Image Data Handling System for Research

Group 14

Our team

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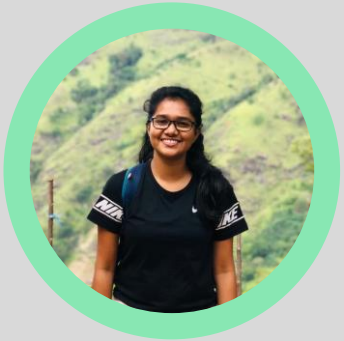
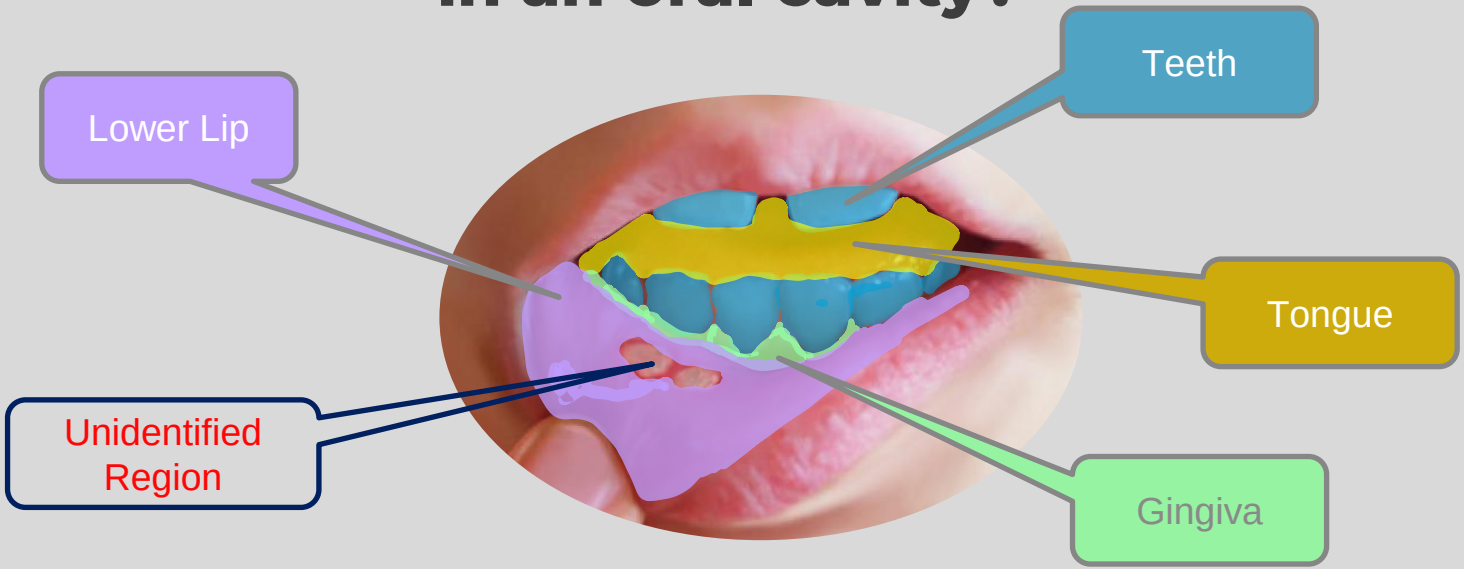


Nethmi
E/18/282

What are the things that you observe in this image?

What if we could train our computers to identify the known regions in an oral cavity?



Problem

An AI-based tool needs a lot of images to train the model.

But a web-based application doesn't provide a convenient method to capture the photographs of the oral cavities and upload them forthwith.

Proposed Solution

Building up a mobile application to capture the oral cavity images and directly store them in a central database.

