Progress Review Presentation

Nexus

Content

Members

- Supervisor : Ms. Kushani Bandara
- Group : 21
- Cluster : 21.1

- MJM.Amajith 721434768 (Back-end Developer)
- MN.Fathima Rafaha 121428697 (UI/UX Developer)
- MMZ. Zahra 221445832 (Front-end Developer)
- MHA. Ahmed 321422851 (Model Developer)

Introduction

Acute lymphoblastic leukemia (ALL) is a type of cancer that affects the blood and bone marrow. In general diagnosis of ALL is typically made by a combination of blood tests and bone marrow biopsies. However, these tests can be difficult to interpret, and there is a risk of false positives and false negatives.

Objectives

The project aims to deliver medical practitioners with an AI agent that can recognize cells and classify them as either leukemic or regular cells based on learned patterns and characteristics.
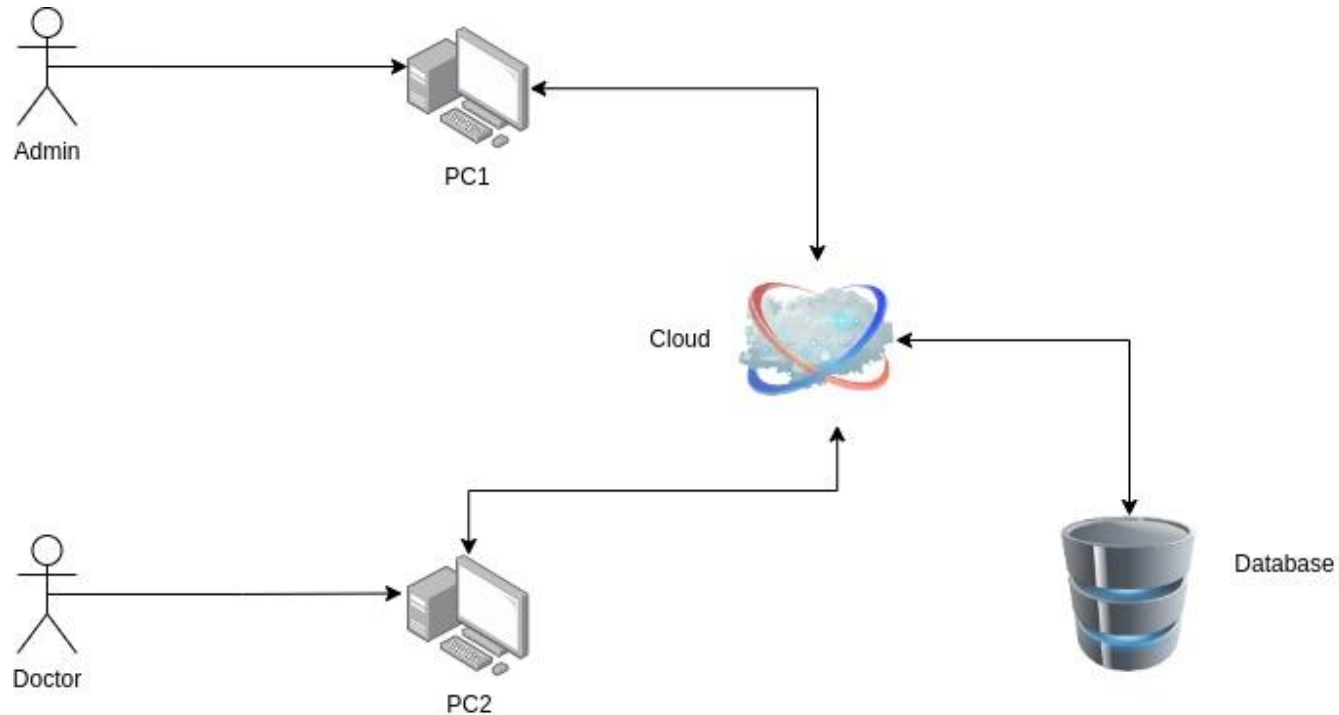
Functional Requirements

- Image Input and Processing
- Convolutional Neural Network (CNN) Analysis
- Diagnostic Reporting
- User Authentication
- Historical Diagnosis and Clinical Details
- User Interface

