

Senior Capstone Design

Project: [SEL Cybersecurity Testbed](#)

Primary Author: [Tori Overholtzer](#), [Hayden Lepla](#), [Chen Yang](#), [Jia Jia Liu](#), [Li Yu Rao](#)

Team: [Group 14 SCADACS](#)

Date: **10/18/2018**

Design Validation Plan & Results (DVP&R)

Requirement	Test	Test Subject	Target Date	Result	Recommendation
Functional Requirments					Documentation Provided For All Requirments
GUI presents operator information in a non "over whelming " manner	The operator tasked to find information can successfully find pieces of information needed.	Operator and prototype GUI	12/30/18		
Electrical Requirments					
Power Test Simulations	Using RSCAD, Powerworld to do GUI functionality testing	Testbed	11/16/18		
Power Test Simulation Examples such as Power Generation System: Hyrdoelectric dam	Simulink used to accuracy test power system examples also simulated in RSCAD, used for validation	datum, Power Test Simulations	11/16/18		
Data analysis for power simulation accuracy and functional feasibility	Matlab used to compare data and calculate levels of error for a given simulation used in validation of simulation function and data cleanup	datum	12/5/18		
Software Requirments					
Graphical interface displays history logs of data	Poll data from RTDL / power racks and check to see it displays data correctly, check for accessibility and usability	RTDL and prototype of GUI	11/16/18		
Graphical interface displays a color scale for risk level	Tests color responses in relation to cyber attacks of varying risk	Prototype of GUI	01/01/19		colorblind safe color pallet selected
Graphical interface displays icons	Perform simulations that should result warnings icons being dipplayed on the graphical interface	Prototype of GUI	01/01/19		colorblind safe color pallet selected
Graphical interface display map	Using Arc or GIS software display map of power grid zone, tests to make sure map is functional, showing the correct locations, able to be scaled and icons are displaying correctly	Prototype of GUI	11/30/18		
Algorithm that converts data into graphical display	Run power simulations and compare the produced graphical display and the produced data output with the expected display and the expected data output	Prototype of GUI	11/16/18		

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Algorithm accepts correct input From RTDL/power racks	Preform input and output testing on the designed algorithm by viewing data, printing data to the dashboard screen and analyzing the display result and comparing it to the expected	Prototype of Algorithm, ArchGIST	1/1/19		
Regulatory Requirments					
ACM Code of Ethics	Verify the code meets standards by having a code review	Prototype of GUI	12/30/18		
Cost Requirments					
Not Applicable					