- Doctors and Admins can sign up or log in
- Admins can accept user requests
- Doctors can capture the images
- Doctors can store the captured images in the database along with the details of the patient

Plan to Achieve the Solution

Technology Stack

Front End

Back End

VCS

React Native

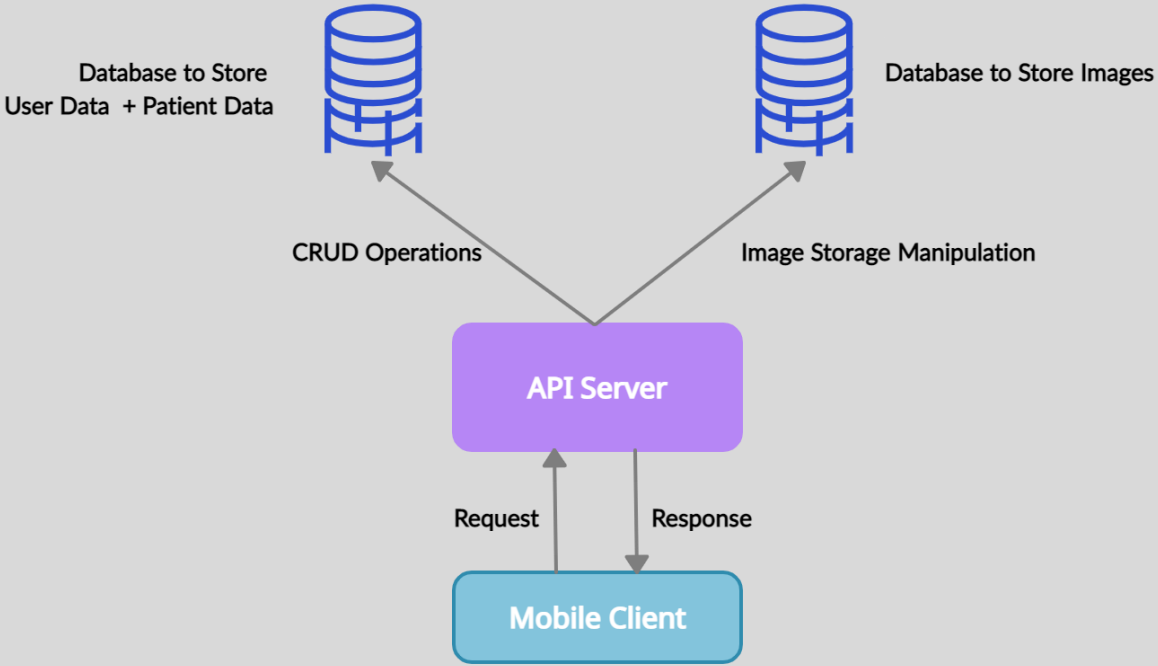
NodeJS

Express

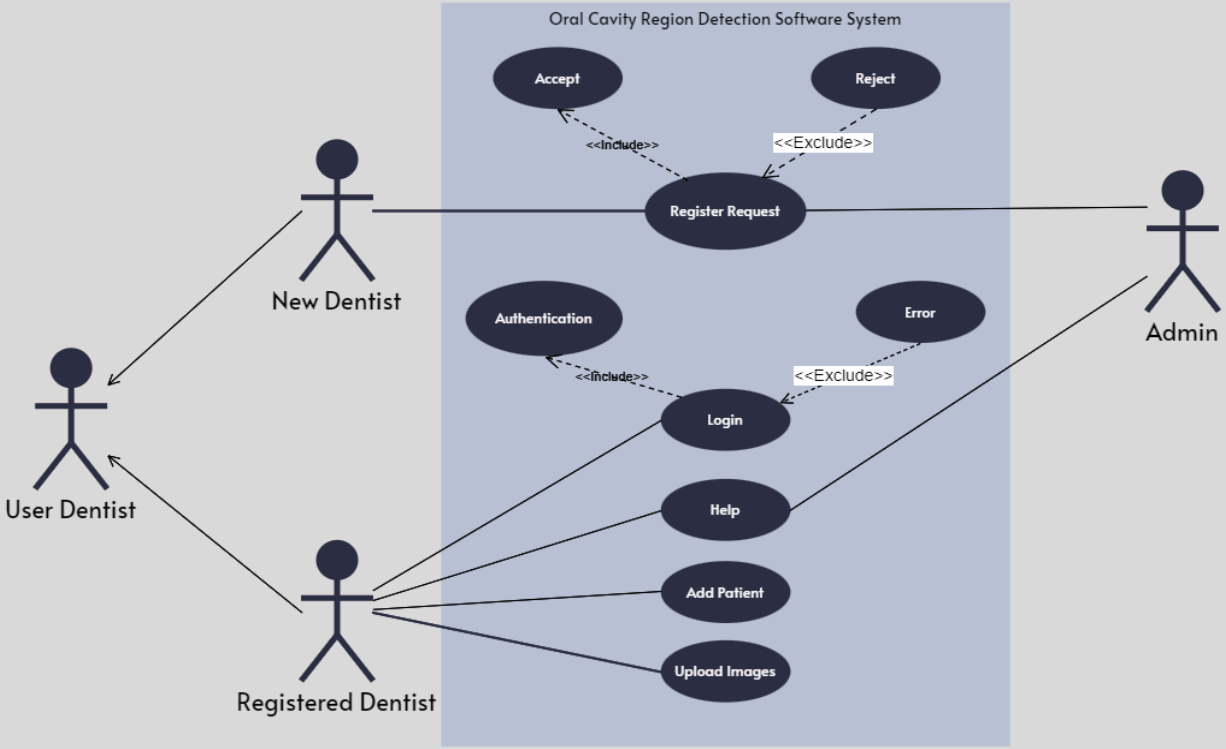
Mongo DB

GIT

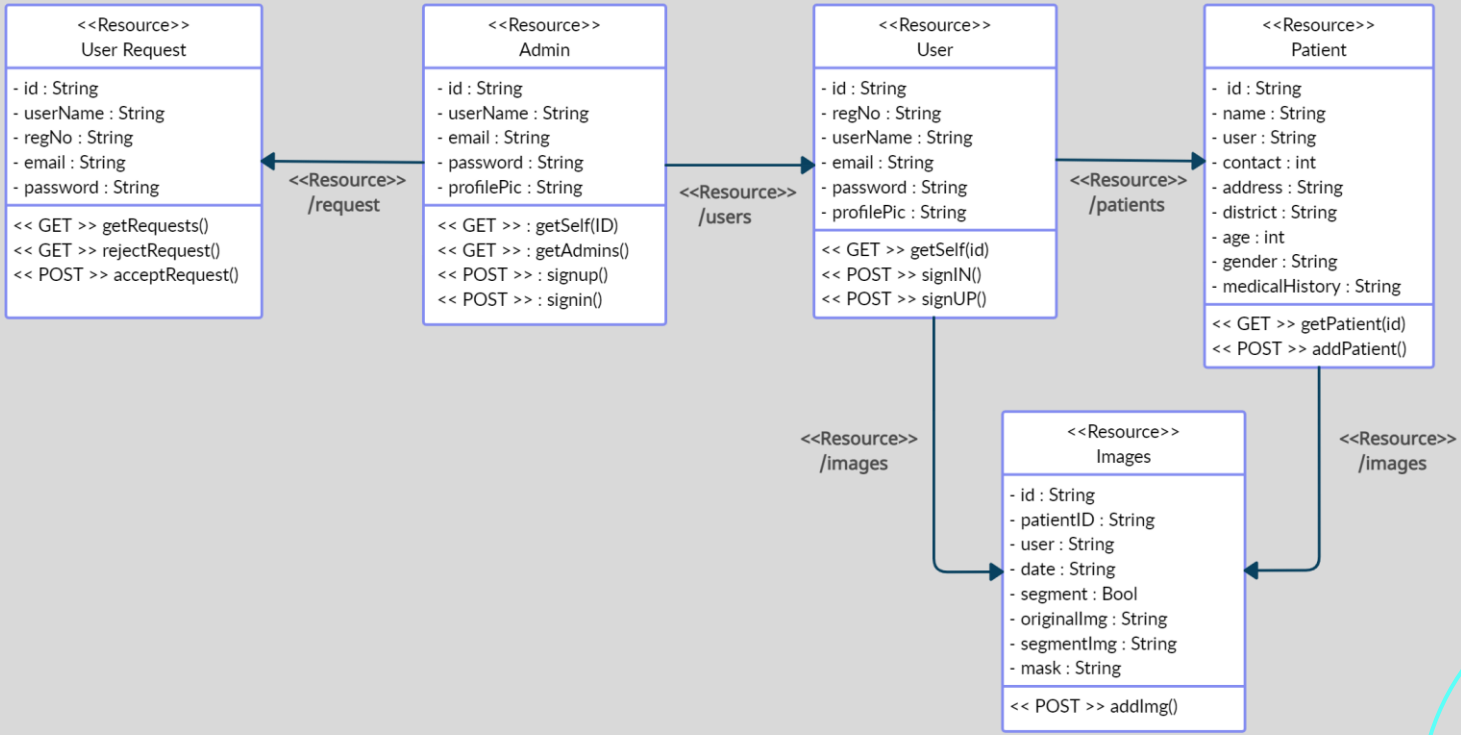