Non-functional Requirements

- Performance (processing time should be less than 10 seconds ,should support concurrent analysis of at least 100 images)
- Accuracy (minimum accuracy requirement is set at 90%,,should maintain consistency in classification results for the same input image over multiple runs(10).)
- Scalability (should be scalable to accommodate future enhancements and changes.)
- Security (must ensure the confidentiality and integrity of patient data by implementing appropriate security measures such as encryption and access controls to protect sensitive information)
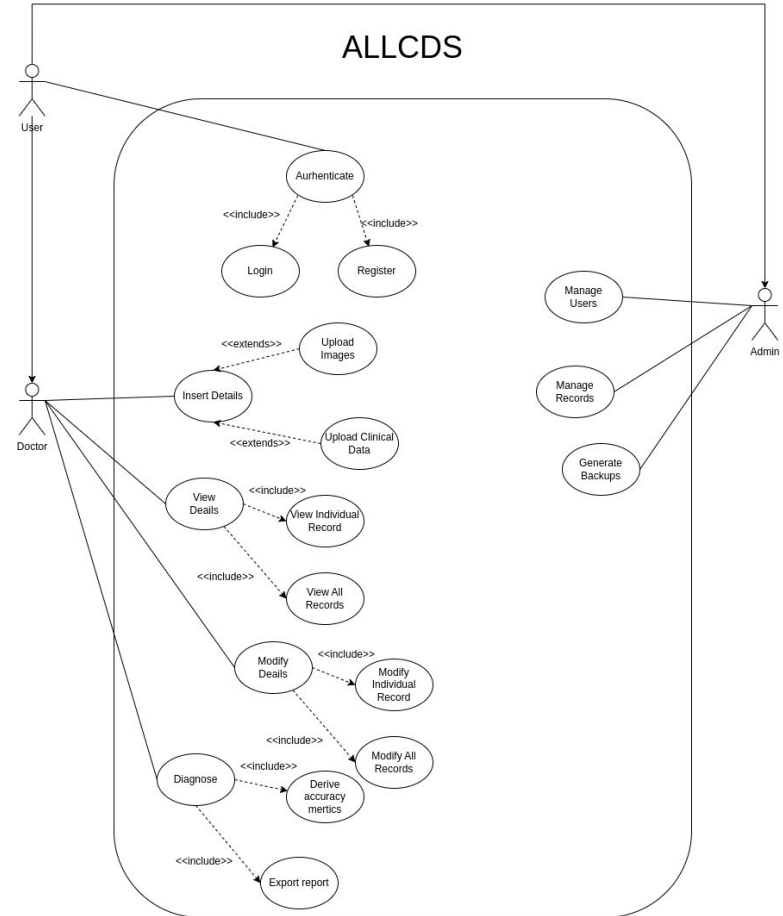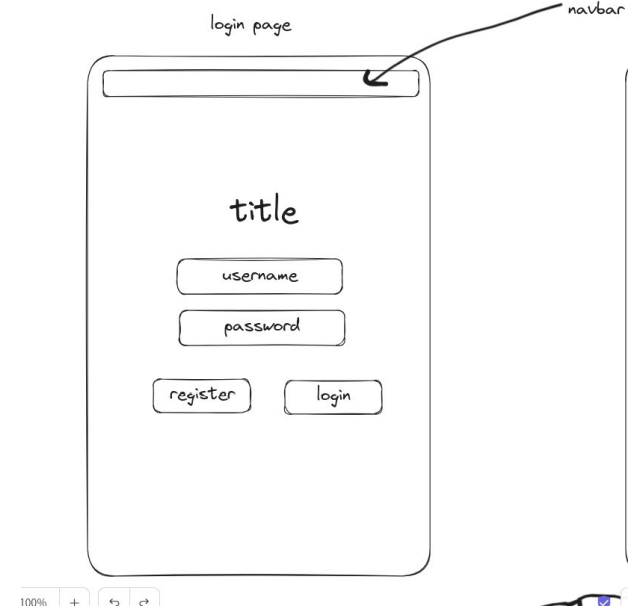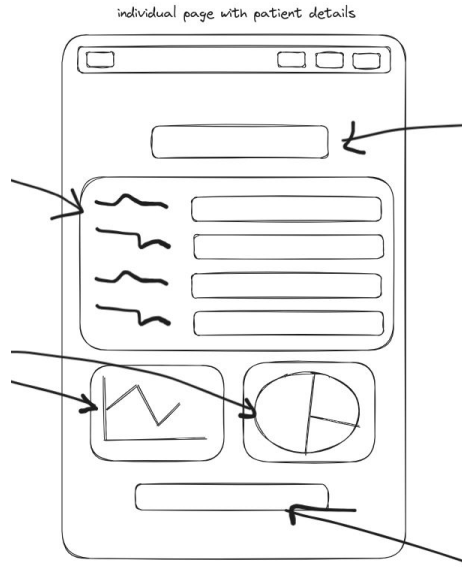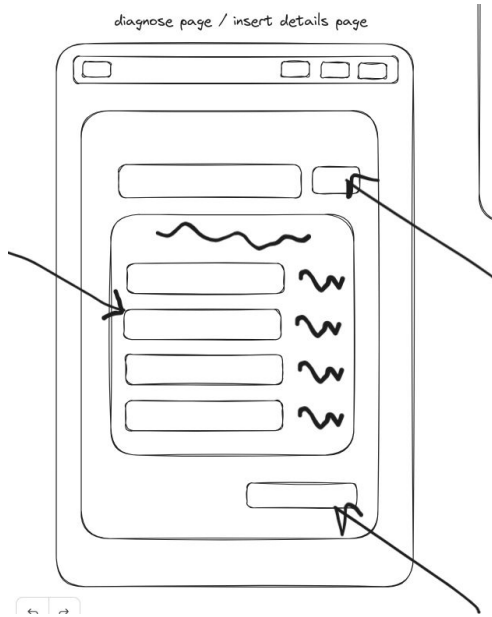
System Architecture Diagram

