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MEDISCAN PLUS

DRUG IDENTIFICATION USING NATURAL LANGUAGE PROCESSING

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INTRODUCTION

MEDISCAN PLUS is a mobile application where user can scan wrapper of medicine and receive detailed information about the scanned medicine.

PROBLEM STATEMENT

- Limited Access to Comprehensive Medicine Information.
- Challenges in identifying medicines due to similar packaging and complex naming conventions.

OBJECTIVES

- To identify medicines from images of their wrappers.
- To provide users with comprehensive information about the identified medicines.

APPLICATION

- Immediate information about the drugs.
- Can be used by anyone who may not have immediate access to a healthcare professional.

LITERATURE REVIEW

- Numerous research [1] has highlighted the feasible way to detect the useful medicinal information such as generic name, drug composition and its quantity in form of the text i.e, OCR.

- The literature [3] has a significant impact on the understanding of Natural language processing.

SEQUENCE DIAGRAM

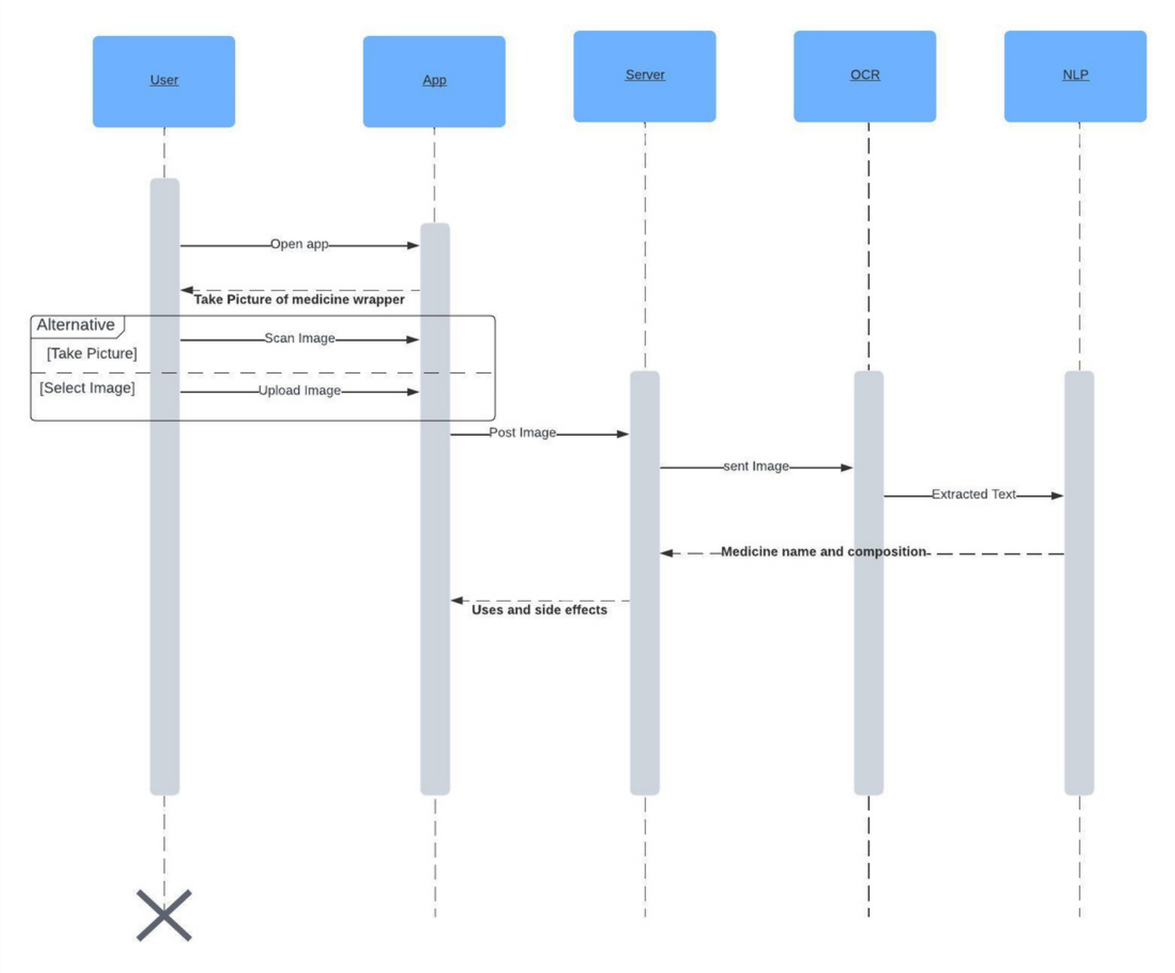


Fig 1 : Sequence Diagram

BLOCK DIAGRAM

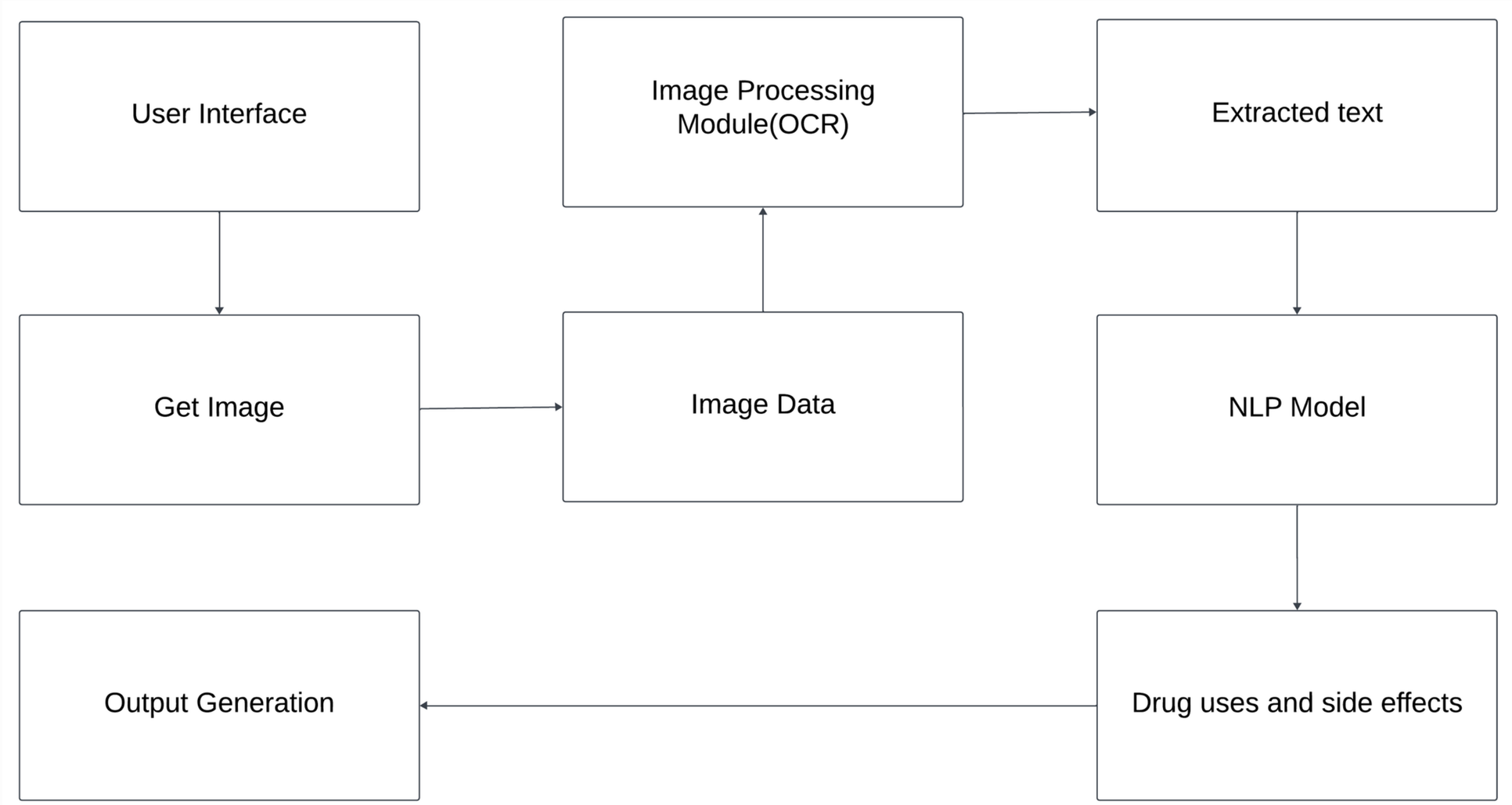


