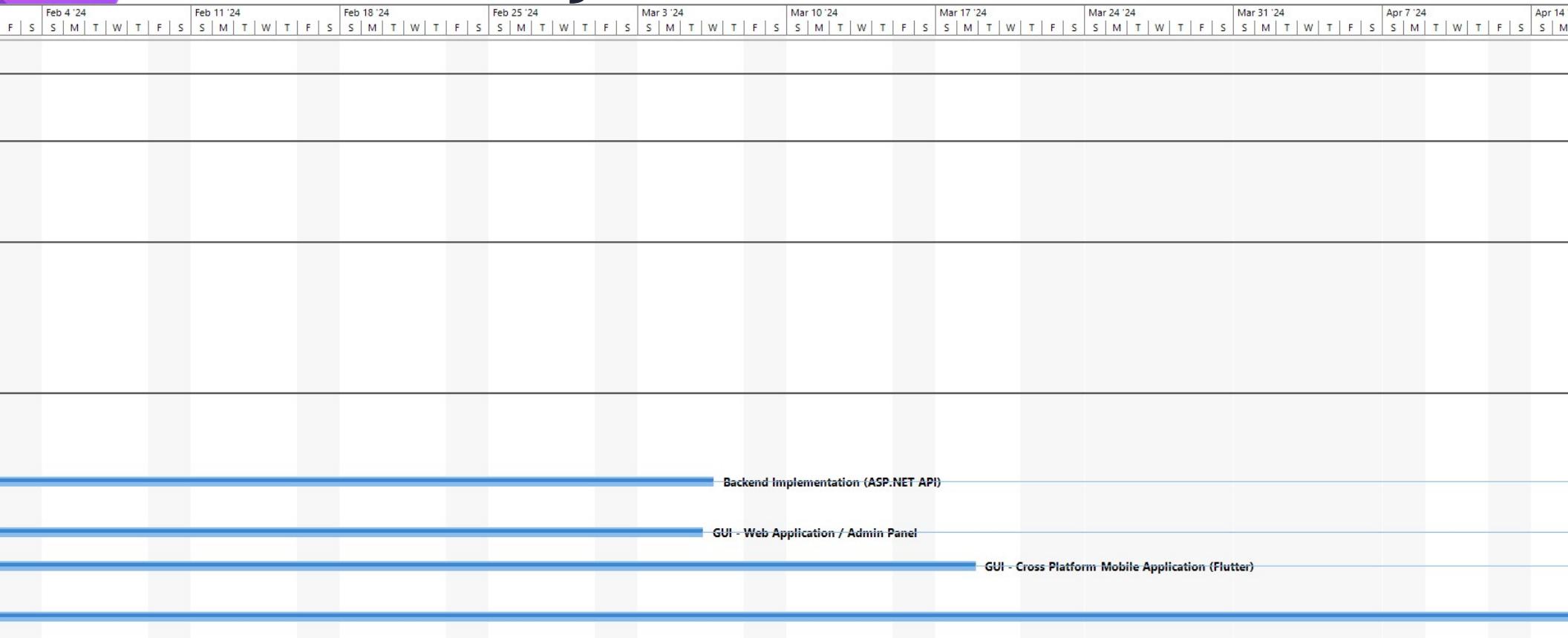
Project Gantt chart



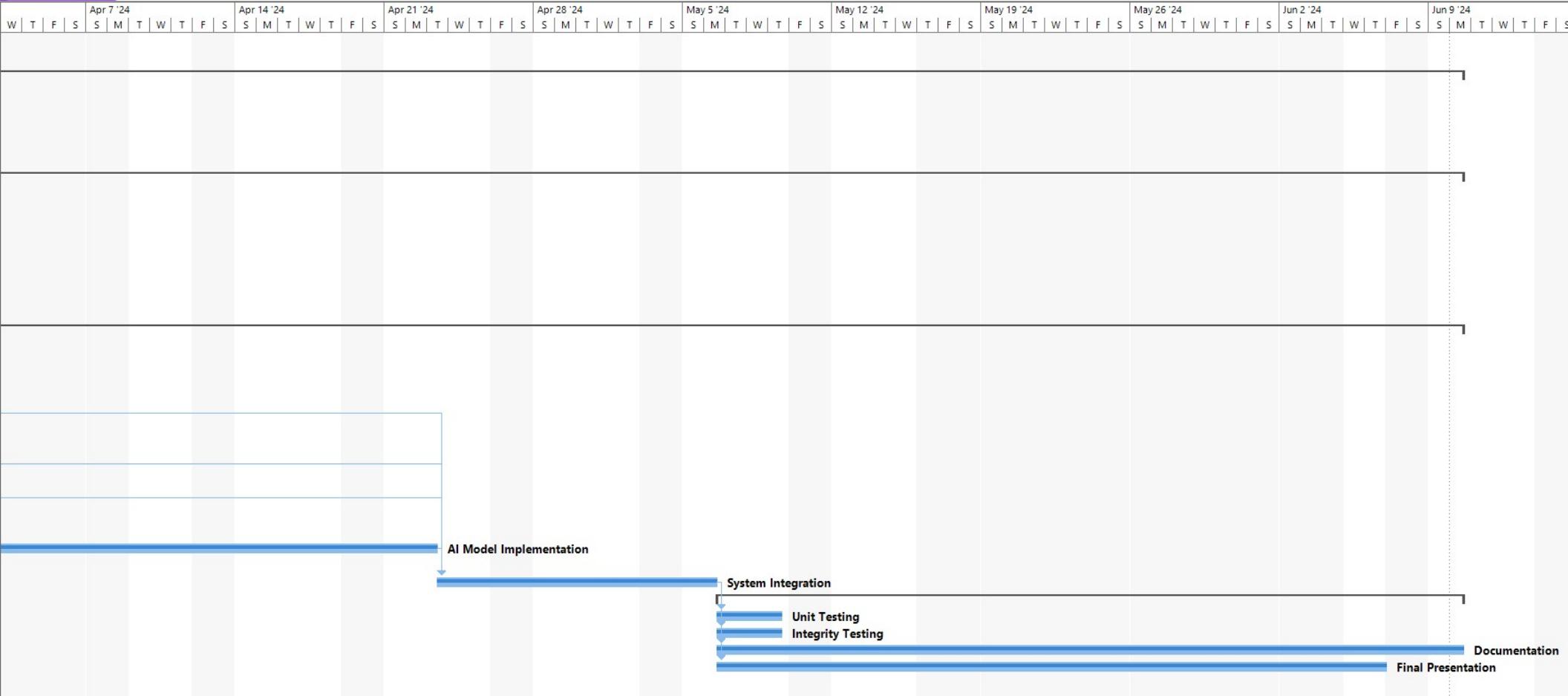
Project Gantt chart



Project Gantt chart



Project Gantt chart

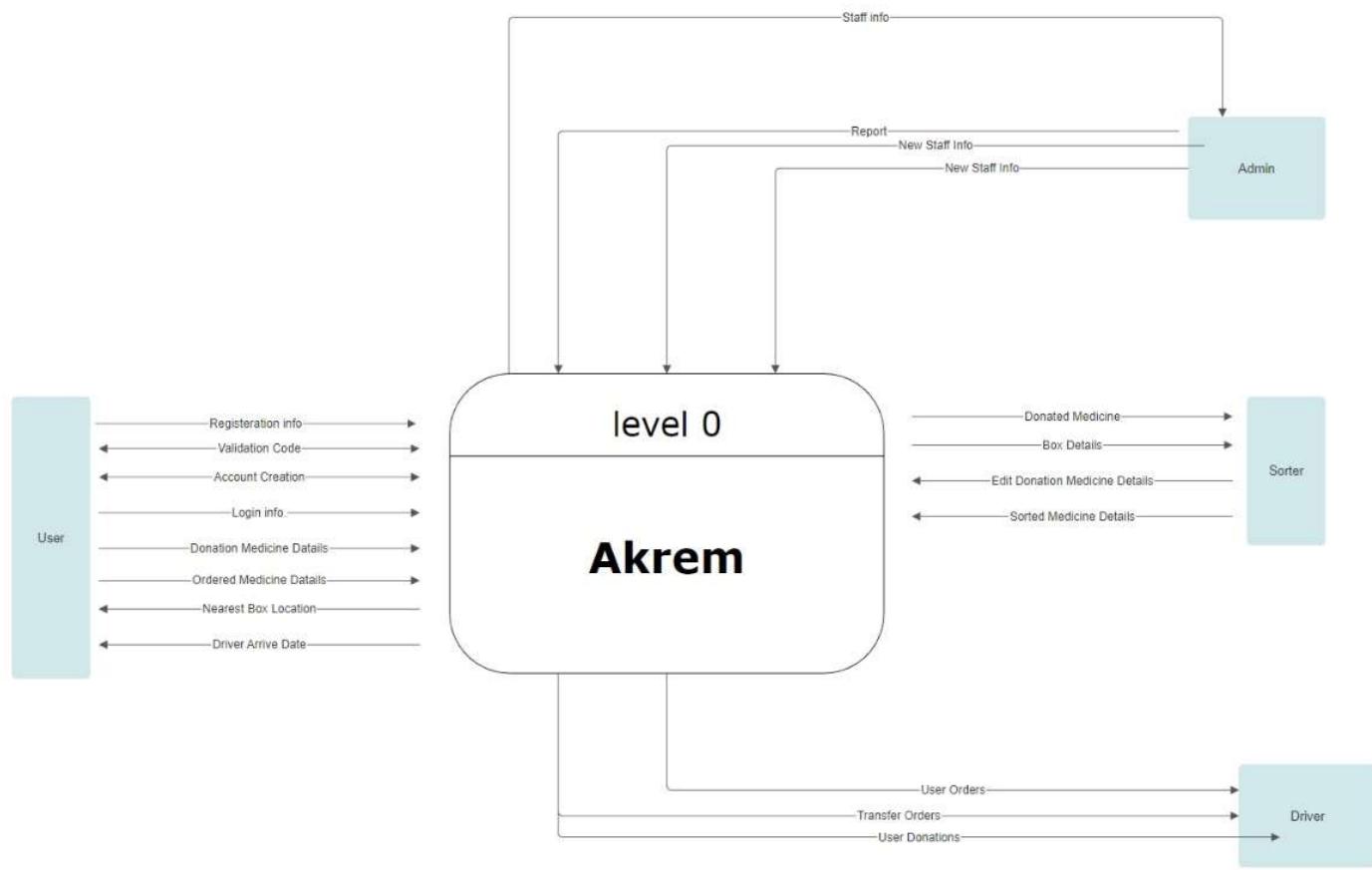


08

System Design



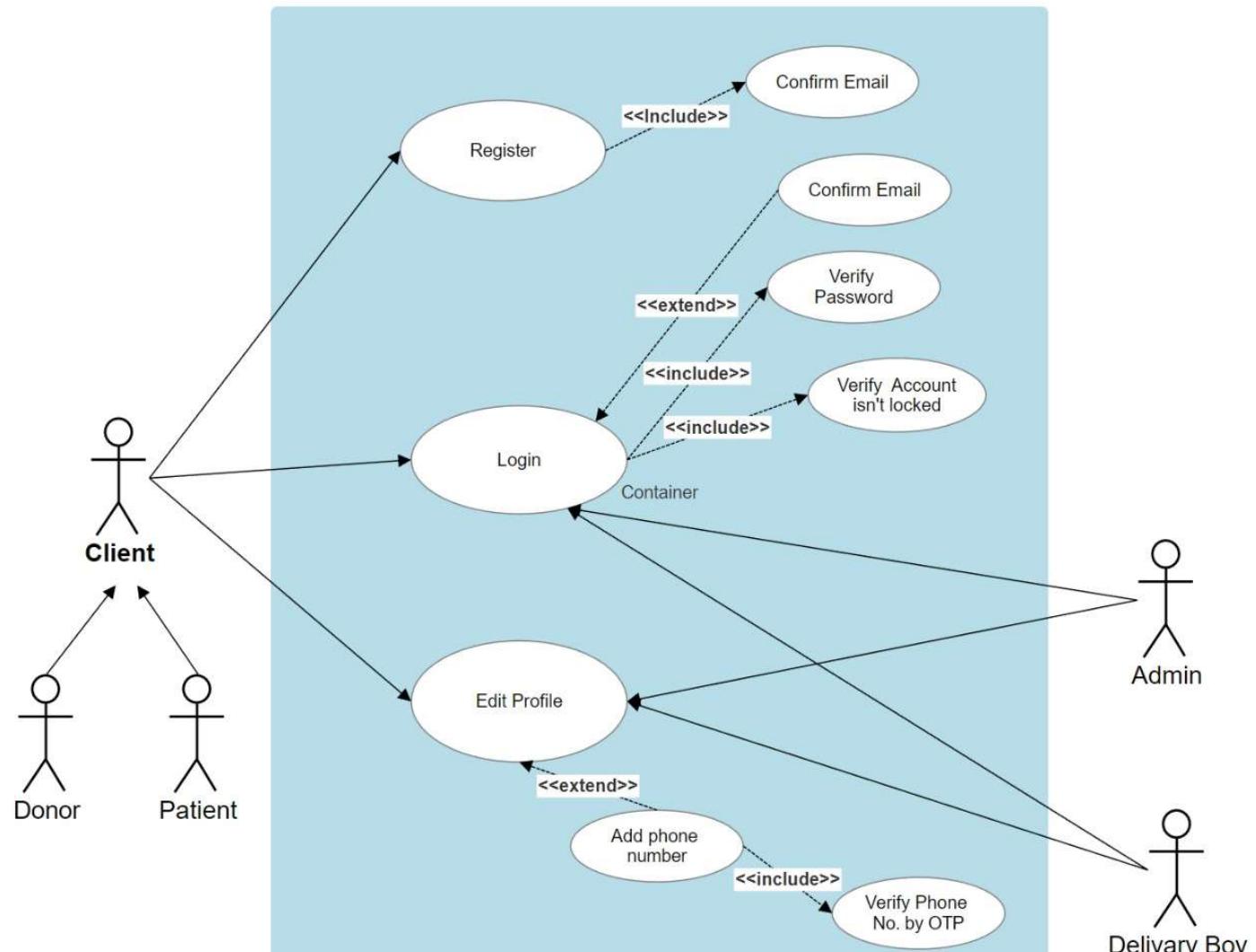
System Design Context



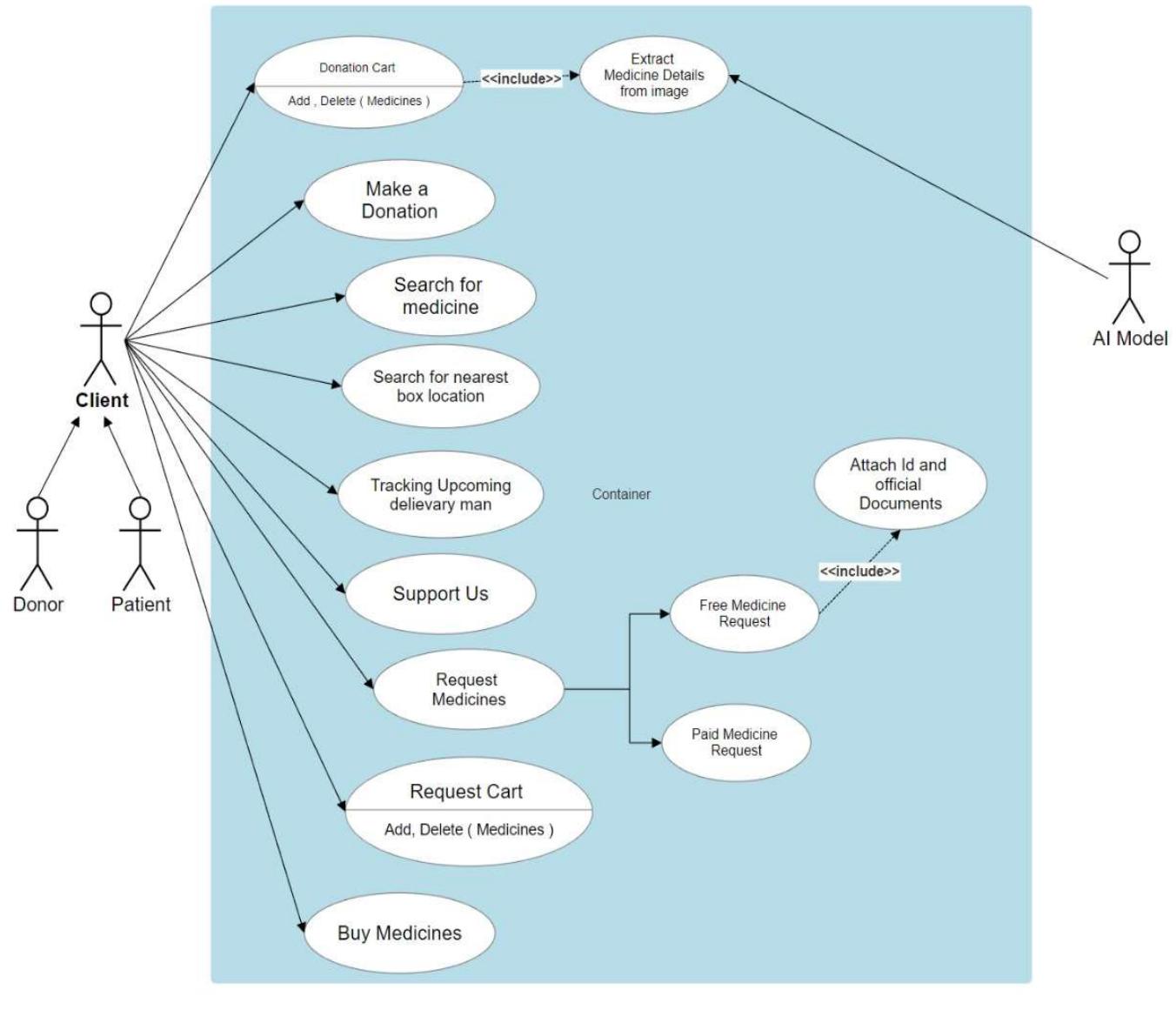
System Design Block Diagram

System Design DFD

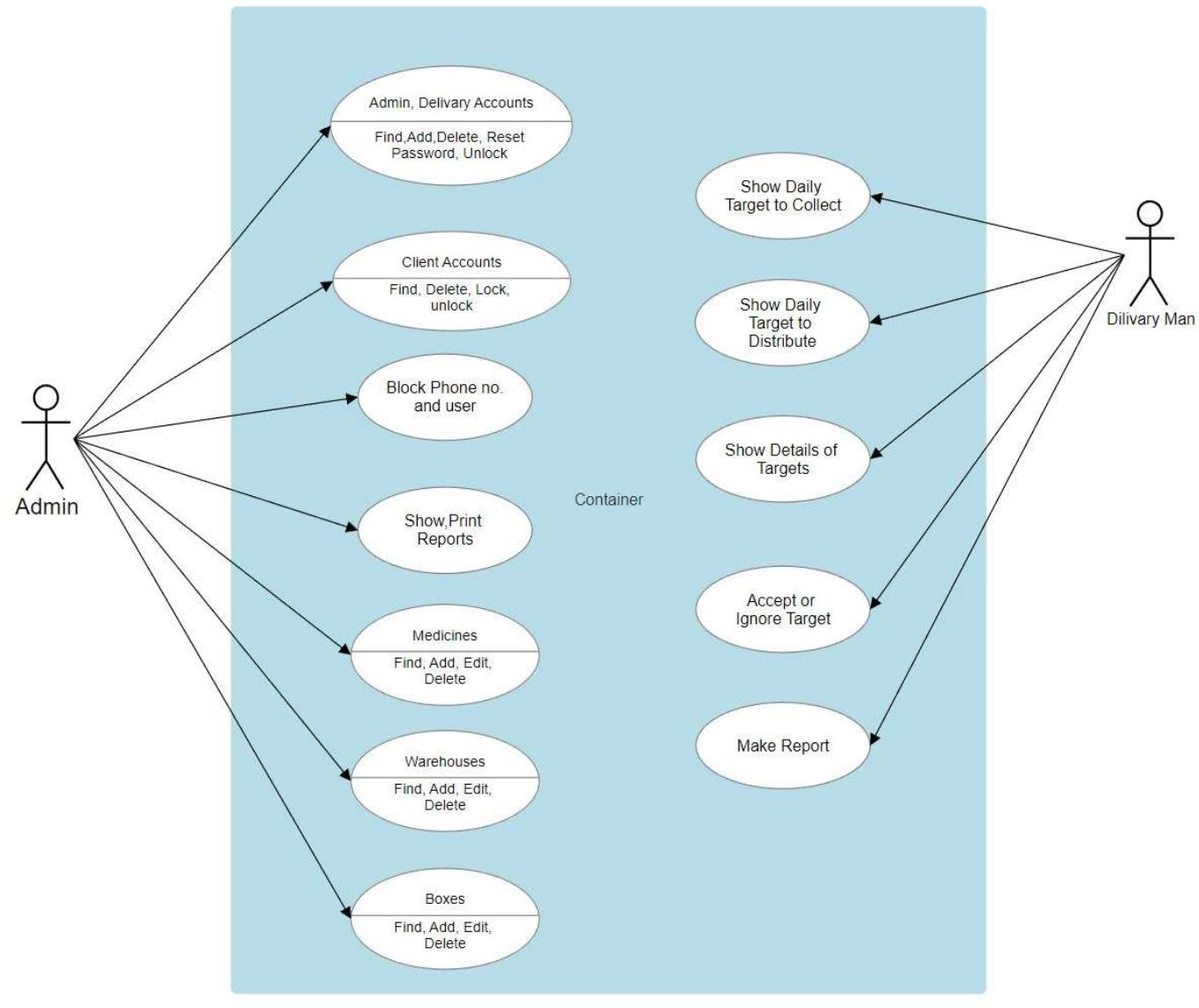
System Use Case



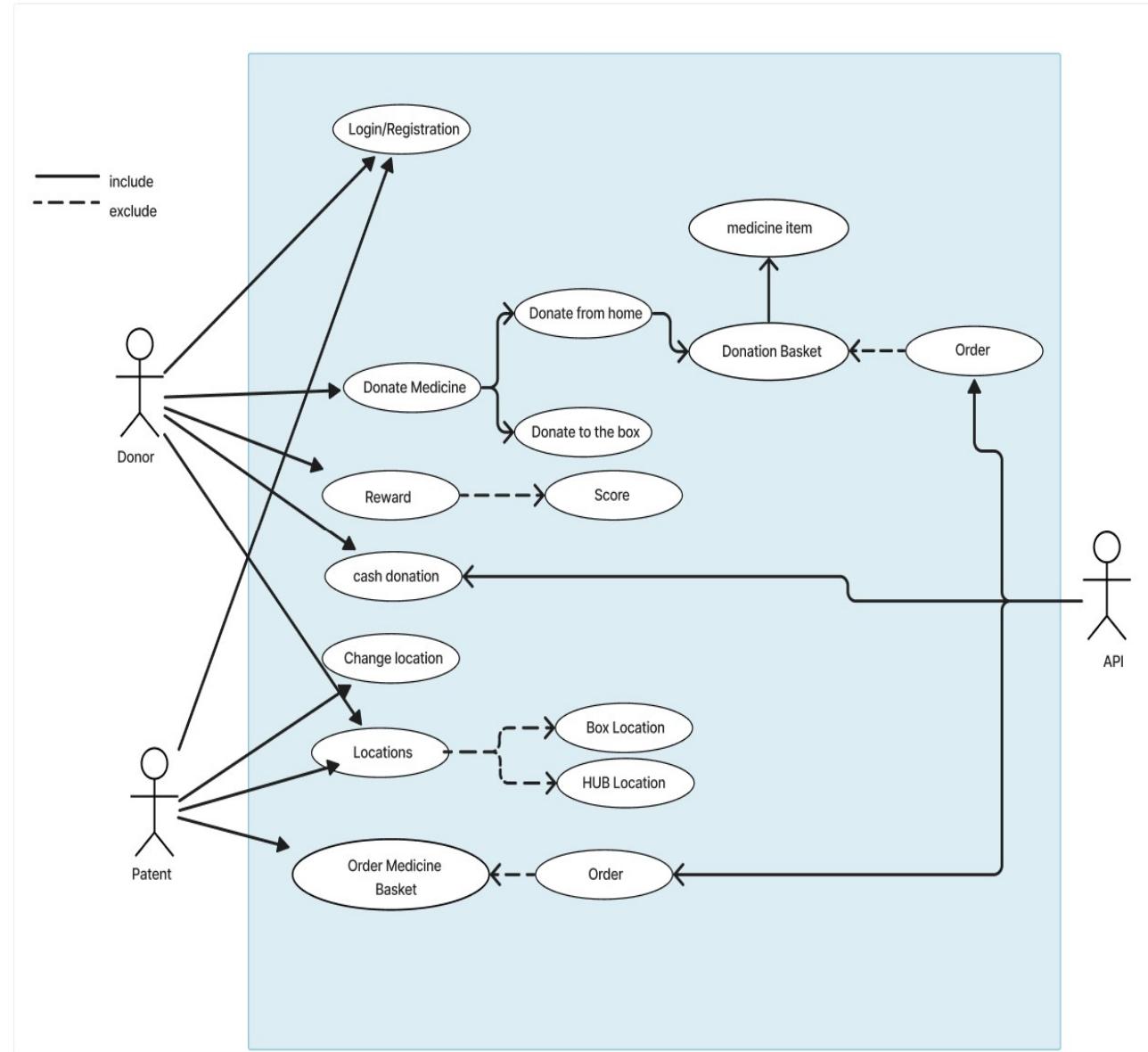
System Use Case



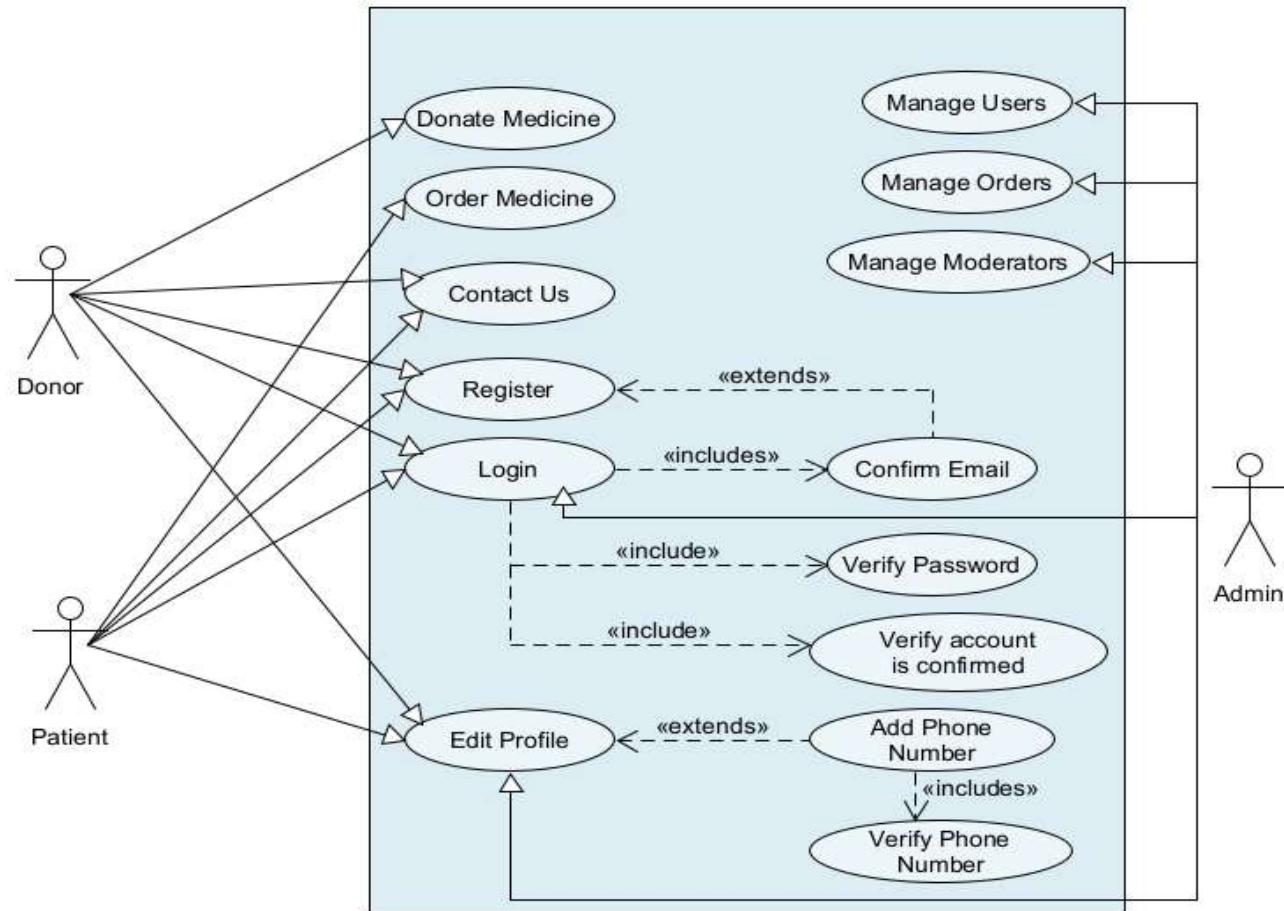
System Use Case



Mobile App Use Case



Web App Use Case

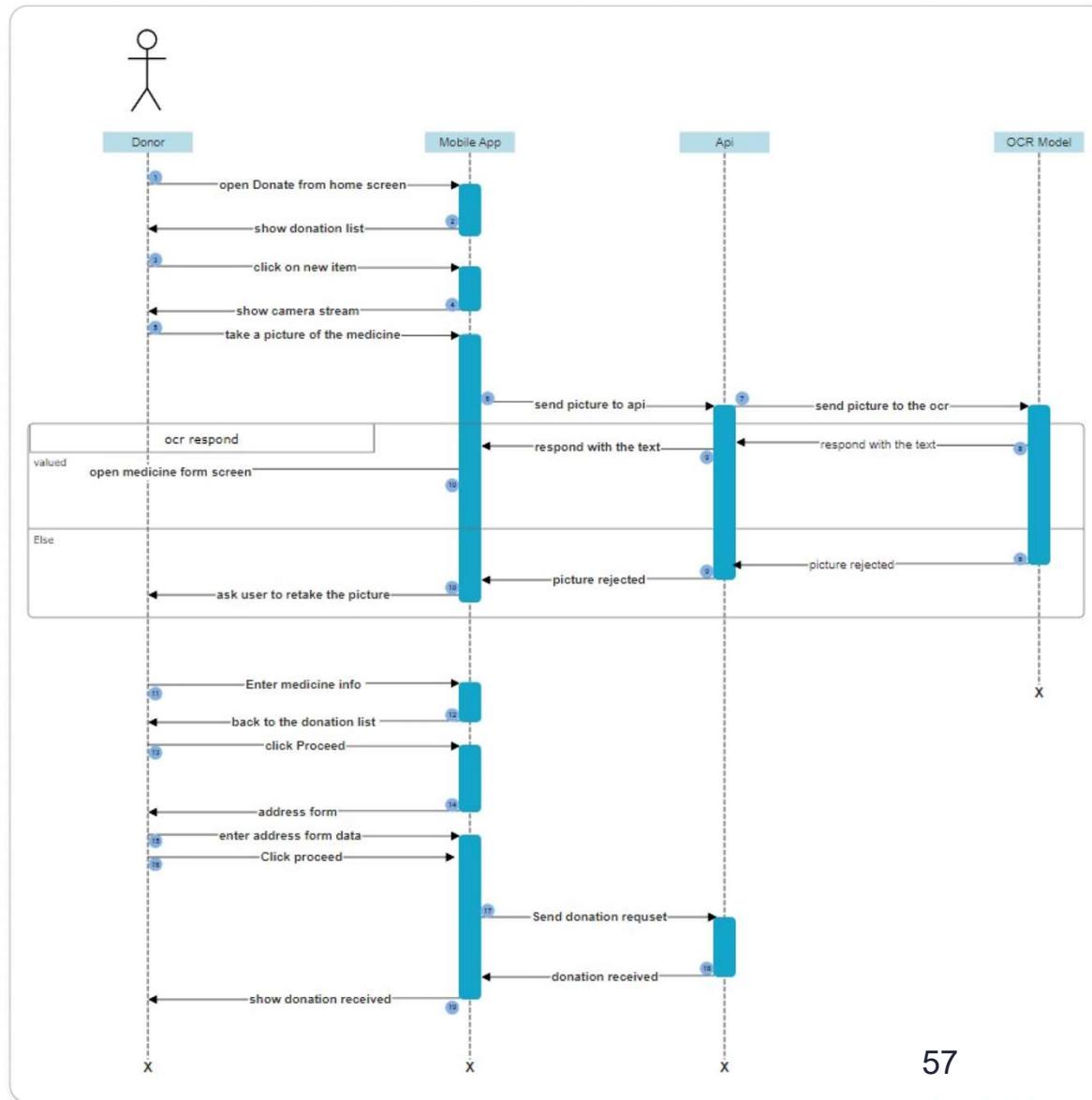


System Sequence Diagram

Donation process

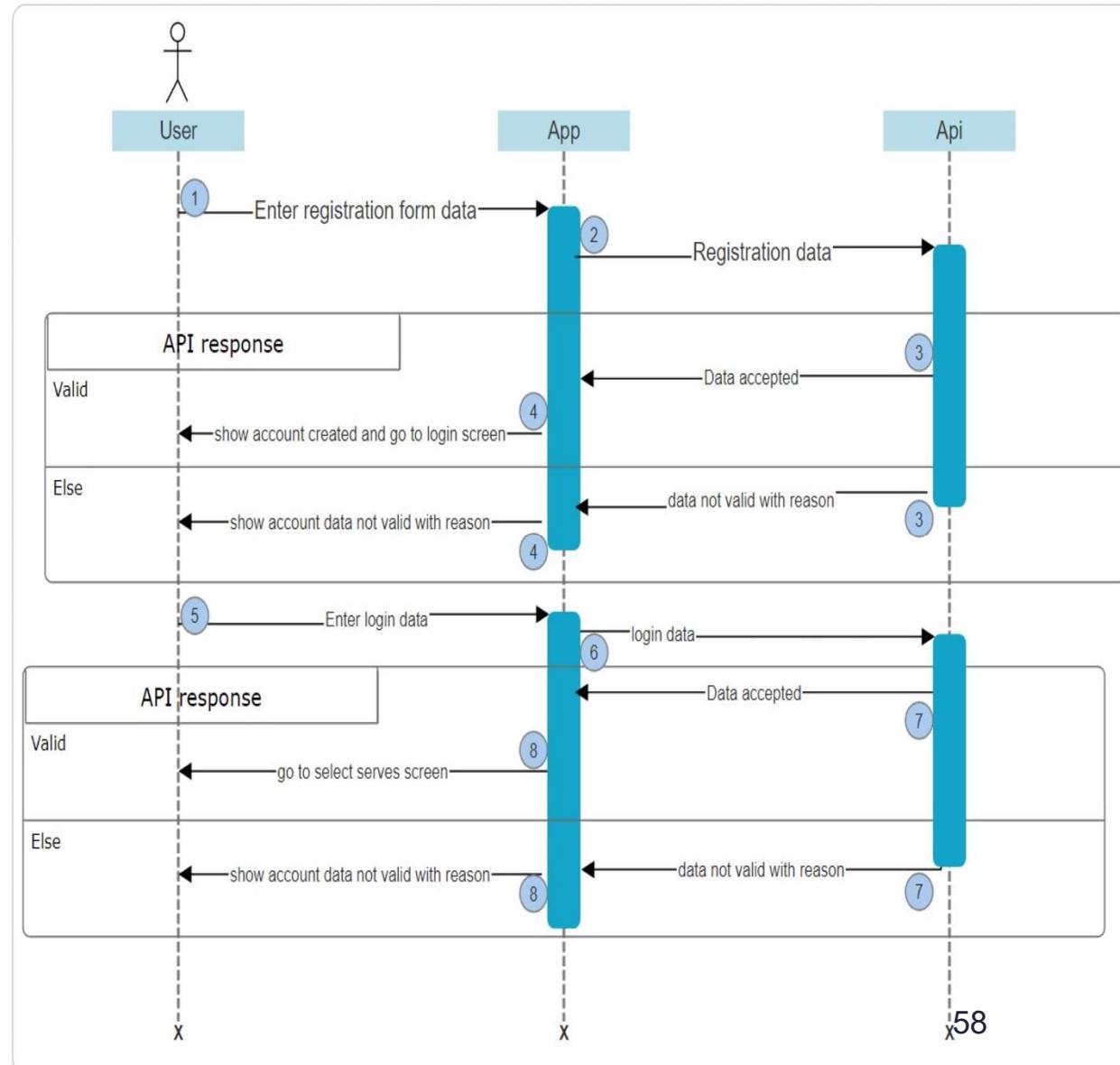
Mobile App Sequence Diagram

Donation process



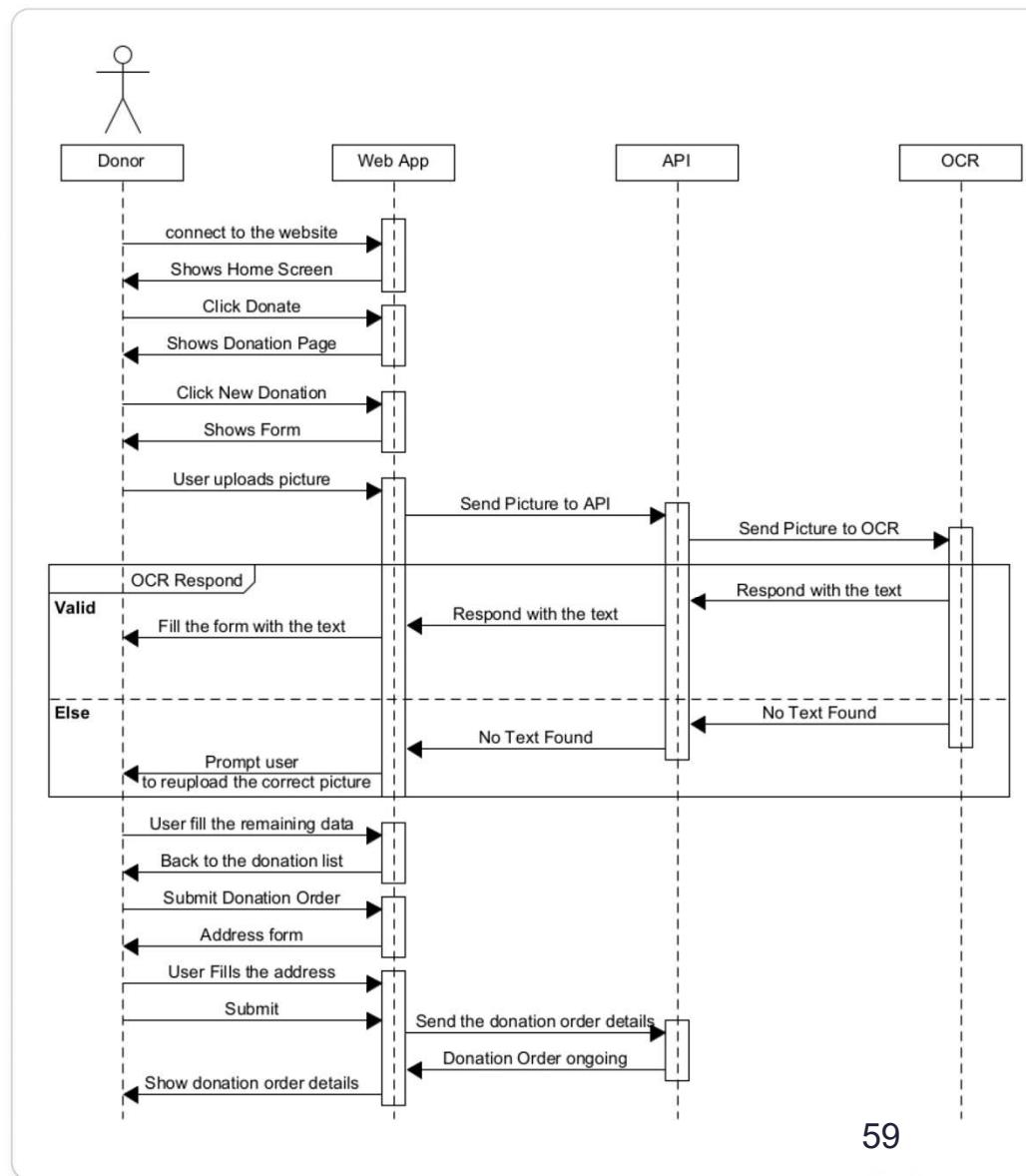
Mobile App Sequence Diagram

Registration/login



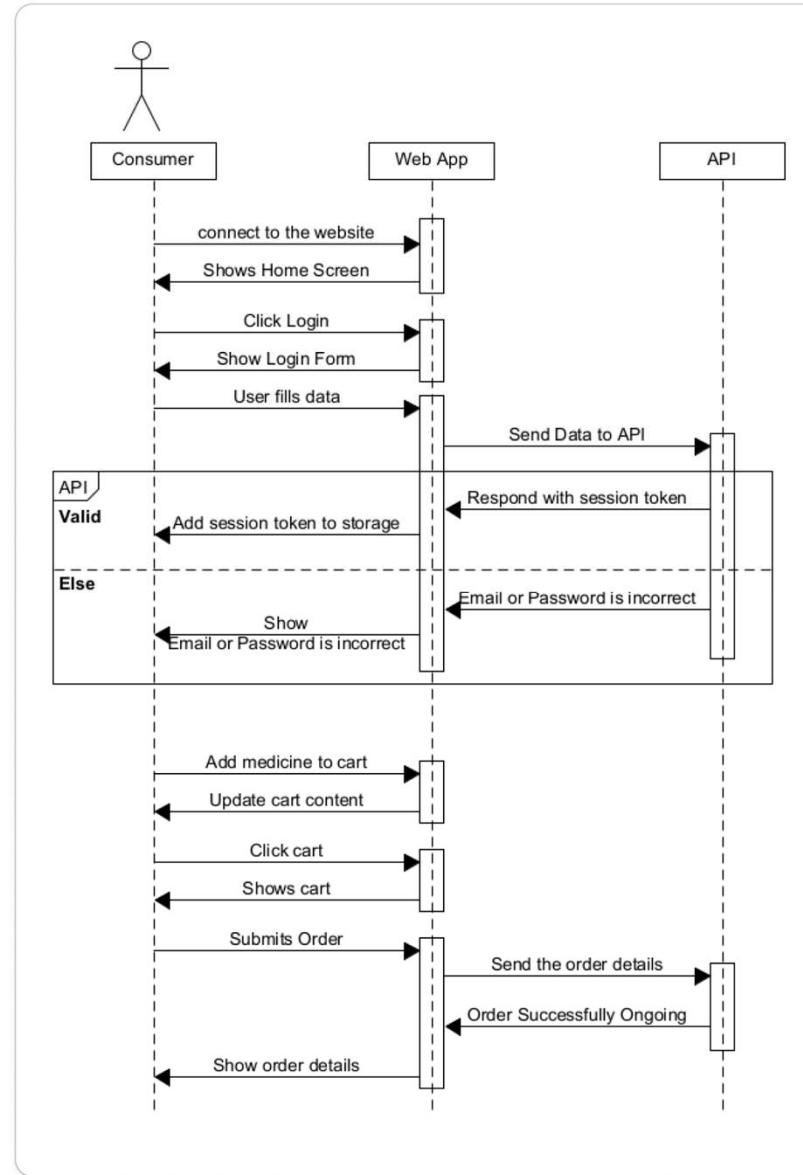
Web App Sequence Diagram

Donation process



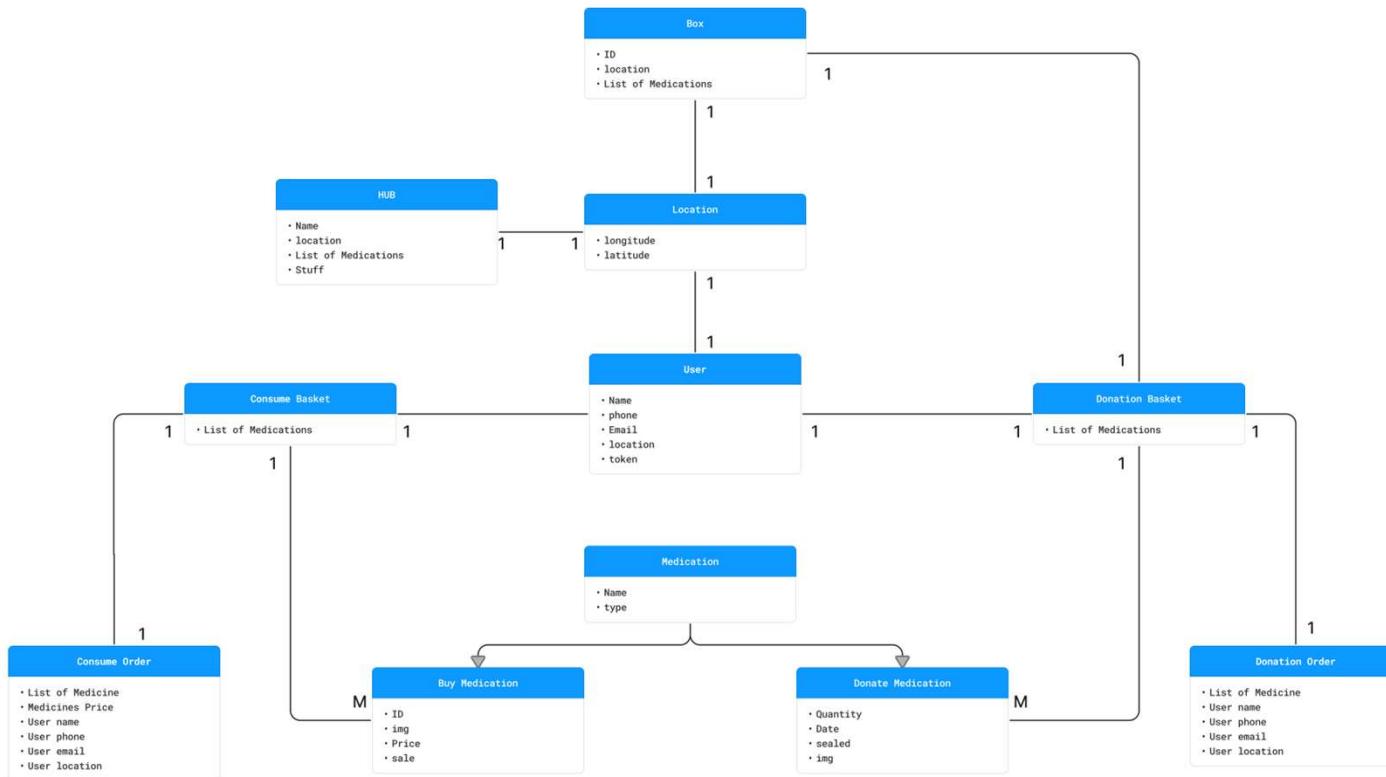
Web App Sequence Diagram

Consume Medication

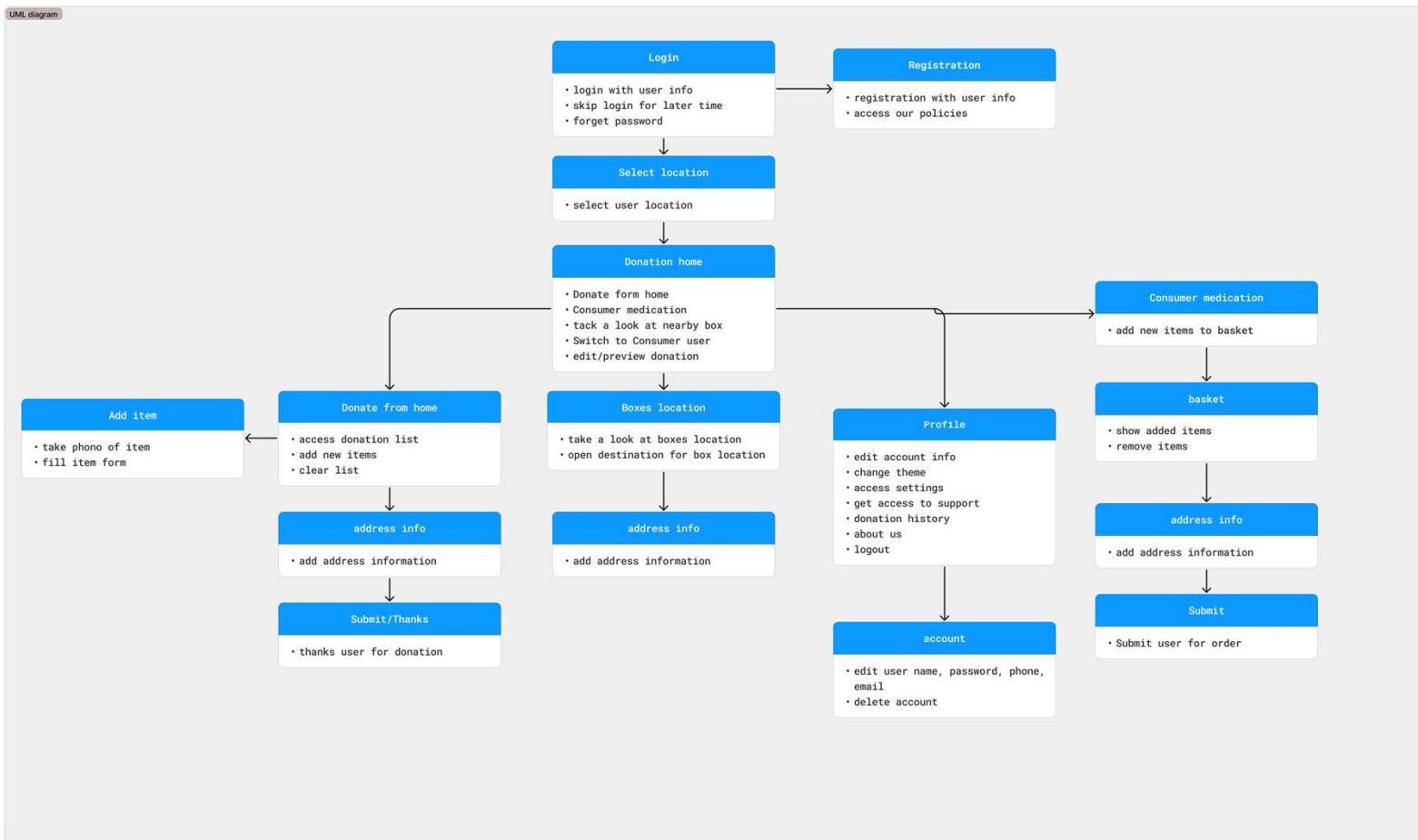


Class Diagram

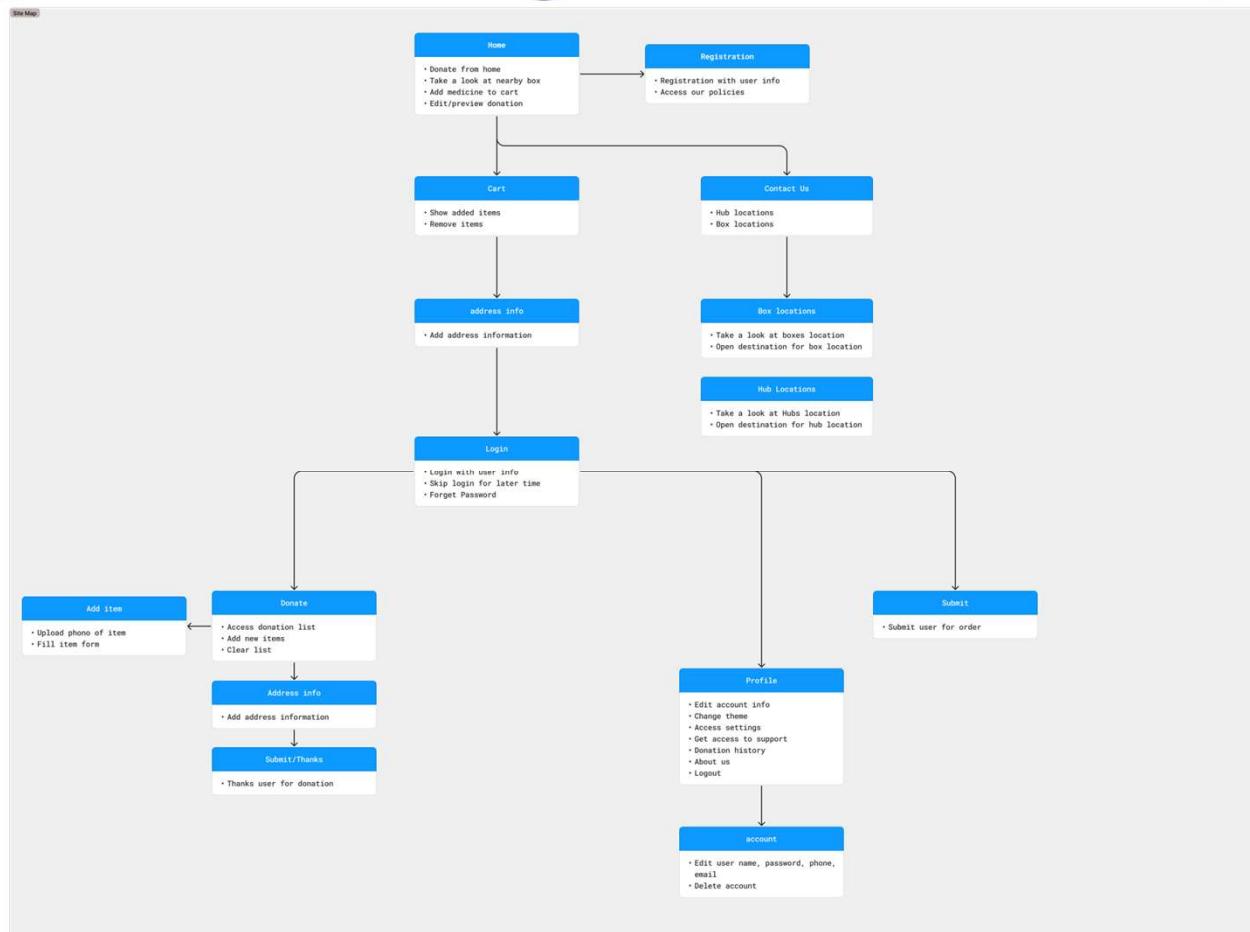
UML diagram



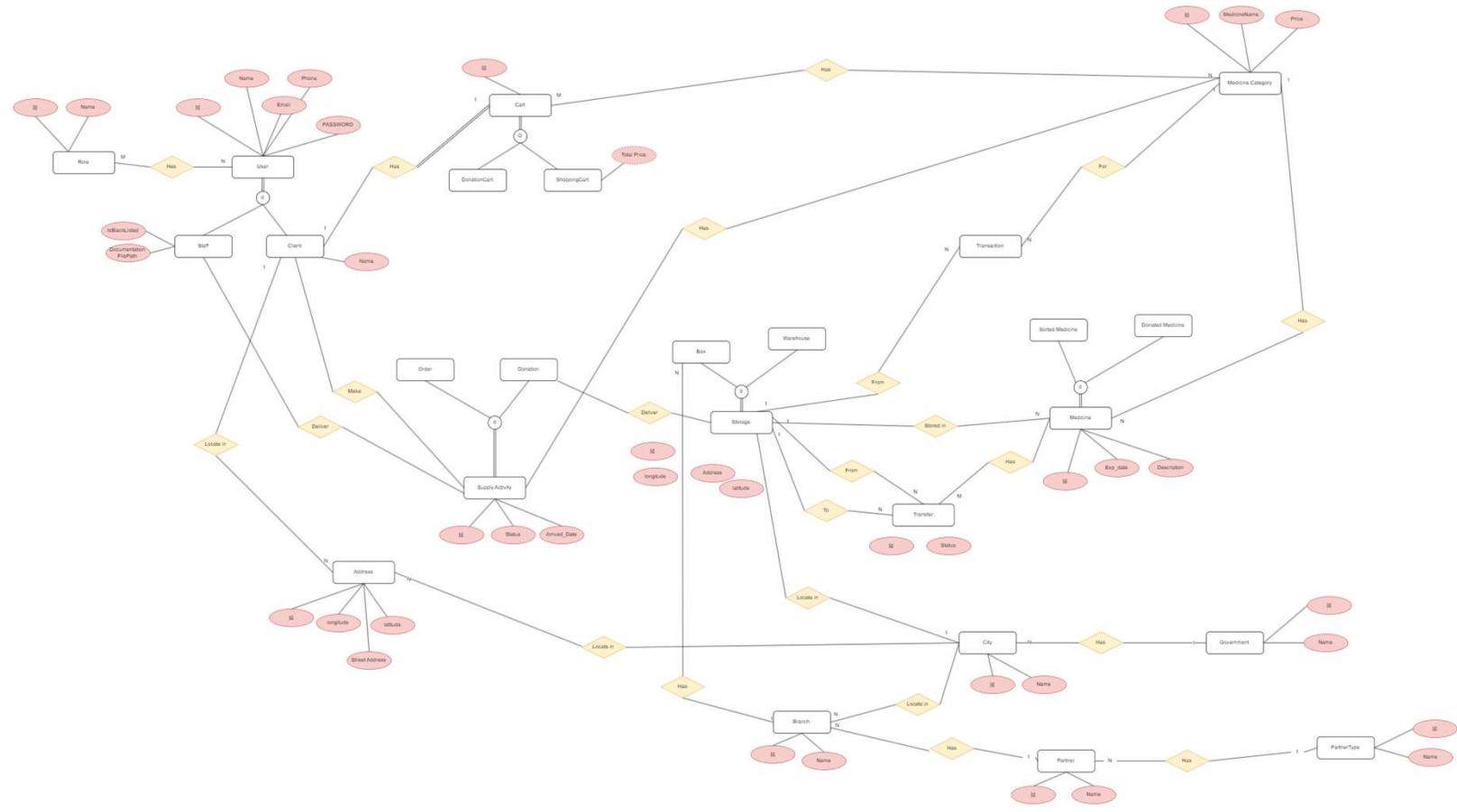
System Design Mob Site Map



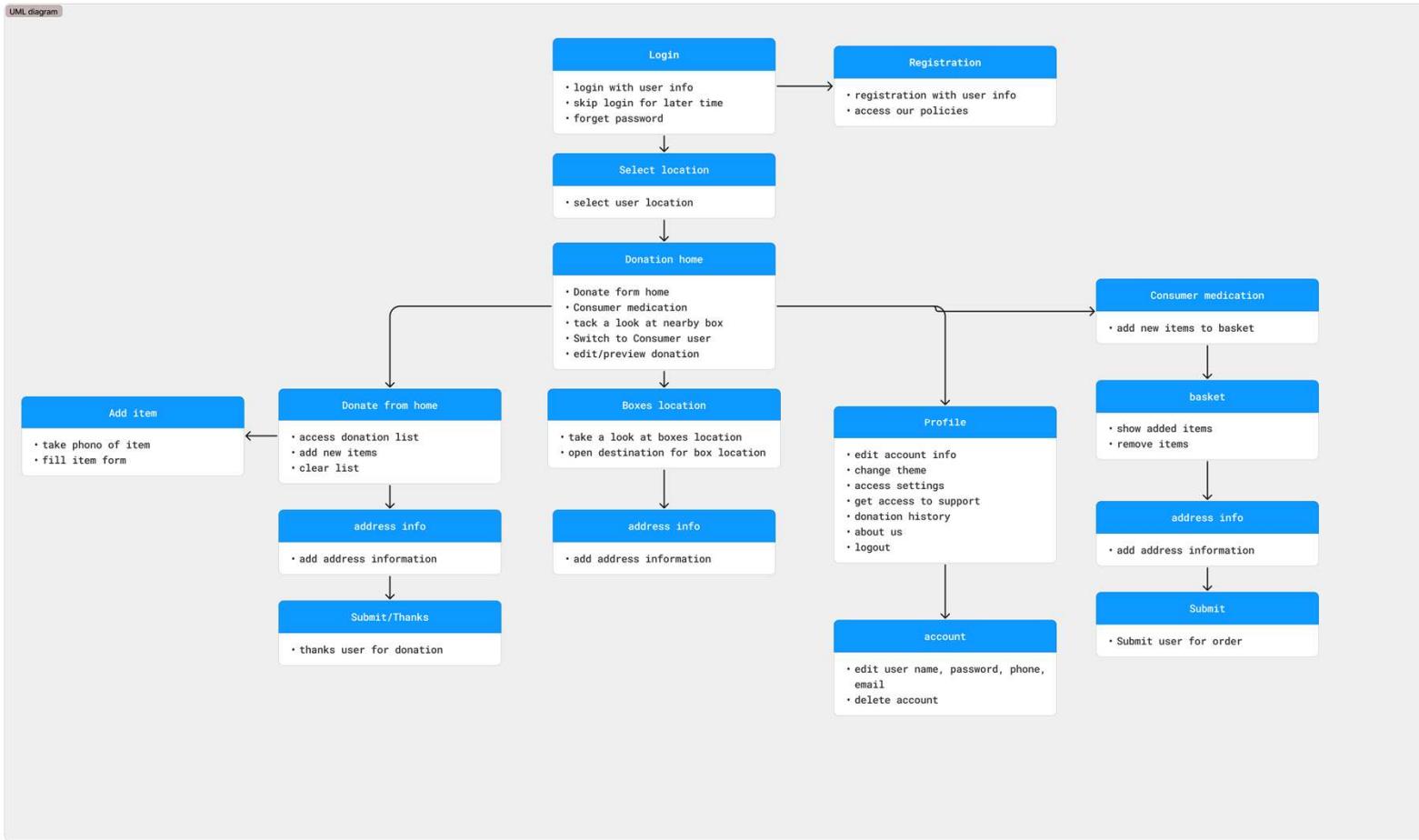
System Design Web Site Map



ER Diagram



System Design Mob Site Map

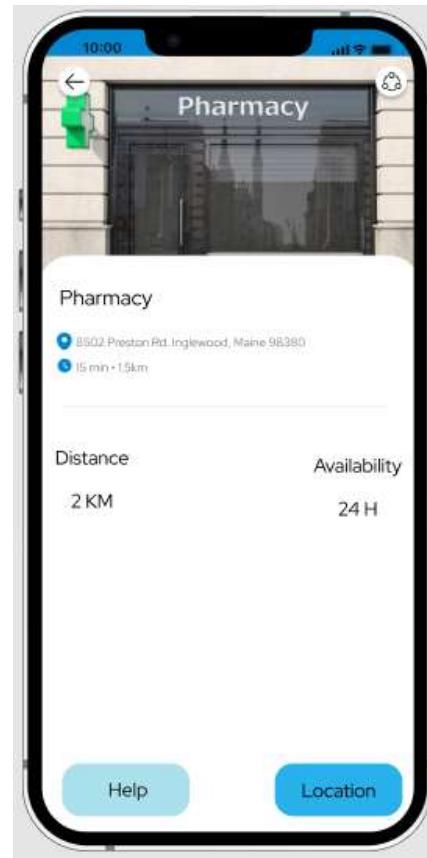




09

UI&UX Design

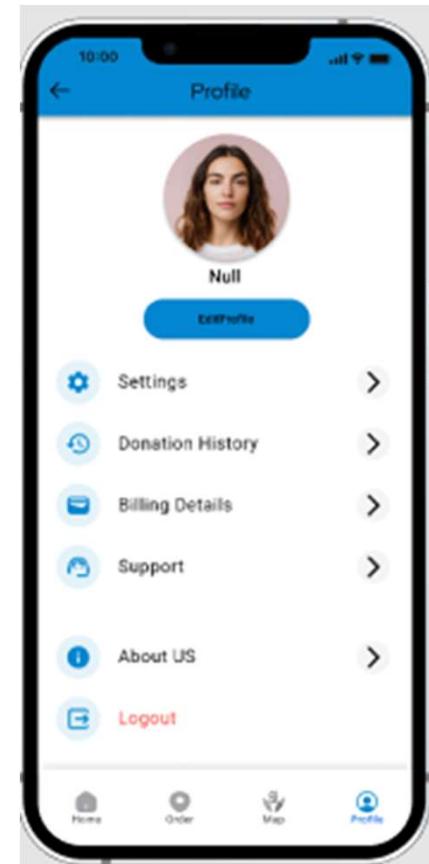
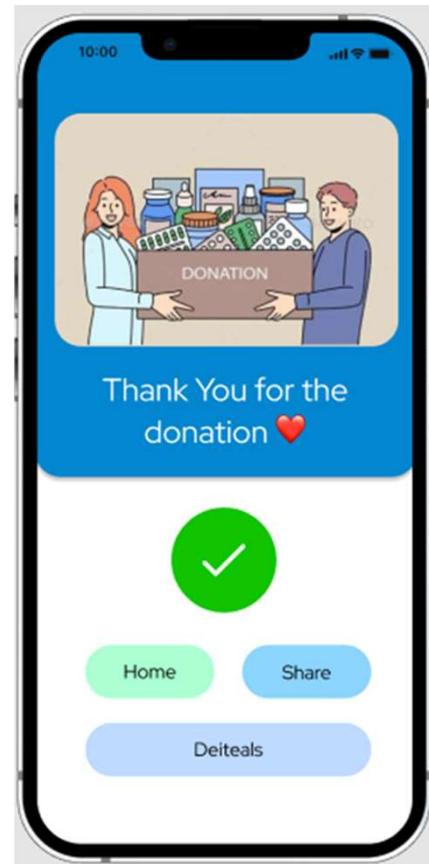
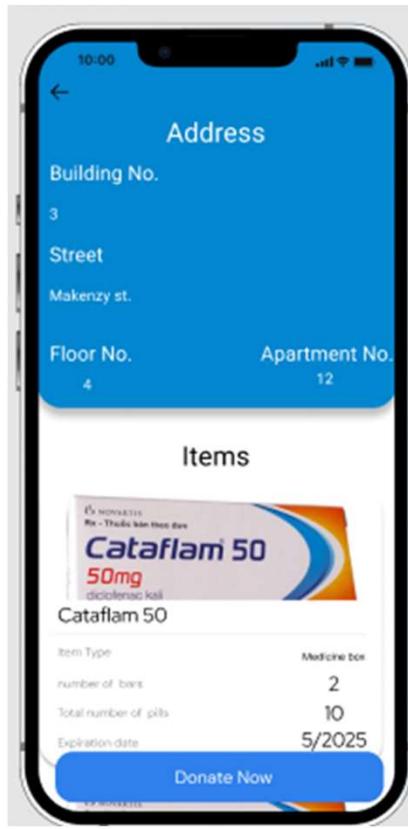
Mobile Design



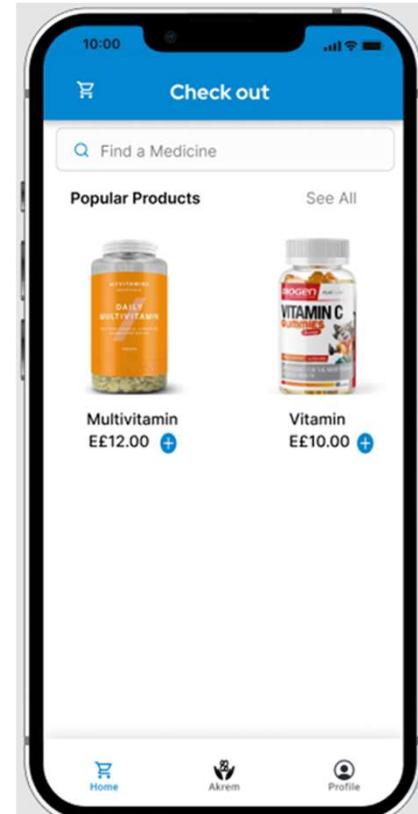
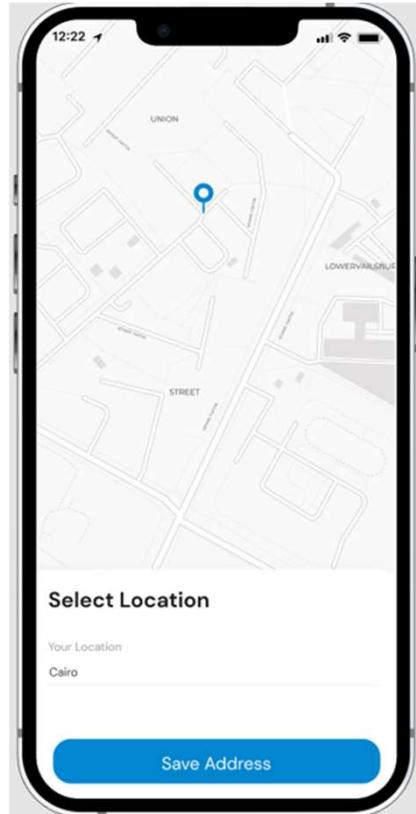
Mobile Design



Mobile Design



Mobile Design



Front-End UI



Login



Email

Password

[Don't have an account?](#)

[Forgot Password?](#)

[Login](#)



[← Back Home](#)

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Front-End UI



AKREM

Home Donate Contact Us Sign In Register

Sign Up

First Name

Last Name

Email

Password

Confirm Password

By clicking here you are accepting our Policy

Already have an account?

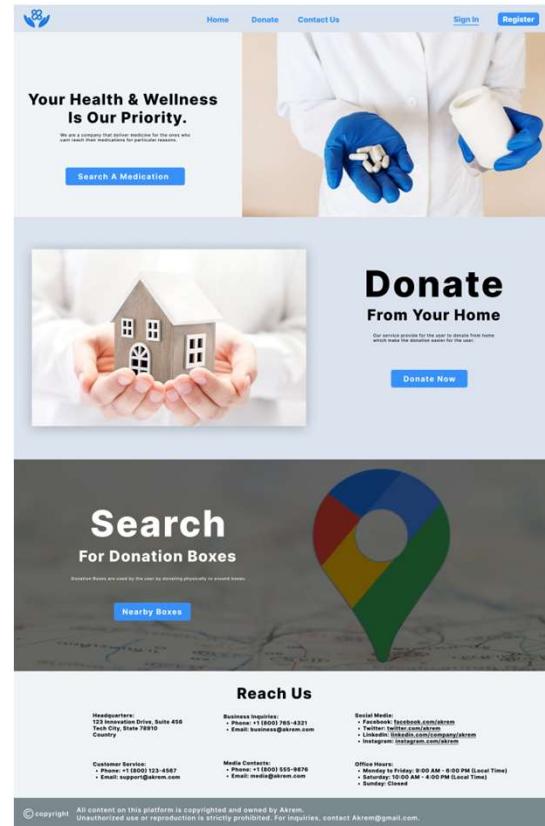
Submit

← Back Home

G f A

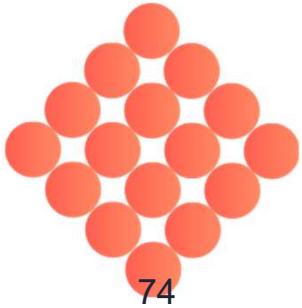
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Front-End UI



Front-End UI

The screenshot shows a donation form on a website. At the top, there is a header bar with the logo 'AKREM' and navigation links for 'Home', 'Donate', 'Contact Us', 'Sign In', and 'Register'. Below the header, the word 'Donate' is prominently displayed in large, bold, black font. Underneath it, there is a section titled 'Import Medicine Image' with a camera icon inside a circular placeholder. A text input field contains the description: 'Panadol Extra is a powerful pain relief solution combining Paracetamol and Caffeine to provide effective relief from headaches, migraines, and other types of pain. Its small 15 ml bottle makes it convenient for on-the-go use.' At the bottom of this section are two buttons: 'Add' in blue and 'Clear' in red. At the very bottom of the page is a dark footer bar with the copyright notice: '© copyright All content on this platform is copyrighted and owned by Akrem. Unauthorized use or reproduction is strictly prohibited. For inquiries, contact Akrem@gmail.com.'



Front-End UI

The screenshot shows the Akrem front-end account page. At the top, there is a navigation bar with the logo 'AKREM' (featuring a stylized blue and white leaf icon), followed by links for 'Home', 'Donate', 'Contact Us', a shopping cart icon with '3' items, 'Tamer Adel', and 'Logout'. Below the navigation bar, the word 'Account' is displayed in a large, bold, black font.

The main content area features a circular profile picture of a colorful, cartoonish lizard-like creature. Below the picture, the name 'Tamer Adel' is displayed with a green checkmark icon.

Below the profile section, there are several input fields for user information:

- First Name:** An input field with the placeholder 'First Name' and an 'Edit' button.
- Last Name:** An input field with the placeholder 'Last Name' and an 'Edit' button.
- Street Address:** A long input field with the placeholder 'Street Address' and an 'Edit' button.
- Email:** An input field with the placeholder 'Email' and an 'Edit' button.
- City:** An input field with the placeholder 'City' and an 'Edit' button.
- State:** An input field with the placeholder 'State' and an 'Edit' button.
- Phone Number:** An input field with the placeholder 'Phone Number' and an 'Edit' button.

At the bottom of the page, there is a footer bar containing the text '© copyright All content on this platform is copyrighted and owned by Akrem. Unauthorized use or reproduction is strictly prohibited. For inquiries, contact Akrem@gmail.com.' and a link '← Back Home'.

Front-End UI



Home Donate Contact Us Sign In Register

Contact Us



Social Media:

- Facebook: facebook.com/akrem
- Twitter: twitter.com/akrem
- LinkedIn: linkedin.com/company/akrem
- Instagram: instagram.com/akrem

Office Hours:

- Monday to Friday: 9:00 AM - 6:00 PM (Local Time)
- Saturday: 10:00 AM - 4:00 PM (Local Time)
- Sunday: Closed

Customer Service:

- Phone: +1 (800) 123-4567
- Email: support@akrem.com

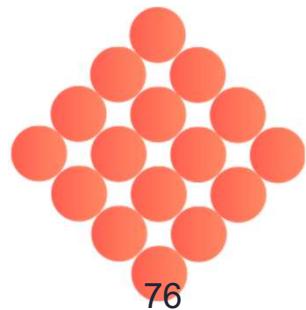
Headquarters:
123 Innovation Drive, Suite 456
Tech City, State 78910
Country

First Name Last Name
Email
Inquiry

Submit

← Back Home

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Front-End UI