Solution Architecture



Use Case Diagram



UML Class Diagram



User Interface

UI consists of the following features

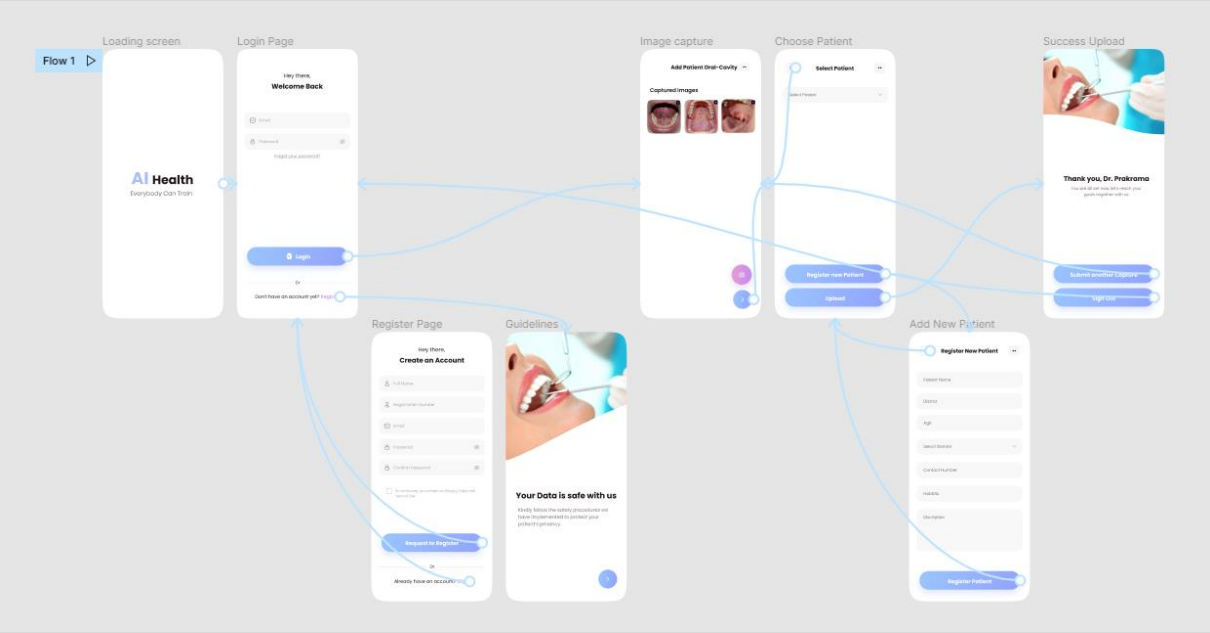
Login

Image Capture

Signup

Patient Details

UI Design



[Prototype Design]