Fig 2 : Block Diagram

USE CASE DIAGRAM

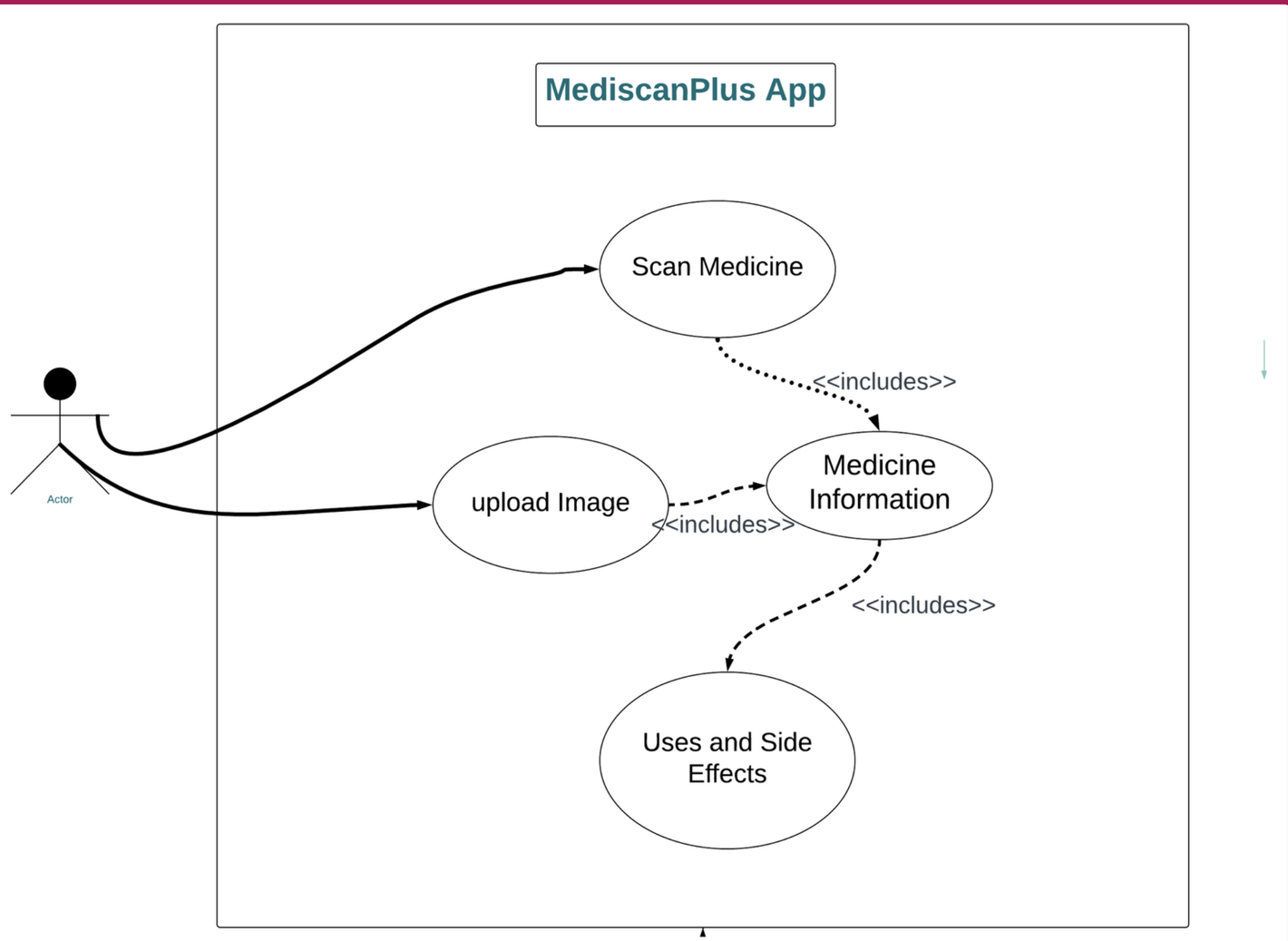


Fig 1 : Use Case Diagram

ACTIVITY DIAGRAM

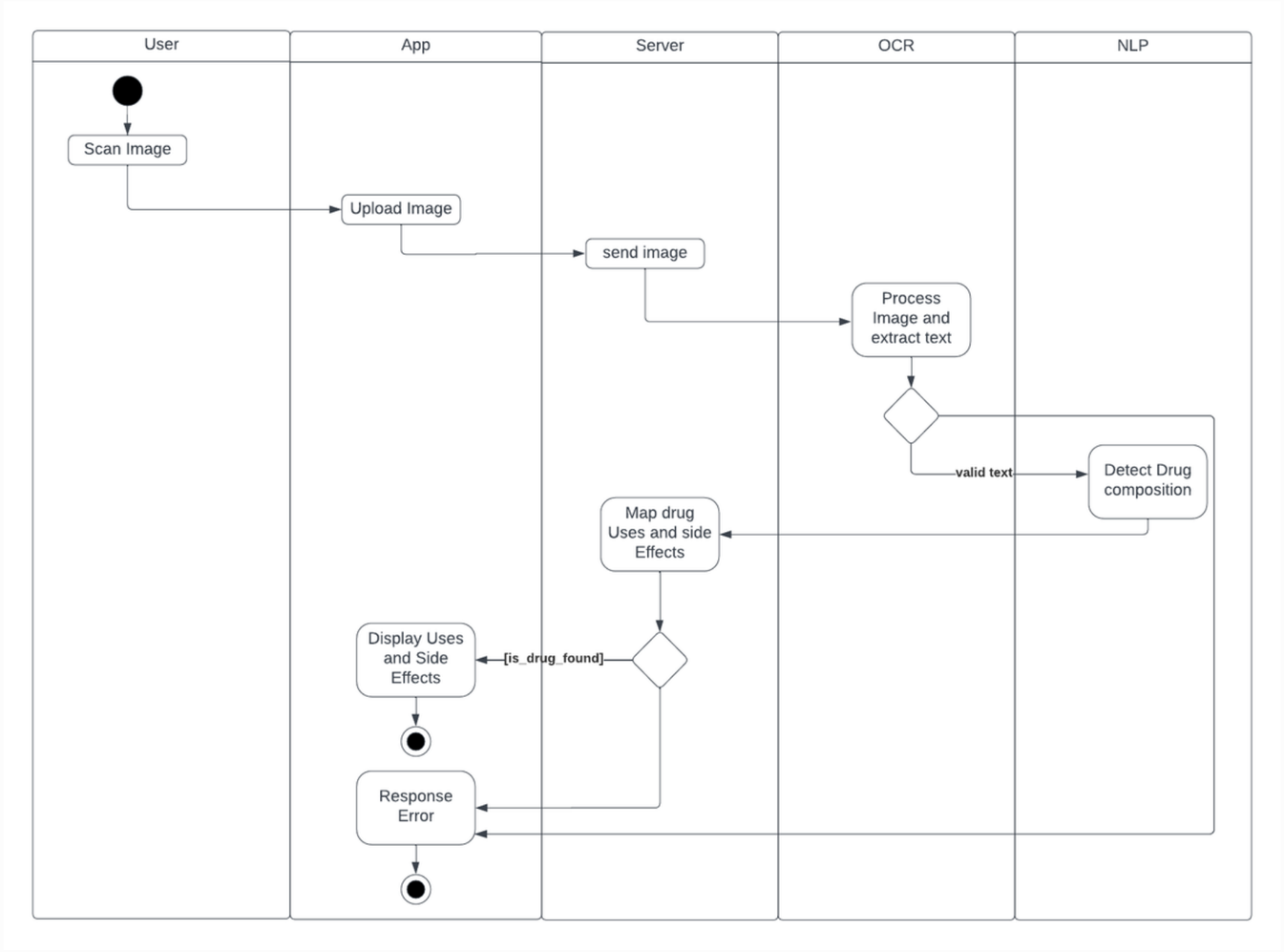


Fig 1 : Activity Diagram

DATA SOURCE

Primary Data Source

The data from the secondary data source might not contain some generic medicine which is only available in Nepal. Such data is collected via local pharmacies.

