Ryerson University

Department of Electrical & Computer Engineering
Faculty of Engineering & Architectural Science

Course Title:	Engineering Capstone
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Instructor	Dr. Bala Venkatesh

Assignment/Lab Title:	Individual Contribution Summary

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LAST Name	FIRST Name	Student Number	Signature*
Shirazi	Muhammad	500753756	Muhammad Shirazi
Ahsan	Abrar	500722182	AA
Fairoj	Rehnuba	500750254	Rehnuba Fairoj
Habibi	Parham	500781855	P.H.

*By signing above you attest that you have contributed to this written lab report and confirm that all work you have contributed to this lab report is your own work. Any suspicion of copying or plagiarism in this work will result in an investigation of Academic Misconduct and may result in a "0" on the work, an "F" in the course, or possibly more severe penalties, as well as a Disciplinary Notice on your academic record under the Student Code of Academic Conduct, which can be found online at: http://www.ryerson.ca/senate/current/pol60.pdf

Muhammad Shirazi Contribution

Over the course of the year my partners and I have contributed to each of the different sections of the overall project. Initially I was tasked with creating the GUI to interact with the user and pass on the information for the location of the IEEE CDF file as well as the Error tolerance the user wants for the ladder iterative calculations. However as the project progressed multiple GUIs were made allowing for the user to also see the status of the overall code flow in case there were any errors with the data or with the calculations, as well as the final preview window to show the user the output data in a GUI format. GUI was a major portion of my responsibility, however I was also aiding with the calculation engine, data parser and testing the overall system to ensure it was working properly.

Rehnuba Fairoj Contribution

As Student D my role in the project was to carry out various degrees of tests in the distribution system. Throughout the academic year, however, my role in the team evolved many times. Initially as I was the least familiar with the Python environment, I worked on my programming skills in parallel to learning about Ladder Iterative Load Flow. During this semester I assisted with creating iterations of the input GUI which would accept excel files to be processed by the data parser. In the second semester, I researched testing strategies for the calculation engine and looked for edge cases at first. In implementing the GUI, I aided with looking for strategies for a second GUI that displays the program running status and implemented a preview window for displaying the output. Once integration was completed, I ran tests for edge cases with the calculation engine and GUI.

Parham Habibi Contribution

As a member of this group, I had a chance to work on each aspect of the overall project throughout the course of the year. This includes working on developing GUI, data parser, calculation engine ,and acting as the project manager. My main task was implementing and developing the calculation engine using Python programming for different kinds of distribution networks. My designing process started with implementing a three bus radial system without any branches. After succeeding in the first step of the design process, I started modifying and developing my initial design. I also had a chance to be the project manager of this project for three weeks,and I assisted with creating iterations of the input GUI which would accept excel files to be processed by the data parser.

Abrar Ahsan Contribution

Throughout the project, I had the opportunity to explore and work on every section of the project, including taking on the role of project manager in times when none was assigned. My main responsibility was creating the data parser, re-arranging the data for branches, as well as taking the final outputs from the calculation engine and making the final output. The initial data parser was verified using the 3-bus CDF, and then extended to the 33-bus CDF to ensure functionality. The data sorter was tested on the 33-bus CDF and verified through diagram if it correct. While working on these, I have taken the knowledge applied to the data sorter and extended it to the calculation engine to improve the forward and backward sweep functions for the branches. I have also assisted each project manager in setting realistic milestones and assisted each section of the project from bug-fixing to adding further improvements in the code. My final responsibility was to integrate all sections of the project into one MAIN, allowing completion of the project and more modular code.