Final Report
Home Energy Monitoring App

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Executive Summary

Our product aims to reduce the household energy consumption through a home energy monitoring system smart device app. In order to gain insight about this space, we started by conducting eight interviews with homeowners as well as energy experts. The interviews, as well as an increasing government spending on energy efficiency, gave direction for our project.

Our updates include the following sections: design ethnography, sustainability evaluation and process, and the project description. The design ethnography section now includes a clear description of the personas we aim to target with our product/service. Sustainability evaluation and process addresses the use context, creating an overview of environmental impacts, creating our own environmental profile and identifying root causes, and sketching the stakeholder network.

Project requirements were derived with our persona, Tom, in mind. The requirements were split into three categories; matching the current service/products, addressing issues in current service/products, and including additional features not available in current products and services on the market. The specifications were split into customer specifications and business specifications. The concepts were then weighted according to how well they met the specifications, with all customer specifications rated higher than business ones.

The environmental and social impacts of the baseline were derived from research of previous household studies. These households were equipped with HEMS and the reduction in energy usage was tracked over certain periods of time. This provided some insight into how much of an impact our product/service would make if it entered the market.

Concept generation and selection consisted of brainstorming to come up with different ideas to meet the needs of our customers. After the concepts were generated, members of the team evaluated each against the requirements and specifications to come up with the Alpha Design. The Alpha Design is a combination of a few of the concepts that were initially generated. The Alpha Design consists of providing a free app/software and it will be funded through advertising. The app/software aims to accomplish some of the other concepts as well, including what a customer would gain from having an in home consultation. Another feature would be to predict energy trends based on different criteria.

We believe this product will improve upon the baseline based on the research of a case study of a similar product. This means that there will be a reduction of energy usage in the homes of the application users, as well as a carbon footprint reduction.