Project Plan

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1 Introduction

The project is to develop a machine learning model that can classify chest diseases based on cheat X-ray images. The model will be integrated into a SMART-on-FHIR app to demonstrate its use.

2 Process Description

Build the use case model

- Description: based on the provided project background and requirements, build a set of use cases that captures the functionality of the app will provide.
- Entrance criteria: requirements formulated based on various research activities (industry problem, gaps in domain, user interviews).
- Exit criteria: this activity will produce a set of use cases for the app, in the form of a use case diagram.

Create the design

- Description: the designer team will select use cases and create a design for realizing the use cases.
- Entrance criteria: use case model
- Exit criteria: this activity will output the system architecture defined by a set of (evolving) design documents for the system, including components and their deployment, and a UI design. This activity will also produce a testing and verification plan with specific test cases. The result is deemed satisfactory by concurrence from all team members.

Implement the design

- Description: the developer team will develop software components based on the design.
- Entrance criteria: design documents, the testing plan
- Exit criteria: this activity will finish with an initial version of the app, and a preliminary user manual. The activity is deemed satisfactory by the app passing some initial testing.

Test and validate against use cases

- Description: the developer and QA team will work closely to verify the system components against the use cases to make sure that the components suitably realize the use cases.
- Entrance criteria: initial app, use case model, design documents, testing plan
- Exit criteria: this activity will produce the final version of the app. The activity is deemed satisfactory by the app passing all the testing and verification.

3 Team

- Team members: Elaine Bradley, James Martin, Arnesh Sahay, and Chaofang Yue
- Roles:
    - Project manager (PM): The project manager will be responsible for coordinating the team's efforts around designing, implementing, and testing the application.
    - Cloud architect: The cloud architect will be responsible for configuring the image storage and computing resources on an Amazon Web Services (AWS) instance.
    - Machine learning (ML) engineer: The machine learning engineers will be responsible for designing the machine learning model, gathering data, and conducting model training, testing, and optimization.
    - Front-end developer: The front-end developer will be responsible for implementing the user interface of the application.
    - Back-end developer: The back-end developer will be responsible for building the components to enable to application webpage.
    - Quality assurance (QA) specialist: The quality assurance specialists will be responsible for conducting comprehensive testing of the application and deciding when the project is ready to be deployed to Production.
- Table showing each of the roles with responsible team member(s):

Role	**Member**
Project manager	Chaofang Yue
Cloud Architect	Arnesh Sahay
ML Engineer	Arnesh Sahay & Elaine Bradley
Front end developer	Chaofang Yue
Back end developer	James Martin
QA specialist	All team members