Project Summary

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For this project, we were tasked with simulating a solar site in PSCAD and PowerWorld that would pass ERCOT and CAISO that correspond to the power grid standards in Texas and California, as well as MOD 26/27 that acts as a standard for the entire US. In order to accomplish this, we needed to conduct research, collect data, and eventually develop the models that would allow us to run the simulations so we could get the results that we needed, namely in the form of plots that show the transient performance of our system.

Since the development of our solar site models is very close to real ones, the process in which we created them is also similar. Our project partner acted as a major source of guidance throughout our project, and provided us with all of the documentation necessary to conduct research as well as the files that would be given to us by a client if we were simulating a real solar site. Our initial approach was to figure out exactly what we were hoping to achieve with the project so we would know what the final iteration of our project would look like.

Project Timeline

Week	Conception and Research	Planning and Modeling	Report	Presentation and Finalization	Week	Conception and Research	Planning and Modeling	Report	Presentation and Finalization
							Phase		
1	Project bidding				16		Build model		
2	Assemble and meet team				17		Acceptance of model build		
3	Understand project needs and scope				18		Model tuning		
4	Initial research with provided documents				19		Tuning acceptance		
5	Clarify project questions and definitions				20			Report drafting	
6	Download simulation softwares				21			Report drafting	
7	Learn simulation softwares				22			Technical review	
8	Research site equipment				23			Finalize report	
9	Research site operation				24				Presentation drafting
10	Research compliances				25				Continue presentation work
11	Research compliances				26				Presentation review
12	Research models				27				Finalize presentation
13	Describe how models operate				28				Presentation practice
14		Data collection for model			29				Capstone expo
15		Approval of data collection			30				End project

Our project is based on actual processes for solar sites, so we were able to get real world experience using these softwares and refining our models. The fact that our project was not tangible as most others served as a challenge at first, but we eventually began to appreciate having the opportunity to work on a project that deviates from the ones that we have worked on in the past.