

# **Image** Data Handling System for Research

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Group 14



# Our team



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E/18/073



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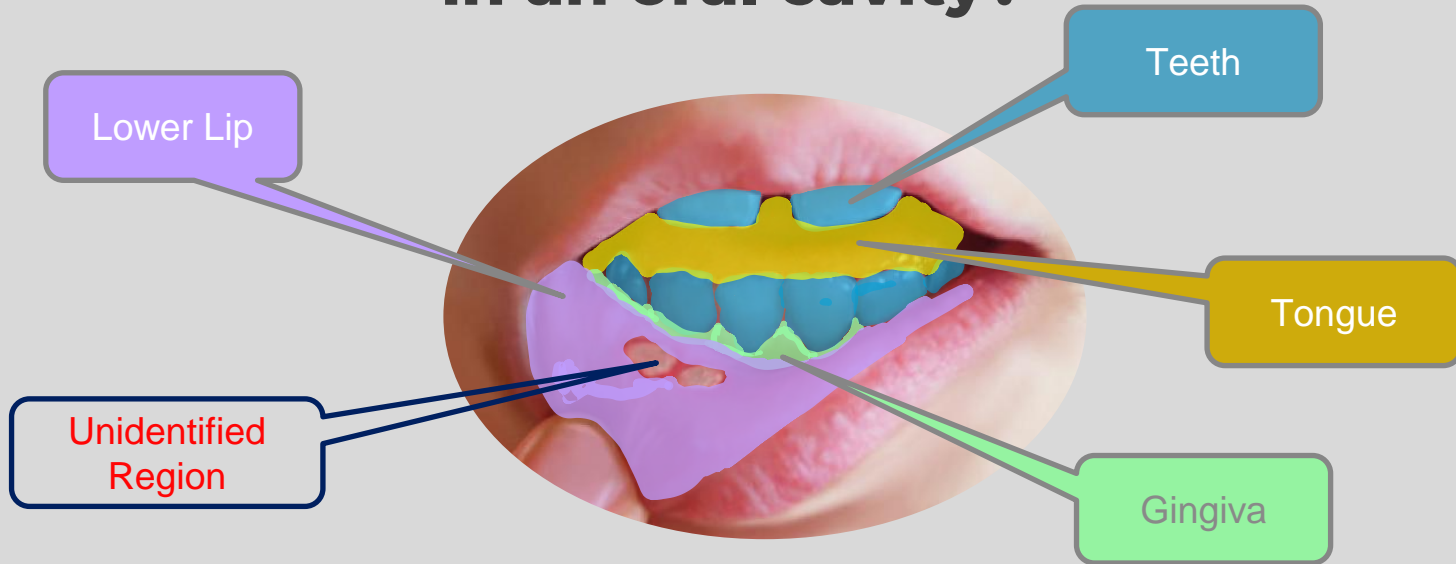


**Nethmi**  
E/18/282

**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**



The background is a light gray color. It features several large, semi-transparent colored circles: a yellow one in the top-left corner, a purple one in the top-right corner, a red one in the bottom-left corner, and a cyan one in the bottom-right corner. A solid green circle is positioned behind the word 'Plan' in the title.

