

PROJECT 10 – ORANGE LABS SENSORS API

Group Members

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Overview

As of January 30th, progress has been made into designing our final prototype, as we are now close to having the list of required hardware finished. Some experimentation was done with Contiki OS that allowed us to simulate sensors and get a feel for what kind of code we need to write to implement it in our system. We also managed to set up our virtual machine that will be running our noSQL server.

At present, we look towards creating the noSQL server and experimenting with hardware using Contiki.

Summary of progress so far

- Had a meeting on Tuesday 20th January with our client, presenting the final plan for deliverables and asking any final questions.
- Presented our elevator pitch to UCL and our clients on Thursday 22nd January
- Requested help from Graeme McPhillips on 22nd January to build our hardware components
- Met up with Graeme McPhillips on 27th January to collect a Sky Mote to experiment with Contiki OS.
- Installed Contiki OS and started experimenting with code to run on hardware
- Set up the virtual machine that will be running our noSQL database

Summary of meetings

Friday 16th January – Client meeting preparations [**Team meeting**]

Location: 1st floor labs MPEB

Time: 9:00sm – 11:00am

Attendees/ Absentees: Johan, Gulliver, Victoria / None

In this meeting, we discussed our upcoming meeting with Orange Labs, as well as our upcoming elevator pitch. We made final decisions on our deliverables and prepared notes for the meeting. We also started preparations for the elevator pitch.

Sunday 18th January – Skype Call with Leslie [**supervisor meeting**]

Location: Home

Time: 10:22pm – 10:45pm

Attendees/ Absentees: Johan, Gulliver, Victoria, Leslie / None

This Skype call was just a short conversation with Leslie Kenthan discussing our upcoming meeting with Orange Labs. In the meeting we presented him with what we planned to deliver and what we planned to talk about in the meeting.

Leslie suggested that we should not focus too much on analytics as Orange Labs will have a team doing that for them. He felt that it was more important we focused on getting the data and felt we would be investing too much of our time before getting any useful analytics. We agreed with him on this and made a large change in our plans as we now had more time to focus on other sections of the project.

Tuesday 20th January – Meeting with Orange Labs [Client Meeting]

Location: Orange Labs in Chiswick

Time: 2:02pm – 3:00pm

Attendees/ Absentees: Johan, Gulliver, Victoria, Kashif, Mobeen, Irene, Leslie / None

We started off the meeting by giving an overview of the system design, explaining the items we plan to deliver. We first went over the must have features such as the sensors, zone controllers, database and GUI all working. We then went on to talk about possible extensions of our project if we find that we have the time to do it. These were things such as basic analytics of the data received and creating a graphical overlay highlighting available parking spots on a map.

Once we agreed on these deliverables, we talked about prioritization in the project. Before our meeting with Leslie, we were under the impression that analytics were an important part of our deliverables, however as they re-clarified, it is more important that we get the system working and that we are able to get as much data as possible stored so that they can do the analytics.

Our meeting also included a Q and A section focused on clarifying things such as security and what they meant by 'plug and play'. During this talk, we also brought up the fact we were using an SQL database. Our client responded by telling us the advantages of using a noSQL database and recommended we switch to one.

We then finished off our meeting by talking about the elevator pitch and what we were allowed to talk about and any suggestions they had for making sure we cover it all.

Friday 23rd January – milestone review/discussion [**Team meeting**]

Location: 1st floor labs MPEB

Time: 9:00sm – 11:00am

Attendees/ Absentees: Johan, Gulliver, Victoria / None

In this meeting, we had our milestone review where we were evaluated by our supervisor/professors after the milestone review, we discussed what our next steps would be and started assigning roles. Johan was assigned the role of main Hardware designer, Victoria as the main Analytics/GUI designer and Gulliver as the main Database designer.

Friday 30th January – database/hardware process [**Team meeting**]

Location: 1st floor labs MPEB

Time: 9:00sm – 11:00am

Attendees/ Absentees: Johan, Gulliver, Victoria / None

In this meeting, we filled each other in on how far we had gotten with our assigned areas. We discussed ways to implement a noSQL database, as well as the usefulness of Contiki OS.

Next Actions

GULLIVER

My current focus, as part of my allocated position fronting the database development, is to establish a data storage structure suitable for the project. My research over the past week has led to a tentative conclusion that using Cassandra alongside Druid for analytics would be

the most effective approach. Over the next two weeks I plan to test the structure and then implement a final design on our server, ready to host the system development. In preparation for writing the zone controller software, I will build a final requirements list, with a view to beginning development before the next report if possible.

VICTORIA

For the past few weeks I have been focused on preparing for the client meeting, preparing for the elevator pitch and arranging meetings with Graeme McPhillips and our supervisor Leslie Kenthan. I have also been helping Johan on the hardware by arranging for Graeme to buy and build some hardware parts for us, as well as help with Contiki experimentation. On the software side of things I have also arranged for the virtual machine to be set up.

In the upcoming few weeks, I hope to continue in efforts to help complete the hardware design as well as help Gulliver set up the noSQL database. I will also be arranging continuous meetings with Graeme to have him help us with the physical side of creating the zone controllers and sensors.

JOHAN

For the first week of term, I focused mainly on preparations for the client meeting/elevator pitch. This involved writing notes together with my group. The next couple of weeks were focused on the hardware side of our project. This included things such as experimentation with Contiki OS and research into microchips/infrared sensors suitable for our project. So far we have Contiki OS running an example “hello world” code on the microchip.

The next two weeks will be focused on further improving my knowledge of Contiki OS and hopefully create some useful code for networking together multiple microchips. This will be my main focus as the assigned hardware specialist of our team, however I plan to

help my teammates when possible with setting up the database and doing documentation/research.