Admin — PC1 — Cloud — Database

Doctor — PC2 — Cloud

Use-case Diagram

ALLCDS

User

Admin

Doctor

Aurhenticate

<<include>> Login

<<include>> Register

Manage Users

Manage Records

Generate Backups

<<extends>> Upload Images

Insert Details

<<extends>> Upload Clinical Data

View Deails

<<include>> View Individual Record

<<include>> View All Records

Modify Deails

<<include>> Modify Individual Record

<<include>> Modify All Records

Diagnose

<<include>> Derive accuracy mertics

<<include>> Export report

Wireframes of UI design

diagnose page / insert details page

individual page with patient details

login page

navbar

title

username

password

register   login

100%   +

Progress of the project

- Planning and Requirements
    - Gather and prioritize user requirements (Completed)
        - Medium : Questionnaire and Interview
    - Create and maintain information about user classes (Completed)
    - Plan releases and determine the work for each sprint. (specified in Trello)
- Design
    - Create high-level architectural designs and detailed design solutions for user classes (completed)
- Development
    - Implement the designed features or functionalities through coding. (WIP)
        - Implement frontend modules (WIP)
        - Implement backend modules (WIP)
        - Integrate database (completed)
        - Design and integrate the cnn model.(WIP)
- Testing (TBA)
- Deployment and Evaluation (TBA

Project Governance Tool

CMMI Meeting Minutes

Meeting Information

Meeting Date/Time	22/06/2023		
Participants	Fathima Rafaha, Adheeb Ahmed, Zeenath Zahra		
Estimated Time	1 hour	Actual Time	40 minutes
Special Notes	Amaajith was absent		
Call/Location Information	Zoom		
Supported Documents	Null		

Agenda:

Appointment with supervisor
Supervisors approval for the project proposal
Discussion about Project management and progress tracking tool

Notes/Clarifications:

Git will be used for project management
Trello will be used to track the progress of the project

Meeting Minutes:

Scheduled a meeting with the supervisor for next week.

Supervisor approved the project proposal.

Agreed to use Git for project management.

Set up a Git repository and shared access with the team.

Decided to track progress using Trello.

Assigned tasks and deadlines to team members in Trello.

Will update the Trello board regularly to monitor progress

Meeting-Heading

Meeting Information

Meeting Date/Time	2023-07-17		
Participants	All		
Estimated Time	15 Mins	Actual Time	25 Mins
Special Notes			
Call/Location Information	Teams		
Supported Documents	None		

Agenda:

Documenting gathered requirments

Preparing SRS

Preparing PPR

Preparing PPP

Notes/Clarifications:

Meeting Minutes:

Amaajith documented all requirements from the source document

Rafaha prepared PPP and PPR
Zahra and amaajith outlined and prepared SRS

Action Items:

Action Item	Decision made by

Nexus   2023-07-20

Organization name   1   <Date>

Meeting-Heading

Meeting Information

Meeting Date/Time	2023-06-27		
Participants	All		
Estimated Time	20 Mins	Actual Time	25 Mins
Special Notes			
Call/Location Information	Teams		
Supported Documents	None		

Agenda:

Planning Requirement Gathering

Choosing SDLC methodology

Choosing right database system

Notes/Clarifications:

Meeting Minutes:

Amaajith emphasized the benefits of Agile Development

Zahra outlined a proper plan for requirement gathering

Rafaha demonstrated the seamless integration of mysql with django

Action Items:

Action item	Decision made by
Chose Agile methodology	Unanimous
Chose MySQL	Unanimous
Identified Stakeholders	Unanimous

Organization name   1   <Date>

Meeting-Heading

Meeting Information

Meeting Date/Time	2023-07-20		
Participants	All		
Estimated Time	60 Mins	Actual Time	60 Mins
Special Notes			
Call/Location Information	Teams		
Supported Documents	None		

Agenda:

Choosing a right model

Preprocessing the dataset

Finalizing reports

Notes/Clarifications:

Meeting Minutes:

Amaajith and Zahra finalized SRS and PPR

Rafaha finalized PPP
Adheeb started preprocessing the dataset and found a scalable model for training and evaluation

Action Items:

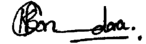| Action item	Decision made by

Github

Monthly Retrospective

Project limitations and Problems encounter

-   Data preprocessing consumes too much time.
-   Integrating model with backend is a complex process.
-   Model consumes more computing resources and performance is very slow

while developing our application for acute lymphoblastic leukemia diagnosis, we encountered challenges related to data preprocessing time, model integration, and computing resource consumption.

Supervisor's Approval:

Ms. Kushani Bandara