Bi-Weekly Report

10 October 2014

Team Information

This document contains a summary of all that has been achieved over the last two weeks by team 19 on the CTSNet Robotics project as a part of the module Systems Engineering I of the University College London Computer Science course. Team 19 is formed of three students, Edward Collins (team leader), Kirthi Muralikrishnan (website and documentation lead) and Tom Page (research and programming lead).

Client Information

Team 19 has three clients:

- Dr Shabnam Parkar, a paediatric surgeon working for the NHS in London.
- Dr Joel Dunning, cardiothoracic surgeon at James Cook University Hospital.
- Dr Lourdes Agapito, computer graphics and vision expert at UCL and primary supervisor.

Summary of Progress

During the first two weeks of term, the team has met three times. These meetings have been to work on the first stage of our project and to speak with one of our clients. So far, we have only received a reply to our initial email to our clients from one of our clients, Dr Joel Dunning. Dr Dunning informed us that he was free for a phone call on 8 October. The purpose of this was to establish contact and introduce ourselves, then to hear Dr Dunning's ideas for the direction of the project. These were focused primarily around haptic feedback, as this is something not available to surgeons performing laparoscopic or robotic surgery.

Successes and Failures

Successes	Difficulties
Learned how to hardware hack the Xbox Kinect 2.0	Have not yet managed to get a hacked Kinect to work with our computers, besides one that was hacked by our instructor.
Spoke to our first client about his ambitions for the project.	A malfunction in Facebook Messenger caused one of our team to not receive any of the details of the meeting to call our client.
Had several productive team meetings.	Have currently only heard back from and spoken to one of our clients.

Hacking the Kinect 2.0

All Systems Engineering labs have so far been spent on 'hardware hacking' the Xbox Kinect 2.0. This is a piece of equipment from which we will be building a larger-than-scale prototype of a depth sensing endoscope.

The purpose of the hacking is to rewire the Kinect's cable so that it may be plugged into a computer via the USB port and thus programmed.

Summary of Team Meetings

Date	Topics Discussed	Time
3 October 2014	Learning to hack Kinect 2.0	2 hours

Date	Topics Discussed	Time
7 October 2014	Extra lab session to hack Kinect	2 hours
8 October 2014	Phone call with client	~20 minutes
10 October 2014	Lab session - hacking Kinect	2 hours

Progress Target

Over the next two weeks out aim is to:

❧Establish contact with and meet the remaining two clients.

❧Perform requirements capture interviews and document this.

❧Get the Xbox Kinects working so that they can be programmed from a computer.

❧Complete our individual coursework tasks.

Individual Description of Tasks

Ed Collins

I have made contact with our clients via email and have been working on the documentation relating to this project. I have created a Google Drive folder in which we keep a detailed log of all of our meetings, client details and a record of all correspondence had with clients over email. I have also been working on the Kinect 2.0s, trying to get them to work with our computers.

Finally I have worked on and completed the individual coursework set for us which involved configuring a Linux Virtual Machine.

Tom Page

Over the first two weeks of the project the main activities I have completed are the setting up of the Kinect 2.0s in order to be able to use them on a computer. This has taken a surprising amount of time and as this was required to really begin the project this is all the progress which I have completed so far.

Kirthi Muralikrishnan

I had three lab sessions to date. Two were in the allocated lab sessions and the other was an additional one. These lab sessions helped us learn the hardware to set up the Kinect 2.0 for our depth sensing endoscopic project. We had spoke to our client Dr. Joel Dunning and got a general idea of his requirements for a surgical robot. We are still awaiting a response from our other clients.