**Project Deliverables: Proposal Report**

The second part of the project proposal is a written report. This lab deliverable should be turned in as a **TEAM** (one submission per team). Follow the format described below. This document should be typed. A digital copy (please use pdf or doc(x) format for your submission) should be uploaded to Canvas **before** the start of lab on the due date specified on Canvas (you only need one person from each team to do this).

After your proposal presentation, you should think about the feedback you received, and make modifications or additions to your design based on the feedback (and any new or additional ideas you have). The proposal report should include the design you presented, and any changes/modifications that you made after your presentation. The format and content of the documentation is described in detail below. This should be a **cohesive**, **narrative, professional** document. It should be informative, but concise and follow the technical writing guidelines discussed in class.

Format:

* Title Page: project title, lab day/time, team number/name, names of all team members who participated
* Document should be written as a formal technical document with appropriately formatted section headings (i.e. bold and/or underline).
* Sections to include: See “Content” below.

Content:

* **Introduction**

This is your problem definition. Include need, objective and requirements:

* Share the story of your character experiencing the pain point (need)
* Define your point-of-view and your project objective
* Include a list of design requirements
* **Background**
* What are the current solutions and state of technology for solving the problem?
* **Proposed Design**

**Design Description**

* Describe how your solution works and how it addresses the user’s pain point or need.
* Include detailed sketch (including approximate dimensions, labeled features, etc.) of your proposed design
* Include table of Bill of Material and total estimated budget

**Market Opportunity**

* Describe your potential customers (age, gender, income, etc.). How big is your market (how many people out there might buy your solution)? What is the potential for market growth?

**Competitive Analysis**

* Describe your solution’s important/unique design features. How is your design different from the others in the market? Consider using a simple competitive analysis table showing how your 3-4 key features/benefits out-match 3-4 current solutions.
* **Alternative Designs Considered**
* Briefly describe the other two prototypes you built
* Describe the design criteria you used to compare solutions and their weightings
* Include decision matrix you used to choose the top design out of three prototypes
* **Project Schedule**
  + - Include your project Gantt chart
* **Conclusion**
* Why should someone invest in your design? Summarize your value proposition, i.e., how your design is going to add value in an economic, environmental, or societal sense such as reducing costs, increasing speed, expanding reach, eliminating inefficiency, increasing effectiveness, or whatever value you can think of. **Describe how your design is related to the “theme”.**
* **References**
* Include all references used (references should also be cited in the text of the report)
* Use an appropriate citation format (i.e. Chicago Manual of Style, IEEE, etc. – see <http://libguides.asu.edu/> for helpful information under ‘engineering-basic’ or your specific discipline)

Below are three examples, pay attention to cite web resources appropriately:

ASME: <http://libraryguides.missouri.edu/mae/asmecitation>

IEEE: <http://www.ijssst.info/info/IEEE-Citation-StyleGuide.pdf>

AIChe: <https://www.elsevier.com/journals/chemical-engineering-journal/1385-8947/guide-for-authors#68000>

**Proposal Document Grading Rubric**

**Names: Team #**

|  |  |  |
| --- | --- | --- |
| **Topic** | **Max Pts** | **Score** |
| Professional quality document (spelling & grammar, cohesiveness, flow, correct & consistent formatting, typed, labels for figures and tables, etc.) | 5 |  |
| Cover Page (title, lab day/time, team number/name, team member names) | Required |  |
| **Introduction** |  |  |
| Tell the story of your character experiencing the pain point (need) | 2 |  |
| State the project objective | 2 |  |
| List design requirements | 2 |  |
| **Background** |  |  |
| What are the current solutions and state of technology for solving the problem? | 4 |  |
| **Proposed Design** |  |  |
| **Design Description** |  |  |
| Describe how your solution works and how it addresses the user’s pain point or need | 5 |  |
| Include detailed sketch (including approximate dimensions, labeled features, etc.) of your proposed design | 3 |  |
| Include table of Bill of Material and total estimated budget | 3 |  |
| **Market Opportunity** |  |  |
| Describe your potential customers (age, gender, income, etc.), market size and potential for growth | 3 |  |
| **Competitive Analysis** |  |  |
| Describe important/unique design features. How is your design different? | 3 |  |
| **Alternative Designs Considered** |  |  |
| Briefly describe two alternative designs | 4 |  |
| Describe design criteria and their weightings | 3 |  |
| Include decision matrix | 3 |  |
| **Project Schedule** |  |  |
| Include project Gantt chart | 3 |  |
| **Conclusion** |  |  |
| Describe how your design adds value in the economic, environmental, or societal sense | 3 |  |
| **References** |  |  |
| All sources cited appropriately (cited in text, citations present, appropriate formatting) | 2 |  |
| **Total** | **50** |  |