The screenshot shows a web application interface for managing orders. At the top, there is a navigation bar with the logo 'AKREM' and links for 'Home', 'Donate', 'Contact Us', 'Sign In', and 'Register'. Below the navigation bar, the page title 'Orders' is displayed, followed by a sub-header '1 Order'. The main content area shows two items in the order:

Product	Description	Total
Betadine	Betadine Antiseptic Solution is a 10% Povidone-Iodine solution designed for first aid use. This broad-spectrum antiseptic helps prevent infection in minor cuts, scrapes, and burns. Easy to apply, Betadine is effective against bacteria, viruses, fungi, and spores. Ideal for your home first aid kit.	\$13
Panadol	Panadol Extra is a powerful pain relief solution combining Paracetamol and Caffeine to provide effective relief from headaches, toothache and other types of pain. Its small 15 ml bottle makes it convenient for on-the-go use.	\$26

Below the order summary, there is a section titled 'Promotions' containing a table of financial details:

Subtotal	\$39
Shopping Cost	\$3
Shopping Discount	-\$14
Estimated Sales Tax	\$6
Estimated Total	\$34

At the bottom of the page, there is a footer bar with the text '© copyright All content on this platform is copyrighted and owned by Akrem. Unauthorized use or reproduction is strictly prohibited. For inquiries, contact Akrem@gmail.com.' and a link '← Back Home'.

Front-End UI

A screenshot of a web-based donation platform. At the top, there's a navigation bar with the logo 'AKREM' (featuring a blue stylized 'A' and 'K'), followed by links for 'Home', 'Donate', 'Contact Us', 'Sign In', and 'Register'. Below the navigation is a large, bold 'Donate' button. To its right, the text '2 Items' indicates the number of items currently selected. The main content area displays two items: 'Betadine' and 'Panadol'. Each item has a small image, a quantity selector (+/-), and a detailed description. The 'Betadine' section shows a 15ml bottle and describes it as a 10% Povidone-Iodine solution for first aid. The 'Panadol' section shows several tablets and describes it as a pain relief solution combining Paracetamol and Caffeine. At the bottom left is a 'Add more +' button, and at the bottom center is a large blue 'Submit' button. A copyright notice at the very bottom states: '© copyright All content on this platform is copyrighted and owned by Akrem. Unauthorized use or reproduction is strictly prohibited. For inquiries, contact Akrem@gmail.com.'

Front-End UI

The screenshot shows a shopping cart page with the following details:

Item	Description	Total
Betadine Netto 15 ml	Betadine Antiseptic Solution is a 10% Povidone-iodine solution designed for first aid use. This broad-spectrum antiseptic helps prevent infection in minor cuts, scrapes, and burns. Effective against both bacterial and fungal organisms.	\$13
Panadol Extra	Panadol Extra is a powerful pain relief solution combining Paracetamol and Caffeine to provide effective relief from headaches, migraines, and other types of pain. Its small 15 ml bottle makes it convenient for on-the-go use.	\$26

[← Add more](#)

Promotions

Subtotal	\$39
Shopping Cost	\$3
Shopping Discount	-\$14
Estimated Sales Tax	\$6
Estimated Total	\$34

Check Out

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Front-End UI



Security



Password

New Password

Confirm

← Back Home

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Front-End UI



Appreciation



Thank You!

← Back Home

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Front-End UI

The screenshot shows a web application interface for 'AKREM'. At the top, there is a navigation bar with the AKREM logo, 'Home', 'Donate', 'Contact Us', a shopping cart icon showing '3', 'Tamer Adel', and 'Logout'. Below the navigation bar, the word 'History' is displayed in a large, bold, black font. The main content area shows a list of four items, each in a rounded rectangular box:

- Panadol Advance (Ordered)
- Betaderm Cream (Donated)
- Betaderm Cream (Donated)
- Panadol Extra (Ordered)

Below this list, there is a link labeled '← Back Home'. At the bottom of the page, a dark footer bar contains the copyright notice: '© copyright All content on this platform is copyrighted and owned by Akrem. Unauthorized use or reproduction is strictly prohibited. For inquiries, contact Akrem@gmail.com.'

Front-End UI



Order Placed



[← Back Home](#)

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10

Implementation



Implementation Software

Type	Web	Mob	Api	Admin
Framework	<ul style="list-style-type: none">• React	<ul style="list-style-type: none">• Flutter	<ul style="list-style-type: none">• .Net	<ul style="list-style-type: none">• Microsoft SQL
Languas	<ul style="list-style-type: none">• TypeScript	<ul style="list-style-type: none">• Dart	<ul style="list-style-type: none">• C#	<ul style="list-style-type: none">• SQL
IDE	<ul style="list-style-type: none">• Visual Studio code	<ul style="list-style-type: none">• Visual Studio code• Android studio	<ul style="list-style-type: none">• Visual Studio	<ul style="list-style-type: none">• Visual studio



Implementation Tools



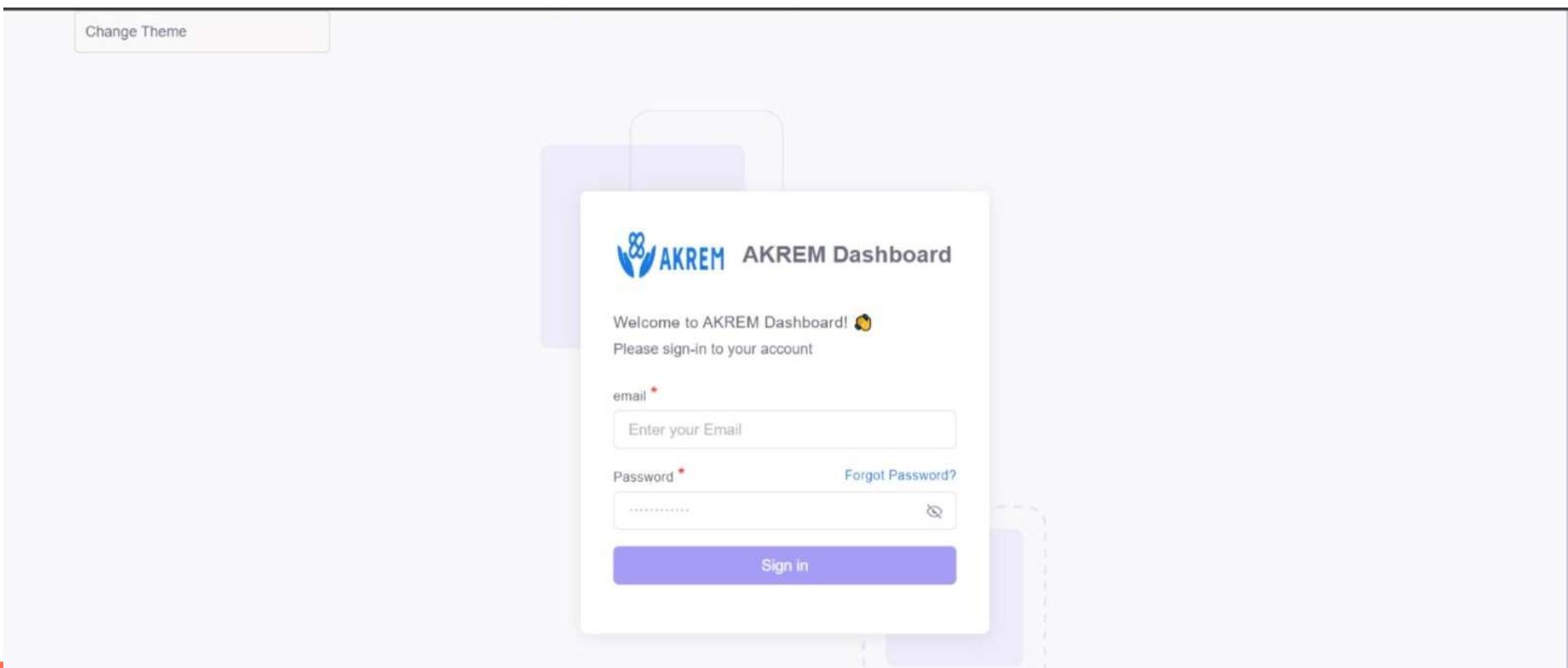
Type	Software
3D	<ul style="list-style-type: none">• Blender
UI & UX	<ul style="list-style-type: none">• Figma• Photoshop• Illustrator
Testing	<ul style="list-style-type: none">• Postman



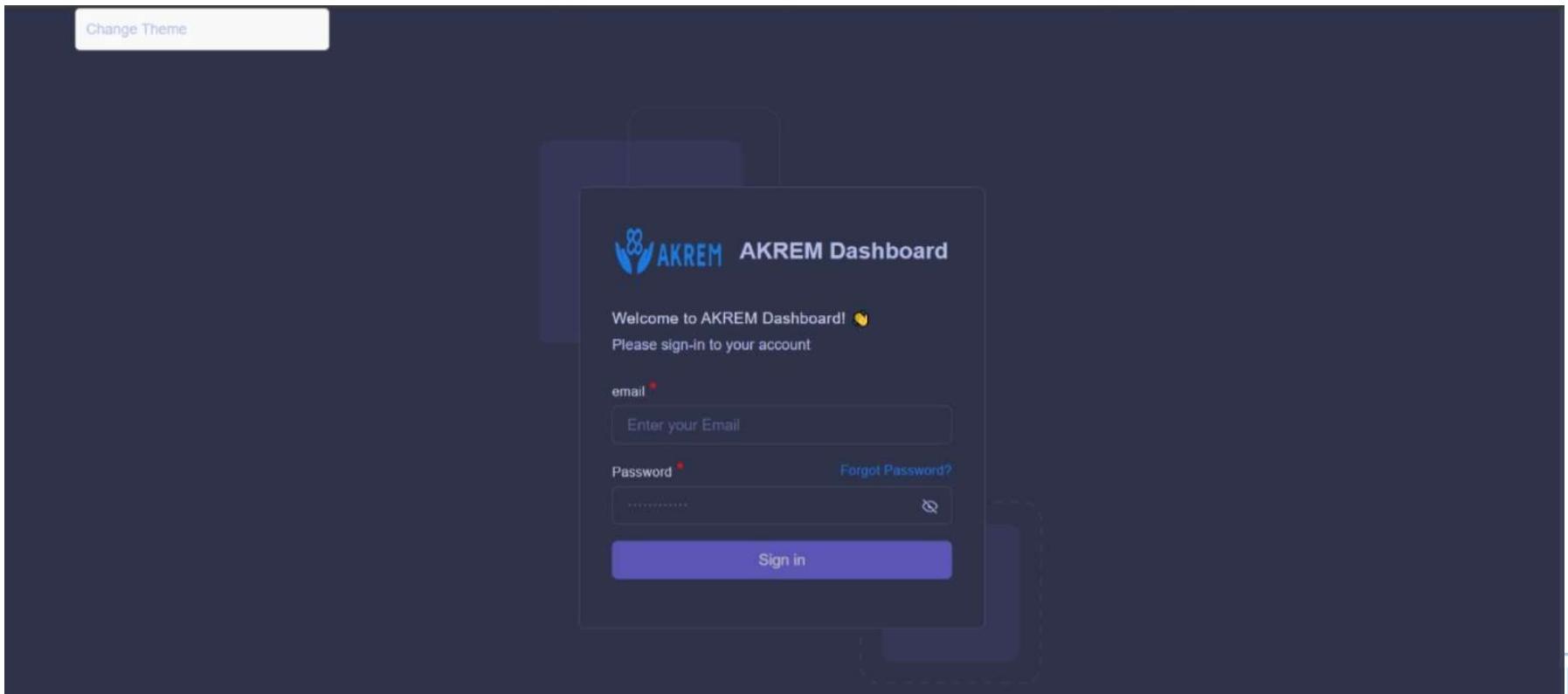


Admin web implementation

Admin Web Design



Admin Web Design



Admin Web Design

