

ECE 1778 – Creative Applications for Mobile Devices
January 2013
Assignment #A1, for Appers

Introduce Yourself + Connecting Your Field to the Mobile Devices Field

The goal of this assignment is for you to gain familiarity with how your field has already leveraged the new capabilities of mobile 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 and 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 and endeavour, accessibly written for a layperson. If you have an active research activity within that field, describe it as well. You should assume that the reader is not in your field, and so does not know any of the field-specific terms. You can assume that the reader has undergraduate-level understanding of mathematics and 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 have research or job experience that relates directly to their field which can be useful. We’re interested to know what you think you can bring to a mobile project in your field! **The video must be less than 2 minutes long.**

Go to the **Pepper** website (you’ll see instructions on how to acquire a Pepper account on the Blackboard Portal announcement) and click to the ‘Home’ page. There, select the ‘conference’ labeled **Introductions**, and create a new **Note** with your name as the title. In the text of the Note, put your text from (1) above. Embed at the end the unlisted video you created in (2). To learn how to embed the video into your note, read the ‘**How to embed your intro video into the Intro Note**’ that the TA, Alexandra Makos, has put there.

This is due on Tuesday January 15th at 6pm. Sooner is better, though! A penalty will be levied if late.

PART II - Case Study

Mobile devices have now been available for several years, and the app stores now contain many interesting ideas, and there could be many 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, generally say what they purport to do. Choose one of them, preferably one that has some

reasonable complexity to it and 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 help). Write a case study of the 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 (for Android you may just have to take a picture of the phone) 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 $5 \times 100 + 1000 = 1500$. 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 January 15th at 6pm, as described above.

For Part II: Due January 22nd, 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 'A1' To do this, go to the **Course Materials** section of Blackboard, and click on Assignment A1. You should see, under '2 Assignment Materials' a place where you can attach your PDF file.