**Script:**

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| Role: |
| Hi everyone, Dave here. I’ll be talking about my role in Group Project as well as looking at the approach, design, tools and technologies used.  My role in the group project was mainly around the development and design of the Data Visualisation Component.  Looking at the Approach:  In the early stages of the project, the team did a couple of collaborative high level designs sessions after which each developer set out to build a POC to prove that our communication methods, tools and technology selection will be feasible.  With regards to Tools & Tech:  For Visualisation we decided to use a Web stack, so HTML, CSS and JavaScript, using the D3 Charting and Bootstrap JavaScript components with NodeJS as a backend web/api component.  The reason we chose NodeJS is it complements the technology stack by limiting the number of programming languages you have to learn.  NodeJS will also run on any platform (Windows/Mac/Linux) which was important as part of the experiment was focused on the PI infrastructure which is Linux based however development was done using a Windows machine.  Design:  From a design perspective, we had to cater for different views of the same data in a dashboard form. I chose an MVC pattern to address the separation of concerns and there by the portability and reusability of the underlining components.  The MVC pattern was also applied in building the supporting dashboard components such as the dashboard page and criteria view as both of these supporting components required a data model, View and some controlling logic. |
| The Dashboard View takes on a configuration model containing information around the graphs and their corresponding controller methods and data models.  Each controller method returned a specific data model which is simply extracted from a static JSON file produced by the Data Transformation component. |
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| Challenges:  Learning new programming languages and frameworks within a short amount of time pretty much sums it up.  Learning how to transform datasets into vector graphics using the D3 engine was by far the most challenging. |

In closing:

That’s it for me, I hope you enjoy the demo.

Conclusion:

Learning Big Data and Big Data concepts need not be reserved for people who only have access to enterprise scale hardware as well as software licenses. We have proven that Big Data project can effectively be developed and executed on entry-level, affordable hardware using mostly open source/free-ware software and IDEs. All made possible by the FOS community.