The screenshot shows a web-based administration interface for managing clients. The top navigation bar includes the logo 'AKREM' and the word 'Dashboard'. On the left, a sidebar lists various pages: Dashboard, Clients (selected), Staffs, All Partner, Partner Types, Branches, and Boxes. The main content area displays a table titled 'Client Details' with two entries:

ID	Client Details	Blocked	Status	CreatedOn	LastUpdatedOn	Actions
1	AdadasAsddas keviy39424@eqvox.com	Blocked	NoDeleted	10/6/2024	10/6/2024	
2	IslamsssssEssam knightsfightingmethod@gmail.com	NoBlocked	NoDeleted	8/6/2024	9/6/2024	

Below the table, a message indicates 'Showing 1 to 2 of 2 entries'. The top right corner of the dashboard header contains icons for notifications, user profile, and settings.

Admin Web Design

The screenshot displays a web-based administrative interface for 'AKREM'. On the left, a sidebar menu lists various sections: Dashboard, Clients (highlighted in yellow), Staffs, All Partner, Partner Types, Branches, and Boxes. The main content area shows a table titled 'Client Data' with two entries. A modal window titled 'Reset Password' is open over the table, containing fields for 'Password' and 'Confirm Password', both currently showing masked input. Below the modal, the table has columns for ID, Client Data, createdOn, lastUpdatedOn, and Actions. The first entry (ID 1) has a creation date of 2024-10-6 and an update date of 2024-10-6. The second entry (ID 2) has a creation date of 2024-9-6 and an update date of 2024-9-6. Navigation buttons at the bottom of the table include First, Previous, Next, and Last, with the current page set to 1.

Admin Web Design

The screenshot shows a web-based administrative interface for managing clients. On the left, there's a sidebar with a logo and several menu items: Dashboard, Clients (which is selected), Staffs, All Partners, Partner Types, Branches, and Boxes. The main area displays a table of client data with two entries:

ID	Client Details	Status	Created On	Last Updated On	Actions
1	AdadasAsddas kevy39424@eqvox.com	Blocked	10/6/2024	10/6/2024	
2	IslamssssEssam knightsfightingmethod@gmail.com	NoBlocked	8/6/2024	9/6/2024	

A modal dialog box titled "warning" is open in the center, asking "Are you sure you want to delete permanently your client?". There is a red "Save changes" button at the bottom right of the modal. The footer of the page shows pagination: First, Previous, 1, Next, Last.

Admin Web Design

The screenshot displays a web-based administrative interface for managing clients. On the left, a sidebar menu lists various pages: Dashboard, Clients (which is selected and highlighted in blue), Staffs, All Partner, Partner Types, Branches, and Boxes. The main content area shows a modal window titled "Update Client". Inside the modal, there are fields for "First Name" (Adadas) and "Last Name" (Asddas). Below these fields is a "Change Photo" button. Underneath the photo section is a "Has WhatsApp" toggle switch, where the "false" option is selected. At the bottom of the modal are two buttons: a green "Update" button and a red "Cancel" button. In the background, a list of clients is visible, showing entries for "10/6/2024" and "9/6/2024". The overall design is clean and modern, using a light gray background and a white modal window.

Admin Web Design

The screenshot shows the AKREM Dashboard interface. On the left, there's a sidebar with navigation links: Dashboard, Clients, Staffs (which is highlighted), All Partner, Partner Types, Branches, and Boxes. The main content area is titled "AKREM Dashboard" and contains a "Staff Details" table. The table has columns for ID, Staff Details, Role, Status, CreatedOn, lastUpdatedOn, NationalId, and Actions. One entry is listed: ID 1, Staff Details AdminAdmin, Role Admin, Client, Driver, Status NoDeleted, CreatedOn 8/6/2024, lastUpdatedOn Nothing was last updated, NationalId There is no national ID, and Actions with edit, delete, and more options buttons. At the bottom, it says "Showing 1 to 1 of 1 entries".

ID	Staff Details	Role	Status	CreatedOn	lastUpdatedOn	NationalId	Actions
1	AdminAdmin admin@Akrem.com	Admin,Client,Driver	NoDeleted	8/6/2024	Nothing was last updated	There is no national ID	

Admin Web Design

The screenshot shows a web-based administrative dashboard for 'WAKREM'. The left sidebar includes a logo, a 'Dashboard' link, and sections for 'PAGES' (Clients, Staffs, All Partner, Partner Types, Branches, Boxes), 'SHOWS' (1), and 'BOXES' (1). The main area features a modal window titled 'Add Client Information' with fields for First Name (John), Last Name (Doe), Email (example@gmail.com), NationalID (john.doe.007), Password, ConfirmPassword, and Role. Buttons for 'Add' and 'Cancel' are at the bottom. A search bar and navigation buttons (Previous, Next, Last) are visible on the right.

Admin Web Design

The screenshot shows a web-based administrative interface for managing partners. The left sidebar contains a logo and navigation links for Dashboard, Clients, Staffs, All Partners (which is selected), Partner Types, Branches, and Boxes. The main content area has a header with a search bar and user icons. A modal window titled '+ Add Partners' is open, showing a warning message: 'warning' and 'Are you sure you want to soft delete your Partner?'. Below the modal is a table with columns: ID, Name Partner, Partner Type, Images, CreatedOn, LastUpdatedOn, and Actions. The table lists 8 rows of partner data, each with a 'Save changes' button.

