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**CPT Term: Summer-2020 – Independent Study**

* **Describe project experiences and what you learned from each.**
* **First Project Experience:** It was to develop and maintain knowledge in SEL processes and technologies. In this development I did research and analysis on how I can answer all the questions of customers based on SEL’s Inventory Products. So, to get to answers, I analyzed the SEL database and developed “**AcSELerator Database Search Engine**” which will showcase all the query answers based on search text put by customer. This is kind of R&D product which is developed using my prior knowledge learned in subjects like “**Advanced Database Management System**” and “**Distributed Information System**”. So, I learned technologies such as **RESTful API’s, HTML, CSS, C# and Database management** concepts.
* **Second Project Experience:** I performed testing on new and existing SEL technologies along with that I documented, communicated test results and presented the possible solutions possible. I configured the whole SEL-Trinity training lab. I did configure SEL products, did TIME synchronization, communicated all Relays with the “SEL Protocol (ASCII/Binary)” to the RTAC (Real-Time Automation Controller). I also backed up the database for easy import/export while programming code in MS Visual Studio. Here I learned networking concepts, how to handle APIs and access the data from database and analyze this data to get solutions.
* **Third Project Experience:** I provided technical support to R&D team and developed the Search engine which will help the customers to get answers to their questions regarding inventory data from SEL database. I also learned some Project management skills during my internship period. Concept behind design picturized below:

A screenshot of a cell phone

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* **Critical analysis of the condition, performance, structure and strategies of the internship organization using multiple data sources.**

During my Internship in SEL company, I learned a lot of things and few things I like to mention are

* I grew up and developed professionally, got an exposure of using my academic knowledge professionally.
* I developed critical thinking skills and solution finding approach to problems.
* I developed communication skills both written and oral. I got a chance to communicate with Higher management of the company through different events arranged in SEL.
* I had developed business opportunities to SEL through my work skills.
* I had undergone through different SEL values, principles of operation, and world class Manufacturing Principles.
* Below I will add the lookup page and some reference images:

A screenshot of a cell phone

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* **Describe a problem or opportunity related to the internship organization and devise creative solutions to the problem.**
* During my Internship in SEL company, I learned a lot of things and got an opportunity to provide some creative solutions to the problem. So, my R&D work to creative solution will help to SEL customers to understand the Inventory product information from SEL database more clearly and in details.
* Schweitzer Engineering Laboratories, Inc. SEL designs, manufactures, and supports products and services ranging from generator and transmission protection to distribution automation and control systems. This company has invented the world’s first digital protective relay. So SEL sells many of their products to customers. Its always best of company’s interest to provide answers to each question to customers to increase their product sell.
* Similarly, I found an opportunity to provide the answers to all the questions related to Inventory data present in SEL’s database server.
* So, I developed the “**AcSELerator Database Search Engine**” webpage using RESTful API Framework in C#. This application can be used from third party Customer-Supplied components like Enterprise Software. I accessed the AcSELerator Database information using AcSELerator Database API. API allows third party integration.
* This search engine will help customers and any new person looking for SEL products to buy. This will be super easy to handle webpages search engine and will get all required data. So, overall, I provided critical business solutions to the problem for sales customer perspective using my academic and professional skills.