Project Charter

For

IMP: Imp for Market Prediction

Version 1.0

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1. **Elevator summary:**

Our goal is to develop a powerful, user-friendly application that predicts trends in the stock market. It will aggregate the results of various predictive algorithms to accurately find patterns in the market. This will be an invaluable tool for helping investors make informed decisions about which stocks to buy and sell.

1. **Business case:**

There are various stock prediction applications currently available in the marketplace. Various products by the Alyuda Company, including *Tradecision* and *Forecaster* are similar to IMP, as is stock-forecasting.com. These and other market prediction software use advanced statistical methods, mainly involving artificial neural networks (using back propagation) and genetic algorithms. This approach tries to optimize predictive power as well as performance. The problem with neural-network-based software is that it requires training, and has a large parameter space. It could take hours to train the network for all the input data, which is necessary to properly adjust the weights between nodes. Thus, usability is sacrificed for performance. <BLAH BLAH SOME BULLSHIT ABOUT HOW OUR ALGORITHM IS MORE USER-FRIENDLY BLAH BLAH> The price of similar products ranges from $80 a month to upwards of $5000 for unlimited use. <HOW MUCH WILL OURS COST?>

1. **Stakeholders:**

Various people and organizations are involved in our project and are affected by the outcome. Our project sponsor is Rensselaer Polytechnic Institute. The college would have the rights to our software, which, if successful, could be very profitable for them. Our project managers are John Sturman and Nina Fefferman, who happen to also be our professors for the course. They have a large influence over the outcome of our application, as they will be guiding us along the design process. Finally, the customer is perhaps the most important stakeholder. They will be purchasing our software and using it to make profits on their stock investments. We are targeting investors and <OTHER TARGET AUDIENCE…BANKS? COMPANIES?>. We expect to receive feedback from the consumers so that we can make improvements to the software and increase accuracy.

1. **Project features: (Tuck/Sloth…you guys can add to this)**

* A GUI which is easily usable by the target consumer
* Advanced options (toggled) for the more savvy consumer
* Clear graphs that show trends and outcomes
* A checklist of algorithms that the user can select
* Some way to input data that is quicker than the ANN algorithms

1. **Risks:**

We run into several risks in designing such an advanced market prediction application:

* The cost and resources to implement and maintain the software might be too high.
* The time to run algorithms could be exceedingly long, but likely not as long as the neural networks.
* We may run into implementation issues with some of the more complex algorithms.
* An accurate prediction of the market may be impossible (random walk hypothesis), or too difficult even with modern technology.
* Marketplace competition might be an issue, especially with some of the bigger companies.

Revision History

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| --- | --- | --- | --- |
| Name | Date | Reason For Changes | Version |
| F Gervits | 02/22/10 | Document created | 1.0 |
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