ID	Name Partner	Partner Type	Images	CreatedOn	LastUpdatedOn	Actions
1	III			024	Nothing was last updated	
2	Misr Pha			2024	Nothing was last updated	
3	Misr Pha			2024	Nothing was last updated	
4	Ss			2024	Nothing was last updated	
5	Ssqq	Eeeeeeee		9/6/2024	Nothing was last updated	
6	Sqqqqqq	Eeeeeeee		9/6/2024	Nothing was last updated	
7	Ssss	Eeeeeeee		9/6/2024	Nothing was last updated	
8	Sssqqqq	Hospital		9/6/2024	Nothing was last updated	

Admin Web Design

The screenshot shows a web application interface for managing partners. On the left, there's a sidebar with a logo and navigation links including Dashboard, Clients, Staffs, All Partners (which is selected), Partner Types, Branches, and Boxes. The main area has a header with a search bar and user icons. A modal window titled "Add Partners" is open, showing fields for Name (John) and Choose PartnerType, along with a "Change Photo" button and "Add" and "Cancel" buttons. In the background, there's a table listing partner records with columns for ID, Name, LastUpdatedOn, and Actions. Each row shows a timestamp of "24" and the message "Nothing was last updated" followed by edit, delete, and more options icons.

ID	Name	LastUpdatedOn	Actions
1	iii	24	Nothing was last updated
2	Misr	24	Nothing was last updated
3	Misr	24	Nothing was last updated
4	Ss	24	Nothing was last updated
5	Sqqq	24	Nothing was last updated
6	Sqqq	24	Nothing was last updated
7	Ssss	24	Nothing was last updated
8	Sssqqq	24	Nothing was last updated

Admin Web Design

The screenshot shows the AKREM Admin Dashboard. On the left, there's a sidebar with navigation links: Dashboard, Clients, Staffs, All Partner, Partner Types (which is selected), Branches, and Boxes. The main area has a header with a search bar and user icons. Below it is a table titled '+ Add Name Partner' with columns: ID, Name Partner, CreatedOn, LastUpdatedOn, and Actions. The table contains six rows of partner data.

ID	Name Partner	CreatedOn	LastUpdatedOn	Actions
1	Ddd	9/6/2024	Nothing was last updated	
2	Eeeeeeee	9/6/2024	9/6/2024	
3	Hospital	9/6/2024	Nothing was last updated	
4	Qqqqqqqqeee	9/6/2024	9/6/2024	
5	Sss	9/6/2024	Nothing was last updated	
6	Wwwqqqq	9/6/2024	9/6/2024	

Admin Web Design

AKREM Dashboard

Dashboard >

PAGES

- Clients
- Staffs
- All Partner
- Partner Types
- Branches
- Boxes

+ Add Name Branche

ID	Name Branche	Address	Area	Branche Image	Partner Name	Phone Number	CreatedOn	LastUpdatedOn	Actions	
1	Qqq	qq	Burg Al Burullus	Misr Pharmacies1	01014587412	9/6/2024	Nothing was last updated			
2	Test	cairo	Qaha	Misr Pharmacies	01017105132	9/6/2024	Nothing was last updated			

Admin Web Design

The screenshot displays a web-based administrative interface for managing branches. On the left, a sidebar menu lists various pages: Dashboard, Clients, Staffs, All Partners, Partner Types, Branches (which is currently selected), and Boxes. The main content area shows a list of existing branches with columns for ID, Name, and Branch. A modal window titled "Add Branche Information" is open in the center, prompting the user to input details such as Name, Address, Phone Number, Partner, Governorates, and Area. Below the form are "Change Photo" and "Add" buttons. At the top right of the page, there is a header bar with icons for notifications, user profile, and other system functions.

10
0

Admin Web Design

The screenshot displays a web-based administrative interface for managing branches. On the left, a sidebar menu lists various sections: Dashboard, Clients, Staffs, All Partner, Partner Types, Branches, and Boxes. The 'Boxes' section is currently selected, indicated by a highlighted background.

The main content area shows a table of existing branches:

ID	Name	Branche	capacity	CreatedOn	LastUpdatedOn	Actions
1	Test		5	9/6/2024	9/6/2024	Edit Delete More
2	Test				Nothing was last updated	Edit Delete More
3	Test				Nothing was last updated	Edit Delete More

A modal window is open in the center, titled "Add Branch Information". It contains a sub-modal for "Choose Branches" with a single input field and a "Cancel" button at the bottom.

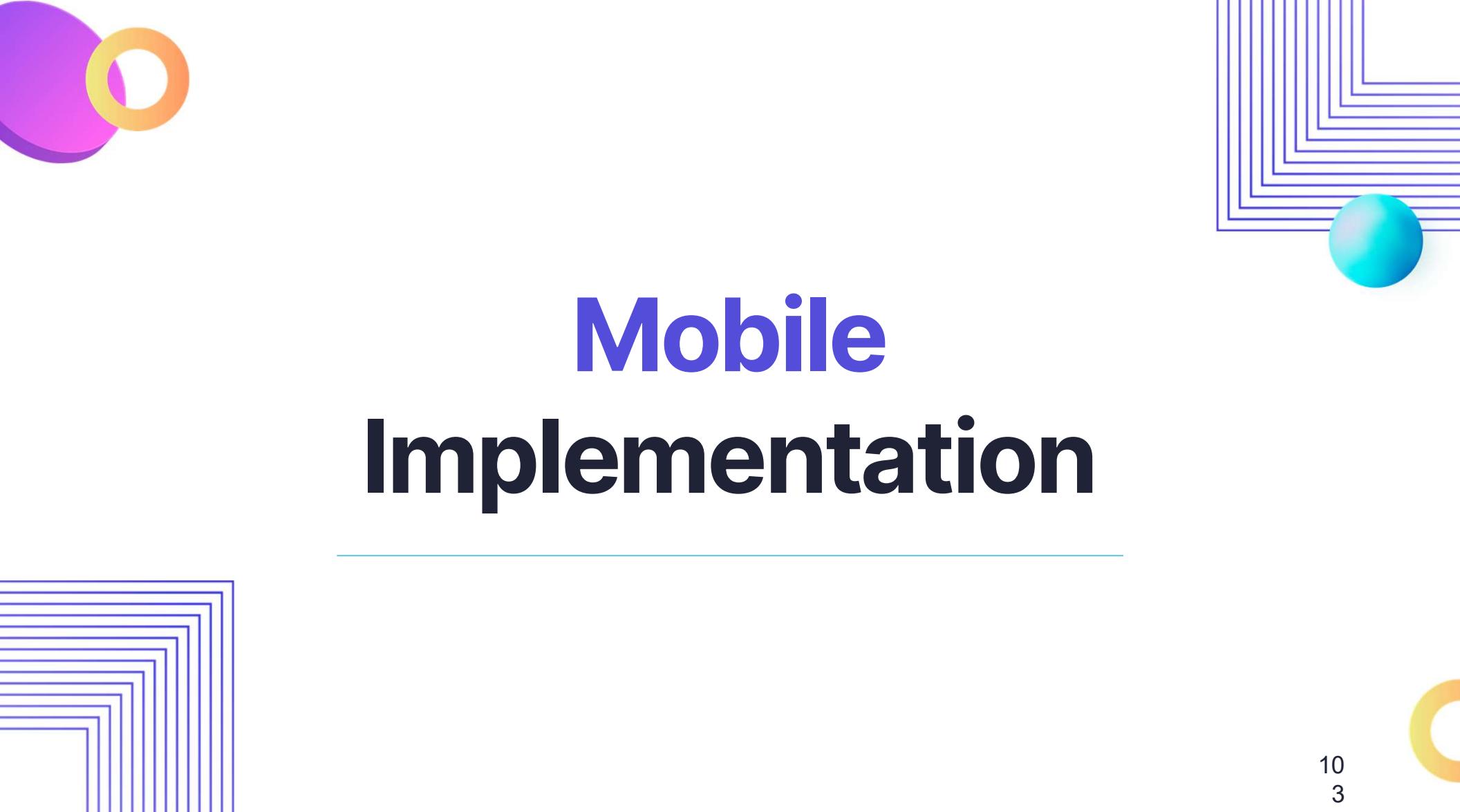
10
1

Admin Web Design

The screenshot shows a web-based administrative interface for managing branches. On the left, there's a sidebar with the 'AKREM' logo and a 'Dashboard' section. Below it, under 'PAGES', are links for 'Clients', 'Staffs', 'All Partners', 'Partner Types', 'Branches', and 'Boxes'. The 'Boxes' link is highlighted with a light gray background. The main content area has a header with a search bar and user icons (flag, bell, profile, etc.). A modal window titled 'Edit Branch Information' is open over a table of branch data. The modal contains fields for 'Latitude' (with placeholder 'Enter Latitude'), 'Longitude' (placeholder 'Enter Longitude'), 'Capacity' (placeholder 'Enter Capacity'), and 'Branch' (a dropdown menu). At the bottom of the modal are 'Save' and 'Cancel' buttons.

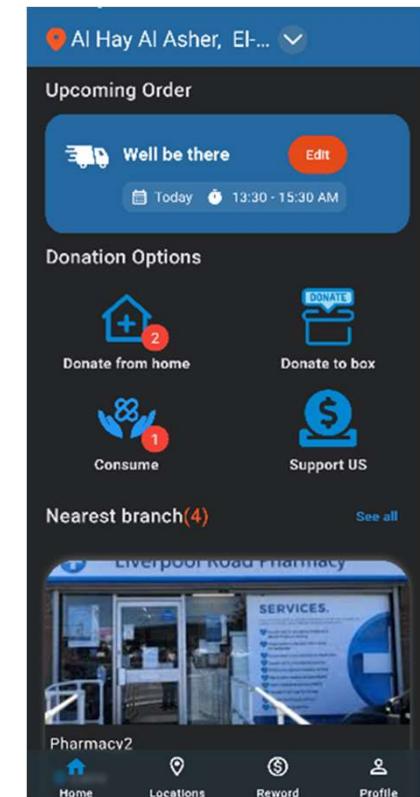
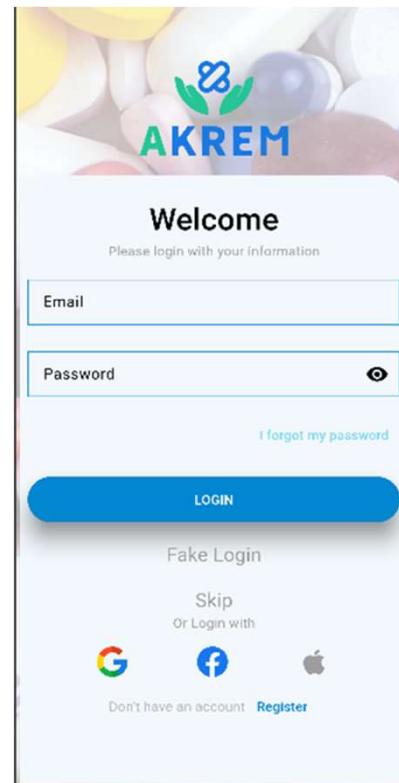
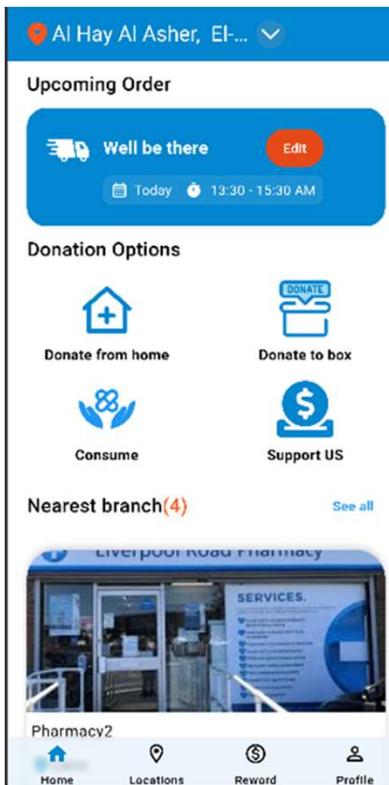
ID	Name	Branch	capacity	CreatedOn	LastUpdatedOn	Actions
1	Test				9/6/2024	
2	Test				Nothing was last updated	
3	Test				Nothing was last updated	

10
2



Mobile Implementation

Mobile UI



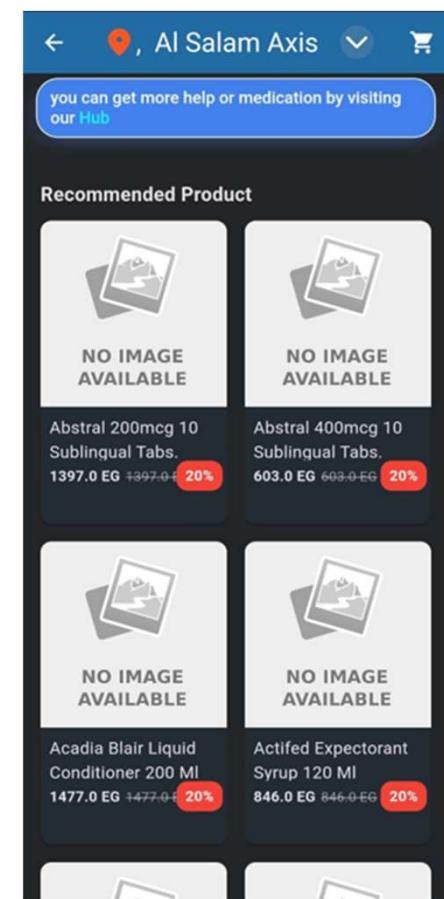
Mobile UI



Temp

- Account >
- Settings >
- Donation History >
- Billing Details >
- Support >
- About US >
- Logout

Developed by **MaVeRicks Team** 🇪🇬



0
5

Mobile UI

Checkout

Location: Industrial Area, Gamal Abdel Nasser

Building

Street
Al Dabaa

Apartment

Floor

Phone
9182361233

WhatsApp

Checkout

Tablets Liquid Device

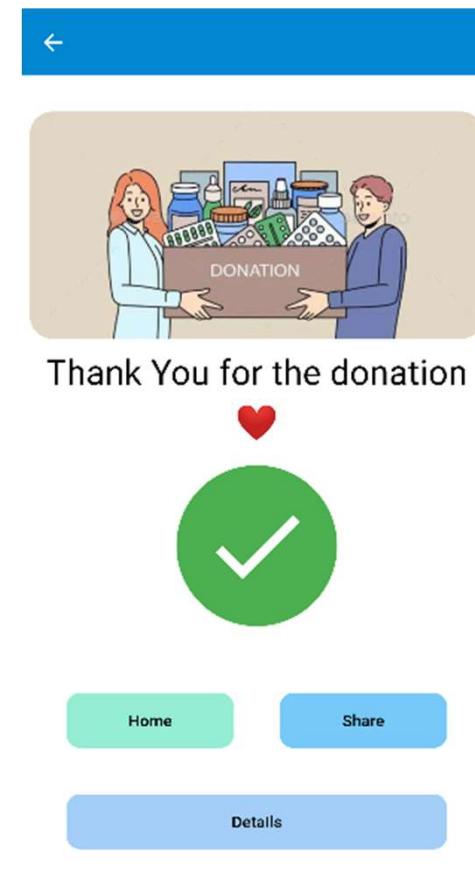
Patches Injections ?

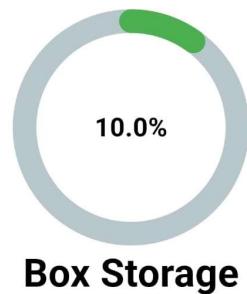
Name

No.bars bars - +

No.pills (Optional) pills - +

Seal is opened (Check if the seal is opened)

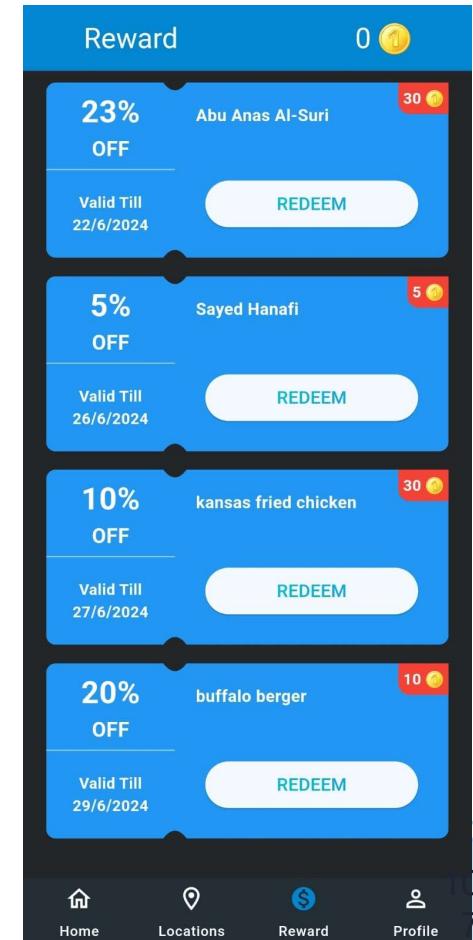
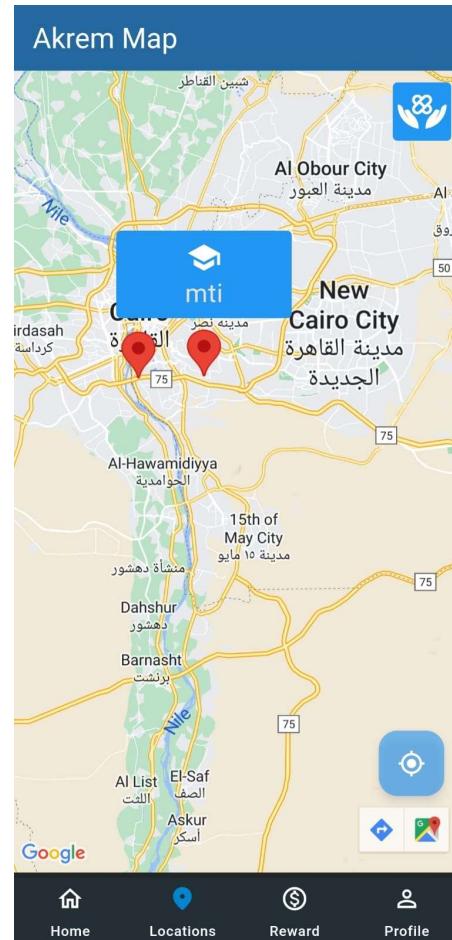




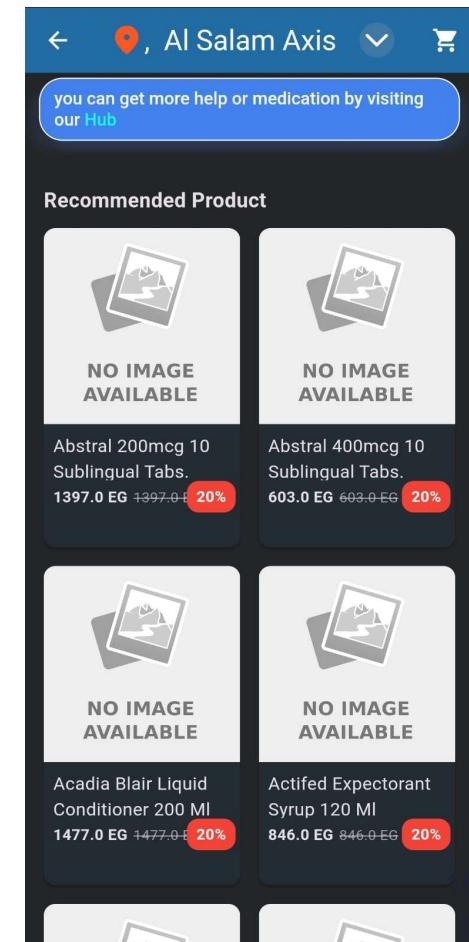
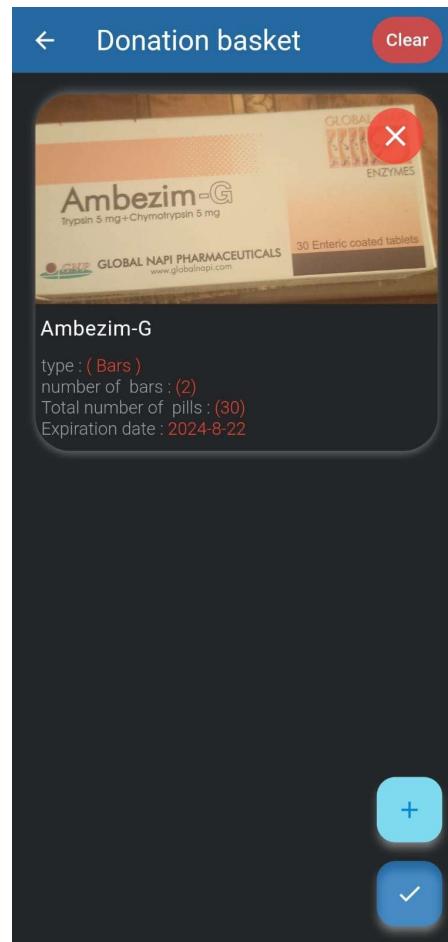
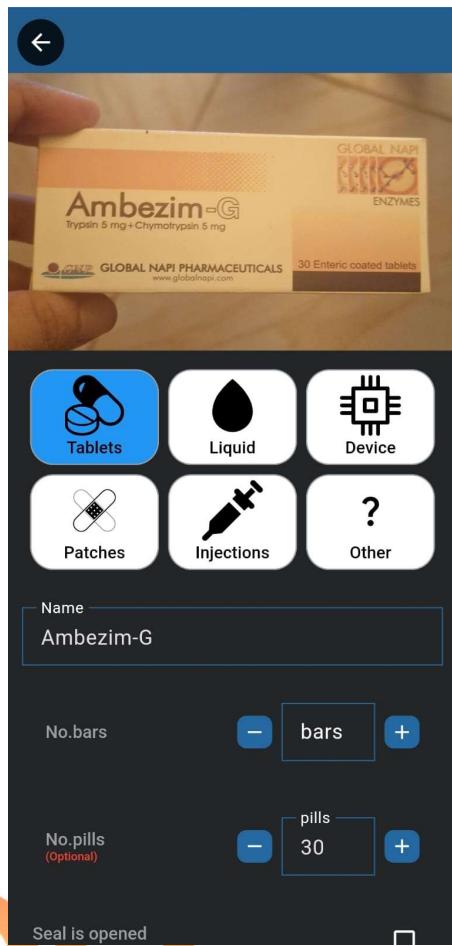
Help

Location

Mobile UI



Mobile UI



Mobile UI

Hello , Rahma
Have A Nice Day

To Deliver Delived

ORDER567900

Albert

150th Street, Near Cascade restaurant

Show Details

ORDER567900

Albert

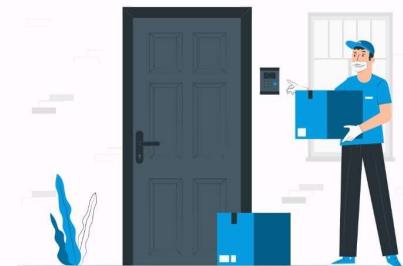
150th Street, Near Cascade restaurant

Show Details

ORDER567900

Albert

150th Street, Near Cascade restaurant



On Time Delivery

We won't keep you waiting for long



Detiles

Albert



150th Street, Near Cascade restaurant



Panadol Extra

1

₹ 12,000



Panadol Extra

1

₹ 12,000



Panadol Extra

1

₹ 12,000

Total ₹ 480.00

Delivery charge ₹ 480.00

Sub Total ₹ 480.00

PROCEED TO CHECKOUT

10
9

Mobile UI

No Name

 Account >

 Settings >

 Donation History >

 Billing Details >

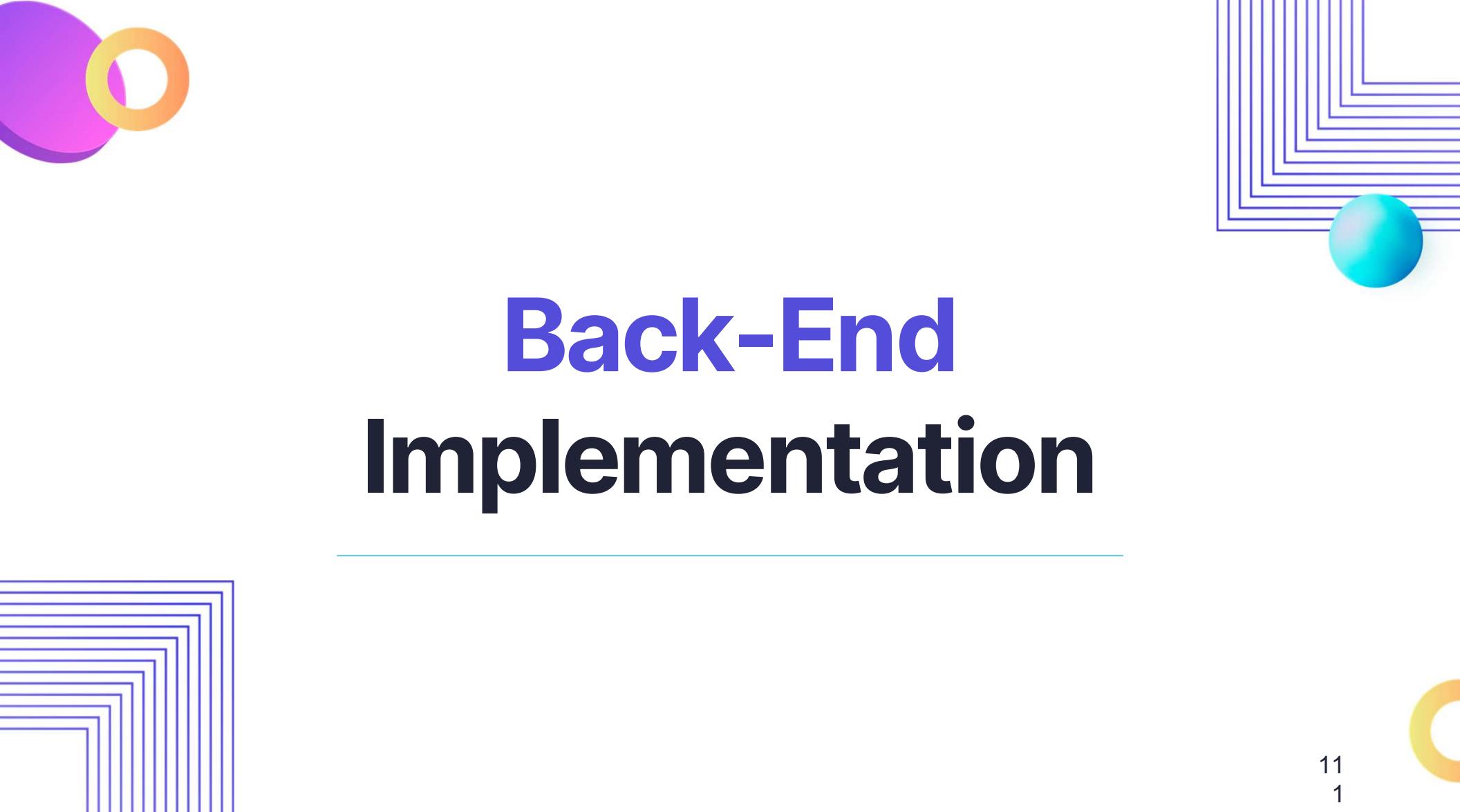
 Support >

 About US >

 Logout



11
0



Back-End Implementation

Back-End Interface

Smart Medicine Donation Platform v1 GAS3
<http://akremplatform.somee.com/swagger/v1/swagger.json>

Web API Managing "Akrem" Web and Mobile Application for medicine donations.

Islam Essam Samir - Website
Send email to Islam Essam Samir
License : MTI University , Supervisor :- Prof Dr Ahmed Said

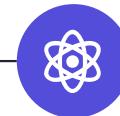
Authorize 

Account

<small>GET</small>	/api/Account/GetProfile Note: Need Authenticated User ..	<small>▼</small> <small>🔒</small>
<small>POST</small>	/api/Account/EditProfile Note: Need Authenticated User .. please send data from *** FORM ***	<small>▼</small> <small>🔒</small>
<small>GET</small>	/api/Account/ChangeEmail Note: Need Authenticated User ..	<small>▼</small> <small>🔒</small>
<small>GET</small>	/api/Account/ConfirmChangeEmail	<small>▼</small> <small>🔒</small>
<small>POST</small>	/api/Account/ChangePassword Note: Need Authenticated User ..	<small>▼</small> <small>🔒</small>
<small>POST</small>	/api/Account/AddNewPhoneNumber Note: Need Authenticated User ..	<small>▼</small> <small>🔒</small>
<small>POST</small>	/api/Account/ConfirmationPhoneNumber Note: Need Authenticated User ..	<small>▼</small> <small>🔒</small>
<small>GET</small>	/api/Account/GetClientAddresses Note: Authorized Roles: client only	<small>▼</small> <small>🔒</small>
<small>POST</small>	/api/Account/AddClientAddresses Note: Authorized Roles: client only ... Maximum Number of Addresses you can add is: 16 Address, if more return BadRequest	<small>▼</small> <small>🔒</small>
<small>PUT</small>	/api/Account/EditClientAddresses Note: Authorized Roles: client only	<small>▼</small> <small>🔒</small>

Implementation

Mobile App



Web App

Akrem



AI Model



Implementation

Mobile App

Locations ,donate from and consume medications.

