ARCHITECTURE DOCUMENT
THYROID DISEASE DETECTION

Project By:

1. Atharva Tirkhunde
2. Madhavi Patil
3. Shivani Patil
4. Sanskruti Sitapure

E-Mail: patilmadhavi174@gmail.com
Phone No- 9356898391

1 .Introduction

A) Purpose

This architecture document provides the architecture of the solution that explains different as pects of the solution using different perspectives. It is designed to capture and communicate i mportant architectural decisions.

B) Scope

This architecture document provides an architectural overview of the Thyroid Disease Detection solution.

C)Architecture Representation

This document presents the design based on multiple views; uses data visualization, visual thi nking, process visualization, and visual distribution. No separate view is described in this doc ument.

D)Use Case View

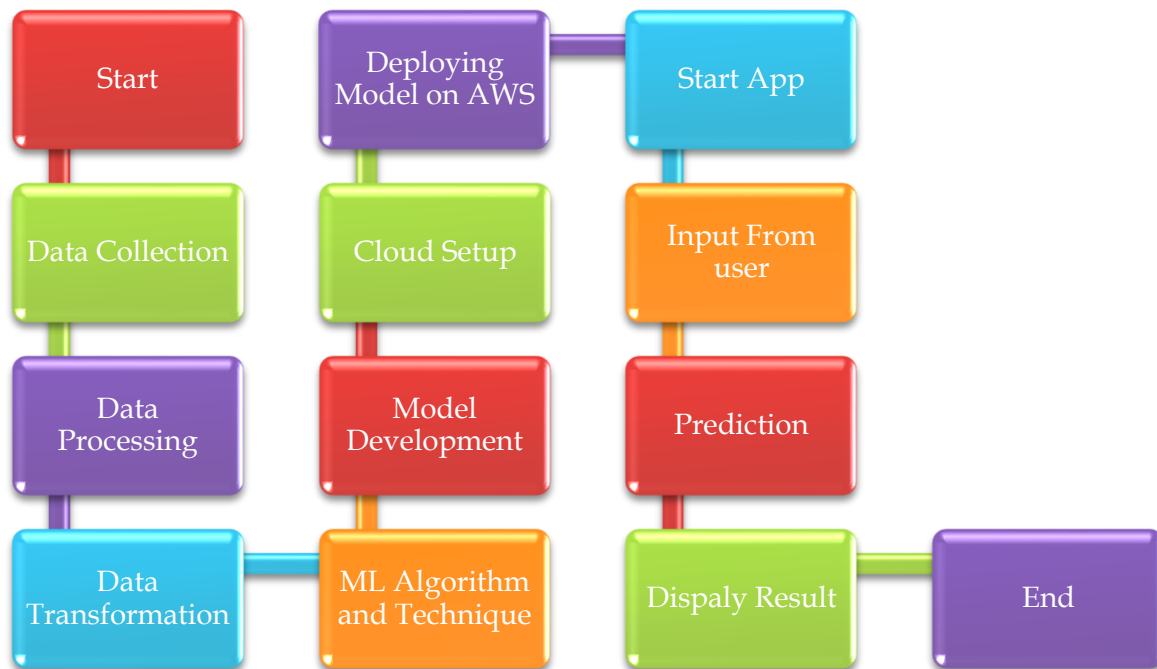 The use of visual information is important for the selection of events and/or use cases as the f ocus of iteration. It describes events and/or uses events that represent some important, import ant function. The thyroid disease detection use cases are:

- o Click the link and go to the home page
- o Enter the patient's details (TSH, T4U, FTI , and TT4)
- o Click on the Predict button
- o Get the results

2. Process View

An overview of architectural methods. Identify the activities (processes and threads) involved in the operation, their interactions, and their configuration.

```
Start ──────────────> Deploying Model on AWS ──── Start App
  │                          │                        │
  ▼                          ▼                        ▼
Data Collection          Cloud Setup            Input From user
  │                          │                        │
  ▼                          ▼                        ▼
Data Processing       Model Development          Prediction
  │                          │                        │
  ▼                          ▼                        ▼
Data Transformation ── ML Algorithm and Technique    Dispaly Result ──── End
```

6 Deployment view

The description of the Architecture Deployment View depicts the various physical systems for the most common platform configurations. The operation of tasks (from the imaging process) to physical nodes is also explained.

```
┌─────────────────────────────────┐
│             Start               │
└─────────────────────────────────┘
                ↓
┌─────────────────────────────────┐
│           Load  Model           │
└─────────────────────────────────┘
                ↓
┌─────────────────────────────────┐
│          Get user Data          │
└─────────────────────────────────┘
                ↓
┌─────────────────────────────────┐
│        Rescaling the Data       │
└─────────────────────────────────┘
                ↓
┌─────────────────────────────────┐
│     Prediction with Random      │
│      forest and XgBoost         │
└─────────────────────────────────┘
                ↓
┌─────────────────────────────────┐
│        Ensemble the             │
│         predictions             │
└─────────────────────────────────┘
                ↓
┌─────────────────────────────────┐
│        Display the Result       │
└─────────────────────────────────┘
```