Milestone 3

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Assignment Goal

The goal of this assignment is to help you understand and analyze the main components of a senior project. This can help you later to understand, analyze, develop, and improve your own senior design project.

Tasks for this assignment

When you enroll in senior projects you will be required to complete various tasks. Tasks for this assignment are:

- Approach a *faculty* member who could help guide you through the successful completion of a senior project.
  - Ask if they have a project you could work on.
  - If you have a project in mind, explain it to them and ask for their feedback.

  If you don't get the help you need, approach another member of the faculty. Repeat as needed.
- In senior projects you will be required to write several software engineering documents that describe what is to be done for your project and how you plan to do it. Dr. Chan has an excellent collection of guideliners and other resources to help students successfully complete a senior project: See his projects page and read these documents:
- Guidelines for Role of Faculty Sponsors
- Guidelines for a Project plan

- Guidelines for your Project Web Sites
- Guidelines for Milestone Progress Evaluations
- Guidelines for Requirements, Design, Test documents
- Guidelines for Scopres for teammates
- Guidlines for Demo Video and User/Developer Manual
- the intellectual propery policies in the student handbook
- the intellectual propery policies in the faculty handbook
- the COES Student Design and Research website
- Write a report based on your interviews and readings following this outline:

1. Your name: **Spencer Hirsch**
2. The names of faculty member(s) you approached: **Dr. Hohlmann**
3. Did they have projects they were interested in having you help? If so, summarize their project(s).

   I am currently doing research with Dr. Hohlmann's CMS group. I am working closely with a graduate student on the analysis of proton-proton collisions. We just completed hyper-parameter tuning a machine learning model to accurately predict dimuon pairs from off-shell parent particles. There are many different groups within Dr. Hohlmann's HEP research group and it is always interesting to hear about what everyone is working on. Other pairs are working on hardware, while others like myself are working on analysis.

4. Did you tell them about a project you would like to do? If so, what was their reaction?

   I don't have any ideas as of right now, I've begun putting greater thought into what I want to do.

5. Based on your reading of the Guidelines the intellectual policies in the student and Faculty handbooks, and exploring the college website for design and research write a paper that describes what you have leared and will be useful to you in creating your own Senior Project.

Student Design and Research

The purpose of student design and research is so that students are able to get hands on experience in their field of study. All of the senior design and showcase porjects are shown at the Design Showcase where they present their work. There is judging crieteria for the event as well, both for the engineering fields as well as the science fields, both 80 and 60 points, respectively. For the engineering criteria, the categories are based on, Project Definition, Requirements, Overall Presentation, Classroom knowledge, Engineering and Scientific Design Principle, Team/Project Management, and Project Impact.

Student Handbook

Under the Intellectual Property Policy for Students, states that any intellectual propery developed by the students is owned by the university if the students were employed by the university or received external funds at the point of the discovery. This also only applies if the discovery happened during the scope of their employment. It also states that the intellectual rights is owned by the university if the student made substantial use of the university facilities in order to make the discovery. The use of facilities is only an important part of the contribution if the facilites used are not available for the majority of the student population at Florida Tech.

Faculty Handbook

Under the Policy on Patents and Copyrights, Ownership and Discoveries and Inventions section it states, the ownership of a discovery as a result of regular duties or research done in connection with theses or dissertations, the ownership will be given to either the university or a determined person. The discovery or invention developed by faculty without the university contributing anything substantial or essential, the ownership will be given the faculty member. The discovery will also be awared to the faculty member if the development was done on their own time. After reading throught this section under the faculty handbook it seems as though the university is committed to giving credit where credit is due with respect to the devleopment of an invention or other intellectual property. It is reasonable to see that if the university facilities are extensively used or any resources are extinguised during the development of the discovery the credit will be

given the university. The univeristy also holds a board that can determine whether or not the property is owned by the university or the individuals that worked towards the discovery of the propterty.

6. Describe one or more projects you would like to pursue as a senior. Do you have teammates?

   As of right now, I don't have any of my own ideas, however, I do like the idea of continuing to work with Dr. Hohlmann's HEP group to contribute more of my knowledge of computer science to the physics-oriented group. Yes, I do have potential teammates for a Senior Desing project.

Submitting your report

Your report must be double-spaced, written using 12-point font, with 1-inch top, bottom, left & right margins, store in PDF format, and submitted on Canvas.