Web App

locations ,donate , consume medications

AI Model

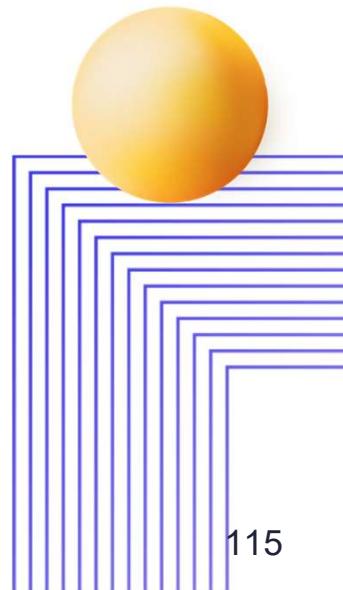
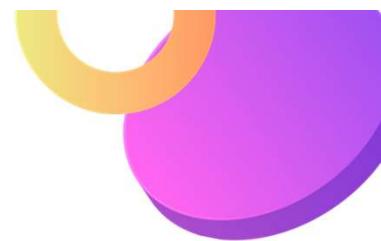
Will save time by validating the medication

Admin Web App

Handle operation and database

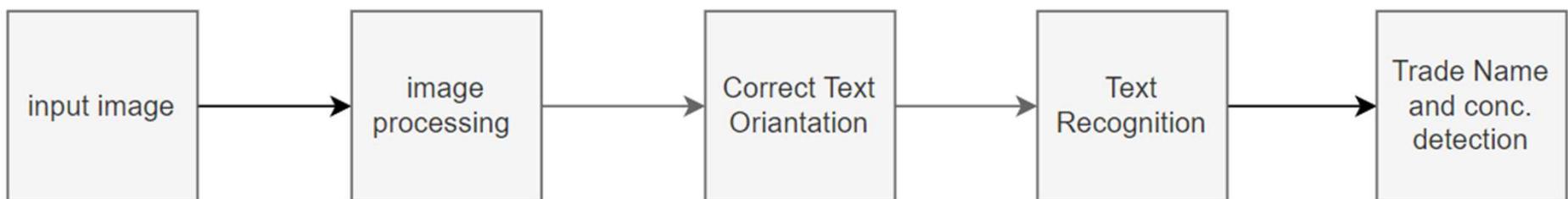


Methodology



Methodology

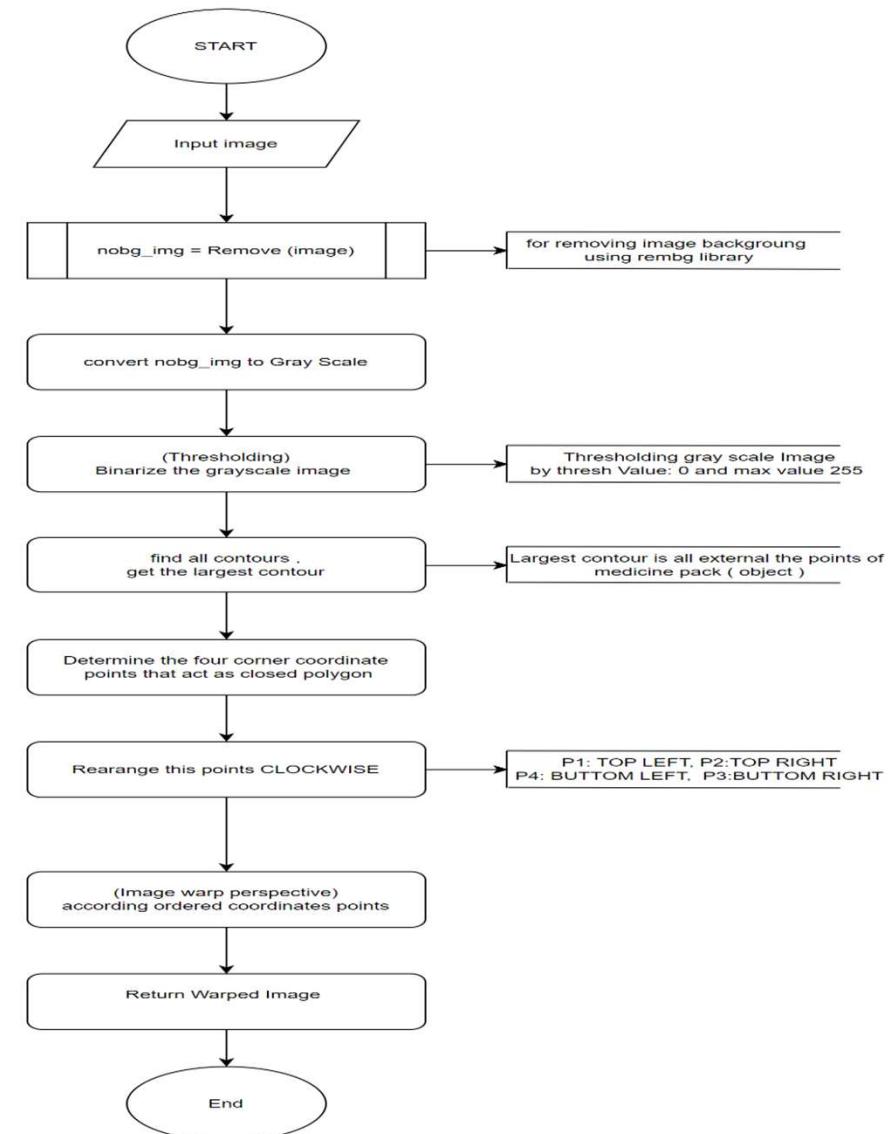
First Approaches:



Methodology

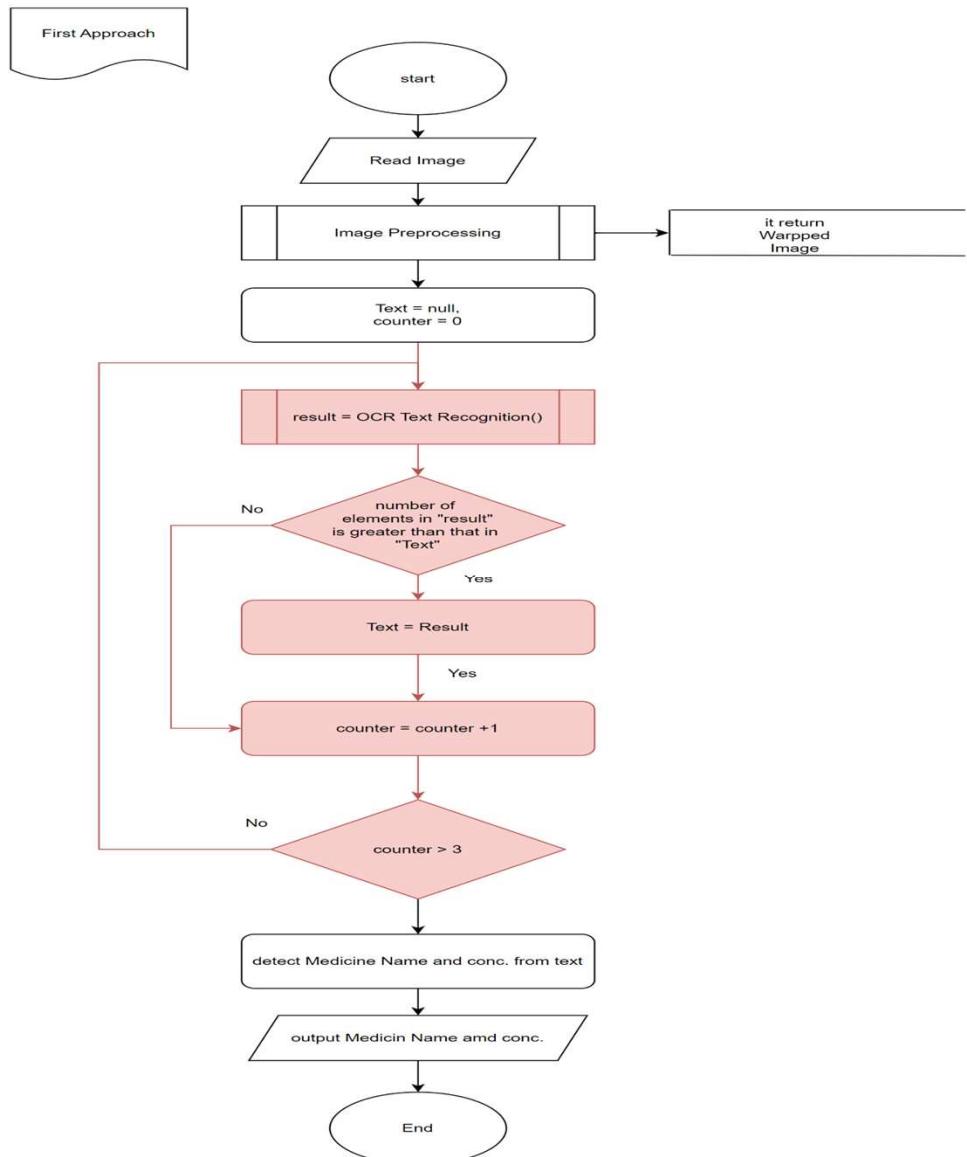
Image processing of first three approaches

Image Preprocessing
(done)



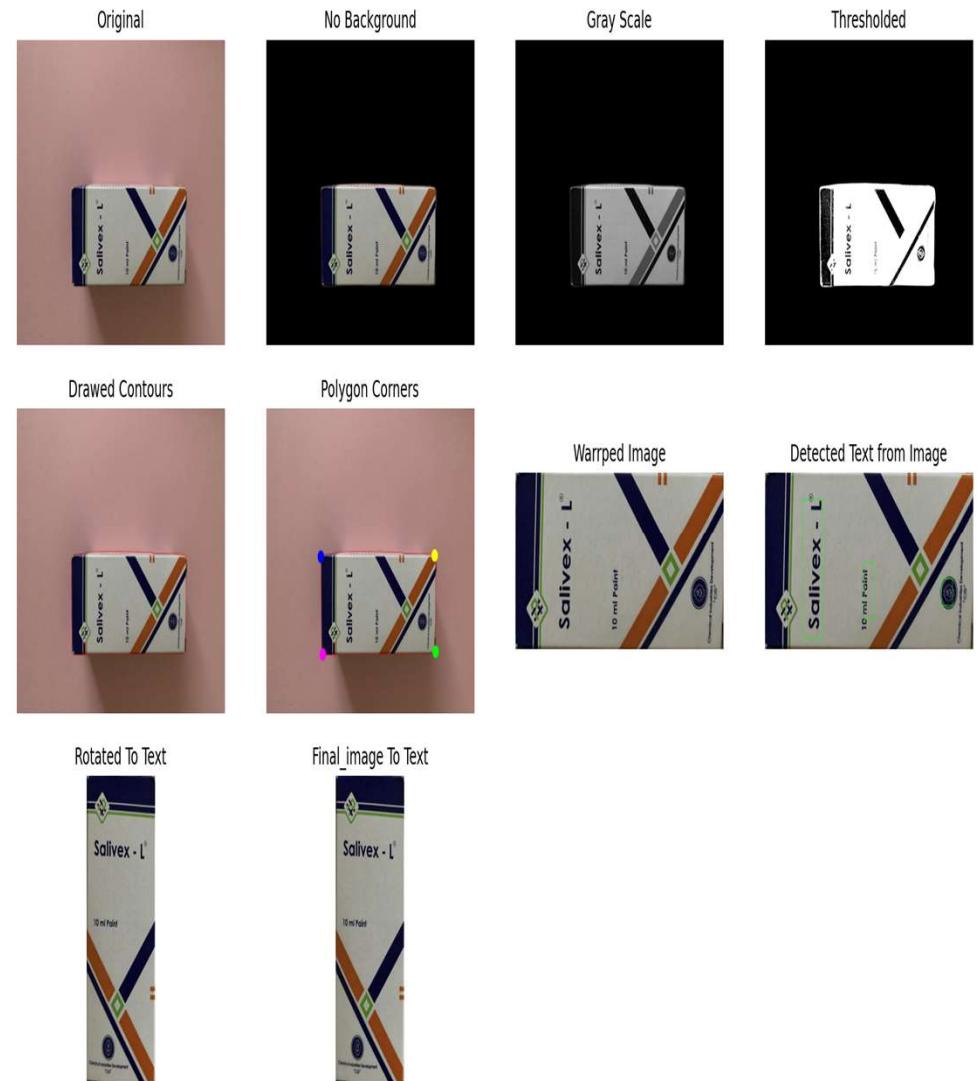
Methodology

First Approach by Keras OCR



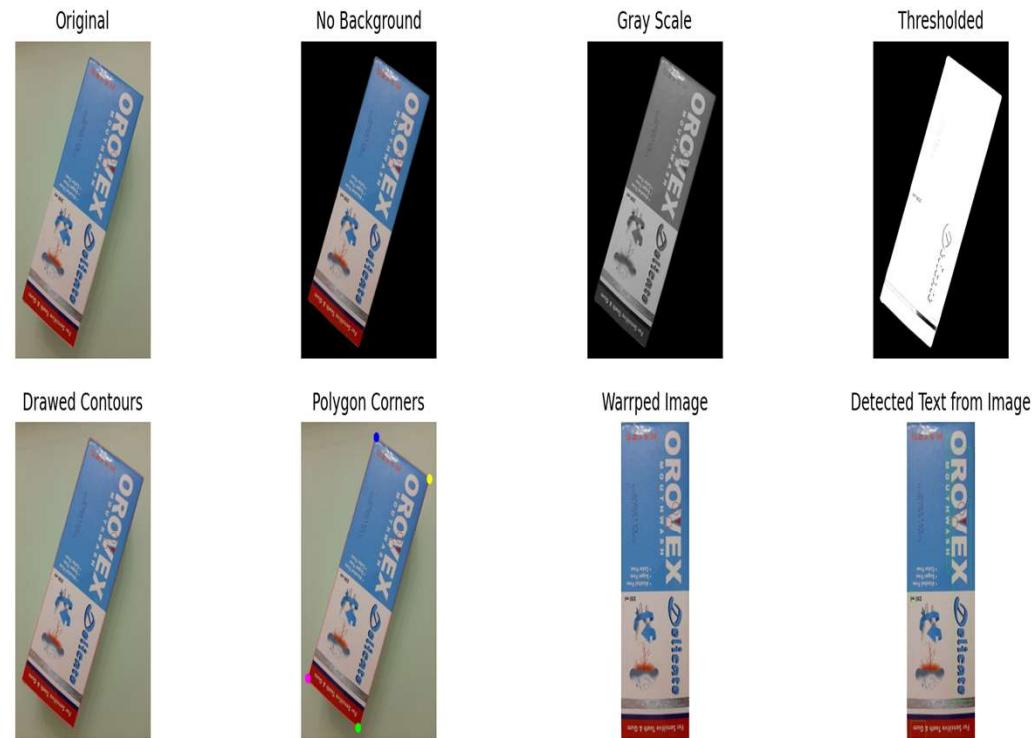
Methodology

Second Approach by Paddle OCR
and EAST Text Detector:



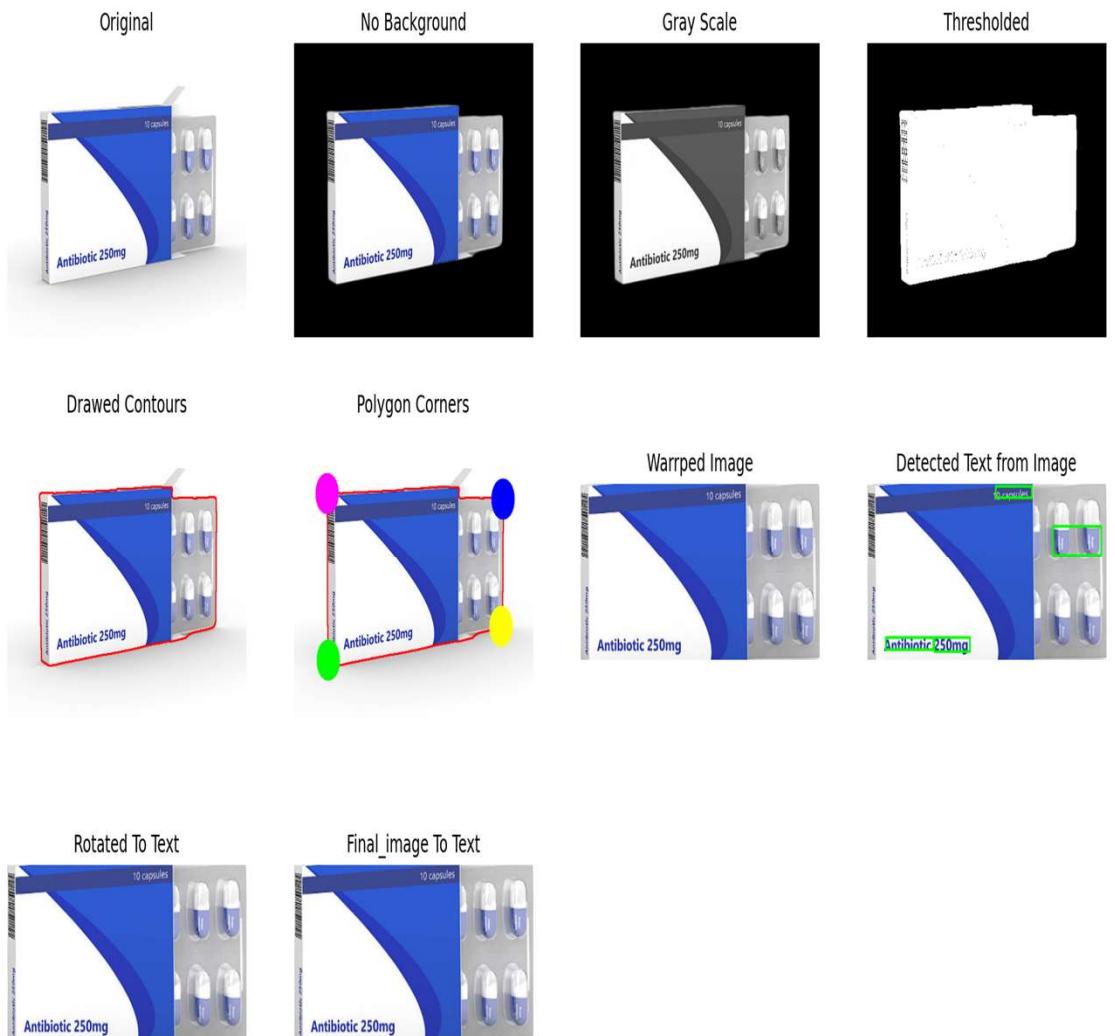
Methodology

Second Approach by Paddle OCR
and EAST Text Detector:



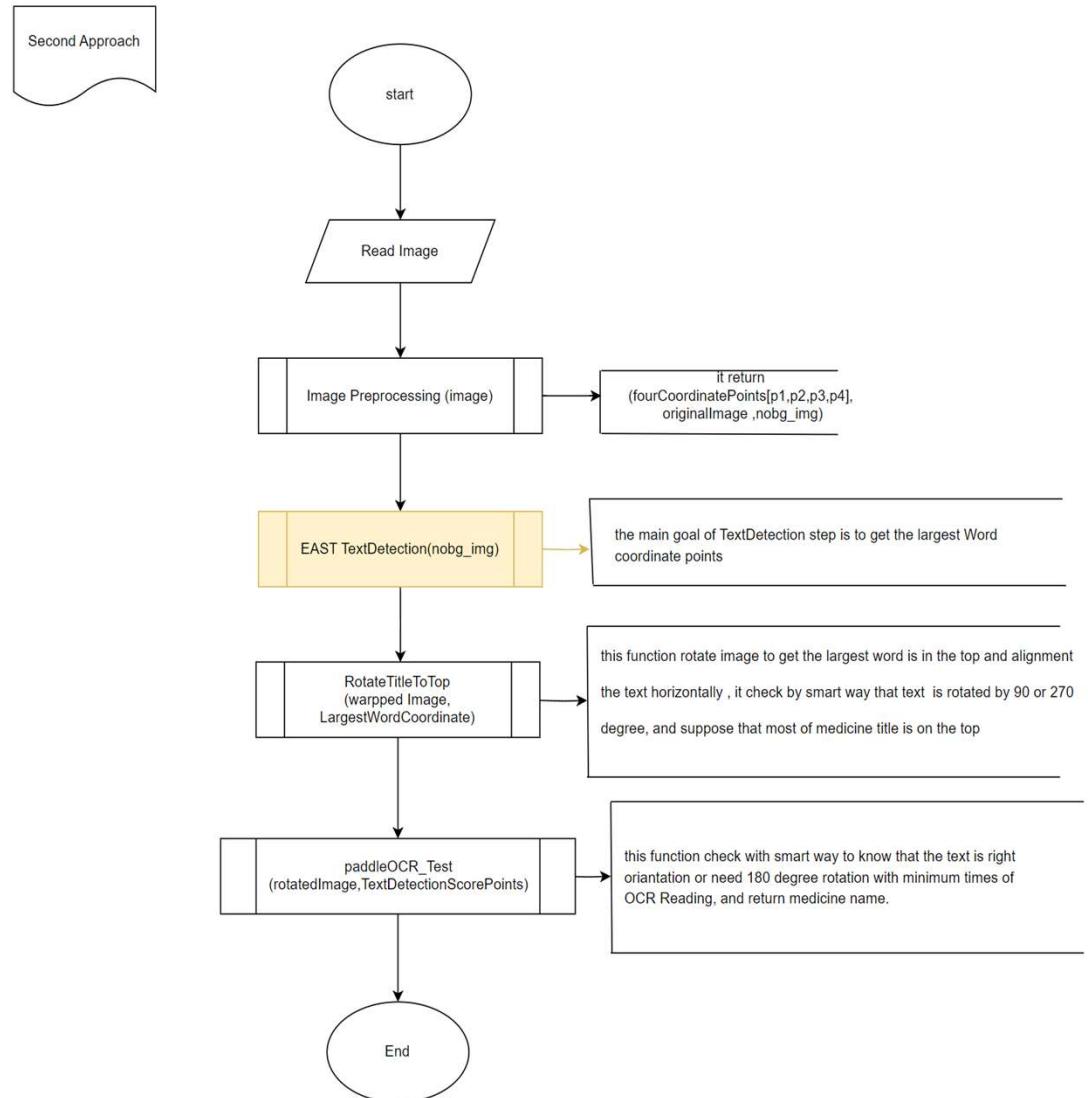
Methodology

Second Approach by Paddle OCR
and EAST Text Detector:



Methodology

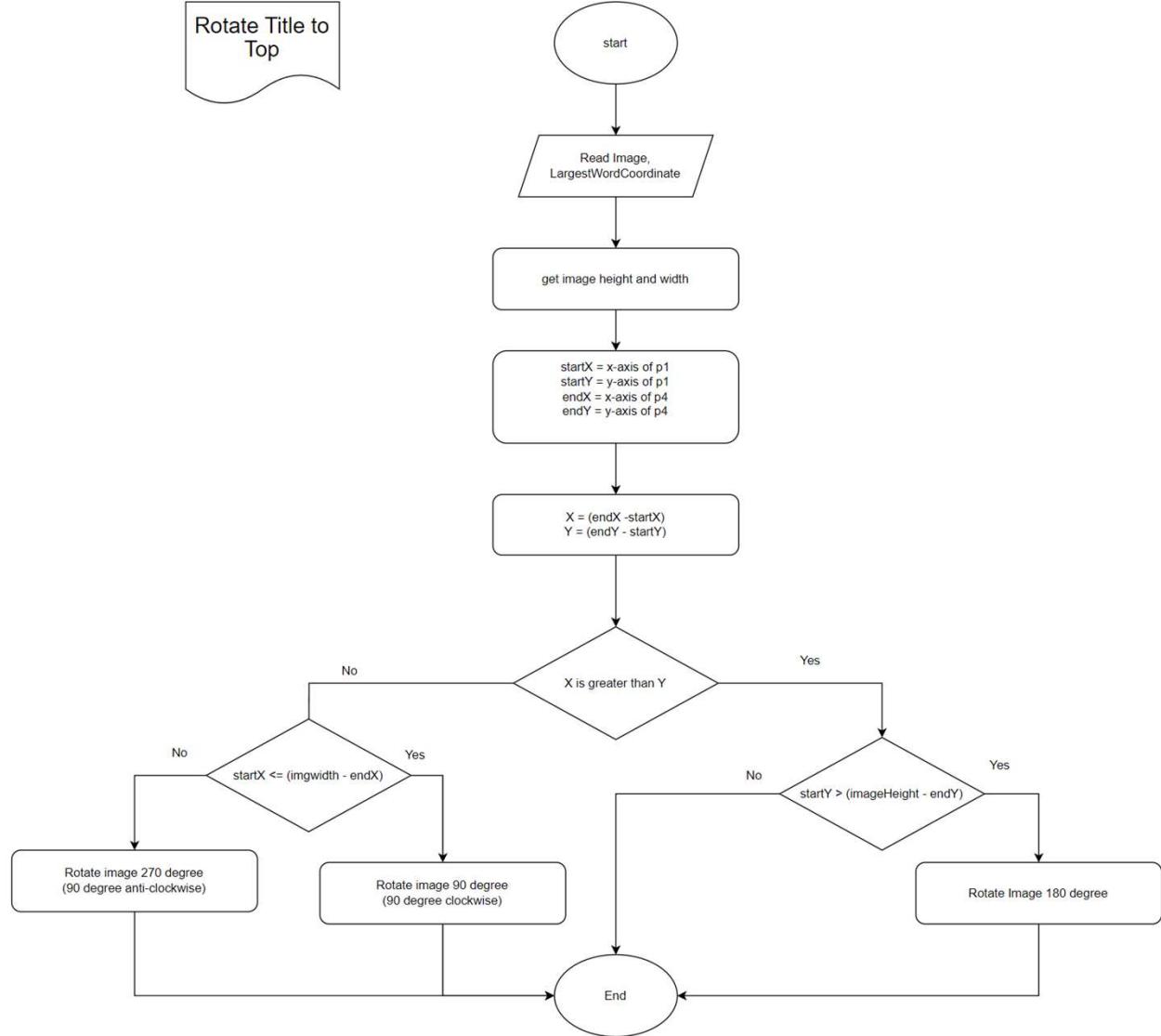
Image processing of Second approaches



Methodology

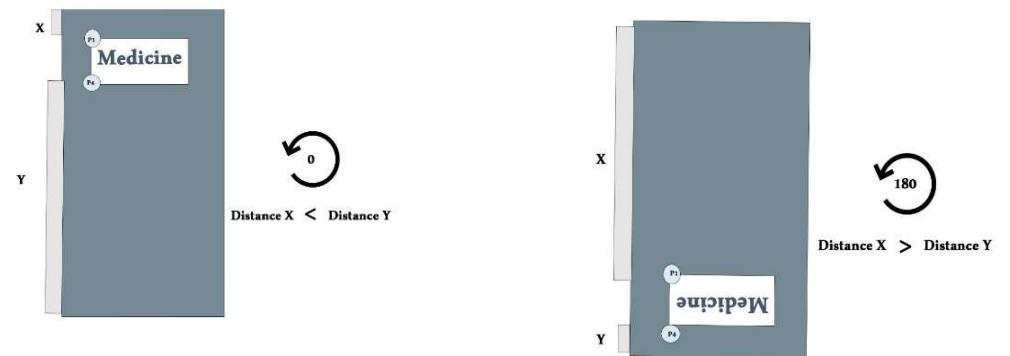
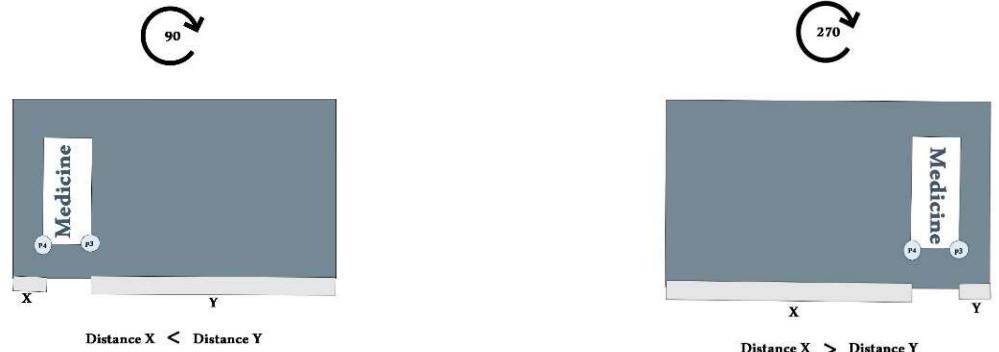
Rotate Title to Top

