EE 4130 - Assignment 2

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Question 1

Write a requirement statement of your own choice, and then explain whether it is: a primary or derived requirement, a mandatory, guidance, or informational kind of requirement, and if it is a product or programmatic requirement type.

> The turbo encabulator shall be employed in conjuction with a drawn reciprocation dingle-arm to reduce sinusoidal repleneration during fuorescent score motion.

Aside from the fact that the above requirement statement is gibberish, it is a derived requirement because it is a requirement that was determined to be necessary due to the product's use during fuorescent score motion and the need to reduce sinusoidal repleneration.

Question 2

The Quality Function Deployment (QFD) method is a good way to begin the system design process. What are some of the benefits that result from using the QFD method, when starting to design a new system?

Some of the benefits of using the QFD method are it

- takes the customer's wants into account
  - predict how the good/service/process will satisfy customer wants
  - relates customer "want"s to "how"s
- can simplify overall system architecture (identify hardware and software that perform multiple functions)
- allows for functional alocation by partioning of mayjor system elements
- evaluates the competition
- compares design parameters for qualitative evaluation

Question 3

Regarding system specifications, there are many levels of documents, beginning with the top level or "A" system specification. Explain why it is important to be able to trace the flow up and down of requirements throughout the hierarchy of a system's specification tree.

It is important to be able to trace the flow up and down of requirements throughout the hierarchy of a system's specification tree because it allows one to understand how high-level requirements are transformed into low-level requirements. Traceability also gives the designers differing levels of granularity for requirements from the 50,000 ft. view (e.g., objectives, goals, etc.) to low-level ones (e.g., resistance).