Bi Weekly Report 2
COMP204P - Systems Engineering

Group 31

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Nuffield Health & Microsoft Project

Overview of progress

13th of October 2016

Meeting Microsoft and Nuffield Health

On wednesday we met Paul and Alex from Microsoft and Nuffield Health. We were made aware of the wide ranging support from Microsoft in our project. The support includes two programming consultants, access to Azure, Visual Studio Team Services and machine learning experts. This meeting was important because it taught us how our project would use the Microsoft tools and we found out that most of the assignments we had distributed between team members was to be accomplished through an Azure service, whether it be implementing the OAuth protocol using the Azure Active Directory, using the Azure Message Queueing service or simulating databases.
We also learnt that nuffield health's IT department uses Azure and that Alex is familiar with using it.

In this meeting we discussed how to obtain sample databases from which work could be conducted at an early stage for experimenting. Alex from Nuffield Health informed us that they had sent a sample database to UCL for a Hackathon held on campus earlier in the year and that we could use it.
We also learnt more about how to implement the FIHR protocol on the database using scripts, and clarified the OAuth protocol within our project.
This was also an opportunity to reconnect with our partner team - the one dealing with the personal assistant aspect (using Cortana) of the application.
We left the meeting with a clearer idea of where we would have to look for documentation and what we had to learn (ie. different functionalities of Microsoft Azure).

14th of October 2016

Lab Session
Our TA Mirek gave us exposure to resources that would help us significantly.
Firstly, he showed us the Nike Plus product and its dashboards displaying path and performance of the runner in an interactive manner. This was interesting because it gave us a clear idea of what exists already on the market. It gave us the opportunity to analyse what we found appealing and how the display affected the user.

Our TA also redirected us to resource for D3.JS.
We then had a brief planning session outlining what our individual tasks would be for the coming week. We came with the idea of documenting our research and put it on our common Google Drive account.
We encountered some issues with the Microsoft accounts as one of our team members was put into the wrong Office 365 groups (Marc de Fontenay was switched with Marco Rudilloso). We were also making requests for Azure to be available to us as soon as possible - as most of our work will eventually start from that particular common platform.

20th of October

We held a meeting the day before the lab session. During the week we had built individual report sheets collecting all of our individual research efforts on a single document. Mo worked on MongoDB integration on Azure, Jas worked on Messaging queue (event hubs) and Marc conducted research on authorisation and implementing the OAuth protocol through Azure Active Directory. These were open documents - enabling each member of the team to have a look into the research of others and potentially contribute. Each of the research sheets contain critical tasks we have to execute within the next couple of weeks to advance in our project.

During this meeting we sketched up initial dashboards and login pages for both Corporate Nuffield Health and Gym Client personas. This was pen-and-paper style sketching bearing in mind high level design principles and interactive features that would be essential to the application.
We discussed the need of building a first draft of a Moscow analysis in order to organise the requirements and scope of our project.
This meeting helped us prepare our Lab session the next day, where we would meet out TA Mirek and our Nuffield Health client Alex Matei.

21st of October

Lab session

This lab session was the opportunity to meet our TA and have a meeting with Alex Matei (Nuffield Health client).
One of our main goals at this Lab session was to accelerate the process of receiving access to Azure given the central role of that particular cloud platform in our project.
Another problem we wanted to be solved was the accounts issue where a member of the team had been incidentally interchanged with a member of another team of the Computer Science class (Marc de Fontenay was changed with Marco Rudilloso) and ask the supervisors to solve this.

24th of October

This meeting was with Alex Matei in the UCL Computer Science laboratory. We agreed on the initial backlog of the application. We also clarified the architecture from the stages of authentication (through social identity) to the synchronisation between event hubs and

OpenMRS and MS Health. We also went into the technicalities of synchronising Nuffield's Swipe system with event hubs.
Diana also showed us the current version of the UCL Active application and how it works. We now understand what its capabilities are and understand more clearly how our work plugs into the existing components.
Using Microsoft VSTS, we created the initial version of product backlog. This includes assigning tasks and user stories. The tasks are ranked by priority.
Alex also equipped us with useful documentation. These resources were closer to the scope we had set during that same meeting. This session was around 3 hours long and was a productive one.

28 October
On Friday, during the lab session we learnt that Yun Fu would be providing us with access to Microsoft Azure later in the day. This opened the door for a lot of experimenting and progress in our tasks.
We also learnt more about the funds we are allocated by Microsoft for the project. The account will be holding $100. In our project this amount will mostly be spent on event hubs, authentication services and other Microsoft services offered through Azure.
We started the process of building the website that will include all documentation related to the project. We explored options and templates for the design and layout of an informative website.

Individual section

Marc de Fontenay : Over the last two weeks I have acquired a clearer understanding of the requirements of the app, aswell as the technical architecture. The first week consisted mainly in conducting research on Authentication services in Azure and finding relevant documentation for Microsoft Azure Active Directory. A large part of this was about identifying the scenario our app fits the best and choosing the corresponding procedure. The meetings were very interactive over the last two weeks and Alex Matei has been very present and helpful.

Mo Afsharmoqaddam: Throughout the last two weeks I have done extensive research on different types of databases such as SQL and NoSQL and documented this research. From this I have made a decision of what is the best choice of a NoSQL database for our project. The next thing that needs to be done is how to deploy this database onto Azure. Furthermore, I have now a much clearer view of the system architecture and the services Microsoft is providing us such as the VSTS. Furthermore, I have been learning Javascript in preparation of learning the framework D3.js.

Jas Semrl: During the past two weeks I have done research about Event Hubs and summed it up in a document which I have discussed with Alex at the meetings. Therefore, the input I

provided at the when the architecture was discussed had been backed up by research. I actively participated at the discussions with Alex about the approach that will be taken. After that, I have digitised the diagrams we created in those meetings. I have also helped choosing and adding the user stories and tasks to the VSTS.

General Tasks:

- Start learning about the Azure Machine Learning platform
- Get exposure to Event Hubs
- Get exposure to Authentication services and Active Directory
- Get exposure to MongoDB on Azure
- Publish the website to host our project material
- Continuing education in d3.js, html/css (for website) and LaTeX to start the final report
- Asses User Story Complexities
- Assign Tasks to team members
- Decide on iteration dates