Rotate Title to
Top



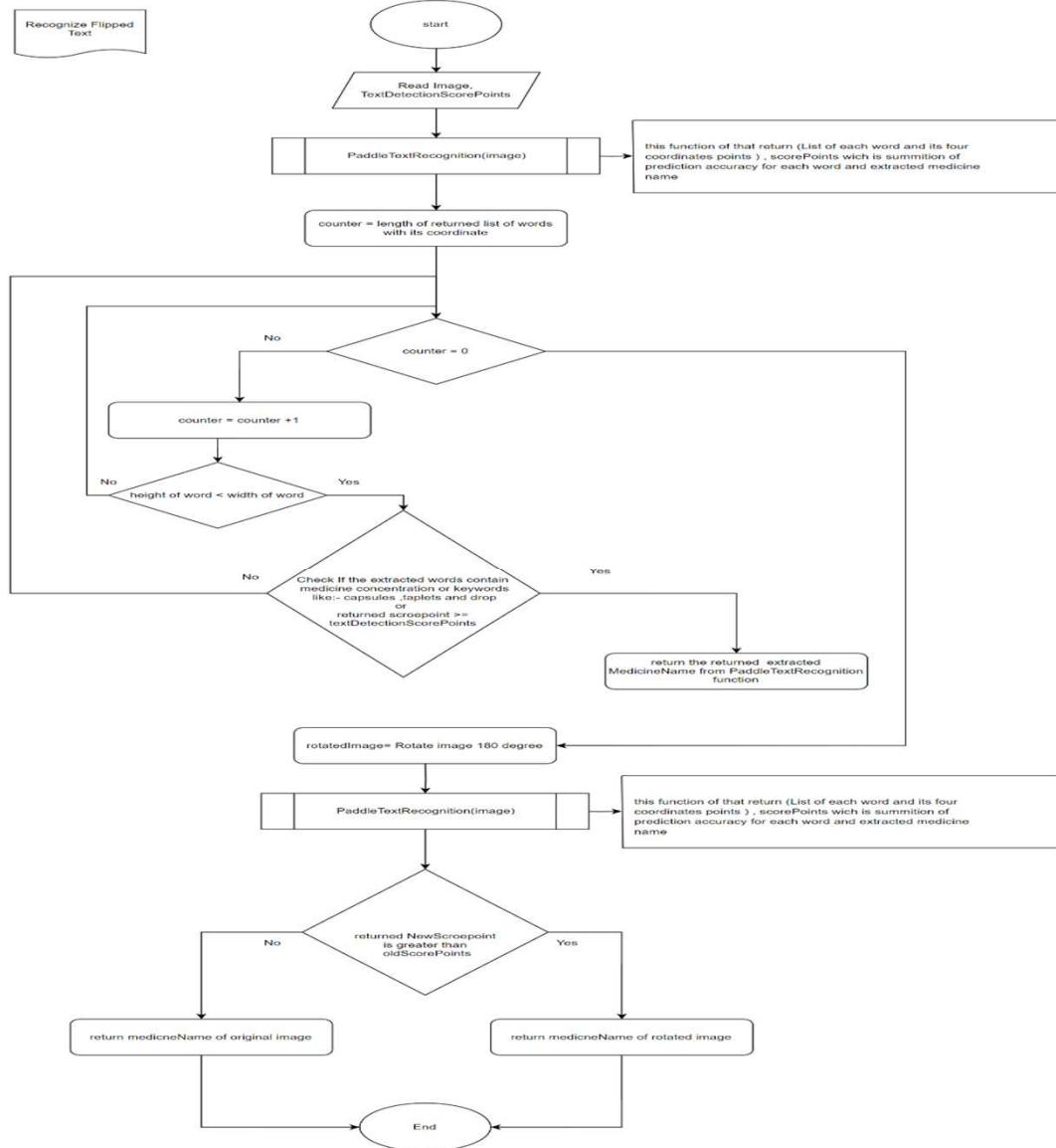
Methodology

Second Recognize Text of (0
and 180) degree Orientation



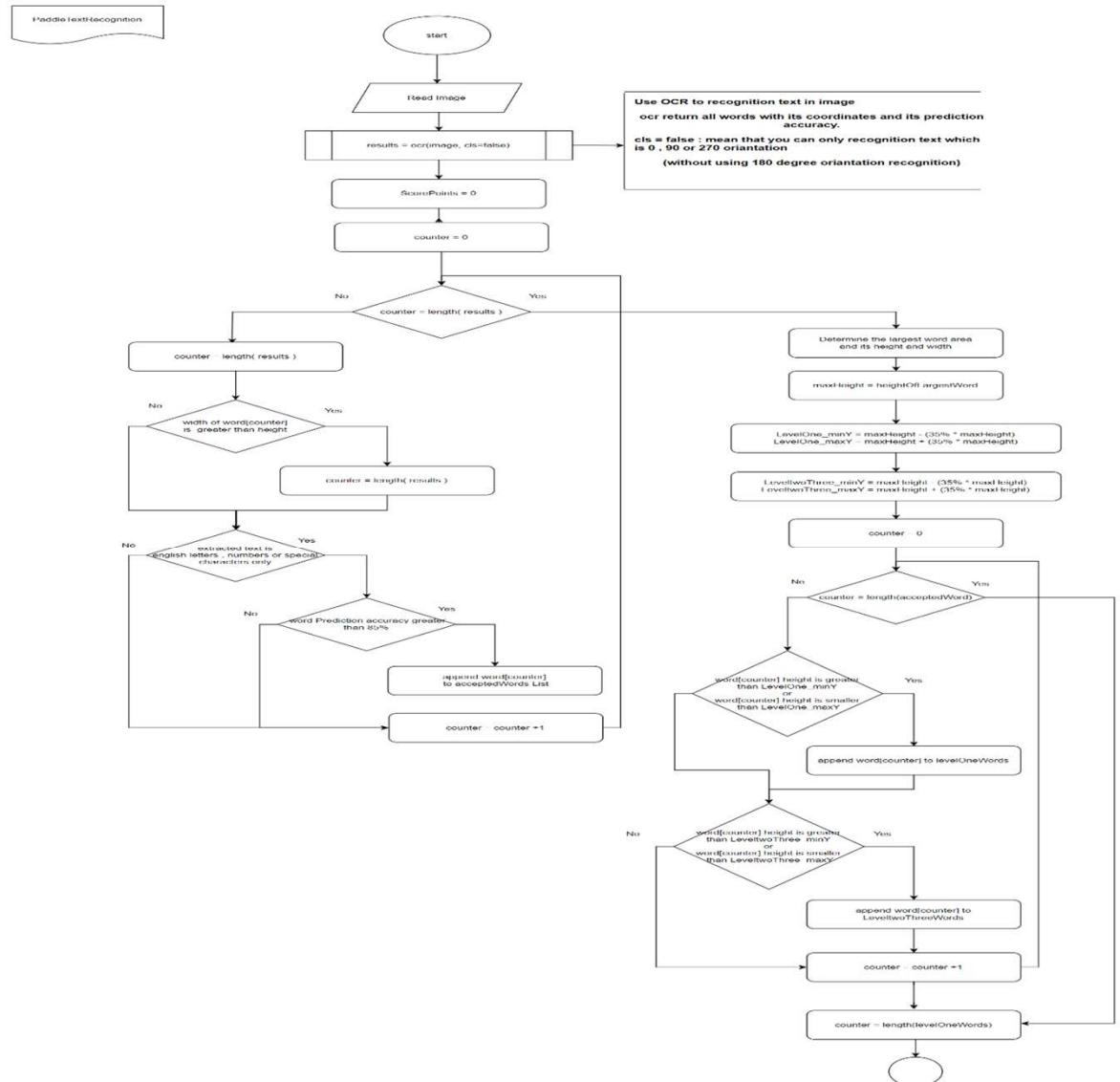
Methodology

Second Recognize Flipped Text



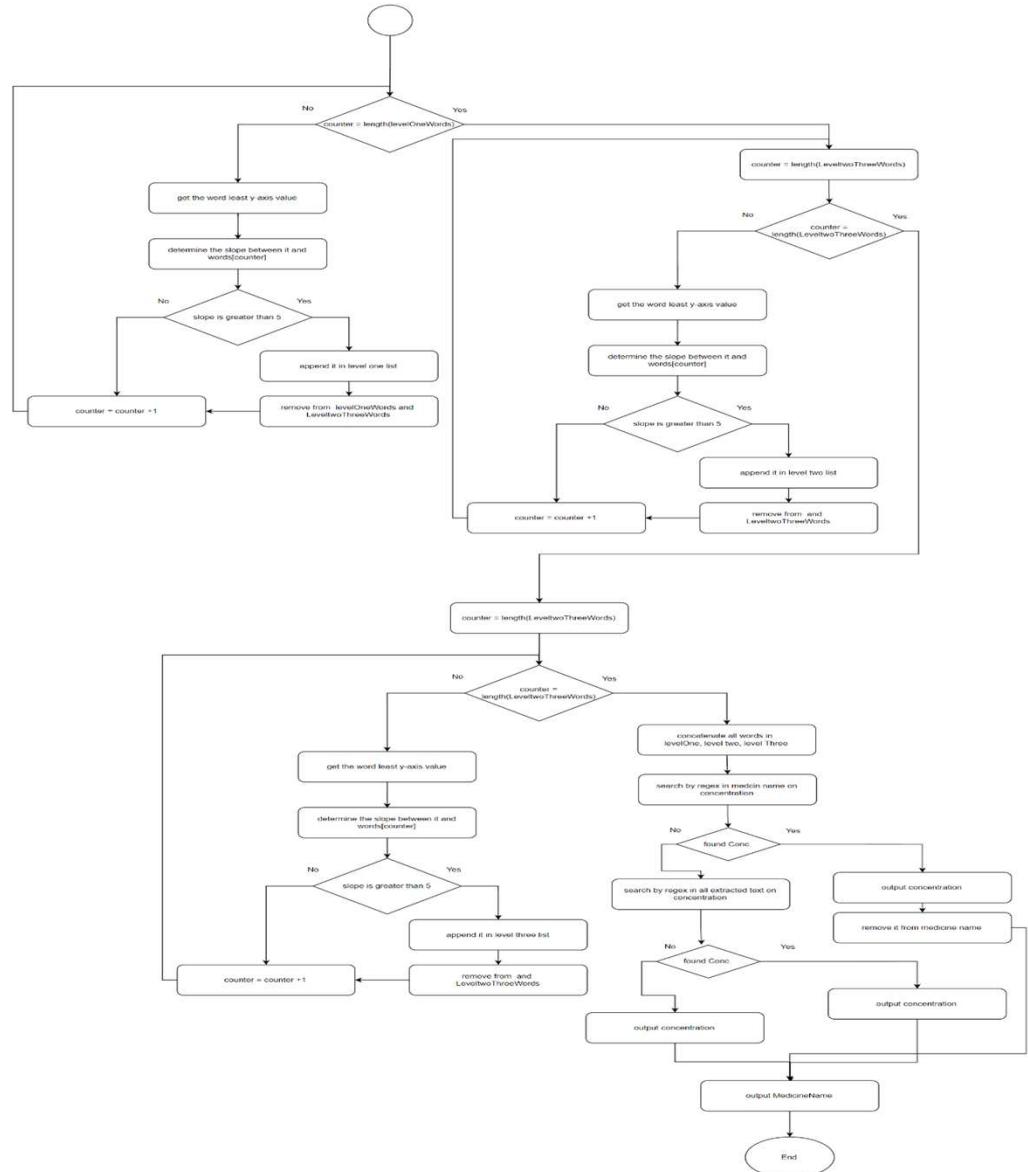
Methodology

Second Recognize Flipped Text



Methodology

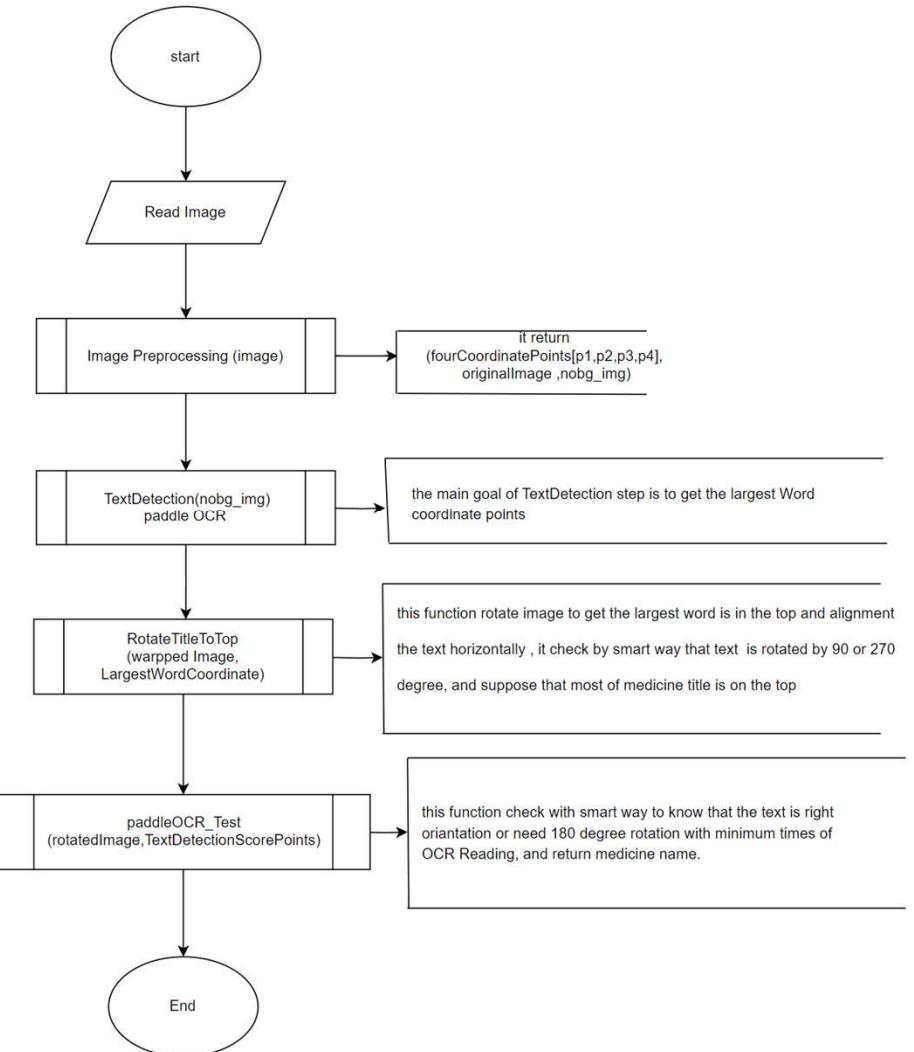
Second Recognize Flipped Text



Methodology

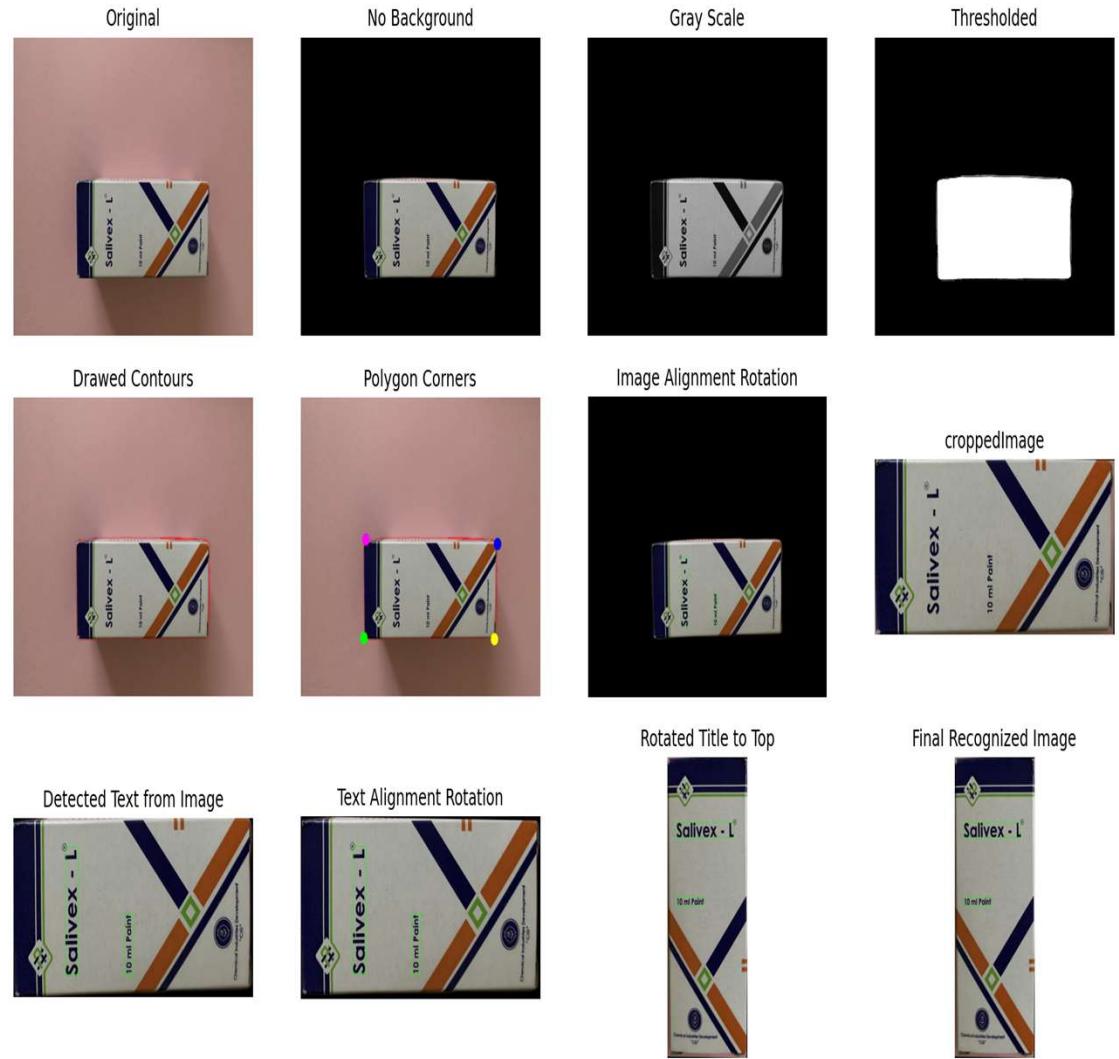
Third Approach Using Paddle OCR

Third Approach



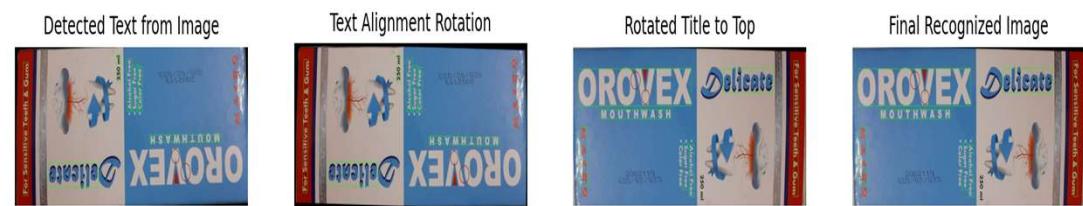
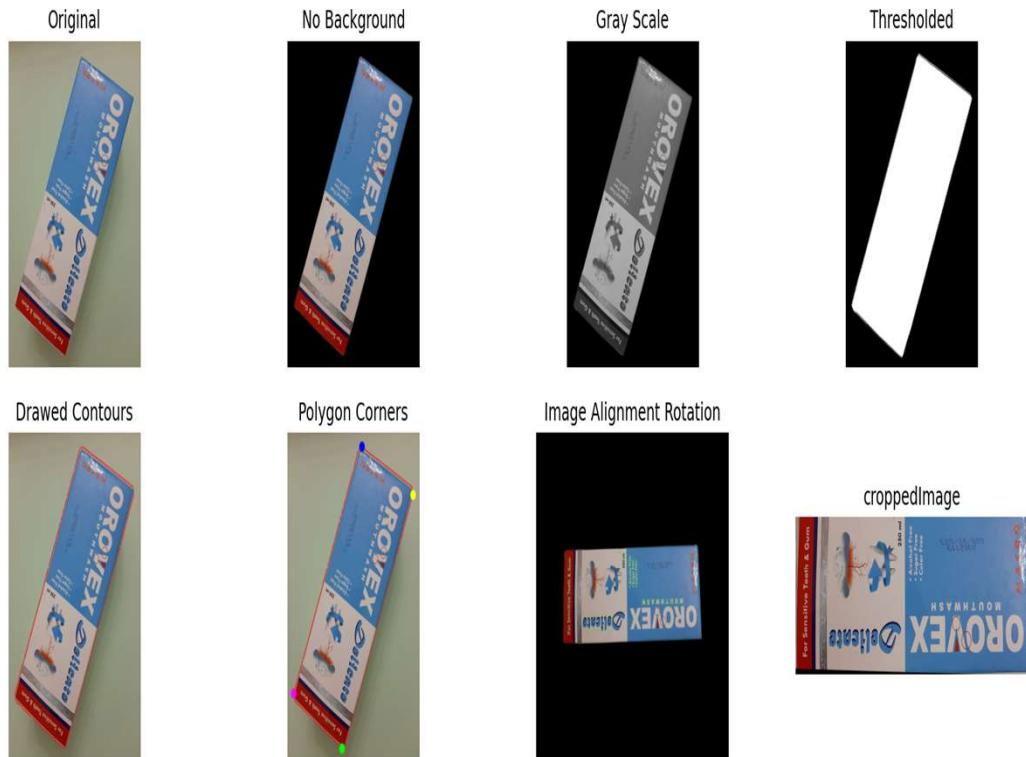
Methodology

