a. Title: Robot Advisor

b. Team members (A minimum of 3 members and a maximum of 4 members)

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c. Introduction. (A)

* Robo-advisors provide financial planning services that are automated with algorithms without any human intervention.
* A Robo-advisor works in the following ways such as first gathering information that a client will provide using an online survey and then automatically considering and providing advice to the client based on those answers.
* Robo-advisors often use passive index investing strategies. The main benefit of the project is that it will help the user/society by providing the necessary investment advice that many new people are straggling with nowadays.

d. Objectives (A)

Our team is planning to consider/implement the following objectives:

* Web platform for the information gathering
* The background algorithm for the clear goal advice
* The AI platform that will consider today’s market conditions
* The smooth user experience for the clients

e. Solution methodology (E)

To solve project challenge, we will try to follow the methodologies and strategies as follows:

At each major implementation steps, we will follow a 5-Step Problem-Solving Strategy

f. Validation strategy (E)

In software testing terminology, validation strategy implies cross-referencing the functionality of software with the requirement specification, to assess that it adheres to the prescribed demands of the client. We will refer to the “4Q Lifecycle Model” format but mainly focus operation and performance module in our case.

* Operational Qualification (OQ):These tests establish confidence that the software will consistently perform the way it’s supposed to when operating within expected ranges. These tests and results can be supplied by the vendor. In our case would be our development team. The qualification involves standard features and security capabilities.
* Performance Qualification (PQ):This stage confirms that the software, as it was installed, will perform the way the user needs it to. Based on the processes and specifications outlined in the previous stages, our tests and documentation validate that the product being produced will meet the designed requirements for functionality and safety.

g. Ethics and sustainability considerations (Q)

* This software is provided to all races and all genders. While using the software, no gender, racial or religion question is asked. None of these criteria is in use to assist investment decisions.
* AI chatbot does not save any information without consent from user. All Data collection is for financial product analyzing purpose and can be deleted by user at any time.
* With this kind of chatbot, customers may save phone or in-person appointments, which consumes more energy and produces more carbon emissions. Furthermore, having the communication stored electronically eliminates the paper print-out—all these benefits are helpful to more sustainable development.

h. (Bonus) Commercialization of the project (Q)

There are two ways of commercialization for our project.

1. Subscription
   * User can use trial version free of charge. Trial version has basic functions including investor risk assessment and financial product analyze tool.
   * To access advanced tool such as product recommendation and financial product management, Users need to subscribe and pay monthly fee.
2. Source Code Package   
   We will also sell Source Code Package with certain AI algorithms to major banks and commercial website.

i. Proposed timeline table (Q)

|  |  |  |  |
| --- | --- | --- | --- |
| Milestone | Individual Work Done | Group Work Combined Deadline | Course Submission Deadline |
| Project Specification Initial | Friday Sept 16th | Saturday Sept 17th | Sunday Sept 18th |
|  |  |  |  |
| Clarify Objectives and distribute Workload | Week 3 |  |  |
| Code individually and Intergrade as Group | Week 4, 5 |  |  |
| Documentation Submission Preparation | Week 6 |  |  |
|  |  |  |  |
| Midterm Document Section Submission | Friday Oct 7th | Monday Oct 10th | Monday Oct 17th |
| Midterm Prototype Submission (Code) | Friday Oct 7th | Monday Oct 10th | Monday Oct 17th |
| Midterm Video Section Submission | Friday Oct 7th | Monday Oct 10th | Monday Oct 17th |
|  |  |  |  |
| Clarify Objectives and distribute Workload | Week 7 |  |  |
| Code individually and Intergrade as Group | Week 8, 9, 10 |  |  |
| Doc and PowerPoint Submission Preparation | Week 11 |  |  |
|  |  |  |  |
| Final implementation (Code) | Friday Nov 4th | Monday Nov 7th | Monday Nov 14th |
| Final Project report | Friday Nov 11th | Monday Nov 14th | Monday Nov 21st |
| Final Presentation Preparation | Friday Nov 18th | Monday Nov 21st | Monday Nov 28th |

Please note:

For all milestone submission, we will manage it with 3 stages:

1. The first stage is Individual work done. All members will submit their portion at the end of this stage.
2. Second Stage is Group Work Combined. We will review the group work and do polishing. Meanwhile, we will preview next tasks and divide it into individual segments.
3. Third Stage is final submission. As planned, Group work submission should be always one week earlier than Course Submission Deadline.