
Project Proposal: Paramount Investments League

Software Engineering
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Team 1:

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Hyperlinks:

[Webapp Link](#)
[Project Repository](#)
[Reports Repository](#)

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1 Team Profile

Team 1 will be working on [Project 5: Stock Market Investment Fantasy League](#) and have named their project "Paramount Investments League". This project is intended to serve as an exercise in software engineering focusing on building experience in the design, architecture, construction, test, and maintenance of a small-to-mid sized complex software application.

At this time a project lead has not been elected, but David Patrzeba will be acting as technical lead. All members will have input on the decisions of the team and communication is being facilitated by a project mailing list, git repositories, a wiki, and google+ hangouts.

1.1 David Patrzeba

David is proficient with the Java, C, and C++ languages, RESTful APIs, SQL, and is highly familiar with iterative software design and object oriented design patterns. David also has experience with Android development, relational database schema, and user experience. David will be acting as a technical lead on the project.

1.2 Eric Jacob

Eric is proficient with the Java, C, and C++ languages, and SQL. Eric also has experience with Bash scripting and Python.

1.3 Evan Arbeitman

Evan is familiar with the C++ programming language.

1.4 Jesse Ziegler

Jesse has experience with the C and C++ languages.

1.5 David Karivalis

David is proficient with the PHP, Java language. David is familiar with C, JavaScript, and HTML/CSS. David has experience in iOS and Android development, user experience, and photoshop. David will be the UI lead.

1.6 Christopher Mancuso

Chris is familiar with the C++ language.

2 Project Proposal

Team 1 has elected to work on [Project 5: Stock Market Investment Fantasy League](#) with the goal of implementing a web application to service a core audience of novice investors in introducing them to the ins and outs of tradeable assets. Novice investors come from all ages and backgrounds but tend to fall into the 16-30 year old crowd. By "game-ifying" the action of trading stocks by allowing users to collect achievements and be rewarded in interesting ways, the goal is to maintain their interest in the application.

OLD STUFF:

We intend to use a RESTful API for executing all requests by the end user allowing easy expansion to the desktop and mobile application domains. We are deploying to a [DigitalOcean](#) Virtual Private Server (droplet) which will allow us to scale as necessary, both vertically and horizontally.

The goal of our web application is to act as the initial and primary interface to our backend services. These will include the ability to conduct buy, sell, short, stop, and limit orders on at least the NYSE and NASDAQ stock exchanges. We also plan to support global leader boards, individual leagues with goals (eg. first to double their money, first to gain 8% in a day, etc...), and global achievements (similar to xBox achievements).

Because our project will be built using RESTful principles, it will be able to act as a platform that can be extended by third parties to implement new and innovative features. Some scenarios include trading tutorials, and stock prediction integration. These are not of our primary concern.

2.1 Registration

The end user should be able to register and login to the system in a simple and straight forward manner requesting the least amount of information necessary in order to start using the system.

The project plans to use OpenID in order to perform authorization and validation of our users. It also allows the project to easily scrape data from our users and prefill their profile for them. This should also allow the project to integrate easy with social media.

2.2 Social Media Integration

End users should be able to push messages to their social media personality that indicate recent trades that they have made or achievements that they have earned.

The project will initially integrate with social media to push out messages about trades and achievements. This feature will be able to be turned on and off by the end user, and will support multiple social applications.

2.3 Transactions Ticker

All site visitors should see a ticker of the most recent trades scroll across the bottom of their screen at a speed such that they can read and process the information easily much like seen on CNBC.

The project plans to implement a static transactions ticker which will scroll across the bottom of the users screen similar to what you would see on CNBC. It will be visible to all users of the website, whether logged in or not. We will also include the indices of the Dow Jones Industrial Average (DJIA), the Standards & Poor 500 (S&P500), and the NASDAQ in a static box also much like you would see on CNBC.

2.4 Unified Interfaces

The end user should experience a unified experience across mobile, tablet, and desktop browsers. The customer should be able to use the major modern browsers Firefox, Chrome, Safari, and Internet Explorer.

The project plans to use [Bootstrap](#) to provide mobile first front-end for the website. By doing this, it allows the project to provide a consistent user experience across all platforms. This also serves as a first iteration into the mobile/tablet market and gives us a good blue print for a second iteration focused on native mobile/tablet applications.

2.5 Portfolio Management

The end user should be able to place orders to buy, sell, short, stop, and limit, on any tradeable asset available on the NYSE and the NASDAQ. The user should be able to cancel any pending orders that have not gone through (eg, a limit order that hasn't triggered).

2.6 Graphs and News

End users should be presented with a news feed related to his/her portfolio. Additionally they should be able to manipulate graphs in order to compare performance of a variety of tradeable assets.

The project plans to implement interactive charting for your portfolio using [HighStock](#). This will allow end users to conduct analysis on their portfolio using visual aids. The project will also implement a news feed, which will update with the latest financial news for companies that are in your portfolio, and companies that you may be tracking.

2.7 Email Updates

The end user should be able to receive email updates at a frequency and granularity that they choose.

The project will facilitate a variety of email updates to the end user. Some examples are transaction confirmation, daily, weekly and monthly portfolio updates, league updates, and site updates. The user will be able to select which email updates they would like to subscribe to.

2.8 Educational Interfaces

End users should be able to mouse over investment terms (eg, P/E ratio) and see a pop up dialog with a brief description and links to internal and external resources.

The project plans to implement definition boxes for investment terms across the website. Certain terms (eg. P/E) will be highlighted and by mousing over them a dialogue box will pop up with a definition and links to external resources for a more in depth analysis.

2.9 Leagues

End users should be able to create, modify, and participate in leagues that agree to a customizable set of rules to determine a winner (eg, the first to double their money). Leagues should be able to be set up by any end user and be made public or private.

2.10 Achievements

End users should receive recognition of achievements accomplished (eg, earn 10% in a month) and be rewarded with additional play money, stocks, and other novel rewards.

3 Product Ownership

The project has identified 10 core pieces of functionality which will be implemented by a team of two with the first name listed set as the go to man for that given piece of functionality. Every team member will be assigned a minimum of 3 pieces of functionality to be responsible for and will be lead on no more than two pieces of functionality.

3.1 Registration Functionality

Evan Arbeitman and Christopher Mancuso

3.2 Social Media Integration Functionality

Jesse Ziegler and Eric Jacob

3.3 Transaction Ticker Functionality

David Karivalis and Evan Arbeitman

3.4 Unified Interface Functionality

David Karivalis and Eric Jacob

3.5 Portfolio Managment Functionality

David Patrzeba and David Karivalis

3.6 Graphs and News Functionality

Christopher Mancuso and Jesse Zeigler

3.7 Email Update Functionality

Evan Arbeitman and Jesse Zeigler

3.8 Educational Interface Functionality

Eric Jacob and Christopher Mancuso

3.9 League Functionality

Jesse Zeigler and Eric Jacob

3.10 Acheivments Function

David Patrzeba and David Karivalis