

Fin-AI System Product Overview

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Y3 Group Project

Group 11

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1. Project Background and Description

The global crisis of the Covid-19 pandemic has created widespread disruption. Apart from a crisis in the healthcare sector, there has also been serious economic consequences. Financial institutions are exposed to severe economic downturns since a large volume of their business involves lending money which needs to be repaid.

Rather than relying on low skilled and poorly paid banking officials to make loan decisions, new technology enables more accurate predictions through the use of AI and appropriate datasets of client information. This transformation in financial services, coupled with new machine learning models and frameworks have created an opportunity for your start-up software development company to develop applications to address a potential tsunami of loan defaults on new business.

Your company has been approached by a US bank and tasked with the development of a bespoke prototype system which predicts the likelihood of its customers defaulting on new loans taken out. As part of the negotiations with the company, you have retained the IP and may use it in future projects.

2. Project Scope

To develop the Fin-AI system, several applications with different functionality are required:

- From the client's perspective, the Fin-AI app enables members to calculate whether or not they will qualify for a loan based on their income and personal situations. Customers may also use the Fin-AI app to determine how much they should be paying for a particular house.
- For financial professionals, a portal website (Fin-AI Web), stores all client records. These professionals will also have the same functionality as the client i.e. they can make decisions on loan applications and advise clients on the maximum loan amount which may be taken out. Similar to the clients, financial professionals will also be able to see how much should be paid for a particular house.
- Machine learning models, based on internationally available datasets, will be developed to implement the backend AI (i.e. Fin-AI Engine).

3. Team Outline and Setup

Outline and setup of infrastructure and development environment that will be used to communicate, document, manage code, develop code, test and deploy.

1) Communication:

The main environment for communication will be through a team Discord server. Sending of files and documents will be through Gmail.

2) Documentation:

The main environment for documentation will be Microsoft Word and Microsoft PowerPoint for presentations, slides and diagrams. Our draft and sketches may be done on pen and paper. Managing Agile development, Trello or Monday.com

3) Managing Code:

We will be managing our code and documentations using GitHub, an environment where we can all access, collaborate and modify our code and documentation remotely.

4) Develop Code:

We will be developing our Android app using Android studio or a similar development environment.

We will be developing our Web App (Fin-AI Web) using Firebase or CMS or a similar development environment.

Both Fin-AI App and Fin-AI Web will be store their data in a centralised database such as Firebase.

The machine learning models used in Fin-AI Engine will be developed using python, Keras and Tensorflow (to be research by the whole team).

5) Testing Code and Deploying Code:

We will test and deploying the Fin-AI Web through a web browser and the Fin-AI App through a test android mobile phone.