

## Outline – Infrastructure IP projects ECE532

### **A. Project Description**

The goal of this project is to create an FPGA IP core that can be shared and used by other students in the class. Suppose that you are working for a company that sells IP cores to customers. The success of your company (project) depends on:

1. How well the IP core works, and
2. How easy it is for your customers to incorporate the IP cores into their designs.

### **B. Material to Submit**

#### *1. User Guide:*

Write a User Guide explaining how to install and use the IP core. The guide should include:

- **Block diagram** – showing the IP core and how it is integrated into other components on the FPGA (buses, memory, soft-processors, etc.) or connected to off-chip components (camera, screen, etc.).
- **Screen shots** – can assist in describing the installation steps, or expected outputs/results.
- **Create a new project** - Explains the steps in creating a new project containing your IP (preferably with screen shots!).
- **Test/Debug** - Explains your plans for tests and/or debugging the design. Provide instructions on how to execute a chosen sample function on your project to demonstrate that the design is functional.

#### *2. Project IP:*

Create a zip/tar file that includes all of the followings:

- A demo SDK project with your IP
- A User Guide
- A README.txt file: containing any additional information such as the contents of folders, location of the project files and tests and debug code/tools.

### **C. Project Demo**

You are required to perform a quick demo for your TA in the lab. The purpose of this demo is to demonstrate to your TA that your designed IP core functions properly.

### **D. Marking Scheme**

- Documentation – 17% of your final course mark
- Project IP – 13% of your final course mark