Project Requirements:

Content length: 10-20 pages including Title page, table of contents, Abstract, problem statement, introduction, background, methodology/testbed set up, results, conclusions, references and appendix.

Start with one paragraph problem statement, then detail introduction/background/significance of the project, test bed set up, results and conclusions with future work. The reference should be in APA format and referred in the report. All figures/tables must be captioned and referred in writing or explained. Results should be presented in graphs or in tabular format. Analyse and describe each result. Test bed set up should have a picture with description. Any code or demo image should be placed at the appendix.

Marks breakdown:

Report including Demo 15 marks

Presentation 3 marks

Peer Evaluation 2 marks

Total 20 marks

Each group member must have a speaking role during presentation. You may be required to create a video and publish before presentation for the demo part.

Each group needs to have the Project topic approved by the instructor by week 9. A few project ideas are given below (code writing is required, modifying a controller code is recommended):

1. Design a unique fanout topology and do load balancing/grouping/metering and then collect data and draw graphs. The design could serve any LAN set up of any small business. Extend Lab 5
2. Automate topology generation and SDN flows of vLan multitenancy lab.
3. Design sniffer for small business.
4. Write SDN flows into a blockchain network for instance, vCloud mininet to Kaleido or vCloud mininet to vCloud HLF etc.
5. Investigate chaincode for a supply chain network. Implement HLF tutorials.
6. Implement home controlling system using Raspberry Pi.
7. Compare and contrast the available SDN controllers. Only one group may be allowed to work on this topic since this becomes a theory based project.
8. Implement AWS cloudwatch ie. Capture SDN info and write it to a cloud based database (modify a lab controller file to connect and write traffic to a database instance).
9. Capture SDN info (from mininet or via curl REST command to a controller) and push it to Git or other cloud via script writing.
10. Research and demonstrate container-based images on SDN.
11. Research and extend, demonstrate projects based on controllers other than Ryu.
12. Research on Ryu wifi and extend, demonstrate a project on it.
13. Research on Master/Slave controller, extend and demonstrate a project on it.
14. Any other ideas as approved by the instructor