Group YJA Proposal

MEMBERS:

Xianghe(Jade) Xu xianghe3

Yuhua Weng yuhua2

Anthony Huerta ahuerta4 (Captain)

TOPIC DESCRIPTION

The italic content is potential thoughts about how to answer the question

1. **What is your free topic? Please give a detailed description.**
   What is the task?

   Our group plans to build a financial chatbot named InvestBuddy. This chatbot can communicate with real people and will also recommend related links to financial articles that could help answer questions they have. This chatbot is currently planned to be built using Python, Flask, and MySQL and the goal is to have an interactive text box that will display up to three different resources related to the user's question in the text box. This project can be broken into different tasks such as building the frontend for the web application, the python logic for the actual chatbot, and also a database to potentially store different links or keep record of feedback from users.

   Why is it important or interesting?

   This project is important because there are still large groups of people that are not familiar with financial information and a chatbot that provides resources can make it very easy for people to ask questions without feeling anxious if the real person they are talking with is reliable. It is also an interesting project because we are currently planning on making our chatbot very interactable and fun to use which should encourage everyone to use the website but become especially useful for the younger adult audience that can benefit more from financial literacy earlier in life.

   What is your **planned approach**? (model)

   Our planned approach for this project is to focus much of our time into researching and creating a chatbot that will have similarities to a recommender system. We plan on spending much of our time on refining the chatbot logic because it is the primary NLP component which matters more than the visuals. After the recommender chatbot is finalized, we will focus on the frontend logic to make sure the web app is presentable. If there is enough time after focusing on the initial parts of the project, then

we will hope to have a database that could give feedback to our chatbot and make the recommended articles more relevant to the question made by the user.

What **tools, systems or datasets** are involved? (data source)
The dataset we choose decides the type of chatbot we build. E.g. if we use a medical dataset, it could be used as a helper for medical treatment.

Currently, the way we are planning on implementing InvestBuddy, our dataset will have to be constructed by ourselves unless there is a resource of financial articles that have been tagged. Our data will be in the form of URL links and relevant tags to the article that will help to score how relevant they are to the question of the user.

What is the **expected outcome**? (goal)
Set different phrases(basic goal, medium goal, high-level goal)
How are you going to evaluate your work?(evaluation)
What standard is used for industry/academic evaluation?(user feedback?[we need to find available users]; top-ranking?[we need to find suitable datasets])

Our work will be primarily evaluated through the use of user feedback which we feel is the best metric to measure our outcome because the goal is to have our web app used by people. We plan on asking people with different levels of financial background and ask them questions on their experience on whether they felt the questions they had were accurately answered. If we find that many users feel that their questions were answered then we can strongly conclude that our project was a success at all phases. We can also break down the success of different components such as how much users enjoyed using the UI.

PROGRAMMING LANGUAGE

We are planning on using Python for the chatbot logic and with the flask framework to create a webapp and we will also potentially require a Mysql database.

WORKLOAD ANALYSIS

Task Name	Start	Finish	Duration	Member
Ideation	16/10/2022	22/10/2022	3h	All
Proposal writing	22/10/2022	23/10/2022	4.5h	All
Data preprocessing			4h	
Build model			10h	
Training and			12h	

adjusting model				
Progress report			3h	
Further improvement			4.5h	
Front-end design			21h	
Evaluation			7.5h	All
Final report and demo			6h	All