Dublin City University - School of Computing

BSc in Enterprise Computing

4th year project proposal (CA472)

Idea Proposal

2021/2022

Student name	Student Number
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Project Title: StockCompete

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Project Summary (1 page):

For new traders getting started in the world of trading can be challenging. Current trading web applications use complex trading terminology and intricate graphs and calculations for more professional traders, leaving the new traders extremely confused and out of sorts for what they're doing. This leads to a lack of confidence in themselves and to make matters worse, high costs for emotional trading.

To resolve these problems we propose a stock trading web application that uses a gamified UI with simplified trading language. These will not only make learning easier and stop new traders from being overwhelmed but also help keep them engaged through the use of gamification through applying their gamer style to the market.

The goal of this service is to make trading easier and more efficient for new traders. We will also make it less risky for new traders by having low commission fees and no unobvious charges, unlike our competitors, e.g. eToro.

This service will generate revenue through commission fees and monthly membership fees. These will be discussed in more detail in the market rationale.

For our customers, this will provide them with a well needed more modern version of stock trading. As seen with our indirect competitors (Robinhood), gamification is a want for this market and for new traders it is the most well-tested form of learning how to trade.

Once we complete the project we will look for investors to fund our idea. We will go to Enterprise Ireland for investment funding to develop and produce our idea as well as any key partners we will need to complete the project.

Expected Technical Delivery (1 page):

For our technical delivery, we intend to create a web application for trading stock.

The technical architecture of this application will be as follows:

- The backend will be built on Django and Python, using Django Rest Framework to create a usable API service for the frontend.

- The front end will be built using vanilla JavaScript, Bootstrap CSS, JQuery and HTML5.

This platform will host the following features:

- **Stock Data**: Using AlphaVantage, we plan to populate our site with various stock data from this API.

- **User Account Dashboard**: For each user, there will be an account dashboard. This will include:
    - An Equity Balance with add and withdraw options,
    - Currently owned stocks and a graphical representation,
    - Transaction History and
    - Account Details

- **Buy and Sell Functionality**: When the user opens a specific stock page they will be able to buy and/or sell depending on the limitations, e.g. account balance, stocks owned and the number of trades per day. There will also be a couple of legal rules regarding pattern day traders that need to be introduced here.

- **Points System and Leaderboard**: We plan to implement a points system based on the number of trades a user makes in a given month. Leaderboards will accumulate points based on a user's transactions over a given period of one month and the top 50 users will receive different ranges of prizes.

- **Customer Support**: We will add in support for customers through a Q and A section and documentation. There will be a list of searchable documentation for support for customers.

Market Rationale (1 page):

The customer segment we aim to reach with this service is new, non-professional traders. This customer segment is very large and we would be implementing this project on a website that's accessible worldwide.

Based on some preliminary secondary research we have gained some insight into the growing rate of new traders over the years, particularly in the last year during the COVID pandemic. The more common age group of 18-24 has seen a significant increase in trading.

We plan to survey this customer segment over the coming months to quantify the need and want of our proposed service. Due to the high quantity of this segment on the college campus, our primary research will be conducted on college students.

For secondary research, we plan to investigate competitors both direct and indirect such as Robinhood and eToro. We'll also look into studies they have conducted on the market and the business models, features and services these competitors use and offer.

Initially, we planned to use a payment for order flow (PFOF) business model as a way of generating revenue, ensuring that we could offer users 0% commission on trades, however, after some conducted secondary research we found that the EU is investigating the use of this method and that some countries, such as the UK and the Netherlands have already made this model illegal. This method is employed by a number of stockbrokers, for example, Robinhood.

For this reason, we plan to offer 1% commission fees on trading (Keeping the rate low) and offer different monthly membership fees for different types of users. These will be the methods by which we generate revenue. We also plan to have Google Ads displayed as an extra stream of revenue.

Proposed Timeline (1-page max): (Gantt Chart)

Mid-Term Delivery Timeline

Tasks	November 2021	December 2021	January 2022	February 2022	March 2022	April 2022
Mid Term Delivery						
Conduct Primary and Secondary Research	1 week					
Create Value Proposition Canvas(s)	1 week					
Create Business Model Canvas	2 weeks					
Functional Requirements		1 week				
Software Architecture		1 week				
Functional Specifications		2 weeks				
Gantt Chart		1 day				
Start Development			2 weeks			
Final Project Delivery						
Executive Summary			2 weeks			
Value Analysis				1 Week		
Market Analysis				2 Weeks		
Financial Plan				1 Week		
Proof of Research					1 Week	
Software Architecture					1 Week	
Database Design					1 Week	
UML Use Cases					1 Week	
Performance Requirements						1 Week
Technical Challenges for market						1 Week
Select great source code to explain						1 Week
Interface Rationale						1 Week

Due to the high number of lower-level tasks we were unable to fit assignable tasks in a readable Gantt Chart.

The Gantt chart above shows the timeline of both submissions and the tasks to complete them between now and the end of Semester 2. Each task breaks down into a number of smaller tasks which we will distribute evenly between ourselves, so we both take responsibility for all tasks listed above.

Workload Distribution (for teams with 2 or more members):

Aaron Nolan	Ben Strickland
• Secondary Research • Business Model Canvas • Software Architecture • Specify and develop specific functions • Gantt chart	• Primary Research • Value Proposition Canvas • Functional Requirements • Specify and develop specific functions • Gantt chart
• Value Analysis • Financial Plan • Software Architecture • Database Design • Technical Challenges • Source Code examples	• Executive Summary • Market Analysis • Proof of Research • UML Use Cases • Performance Requirements • Source Code examples • Interface Rationale

Staff Consulted:

The project advisor is Graham Healy.