



# OralOptix

OralOptix project aims to develop an AI system to automatically evaluate bitewing radiographs, identify errors, and provide precise feedback through a user-friendly interface to enhance dental diagnostics and workflows  
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## PROBLEM STATEMENT

Manual evaluation of dental X-rays is prone to errors, delays, and inconsistencies, often requiring repeated imaging and increasing risks.

**Contribution :** OralOptix is an innovative system that revolutionizes bitewing radiograph quality assessment by automating the process, to enhance efficiency and accuracy in dental practices.

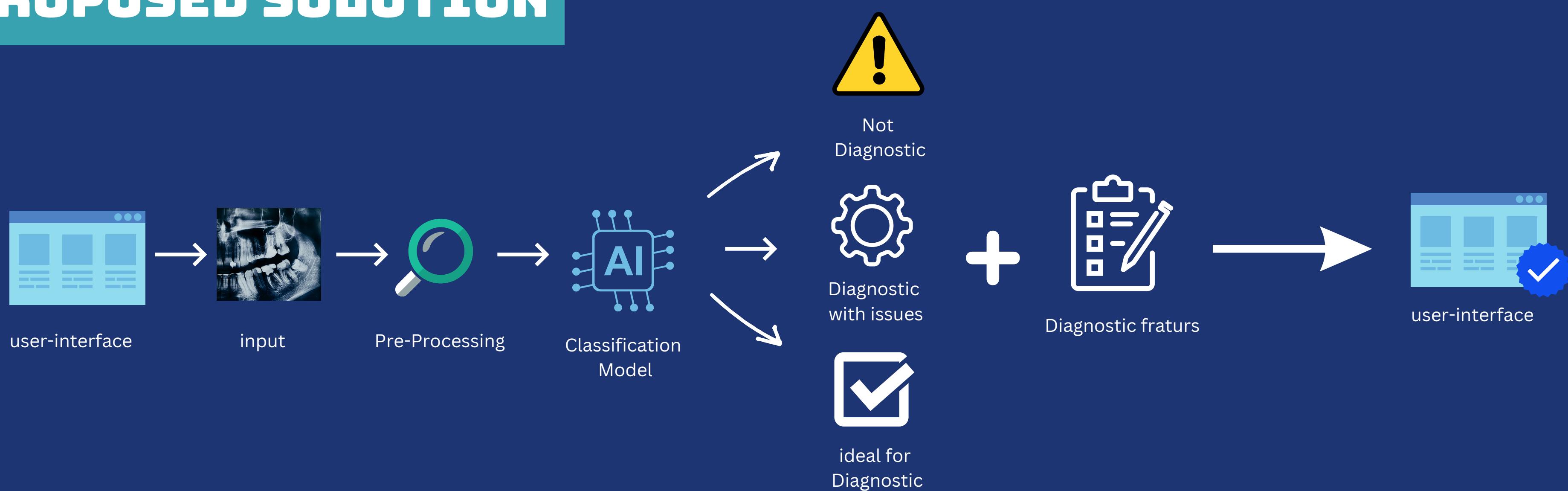
## AIM & OBJECTIVES

**Aim :** Develop an AI system to assess the quality of bitewing radiographs and enhance diagnostic workflows.

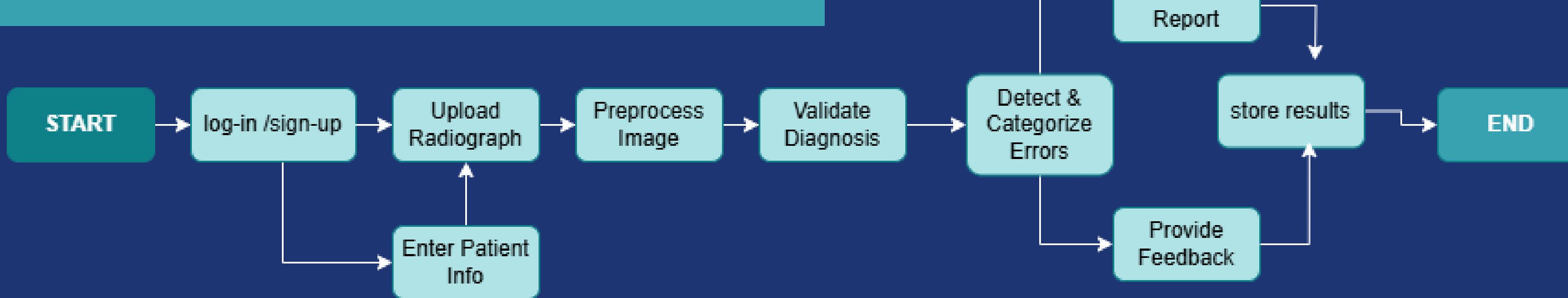
### Objectives :

1. Build an AI model to classify radiographic quality.
2. Categorize common errors.
3. Provide feedback in user-friendly interface.

## PROPOSED SOLUTION



## SYSTEM DESIGN & ARCHITECTURE



## PROTOTYPE

The prototypes show the user interface for the OralOptix system. The registration screen asks for Full Name, Email, Password, and Confirm Password. The login screen asks for User ID or Email and Password. The patient selection screen shows a list of patients with fields for adding a new patient and selecting an existing one. The technical settings screen allows users to set parameters like Exposure Time (seconds), Tube Voltage (kV), and Take Counter (0-2). The final report screen displays a detailed analysis of a radiograph, including parameters like KVP, mAs, and kVp, and a table of detected errors.

Medical Imaging Center	
Department of Radiology	
Radiograph Quality Assessment Report	
Report ID: RAD-001 Date: 2023-04-28 09:30 AM	
<b>1. Patient Information</b>	
Patient Name	Miriam Basha Morsy Degeusa
Patient ID	P-0
Radiograph ID	RAD-001
Radiograph Type	Bitewing
Examined by	radiologist
<b>2. Radiograph Classification</b>	
Classification Status	Result
Diagnostic Status	Diagnostic with issues
<b>3. Technical Imaging Parameters</b>	
Parameter	Value
Exposure Time (ms)	74 ms
Milliamperes (mA)	40 mA
Kilovolt Peak (kVp)	65 kVp
Error Detected	Yes
<b>4. AI Bitewing Errors detector</b>	
Detected Errors	None