

Data Aggregate Reporter SWOT

As a continuation of CPE 322 HW1, this homework will provide a more detailed inception of the financial risk data reporter. As homework 1 mentioned: the project is made up of three parts: data fetcher, report designer and report generator. The first component is data fetcher which is essentially an engine that collects all the market data which may potentially used by clients. This fetcher needs to collect really time data for real time series analysis. As we know nowadays the financial market generates millions of data everyday so collecting these data could be challenging. It may require an efferent data structure and algorithms, maybe state of art hardware as well. The second component is report designer is a web interface for our client to customize their reports. This component is the most critical component in the whole project. It needs careful software Architecture design. We put the data which is collected in the first comment report into a database along with the clients' information. Then we may build its core and back end functions in JAVA. An open source package (such as Hibernate) maybe used to connect the database and components core codes. Gradually we can build up the front page by using HTML/Apache Wicked technology and put it on a server this will wrap up the construction of the 2nd component. The last component is generator, an engine that generating all these complicated data into a coherent presentation format (PPT or PDF). Since the project I propose is already complicated enough so I am thinking about using an outsider vendor to generate PDF/PPT/Excel files. There are a handful of companies in the market doing this now so it wouldn't be hard to find a company with a fair price.

As one can see the proposed project is quite complex and it requires varieties of skills. First, I need a member with solid project management skills. All three components need carefully planning with detailed Gantt chart. Secondly I need a network engineer to sort out the server configuration. Most

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importantly I need some good software engineers to do the coding. From what I estimate, coding is a really heavy part of the project. What's more, lots of programming languages are involved in this including JAVA, SQL, and Pylon. JAVA will be the most used language in the project and programmers are expected to program fluently in JAVA. Additionally, since the project is geared towards financial industry, good presentation skills are required from all group members.

SWOT ANALYSIS

Strengths: The design will provide hedge fund users the information they need to evaluate their risk position. It will be delivered to the clients in a portable and readable format such as PDF, PPT or Excel. Through the customized report designer section clients can generate reports of their own with their own parameters and risks preferences. Our job is to present our clients the latest data and it is up to them to come up with an optimized strategy. We will give our clients a fair stage to compete. However the asset management firms which do not adapt our project may lose the edge.

Weaknesses: The biggest weakness of this project is the time and scale constraint for the senior design class. We only have a little bit more than half a year to finish the project. Tight time constraint leads to the fact that we can do build a scale down model. The problem of the scale down model is that working of the scaled down model will not guarantee the working on the normal scaled. Because the system and hardware will become more and more unstable as the model gets larger and more complex. So my concern is this project will take more than just two semesters of senior design to finish, but overall I still think this is a good project which is worth trying.

Opportunities: (HW1)As the recent global financial crisis hit the financial systems around the globe, we gradually realize how important the role of risk management plays in our vulnerable system. Risk management is a critical component to prevent this kind of financial crisis from happening in the future. Nowadays companies ranging from big investment banks to small hedge funds are investing big bucks

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into firm's risk management wings, with the new opportunities emerge. As we all know, a good risk management team needs the fastest comprehensive data as possible to make valid and solid calculations. However, lots of hedge funds do not have a big IT department. In other words, they are not able to pull off a large scale project like this. If this proposal becomes reality then the future profit is very likely accepted.

Threat: As so many data gets involved in the project. Data leaking will be a critical threat of the problem. For example, what if data is sent to a wrong client, then that client will be well below the water considered that fact that asset management being such a competitive industry. So the integrity of the data will be an important problem in this project. If the level of integrity is low, we may get tons of law suits which also mean the end of the entrepreneurship. Timely deliver will be another threat of the project. In the financial world data will be outdated very soon. A data set maybe valuable right now but it may not worth a penny in 15 minutes. How to guarantee timely delivery will be also an important subject in our large scale systems.

Reference:

Hibernate Technology: <http://www.hibernate.org>

Apache Wicket: <http://wicket.apache.org/>