Fourth Approach changing Image Processing Phase



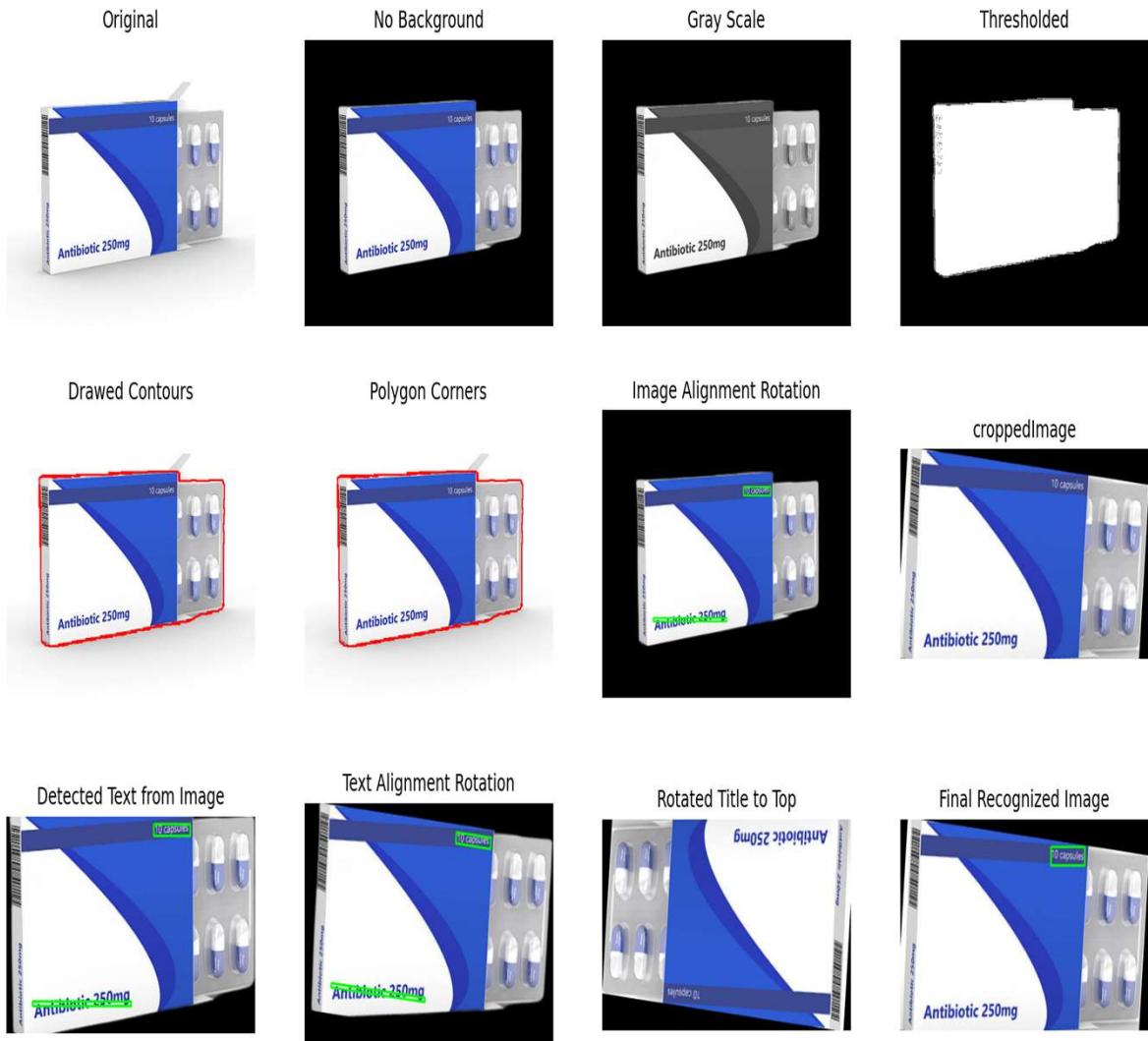
Methodology

Fourth Approach changing Image Processing Phase



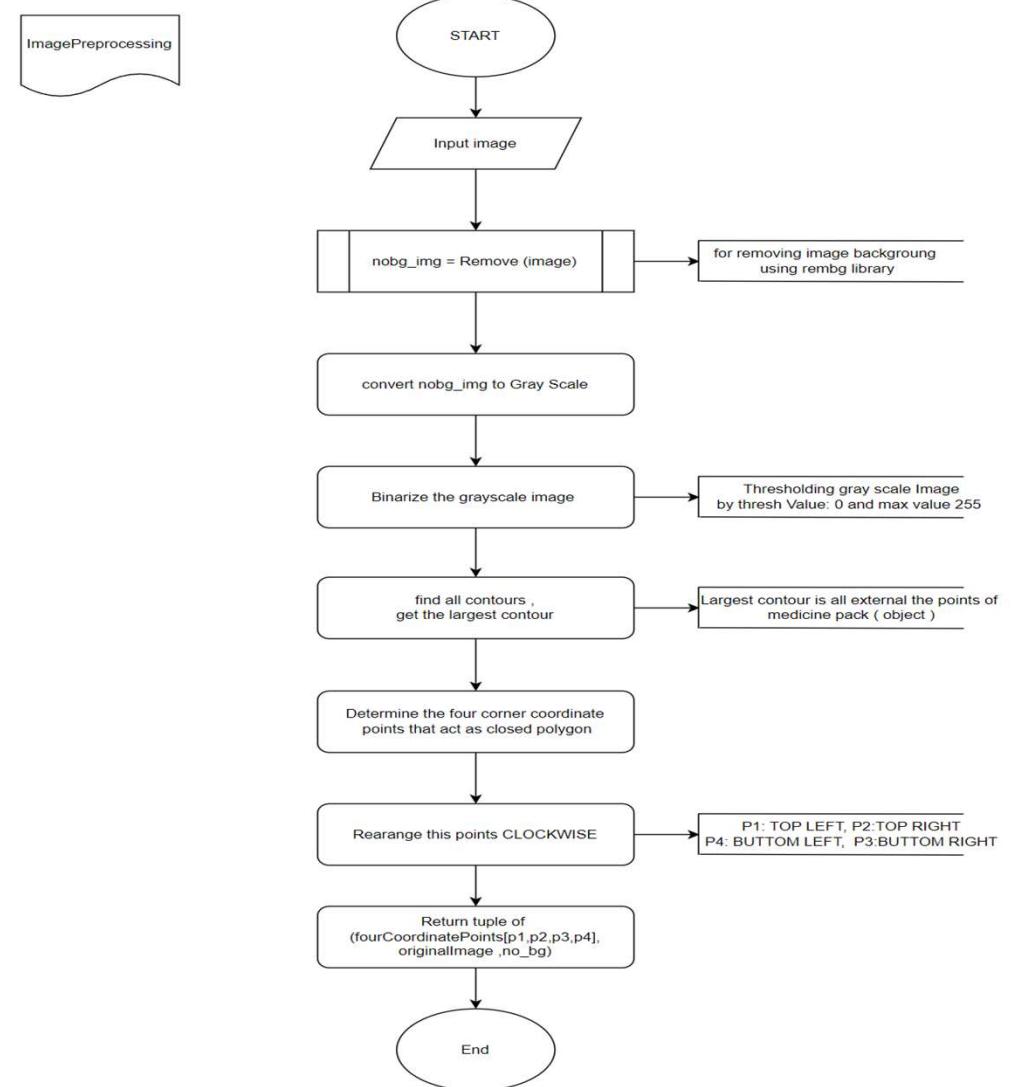
Methodology

Fourth Approach changing Image Processing Phase



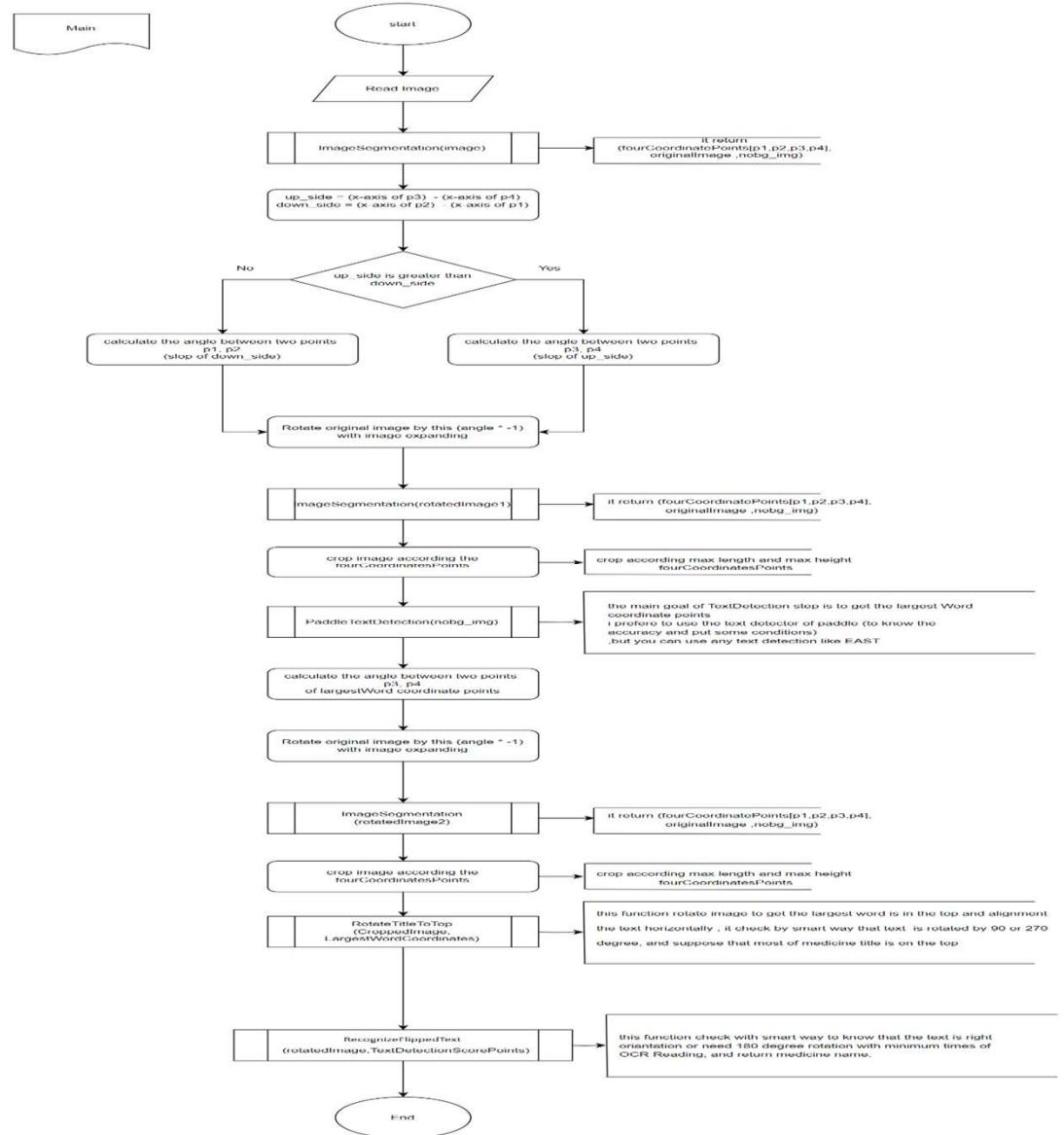
Methodology

Image Processing



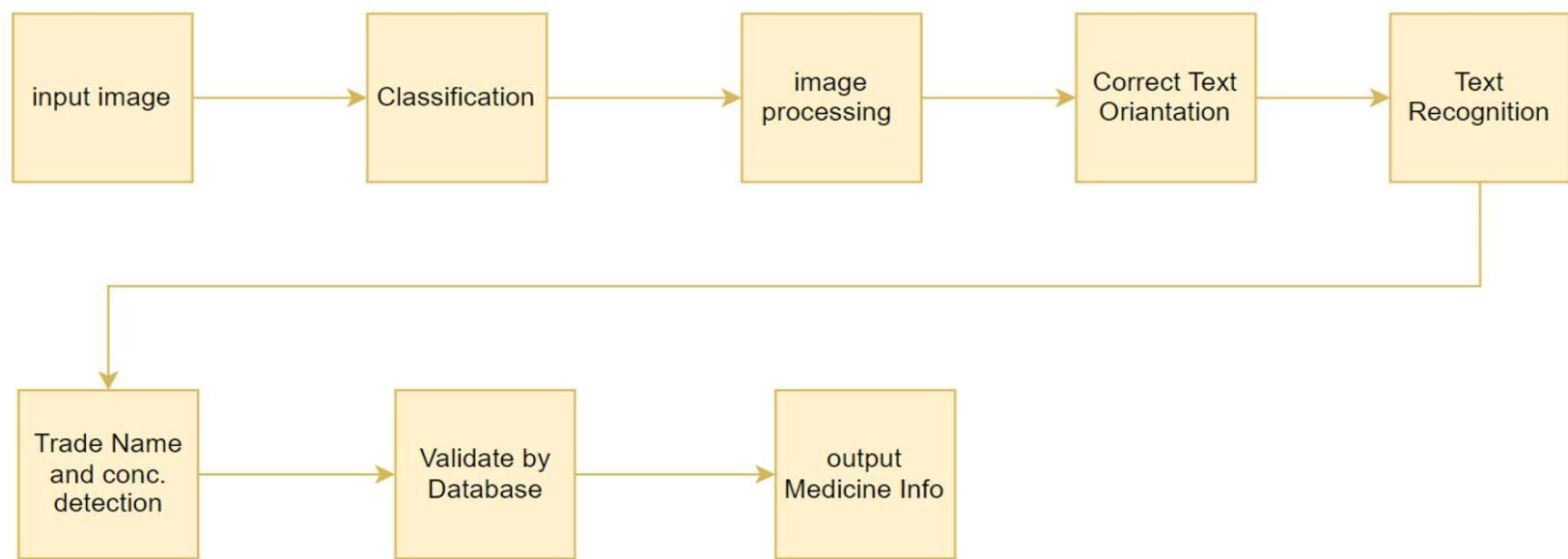
Methodology

Main Algorithm

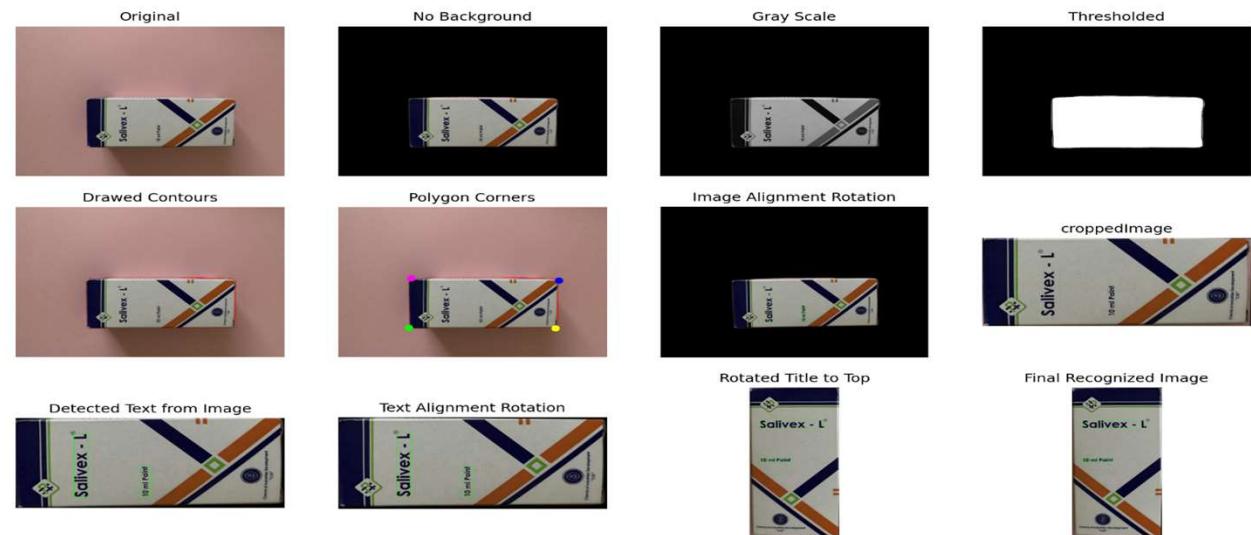


Methodology

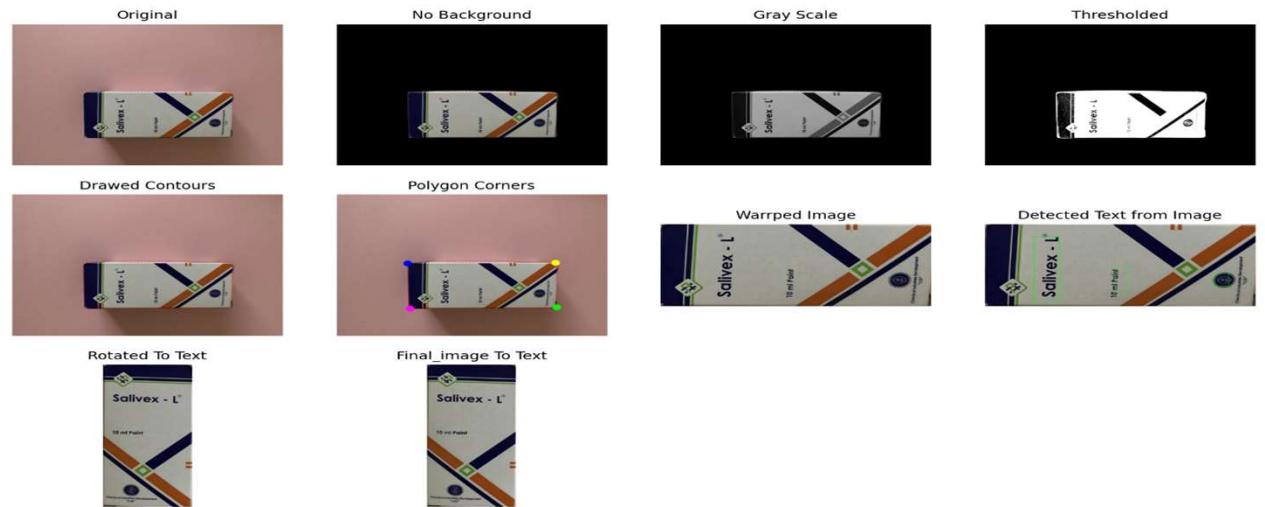
Fifth Approaches (Final Approach):



Methodology



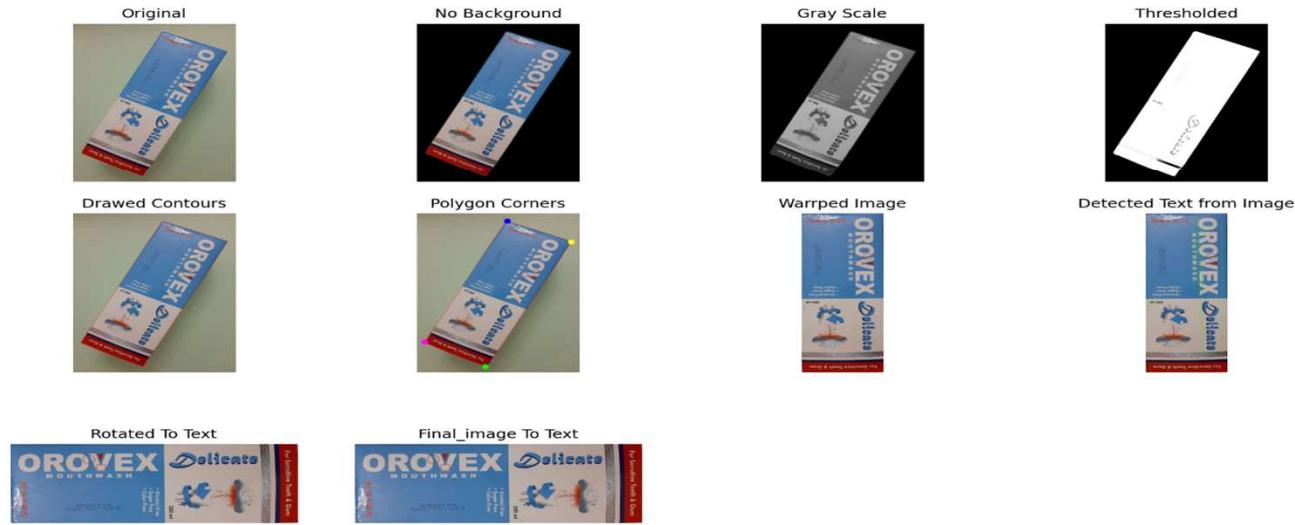
Results



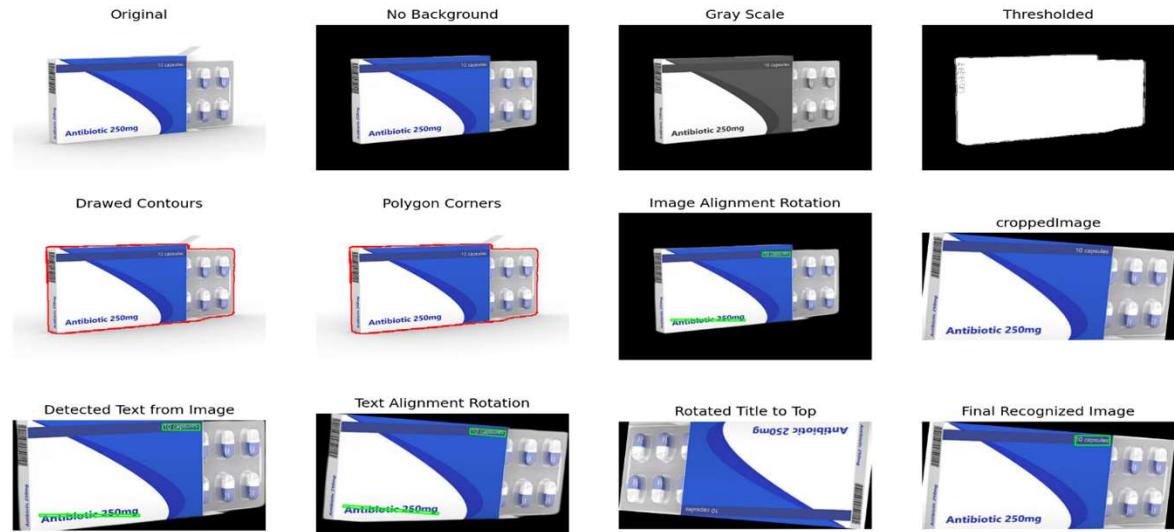
Methodology



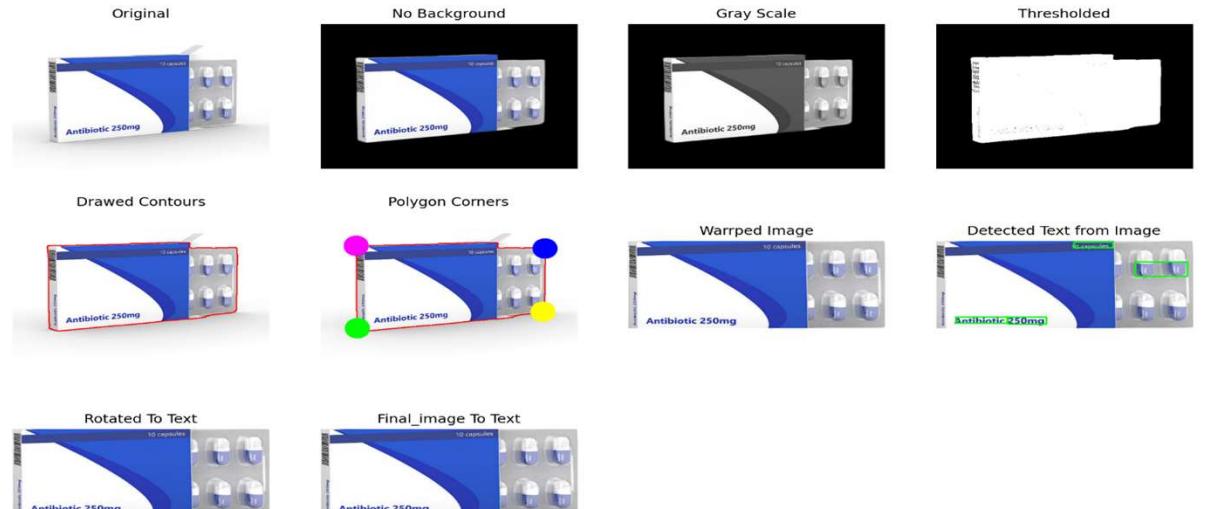
Results



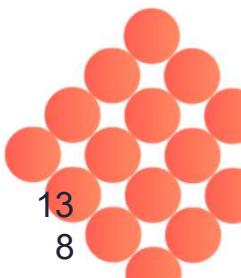
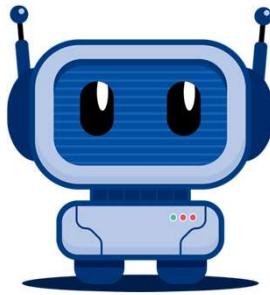
Methodology



Results



Classification



Classification

What is our problem?

- ❖ Clarifying the distinction between **packages** and **stripes**
- ❖ Detecting if the item is a medicine or not.



Classification

Our dataset

3000 images is divided into 1500 packages and 1500 stripes.



Classification

What is YOLO?



It stands for **You Only Look Once** a popular algorithm used for object detection in images and videos.

Classification

How does it work?

It divides a grid into

- ❖ Confidence Score
- ❖ Bounding
- ❖ Class Probability



Classification

YOLO training steps

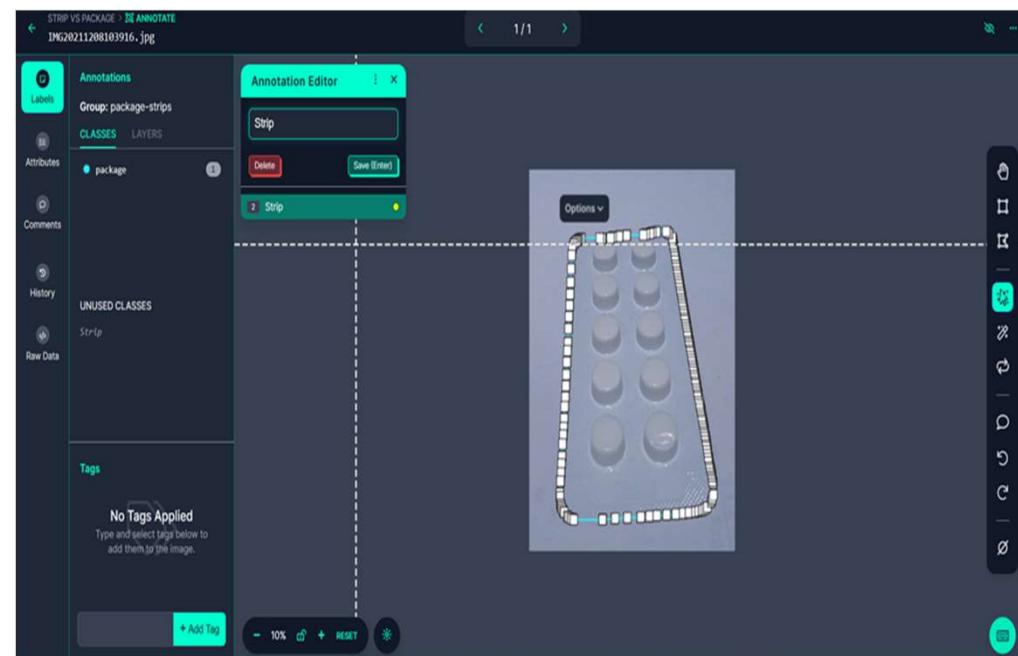


- 1 Annotation data
- 2 Preprocessing
- 3 Split data
- 4 Training model
- 5 Val model
- 6 Prediction

Classification

Data annotation

It draws borders on the object ,then chooses the class.



Classification

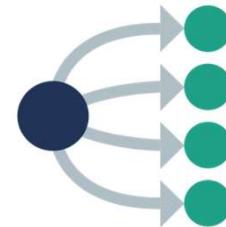
Preprocessing

- ❖ Resizing images to 640*640.



Split data

- ❖ 80% train data
- ❖ 10% val data
- ❖ 10 %test data

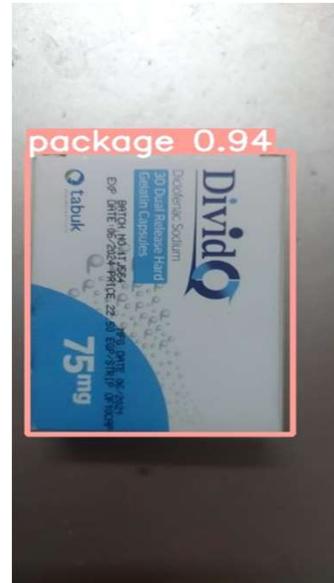


Classification

Training model

- ❖ We will use weights of yolo5s, 64 batch and ,image size 640, 50 epochs

Prediction



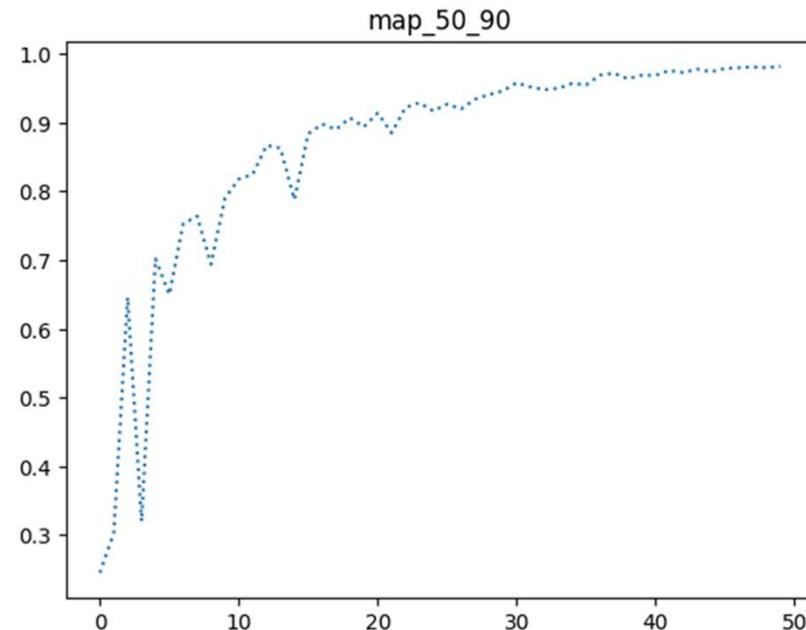
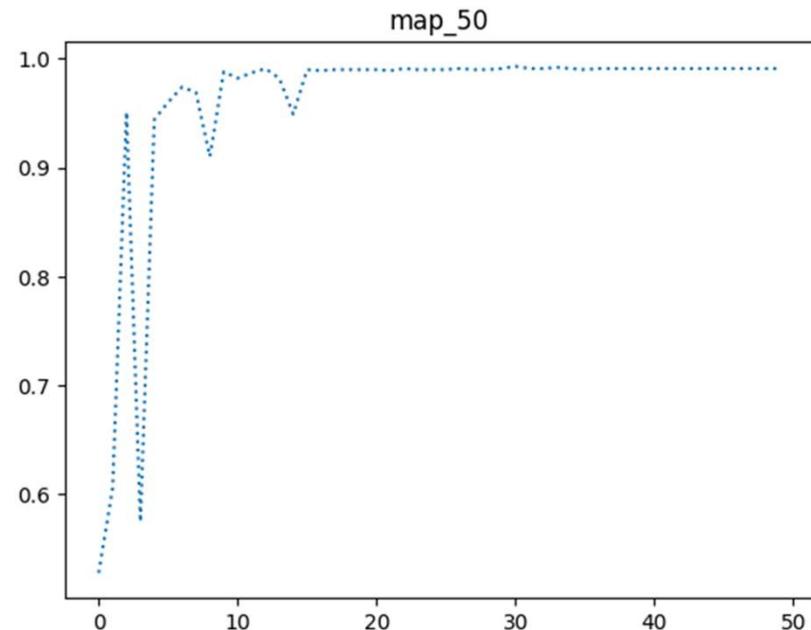
Classification

Accuracy

- ❖ mAP50
- ❖ mAP50-95



Classification



Classification Related work

Date	Name	author	accuracy
29/4/2022	Medicine Drug Name Detection Based object Recognition using augmented reality	ch. Rupa Gautam srivastava	67%
3/4/2020	Detection of medicine information with optical Character recognition using Android	Sameer karoshi Saumitra godbole	61%

Results

- ❖ ImagesCounter = 3874
- ❖ Correct Percentage = 95.68921011874032%
- ❖ Correct Extraction = 3707
- ❖ Wrong Extraction = 166
- ❖ ExceptionList Length = 1



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Testing

Testing Software

Test Case	Description	Test Step	Test Data	Expected Result	Status
Register	System can display register form and add the user to the database	1.Enter full-name 2.Enter e-mail 3.Enter password 4.Click register	<Valid Data>	User added to database successfully	Pass
			<Invalid Data>	Display to the user error specifying why it failed	Fail
Login	System can display login form and validate user data	1.Enter e-mail 2.Enter password	<Valid Data>	Logins successfully	Pass
			<Invalid Data>	Display error	Fail

Testing Software

Test Case	Description	Test Step	Test Data	Expected Result	Status
Donation (Web/Mob)	System can accept user donation process	1.Click Donate 2.Upload Medicine Image 3.Fill the form data 4.Click Add to cart	<Valid Data>	Donation Order Proceeded	Pass
			<Invalid Data>	Display Error	Fail
Donation (Box)	System can accept user donation process	Put the medicine in the designated place	<Valid Donation>	Box accepts the donation successfully	Pass
			<Invalid Donation>	Box refuses the medicine and ejects it in the medicine	Fail

Testing Software

Test Case	Description	Test Step	Test Data	Expected Result	Status
Order	System can accept user orders	1.Add medicine to cart 2.Proceed to checkout	<In Stock>	Order proceeds successfully	Pass
			<Out of Stock>	Order cannot proceed because medicine is out of stock	Fail

Testing Software

Test Case	Description	Test Step	Test Data	Expected Result	Status
Edit Profile	System can accept user changes to the profile	1.Click on Profile	<Valid Data>	User data updated	Pass
		2.Change Username 3.Change Password 4.Change E-mail 5.Add Phone Number 6.Change Address Info	<Invalid Data>	Display error message specifying the error	Fail

Testing Software

Test Case	Description	Test Step	Test Data	Expected Result	Status
Edit Profile	System can accept user changes to the profile	1.Click on Profile	<Valid Data>	User data updated	Pass
		2.Change Username 3.Change Password 4.Change E-mail 5.Add Phone Number 6.Change Address Info	<Invalid Data>	Display error message specifying the error	Fail

User Feedback

- ❖ Good UX for retching the needed serves
- ❖ The donation form is good but need to be more simple
- ❖ The AI model is good for identifying the medication
- ❖ Map is a good and easy way to retch hubs



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Future work



Future work

- ❖ Rewards system
- ❖ Improve donation form
- ❖ Donation Box
- ❖ Upgraded Box
- ❖ Logistics Optimization
- ❖ Integration Donate Boxes with the app
- ❖ Delivery Man App
- ❖ Cash donation support

Donation Box

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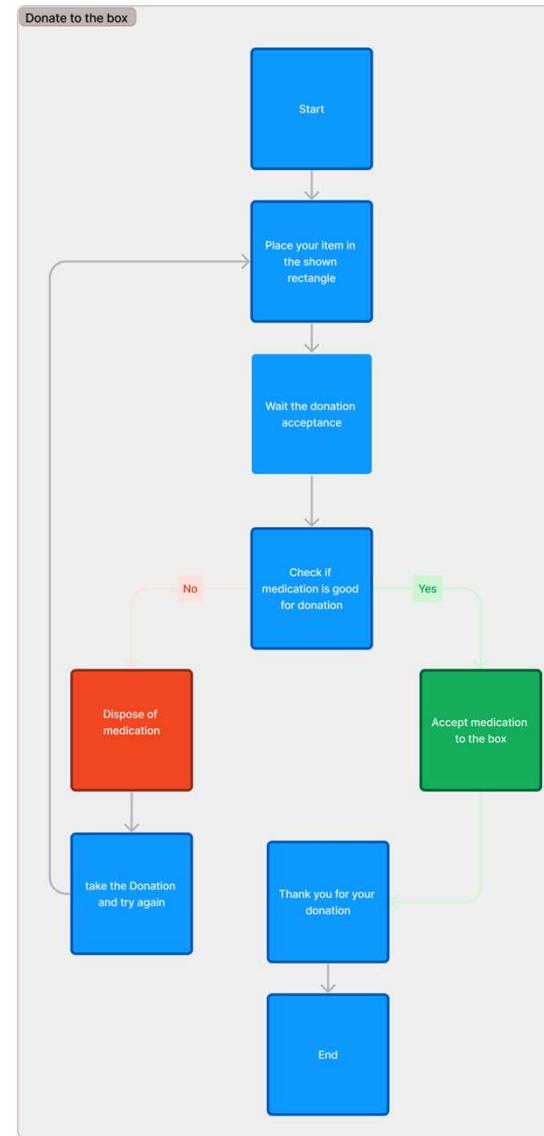
Donation Box

