1 Introduction: Part 1

1.1 Problem Statement

What problem is your project trying to solve? Use non-technical jargon as much as possible. You may find the Problem Statement Worksheet helpful.

Everyone needs electricity. Microgrid pallets provide a mobile, modular power solution that can be applied to many use cases. Choice use cases are natural disaster relief, tactical deployment for military operations, or replacing gasoline powered generators. Currently, connecting these pallets is time consuming and requires technical expertise specific to these devices.

The goal of our project is to simplify the connection and configuration of pallets so that minimal training is required to use them. An extension of the project is to allow communication from the pallets to any connected electric grid and provide additional services.

1.2 Intended Users and Uses

Who will use the product you create? Who benefits from or will be affected by the results of your project? Who cares that it exists? List as many users or user groups as are relevant to your project. For each user or user group, describe (1) key characteristics (e.g., a persona), (2) need(s) related to the project (e.g., a POV/needs statement), and (3) how they might use or benefit from the product you create. Please include any user research documentation, empathy maps, or other artifacts as appendices.

We will focus on the military operation deployment scenario of our project. Military personnel will have limited time and training to learn how to use the Microgrid pallets, and some untrained personnel may need to operate the equipment also to set up temporary camps. Because of this, the pallets need to be easy to modify, repair, and set up. The pallets should be somewhat automated so that anyone could use it for any application.

Other personnel may have some training or experience on extended uses for the pallets such as accepting energy from both grid and generator devices. These users need a straightforward way to change modes and parameters on multiple Microgrid pallets.

Another user group are those personnel that have an advanced technical knowledge of the Microgrid pallets and want to use more involved features, such as communication with a connected electric grid. These users need an interface to access those features that simplifies operations while maintaining flexibility.