Secondary Data Source

The data was collected primarily from the internet from site such as:

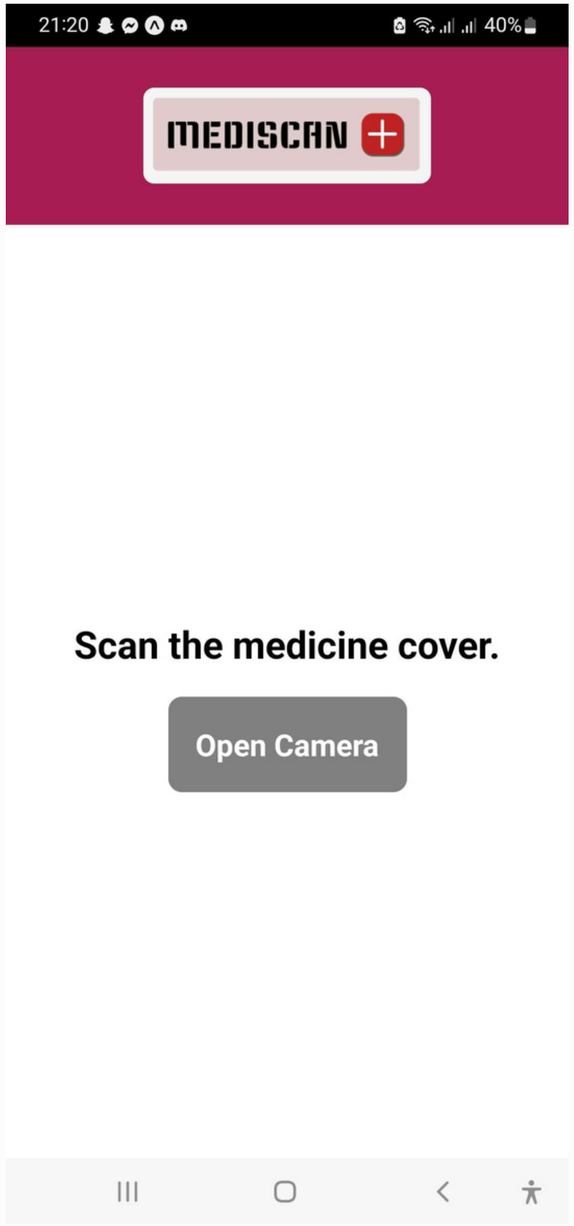
Nepmeds.com.np

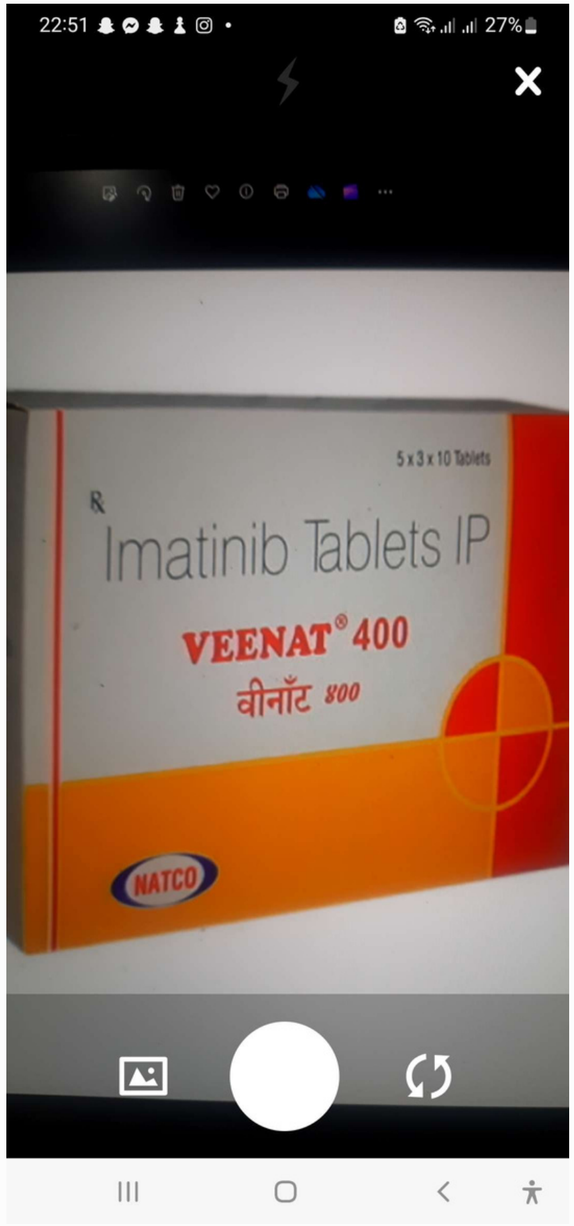
1mg.com

TOOLS AND TECHNIQUES

- Python
  - Pillow
  - Numpy
  - Pandas
  - Spacy
  - Fast API
- Javascript
  - React Native
- LaTeX