Donation Box Goal

- ❖ Accessibility
- ❖ Security
- ❖ Efficiency
- ❖ Community Engagement

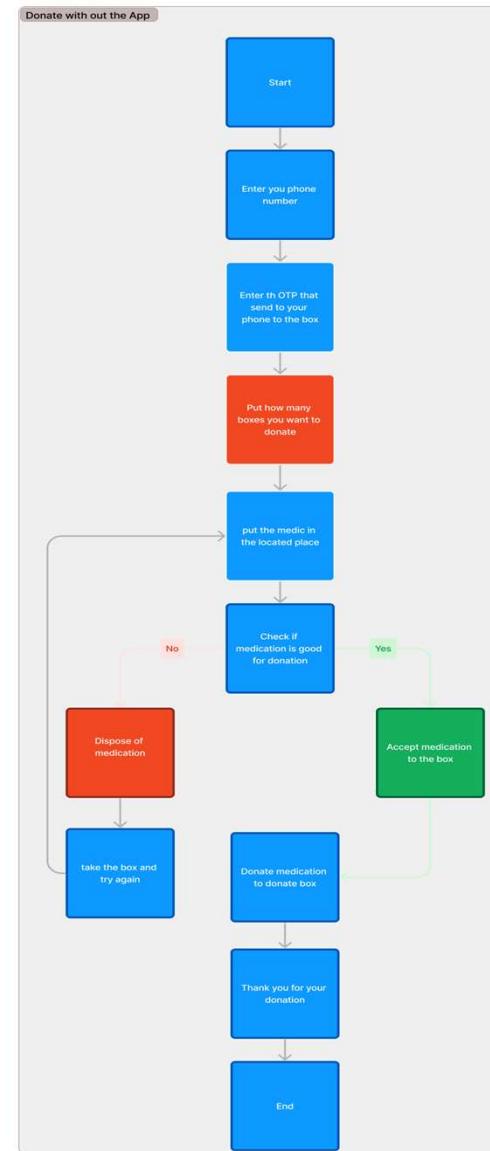
Donation to the box

Activity diagram



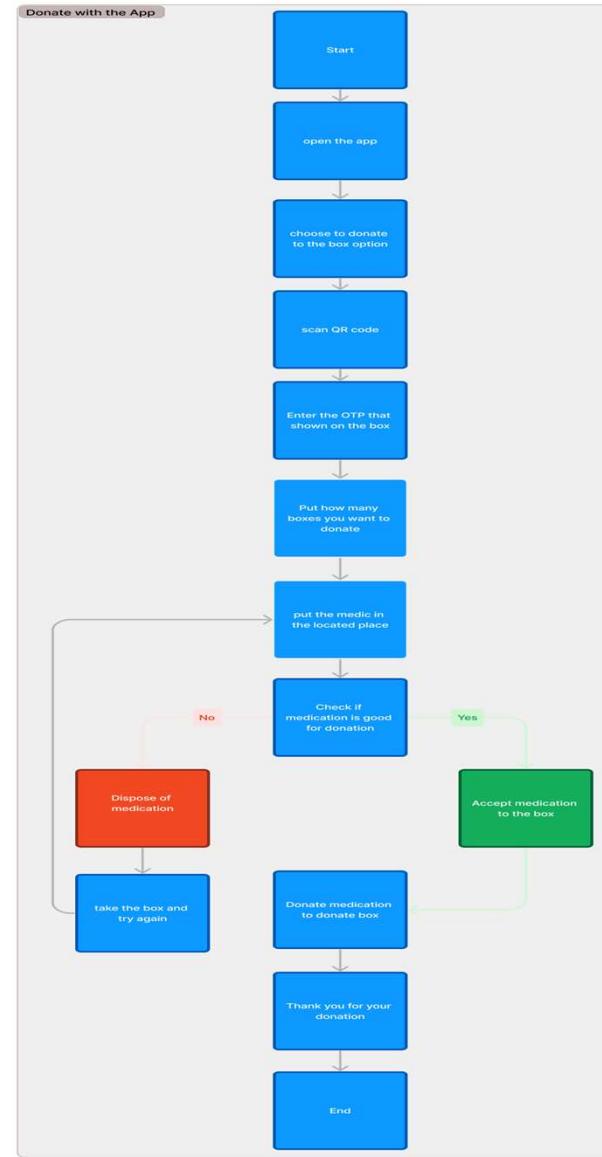
phone to the box

Activity diagram

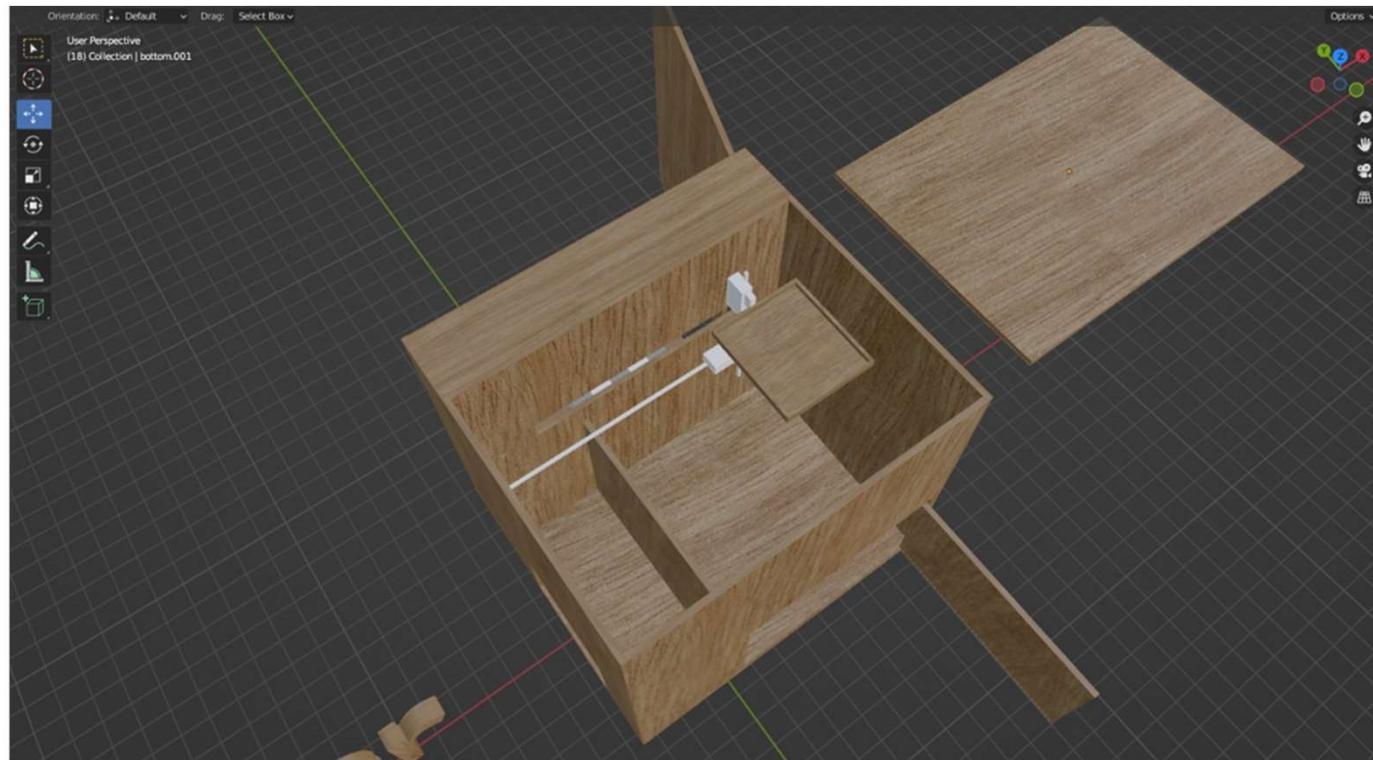


App to the box

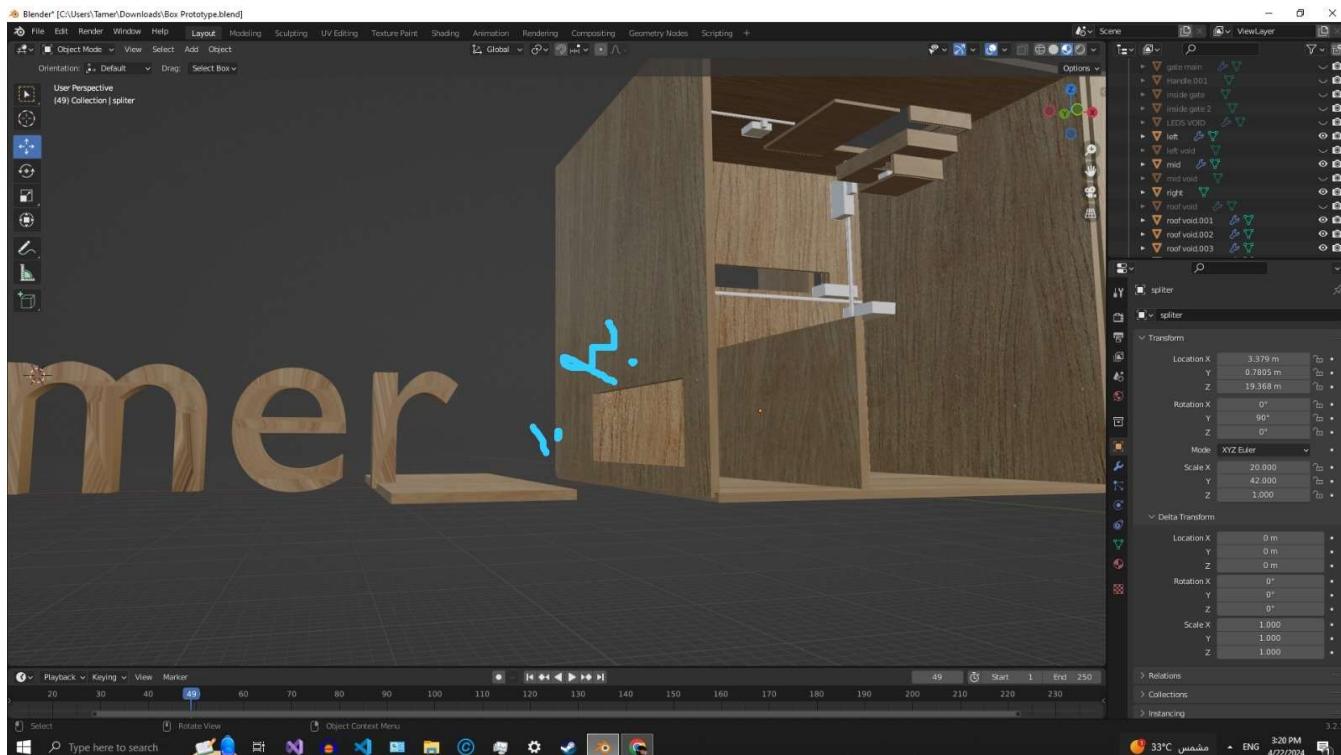
Activity diagram



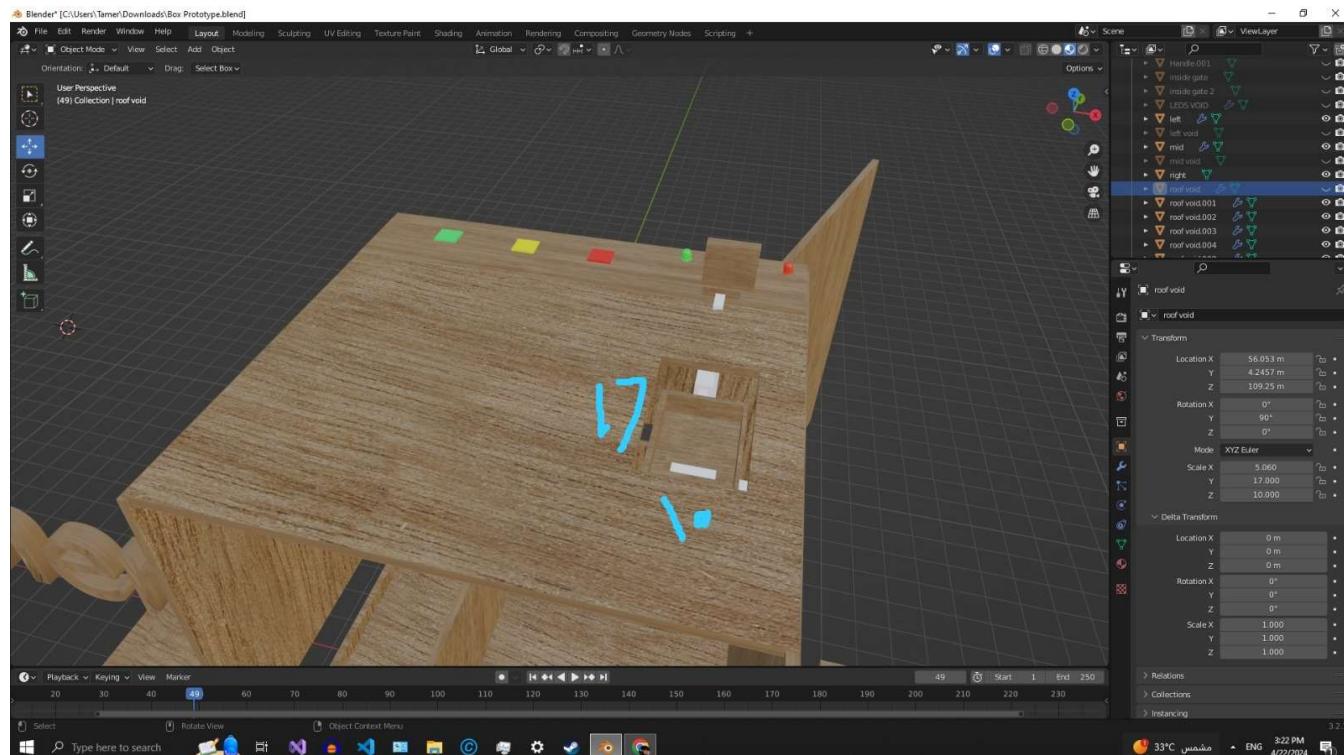
Embedded (Donation Box)



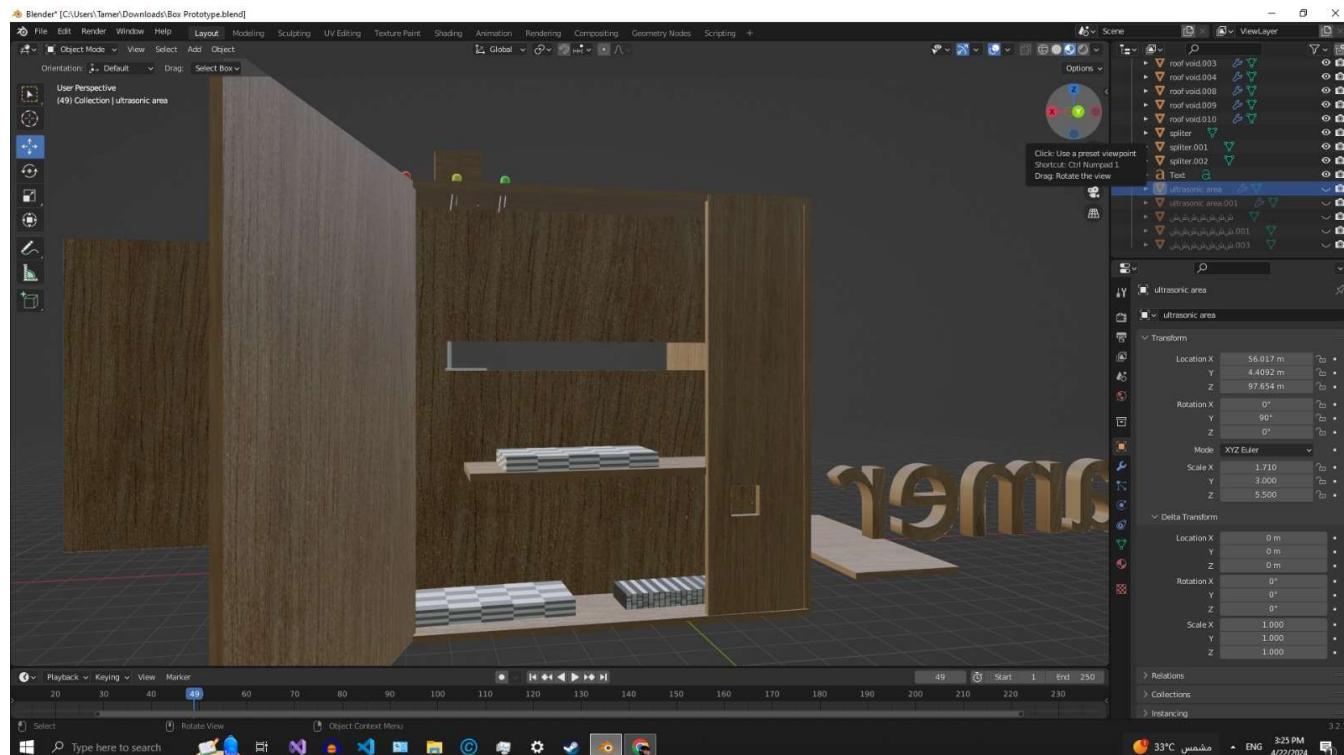
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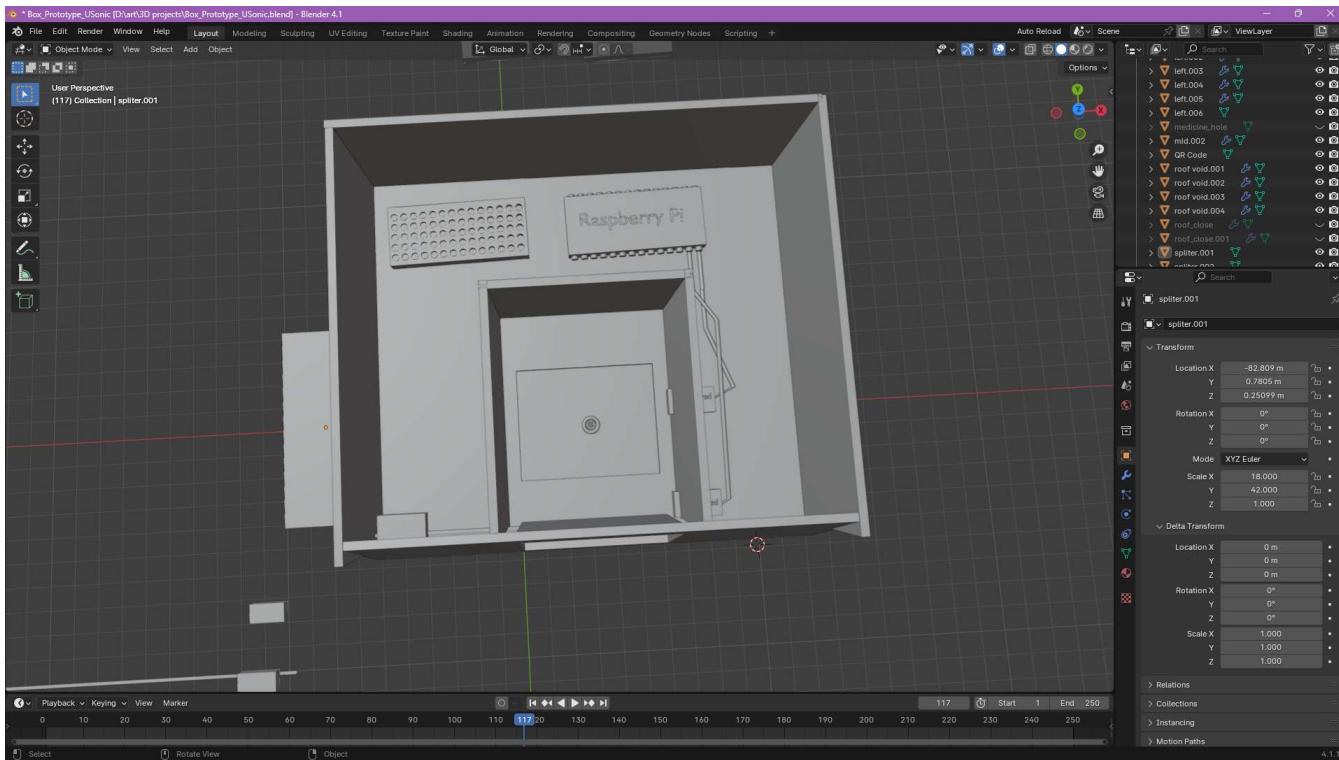
Embedded (Donation Box)



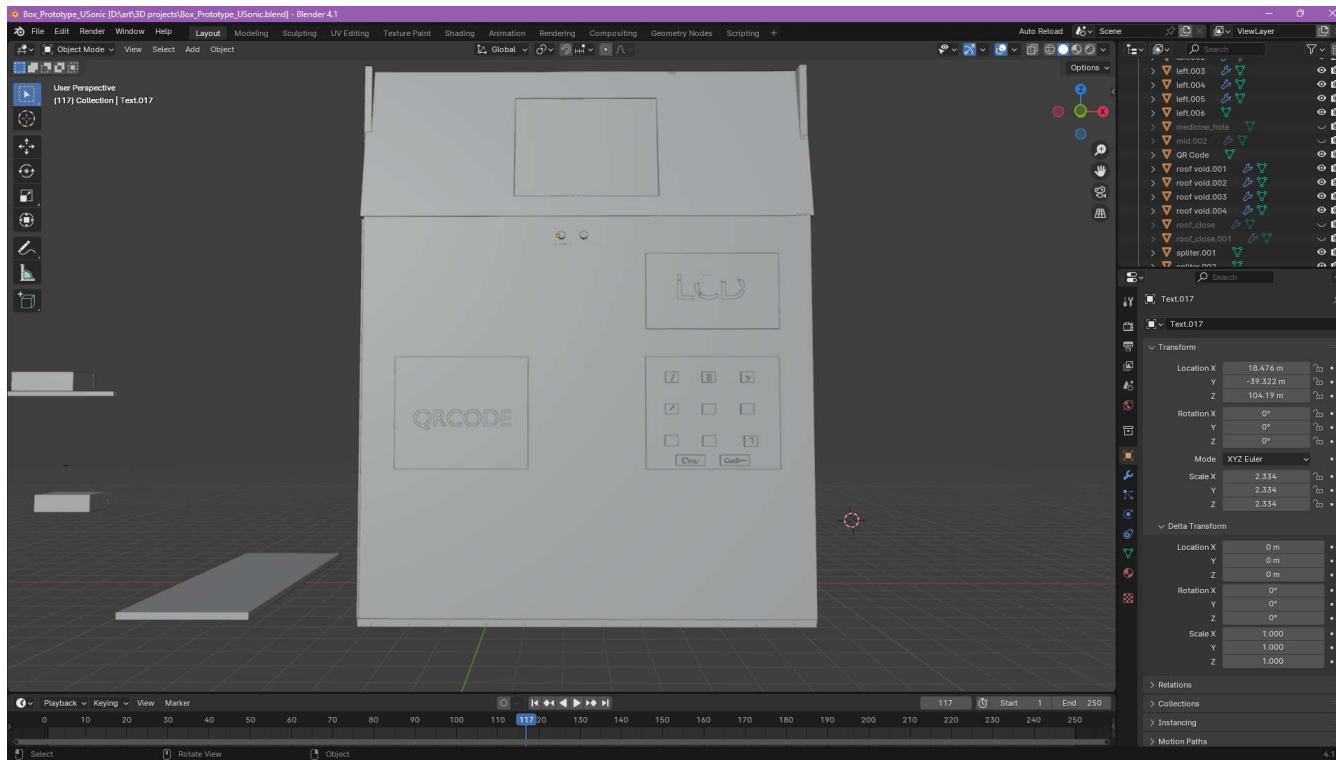
Embedded (Donation Box)



Embedded (Donation Box)



Embedded (Donation Box)



Donation Box

Donation Box equipment

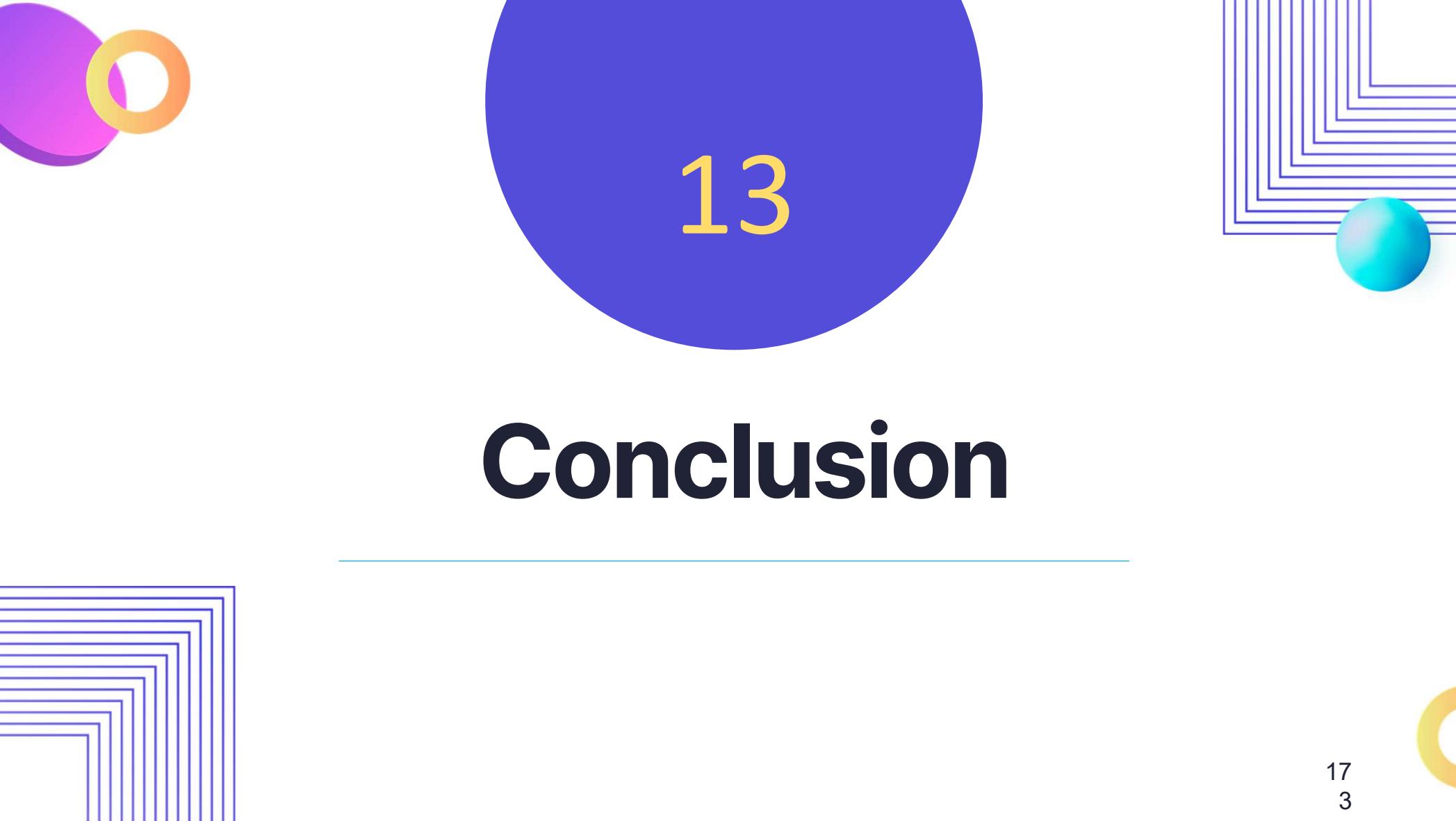
- ❖ Raspberry Pi 3
- ❖ 3x Rack and Pinion mechanism
- ❖ 3x Continuous rotation servo motors.
- ❖ 1x Servo motor.
- ❖ 3x Ultrasonic sensors.
- ❖ 3x Leds (green, yellow, red).
- ❖ 2x or 3x circuit board.
- ❖ Cables.



Donation Box

Equipment Goals

- ❖ Rack and Pinion mechanism : 1 for door sliding, 2 for vertical and horizontal movement.
 - ❖ Servo motors : one for every R&P mechanism and rotate the medicine base.
 - ❖ Circuit board : to make the circuit.
 - ❖ Ultrasonic sensors : sensors to detect client intervention, medicine existence.
- 



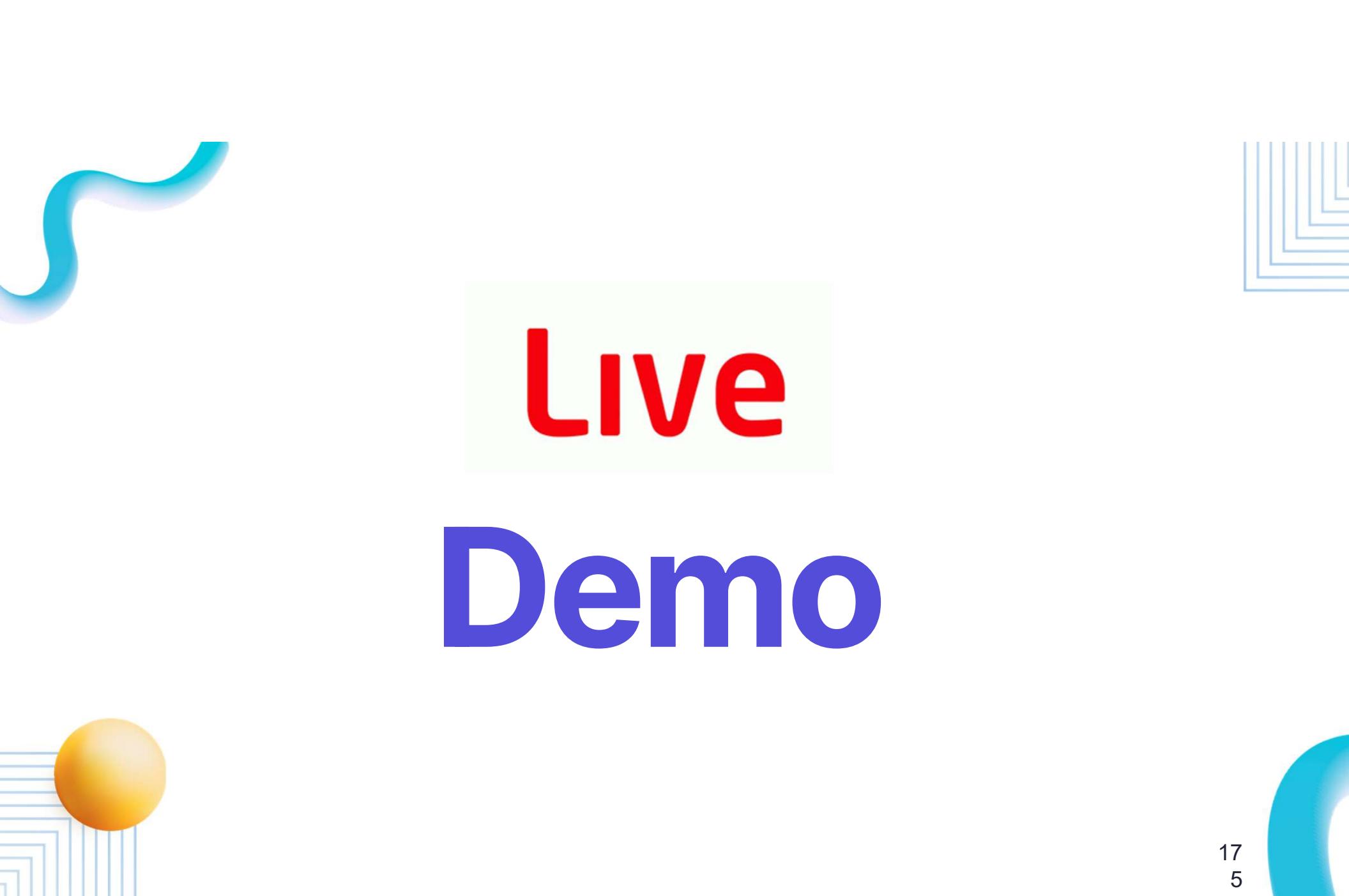
13

Conclusion



Conclusion

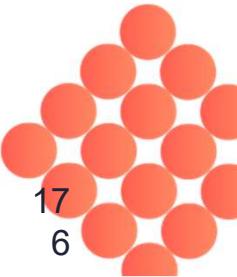
- ❖ Donation App (Web & Mobile)
- ❖ Improve the donation proses
(Filter ,track, simplify)
- ❖ Utilizing Excess Medicines
- ❖ Facilitating Access to Rare Medications
- ❖ Akrem Lowering Import Costs
- ❖ Translate applications to Arabic



Live Demo

Thanks!

thank you





ALLOCATION OF FINAL PROJECT

A- Basic Information:

- 1) Semester: Fall 2023 (Academic Year 2023-2024)
- 2) Field: Machine Learning – Web & Mobile Applications
- 3) Title of Project: **Smart Medicine Donation Platform**
- 4) Group members:
 - [1]Islam Essam Samir Mohamed
 - [2]Mostafa Ahmed Ali Ahmed
 - [3]El-Syed Ahmed Abdalla El-Borei
 - [4]Yousef Ahmed Safy Eldin Ahmed
 - [5]Tamer Adel Sayed Saeid
 - [6]Rahma Abdallah Gaber Abdallah Seliman
 - [7]Ahmed Mohamed Saad Ahmed
 - [8]David Emad Abdel Kodous Wanis
- 5) Supervisor: Dr. Ahmed Said
T.A. Abdelrahman Essam
- 6) Consultant(s): None
- 7) Allocation received on: August 2023
- 8) Expected Date of Submission: May 2024

B- Description Of the Task:

This medicine donation platform is about the collection of medicine, which is unused by the patient who recovers completely, and remaining medicines becomes waste, those medicine can be collected and used further by the needy. Through this platform (Web & mobile Apps), the user can donate medicines, which will further divide it among the needy. The medicines can be donated by providing images of the donated medicine or manually filling in the details.

Donations should benefit the recipient and meet the needs of the end-users and patients. These remaining medicines can be used by individuals, Non-profit Organizations (NGOs), and

Hospitals who are indeed for those medicines. By using this platform there will be less wastage of medicines.

C- Time Schedule:

No.	Date	Task	Assigned to
1	Oct. 2023	Project Initiation and Planning: <ul style="list-style-type: none">• Define Project scope, objectives, and deliverables.• Identify Tools and Technologies• Create a detailed project plan, including tasks, milestones, and dependencies.• Breakdown the project into manageable tasks.	All Students
2	Nov. 2023	Requirements Gathering and Analysis: <ul style="list-style-type: none">• Gather and document functional and non-functional requirements.• Analyze requirements to identify potential challenges or gaps.	All Students
3	Dec. 2023	System Design and Architecture: <ul style="list-style-type: none">• Create high-level diagrams and more detailed designs.• Define system architecture.	All Students
4	Feb 2024	Building Dataset Prototyping applications UI/UX	
5	Mar. 2024	Modeling Training & Testing App Implementation	
6	Apr. 2024	System Integration & Testing	All Students
7	May 2024	Project Documentation	All Students
8	June 2024	Final Project Presentation	All Students

Method Of Assessment:

- | | |
|--|-----|
| 1) Year Work (20% for each Semester) | 40% |
| 2) Project quality, presentation and oral discussion | 60% |

() () ()
Supervisor **Head Of Department** **Dean Of Faculty**