Metadata Related to the Images

- Image ID
- Stored Date
- Patient Details
- Medical History

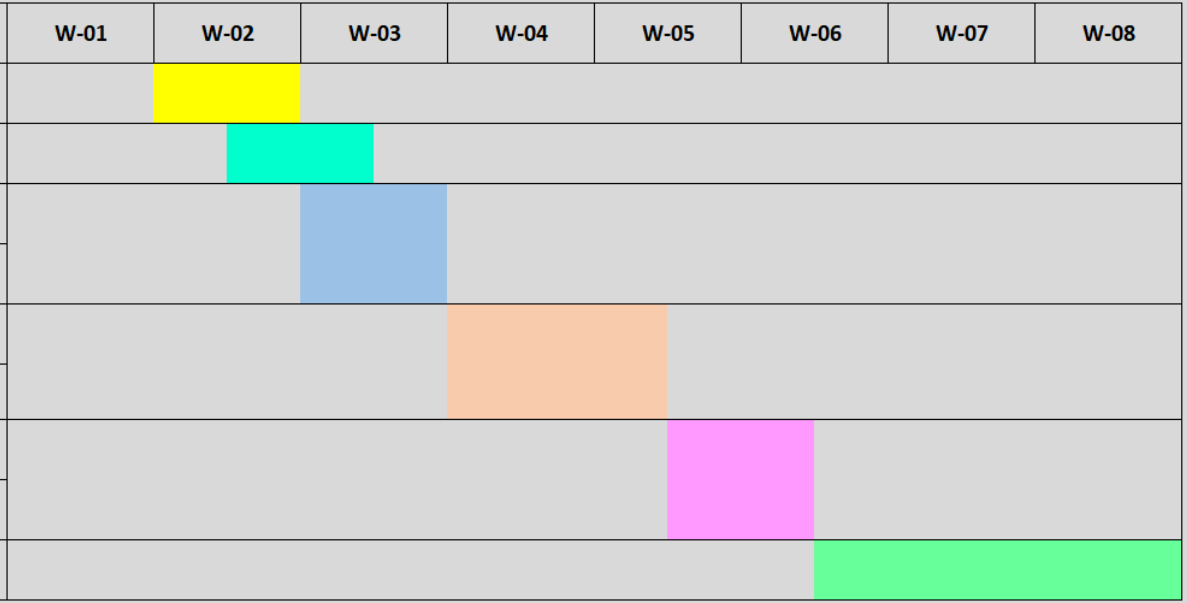
Patient details and medical history are very sensitive details.

Therefore, we need to ensure the data privacy and protection.

- Use local database instead of cloud storage system.
- Create a separate table to store these metadata in the database.
- Limit the access only to the authorized users.

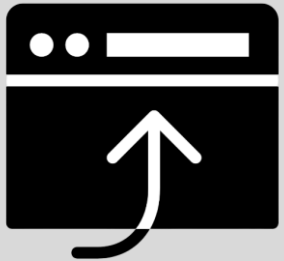
Timeline

	Project Backlog	W-01	W-02	W-03	W-04	W-05	W-06	W-07	W-08
	Gathering Information								
	Project Proposal								
Sprint 01	UI/UX Prototype Design								
	API Design								
Sprint 02	User Loging / Signup								
	Admin Functionalities								
Sprint 03	Image Capturing / Uploading								
	Metadata Handling								
	Implementing Extra Features								



Extra Features to be Implemented

- An image pre-processing tool to extract the oral cavity portion out of a whole image.



Q & A

Thank You...!