

**ECE 650 Project: Fall 2016**  
**Putting it all Together**  
**Due: 11:59 PM 23<sup>rd</sup> December 2016**

### **Objective**

For this project we will connect the second and third assignments together. In the second project you created a multi-producer/multi-consumer system, while in the third assignment you created a simple mapping program. For this culminating project, you are required to develop a client/server system in which the client will take simple mapping commands (enter map data, look up a route, *etc.* per what was required from Assignment 3). These command shall be sent over a TCP connection to your producer/consumer server system. The producers shall act as receivers for the commands, ensure they are valid, and then forward them to the consumers which will process the actual command. You will need to think about and how to return a reply to the client. You should also think about dividing your client into two separate clients: one for management of the mapping system (*e.g.*, adding roads), while the other is for users (*e.g.*, looking up routes). Justify any choices you make.

### **Deliverables**

Submit the following items to a dropbox on Learn before the deadline. We will grade the last submission when there are multiple submissions of the same item.

1. Source code together with test cases.  
Zip the entire source code together with other documents identified below and name the file `project.zip`.
2. An project report (pdf format, named “project.pdf”) which containing design choices and results of your program.

If you do better on the project than the final exam, then this project will count as 50% of your final exam (it i.e., 25% of your final grade, in addition to the 10% that the project is normally worth). If you do better on the final exam, then the project will be worth 10%, per the syllabus grading scheme.

You may work in groups of two for this project. To facilitate this, please clearly identify both group members on your report.