

Please submit your project to [elec402project@gmail.com](mailto:elec402project@gmail.com) by Oct. 8, 2021, 11:59pm

## **Synthesized Verilog Project**

### **Introduction:**

For this project, you will use Cadence Encounter RTL Compiler to generate a mapped netlist based on the library of cells which we have provided. After running the Compiler, you will have a better idea of the complexity of your design as well as an exact cell count. This project will also give you a good idea of what cells you will be creating for your own library.

### **Project Description/Requirements:**

- Setup Cadence account and work through the tutorial.
- From the tutorial, you will open your Verilog code and create a netlist based on the library that we have provided.
- Print out the report generated by RTL Compiler showing the total number of cells used for the FSM.
- Using the mapped Verilog and SDF, test the code with ModelSim and obtain graphical waves of the mapped Verilog.
- Compare with your Verilog and verify that both are functioning similarly.

Note: It is a requirement that your design has a minimum of 100 cells. If it is below 100 cells, then at most 20 points will be lost. Only a few points will be deducted if it slightly less than 100 cells.

### **Report Layout (Single PDF)**

1. Name, student number and project title on the first page of your project report
2. Mapped Verilog generated by RTL Compiler. [10]
3. Visual Waveforms showing state transitions from mapped Verilog. [40]
4. Report from RTL Compiler showing total number of cells in the project [50]
5. If you have changed designs completely, you will also need to turn in your Verilog code for the new FSM along with a description and new waveforms.

### **FAQ:**

You will find these resources

### **Tutorial 2 - Cadence RTL Compiler (Canvas)**