A Real-time Data Visualizer

Shan Jiang

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I pledge my honor that I've abided by the Stevens Honor System

1 Introduction

Visualization of data is usually a general concern in the domain of engineering and academic research. When it comes to the configuration and deployment of different kinds of graphic libraries, reinventing a visualizer for specific purposes can be quite time-consuming and error-prone. This product provides a scalable data visualizer as an independent process together with an easy-to-use programming interface which can be handily invoked from different programming languages and platforms.

2 Stakeholders' Analysis

This product will influence three different types of stakeholders namely the user, client and designer.

- **Client** is a group of people who have potential interest in funding this project. For this product, attention from small corporations, university faculties and individuals are expected. These investors are vital for the project since it involves the implementation

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of their demands. In addition, their objectives and their concerns can be the key components for the product.

- **Designer** is a group of people who are responsible for the development of the design project. For this project, software engineers, UI designers and engineering management specialty are required.

- **User** is a group of people who will be using the product and gain convenience from the implemented data-visualizer. The targeted user for the design will be the same as client, since this new product provides them an economic solution of data-visualizing.

3 Feasibility

The estimated completion time of this project will be approximately 4 months. During this time, the developing group is going to take surveys regarding different demands of users and implement the software framework. Endorsed new features will be added to the source code simultaneously.

Since this project is interest-driven software development which does not depend on any hardware, the cost is expected to be kept at a relatively low level.

4 Skill Requirements

- Data handling under high-concurrency scenarios

- Communication protocol design

5 Scopes

- **Strength**

  Compared with most of the data visualizing solution available currently, this product is a light-weight software which only depends on the host operating system. Users could from now on jettison any programming language they are not familiar with, if the only reason of using them is their ability of presenting data. This is going to relieve the burden on all kinds of developments. What's more, unlike most of GPL free-wares, our license does not require clients to publish their source code.

- **Weaknesses**

  As is mentioned, this project is interest-driven. So it might be in a premature state compared with other commercial or open-source solutions.

- **Oppoturnities**

  People might have the demand of expressing their ideas with visualized data graphs, which is limited by the ability of the programming languages they used. This product can free them from arduous coding and unleash their imagination.

- **Threats**

  Due to its real-time characteristic, the software might omit some frames when fed with overwhelming data stream.