ECE 1778 – Creative Applications for Mobile Devices

September 2016

Assignment S1, for Specialists

Introduce Yourself & Connecting Your Field to the Mobile Devices Field

The goals of this assignment are for you to 1) Introduce yourself to the class, and 2) gain familiarity with how *your* field has already leveraged the capabilities of mobile/wearable devices, and to stimulate your thinking about new applications that will either support research in your field, or advance it in some other way.

PART I

A key part of this course is to form an inter-disciplinary group to do a new an exciting application. To help form those groups, please create the following:

1. Write a 250-word description of the goals of your field of research or endeavour, written so that a layperson would understand it. If you have a more specific active research activity within that field, describe that as well. You should assume that the reader is not in your field, and so does not know any of its specific terms. You can assume that the reader has undergraduate-level understanding of mathematics, computer systems and programming.

2. Create a video of yourself (on YouTube, as an 'unlisted' video) naming and describing your field very briefly. Then, quickly describe what resources you bring from your field or experience – for example, some students work in a lab with instruments that can be used to calibrate some aspect of a measurement. Other students may have job experience that relates directly to their field, which can be useful, such as being a teacher or a musician or a medical professional. We're interested to know what skills and knowledge you will bring to the project in this course! **The video must be no more than 2 minutes long.** Upload this video to YouTube by going to the site https://www.youtube.com/upload and set this as an 'unlisted' type video. (This means only people with the link can see it). Once you've done this, be sure to copy the YouTube link that is provided, for use in posting your video as described in the instructions below.

Next, go to the **Piazza** course website (instructions for how to enroll into the Piazza are given in an announcement on the Blackboard Portal announcement/email) and click on the **specialist_intros** folder at the top left of the site. Click the 'new post' button, and insert a new 'question.'   You should place both your written text (from (1) above) and your video (from (2) above) into this post. Paste in your written answers to part 1 above, and then insert a link to the video (click 'insert' -> insert video), and in the *insert media* popup, use the 'general' method, and past your YouTube link into the *source* field.

This is due on Thursday September 22nd at 6pm. Sooner is better, though! A penalty will be levied if late. See below for Part II.

PART II - Case Study

Mobile devices have been available for several years, and the two main app stores now contain many interesting ideas. There may be many apps in your field. Go to the online App Stores (the Apple App store, and the Google Play app store are two examples) and find the best 5 applications in your field, and give a brief description of each: 100 words each. Those 100 words should say i) What the app purports to do, and ii) Your brief analysis of how well it appears to do it. Choose the best of them, preferably one that has some reasonable complexity to it, acquire it, and use it. (This assumes you have a phone you can run it on; talk to the instructor or the TAs if this is not the case, and we will provide you with one). Write a case study of that app, maximum of 1000 words, not including pictures. The case study should contain the following sections:

1. Describe the motivation and goal of the app.
2. Say why you chose this app - i.e. why you thought it was good.
3. Describe how it works – using screen shots and a description of what is going on under the hood. Be sure to identify which sensors are being used in the app, if any, and identify how they are being used. Sensors include the microphone, camera, accelerometer, gyroscope, proximity detector, etc.
4. Give three suggestions on how the app could be improved.

The total word count is 5x100 + 1000 = 1500. Please count the words in your document (not including the cover page) and put the total on the cover page. There will be a penalty of 1 mark off for every 10 words over the limit. Please calculate the penalty as well, and put that on the cover page.

To Hand In

For Part I: Due Thursday September 22nd at 6pm, as described above.

For Part II: Due Thursday September 29th, 6pm. Marked out of 10, 0.5 marks off every hour late.

What to submit: A PDF document to the Blackboard Portal. Be sure to submit it to the assignment **S1**. To do this, go to the **Specialist Assignments** link on the left side of the blackboard portal for this course, and click on Assignment S1. You should be able to upload your PDF submission file there.