Bi Weekly Report 3
COMP204P - Systems Engineering

Group 31

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Nuffield Health & Microsoft Project

Overview of progress

11th of November 2016

This meeting was held during reading week. It was a Skype group conversation and both of the groups working on the Nuffield product were present.
Two Microsoft engineers were in the Skype conversation, along with our Nuffield client representative, Alex.
This was an interesting conversation - and it proved to be very efficient as we were encouraged to be concise and clear in our ideas.
Firstly we were asked to walk the Microsoft engineers through what we wanted to do on Azure and why we were using certain Azure functionalities to achieve our goals. We also clarified the context in which the app would be used so that they could get a reasonably good understanding of the scale and the volume of flow that we have to deal with.
One very useful outcome of this conversation was the following:
We had initially planned on using Azure Event Hubs to coordinate the data between sources and other publishers within the application. One of the Microsoft engineers (Dave Baker), pointed out that it would be close to an ‘overkill’ as the Event Hubs service is a cutting edge, very high performance tool built to manage extremely complex and voluminous flow. He suggested we use the standard Microsoft Message Queue to manage the data. This would be easier to implement and would also cost much less to run - Event Hubs being an expensive service.
This meeting was also a way of getting in touch with the Microsoft team and organise the following meeting - we ended up sending them our timetable so that they could arrange a meeting according to their own availabilities.
We also contacted Dr. Yun Fu in order to get Administrator accounts into our Azure portal - this would enable us to launch an Active Directory alongside the different VMs and MongoDB services we’d already deployed on Azure.

14th of November 2016

This meeting was held with Alex Matei and was the first meeting after reading week.
We discussed with him the issue we had with getting access to a subscription administrator account in order to launch an Active Directory.

We also reflected on our decision to use a Message Queue rather than an Event Hub, and Alex provided us with possible alternatives like Forgerock for identity management.

18th November 2016

This was our weekly Lab session. We examined the website Jas had worked on. This website will host the documentation and keep track of our progress in this project.
We also met Mirek Janatka and decided to make a Gantt chart to plot our tasks and milestones.
We also organised a meeting with our Microsoft collaborators for the following week on Tuesday.
We also clarified what directory to use when logging in to the Azure portal - as a seperate active directory had been launched. Two versions of the application, a Web app version and a native version, are registered with that active directory.

Individual section

Marc de Fontenay :

Launched separate Active Directory in which two applications are now registered with the service. One of them as a web app/API and the other as a native application. I invited the other team members to the active directory and made them owners of the two registered applications so that work and experimentation can be conducted collectively. The web application would use OpenID Connect (an extension of OAuth 2.0) as identity management and the native App would use the underlying OAuth 2.0 protocol - I am therefore looking at two different tutorials that show how to request tokens and set up identity directories. A decision will be made next week to determine what to focus on.

Mo Afsharmoqaddam:

Launched a Windows Virtual Machine on Azure and Integrated the setup of MongoDB within the virtual machine. This was done on the UCL active directory however since now we have access to our own active directory I will be implementing the same process again within the right division. The database will be populated with data and some tests will be written to connect it with the azure messaging queue and later on the data from the NoSQL database will be used for machine learning purposes. Furthermore, I will have looked in SQL databases with azure since we may need to integrate a SQL database to be able to visualise the data more easily.

Jas Semrl:

During the past two weeks I have focused on implementing the message queuing and tried to setup simple Event Hubs instance. After consulting Dave Baker during the meeting, who suggested Event Hubs are not as cost efficient as the Azure Queue, which could easily handle the amount of data planned to be published, I have done additional research on Azure Queue and how we would implement the requirements in it, namely publishing data

that would be visible to specified subscribers only. I will further discuss that with the client shortly. In addition to that, I have designed the first version of the project website and published it.

General Tasks:

- *Finalise the website*
- *Prepare meeting with Microsoft team and solve issues encountered on Azure*
- *Generate a redirect URI for both Native and Web applications that are registered on Active Directory*
- *Determine whether we want to use the OAuth 2.0 protocol in the case of a Native app or the OpenID Connect protocol for a web app.*
- *Upload first batch of Documentation to website*
- *Initiate editing final report using LaTeX*