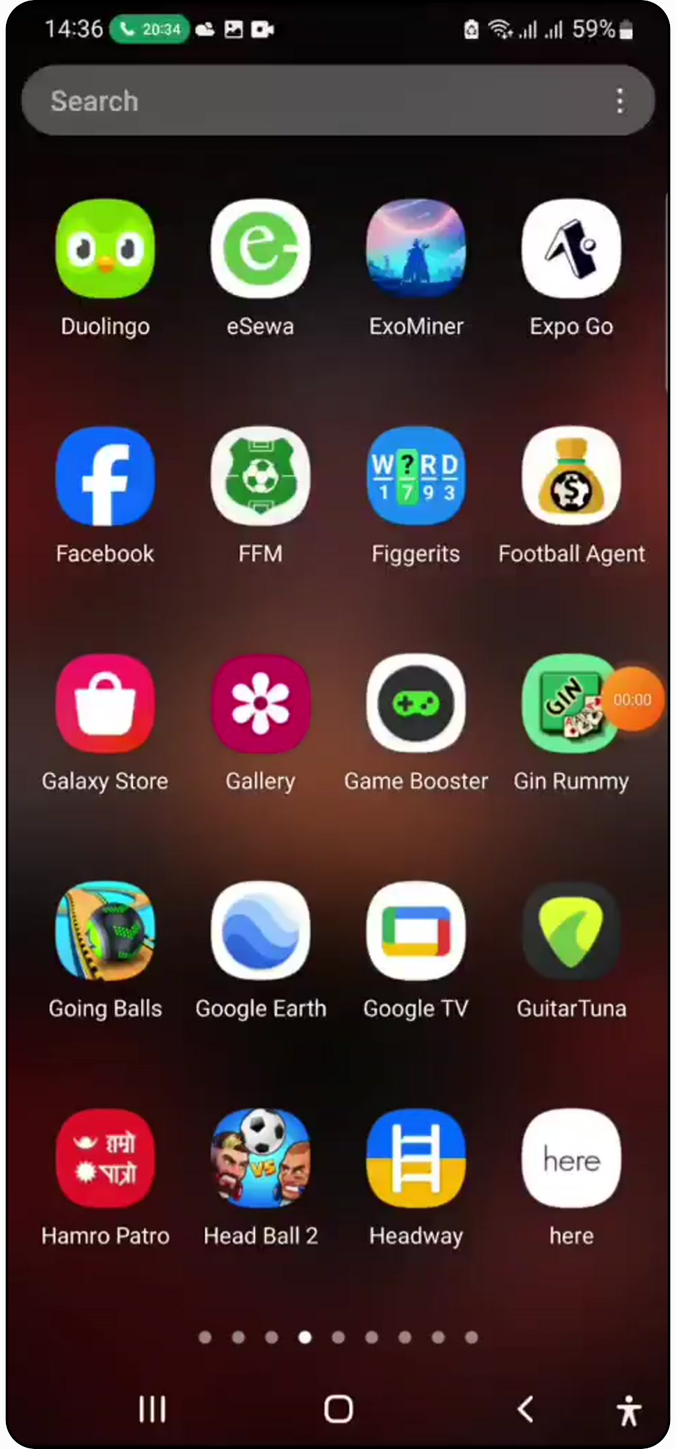
OUTCOME


21:20
40%
MEDISCAN
Scan the medicine cover.
Open Camera

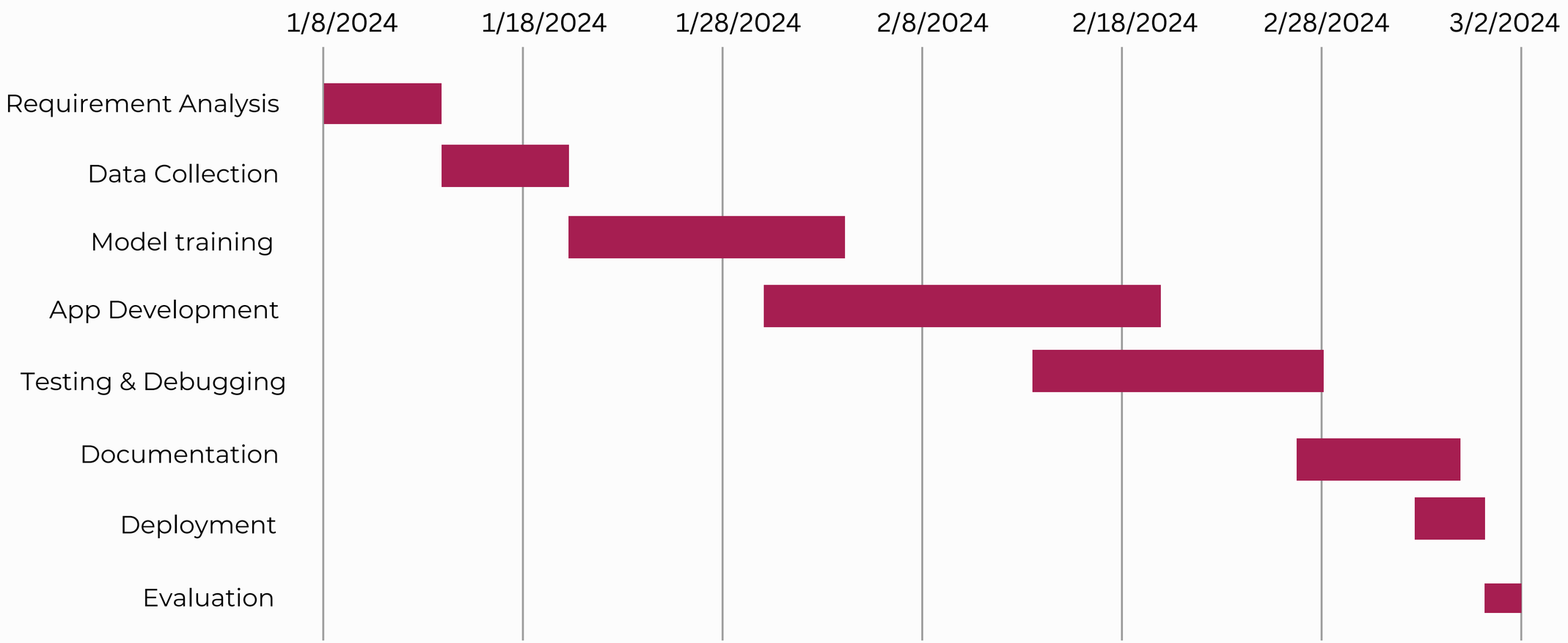

22:51
27%
5 x 3 x 10 Tablets
Imatinib Tablets IP
VEENAT® 400
वीनाँट 400
NATCO


22:51
27%
MEDISCAN
Glivec 400mg Tablet
Uses:
Treatment of Cancer
Side Effects:
1: Edema swelling
2: Nausea
3: Vomiting
4: Muscle cramp
5: Musculoskeletal bone muscle or joint pain
6: Diarrhea
7: Rash
8: Fatigue
9: Abdominal pain
10: Bleeding
11: Breathing problems
12: Cough

DEMO


14:36
20:34
59%
Search
Duolingo
eSewa
ExoMiner
Expo Go
Facebook
FFM
Figgerits
Football Agent
Galaxy Store
Gallery
Game Booster
Gin Rummy
00:00
Going Balls
Google Earth
Google TV
GuitarTuna
Hamro Patro
Head Ball 2
Headway
here

PROJECT SCHEDULE



LIMITATIONS

- Accuracy of OCR
- NLP Limitation
- Database isn’t implemented

FUTURE ENHANCEMENTS

- Improving UI/UX.
- Improving AI model.
- Creating datasets in native language (i.e. Nepali).

REFERENCES

[1] X. Liu, J. Meehan, W. Tong, L. Wu, X. Xu, and J. Xu, “DLI-IT: a deep learning approach to drug label identification through image and text embedding,” BMC Medical Informatics and Decision Making, vol. 20, no. 1, Apr. 2020, doi: https://doi.org/10.1186/s12911-020-1078-3.

[2] H.-W. Ting, S.-L. Chung, C.-F. Chen, H.-Y. Chiu, and Y.-W. Hsieh, “A drug identification model developed using deep learning technologies: experience of a medical centre in Taiwan,” BMC Health Services Research, vol. 20, no. 1, Apr. 2020, doi: https://doi.org/10.1186/s12913-020-05166-w.

[3] J. S. Falk, “Turn to the history of linguistics,” Historiographia Linguistica, vol. 30, no. 1–2, pp. 129–185, Sep. 2003, doi: https://doi.org/10.1075/hl.30.1.05fal.

THANK YOU!