Capstone Design

Preparing a Design Proposal

Goals for a Design Proposal

- You want to:
  - Convince the client (technical advisor) to allow you to develop a solution to the problem.
  - Make sure that you and the client have the same understanding concerning:
    - What the problem is and
    - What the scope of your solution will be
- There should be sufficient detail to convince the client of your:
  - Technical ability in the area
  - Plan of action for the design
  - Understanding of the impacts of your design
  - Ability to schedule, develop, test, and deliver the design
Components in a Proposal

• A statement of the client’s problem
  – *Developing this statement and having the client sign off on it is one of the early steps in the design process.*
  – *You should have already done this by the time of the formal proposal.*

• A statement of exactly what you plan to provide to the client to solve the problem.
  – A piece of production hardware?
  – A prototype?
  – A proof-of-feasibility?
  – A software program?

Components in a Proposal

• A plan of action
  – What will be developed?
  – What are the major subsystems of the design?
  – Who will have primary responsibility for each component of the design?
  – What is the timeline/deliverables for:
    • Completing subsystems/major milestones?
    • Completing the design?
Components in a Proposal

- Specifications, including relevant standards
  - What components do you expect to work with?
  - What engineering standards do you expect to use as a part of your design?
    - How will those standards impact your design?
- Societal and environmental impact
- Health/safety issues and ethical issues (and their resolution) concerning the client’s problem and the scope of your solution

Components in a Proposal

- A brief, general discussion of potential solutions
  - This discussion should include:
    - Benefits and risks of each solution
    - Social/environmental impact
    - Health/safety issues
    - Ethical issues
- Maintenance and upgrade plans and documentation which will be provided to client
- Test plan
  - What is your procedure for testing the design as it is being implemented?
  - What is the process for operational debugging after the design/product has been delivered?
Components in a Proposal

- General schedule and budget
- Resources you have available to support your design effort
- Any additional support you need from client:
  - Information
  - Supplies
  - Access to facilities
- Plan of how you will report to client and keep her/him informed of your efforts
- Conclusions
- Questions and answers
- Additional handouts
  - Any additional documentation, datasheets, etc. developed that would assist the client in analyzing your proposal