# **Plan to Achieve the Solution**

# Technology Stack

Front End



**React Native**

Back End



**NodeJS**



**Express**



**Mongo DB**

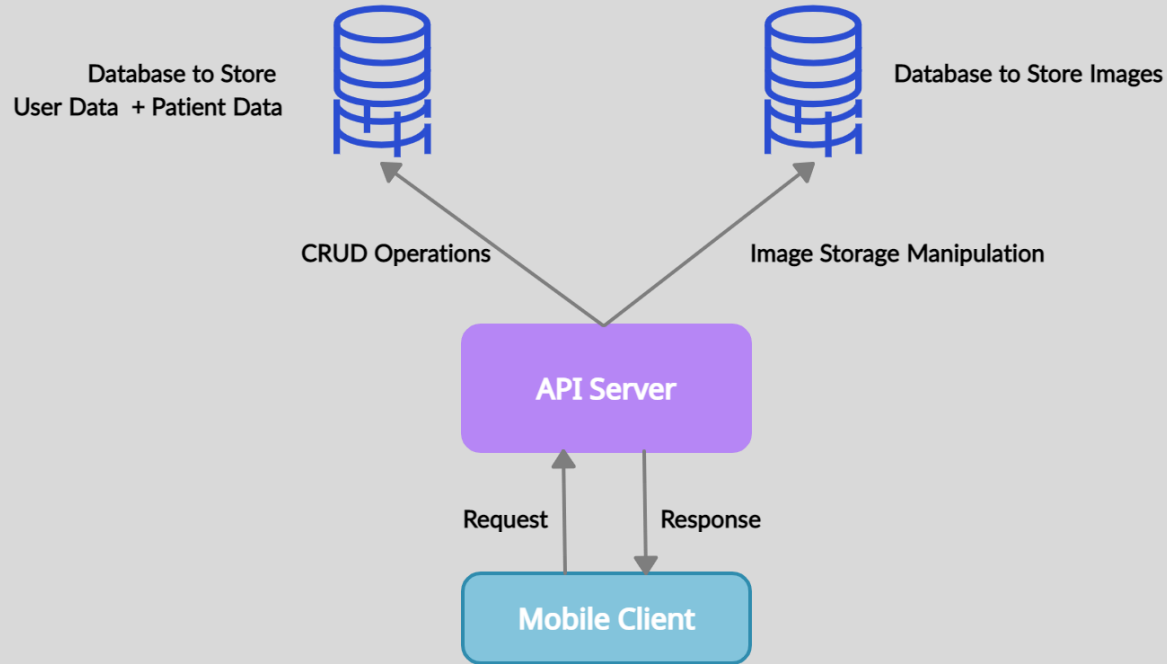
VCS



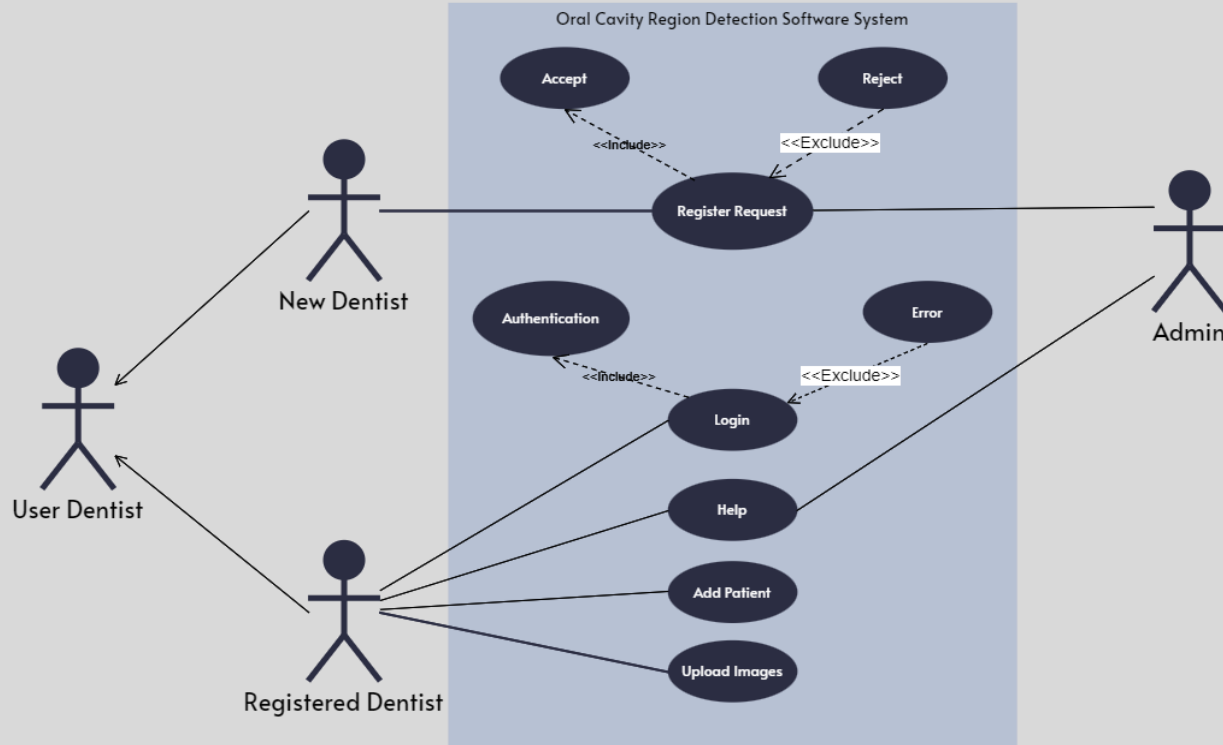
**GIT**



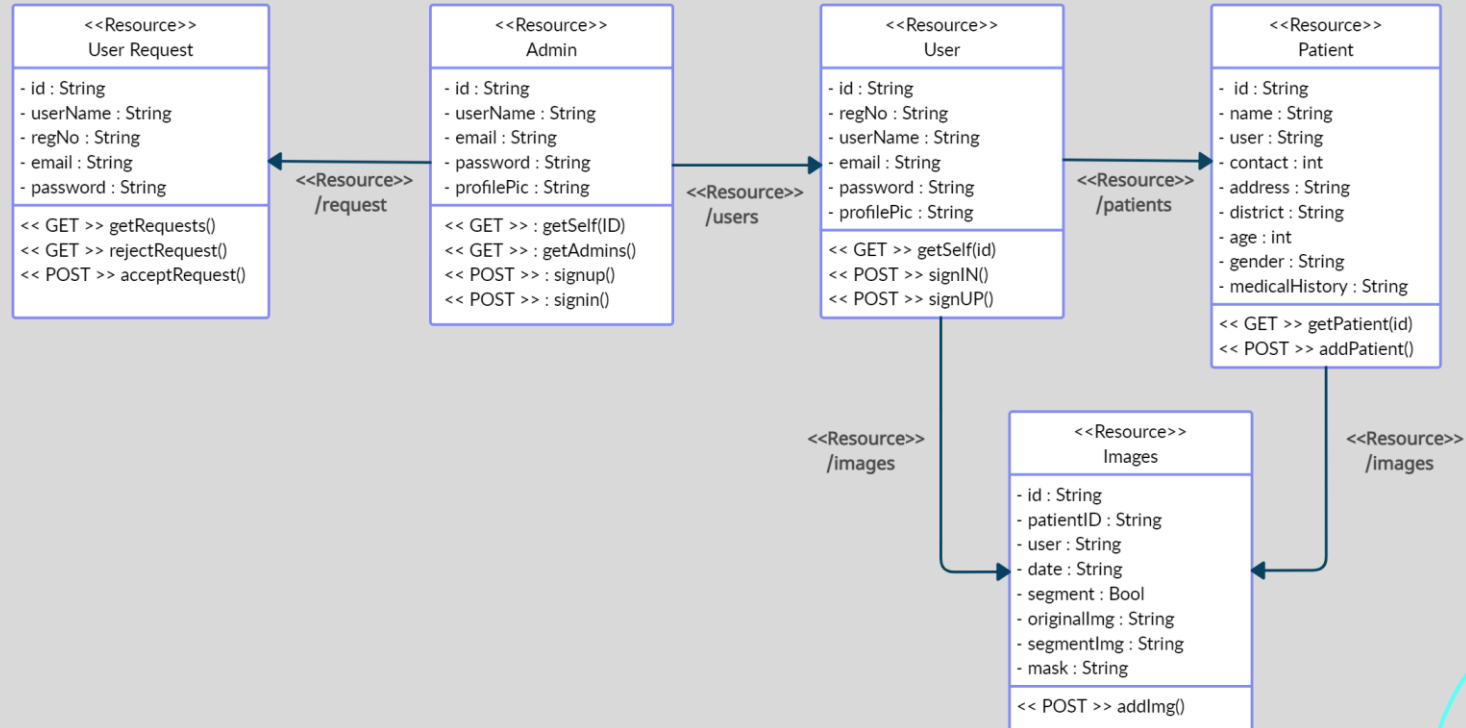
# Solution Architecture



# Use Case Diagram



# UML Class Diagram



# User Interface

UI consists of the following features



**Login**



**Image Capture**

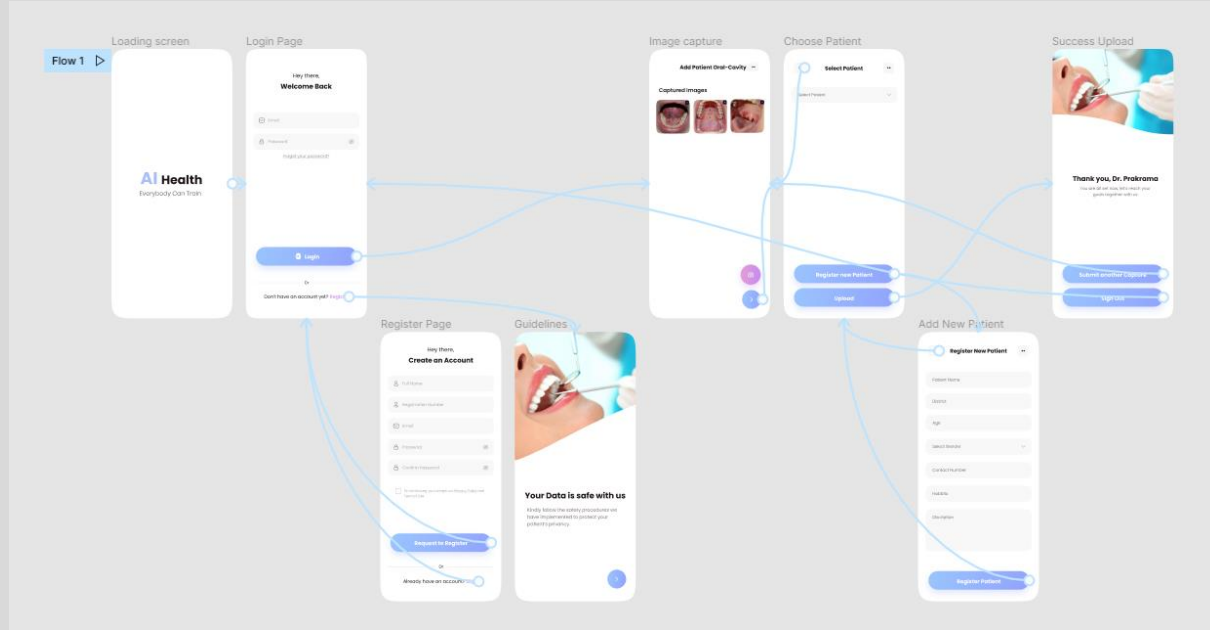


**Signup**



**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.



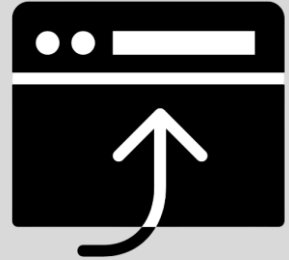
# Timeline


Project Backlog		W-01	W-02	W-03	W-04	W-05	W-06	W-07	W-08
Sprint 01	Gathering Information								
	Project Proposal								
	UI/UX Prototype Design								
Sprint 02	API Design								
	User Logging / Signup								
Sprint 03	Admin Functionalities								
	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.



The background is a light gray color. It features several large, semi-transparent circles in various colors: cyan, red, yellow, and green. Some circles are partially cut off by the edges of the frame. The text 'Q & A' is centered in the middle of the image.

**Q & A**

The background is a light gray color. It features several large, semi-transparent colored circles: a yellow one in the top-left corner, a purple one in the top-right corner, a green one in the center-left, a red one in the bottom-left corner, and a cyan one in the bottom-right corner. The text "Thank You...!" is centered in a bold, dark blue font, with the word "Thank" partially overlapping the green circle.

**Thank You...!**