Technology Review Assignment

When starting a project, always start by thoroughly investigating approaches and designs that are similar to your project. By exploring and summarizing how others have solved similar problems, their solutions will provide insight into the tradeoffs associated with different design approaches that can be used in your design. Done properly, this report will require a significant amount of effort to accurately summarize and understand various designs or products. Please be aware that this document will be continually added to during the year. An ounce of prevention when it comes to formatting and care can be worth a pound of cure. Learn how to use BeaverSource.

Previous Work: Every time you edit Beaversource for submission, it is vital that you make any requested changes from the last time the BeaverSource was reviewed. For this first assignment, make sure you made any changes needed from the BeaverSource page creation assignment.

Section 1.1 – Project Intro

Describe the origin of the need for the project. Who will be the target customer/user or user and why is it needed or desirable. What is novel about this project and what applications will it serve. What are the features that the customer desires? For example, if the product has to be carried from site to site, how much can it weight? Describe some of the product tradeoffs. Also summarize the state of the art. Who will use/buy your product? Will it be part of a larger system? If so, where does it fit in and what characteristics are needed.

Essentially this should be the expanded version of your project introduction on the main page. If you are struggling how to find enough information for this section, a useful step is to make a ‘walk through’ of how the project should function/be done. Giving generalized steps for its operation helps to understand what is needed.

Section 1.2 – Technology Table - Provide a detailed table of products/designs that are similar in function or performance. The table especially notes features that distinguish the project in the state-of-the-art. It is vital that this table exhaustively covers the technology spectrum. It is not uncommon to review 20 or more projects and have 10 or more comparisons for each one. Based on what projects/system you review, you may need to split the table into multiple tables with different columns. This is acceptable as needed.

Section 1.3 – Technology Analysis

Provide analysis of the Technology table’s contents and a summary of the data contained in it. This section is where you ascribe a ‘value’ to the factual information of the tables in the table. This may include:

- What are the strengths and weaknesses of each of the products/designs – highlight what features/characteristics are particularly useful/relevant to your design
- What is missing among the projects
- What is common among the projects and why the commonality exists
- Is this a crowded project space (lots of projects already exist?)
- Is this a new or mature project area
- Do some projects cost more than others in terms of dollars, time, or other resources?

There should be an analysis section tied to each table of the technology table. The analysis should be detailed and completely cover the interesting information contained in each of the tables.

Section 1.4 - Possible Design Requirements

Provide a list of possible design requirements including customer requirements and associated engineering requirements. This list should be long, possibly containing some repeated customer requirements but with different engineering requirements to evaluate the project success. During the term we will select some of these to be used for grading in later terms, for now make sure you get them written down. It is very important that every engineering requirement be obviously connected to its customer requirements. You can find more information in the course textbook, chapter 3.