

Project Proposal

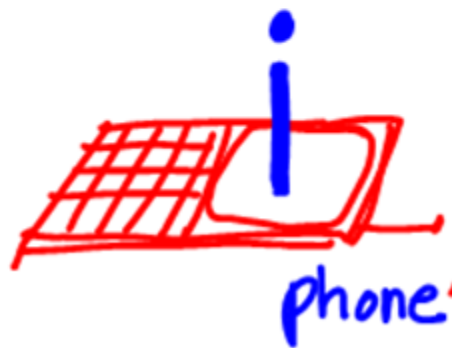
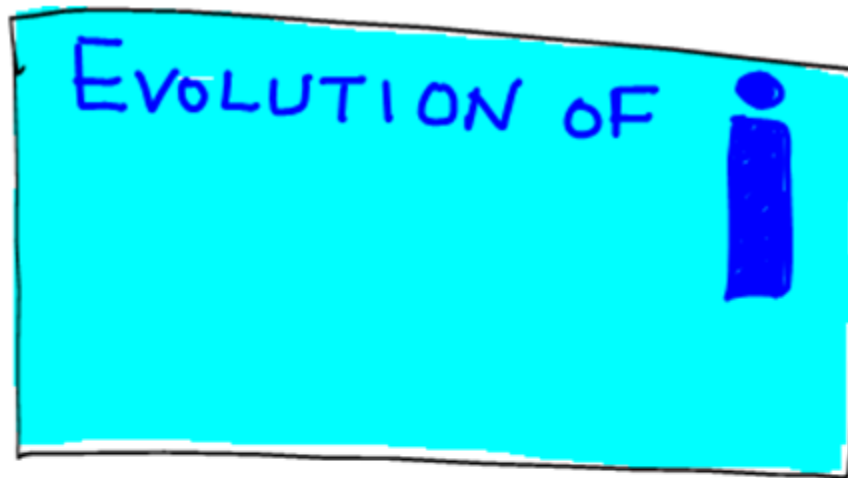
EECE 410: Senior Design I

Fall 2012

Electrical and Computer Engineering

Dr. Charles Kim

Next step after Design Requirement



Proposal



- What is Proposal?
- Proposal Format (.doc)
- Proposal Presentation Format (.ppt)
- Proposal Review Panel
- Proposal Approval

Project Proposal

- **Proposal**
 - A bid for a job, services, cash award, or research money.
 - Or for marriage!
- **Design Project Proposal**
 - Remember that design project exists because there is problem or need.
 - “a clear description of the initial ideas developed for solving the problem”
 - Background
 - Problems and Needs Refined Problem Definition and Problem Formulation
 - Current Status of Art
 - Design Requirements and Standards, Regulations, Restrictions, and Constraints
 - Initial Solution Ideas and Approaches – Diagrams and Schematics and Interfaces
 - Project Management with timelines and milestone
 - Resources and Cost
 - Qualification: knowledge content, course works, etc

Proposal Format

- 0. Proposal Cover
 - Title
 - Team and Members
 - Space for Approval Signature

Cover

Introduction

Problem Definition

Current Status of Art
Engineering Approaches

Tasks and Deliverables

Project Management

Conclusions

Proposal Contents - Introduction

- **1. Introduction**
 - Objective of the project
 - Goals and scopes of the project
 - Background of the project
 - Main problems
 - Customer needs
 - What the Proposal intends to do

Cover

Introduction

Problem Definition

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Proposal Content – Problem Definition

- **2. Problem Definition**
 - Refined Problem Definition
 - Design Requirements & Performance Measures.
 - Required compliance – Specific situation, regulation, standard, rules, codes, etc

Cover

Introduction

Problem Definition

Current Status of Art

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Proposal Contents – Current Status of Art

- **3. Current Status of Art**
 - Fundamental Theories and Principles related to the project
 - Similar Product in the market?
 - Weakness of the Current Status of Art
 - Improvement Points
 - **More time here saves the time**

Cover

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Proposal Contents –Solution Generation

- 4. Engineering Approach for Solution Generation
 - Initial Solution Idea
 - Provide general or system level structures with schematics
 - Possible alternative solution approaches
 - Systematic Process/Approach to reach at the desired solution
 - What knowledge and course works are to be used in the solution
 - What knowledge to be learned for the solution

Cover

Introduction

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Proposal Contents - Tasks

- 5. Tasks and Deliverables
 - Tasks to be done to (i) achieve the engineering solutions and (ii) verify the solution meets the design requirements
 - Tasks assigned to the team members
 - Deliverables
 - Final solution product
 - Demonstration System of the final solution for ECE Day presentation/Demo

Cover
Introduction
Problem Definition
Current Status of Art
Engineering Approaches
Tasks and Deliverables
Project Management
Conclusions

Proposal Contents – Project Management

- **6. Project Management**

- Timelines and milestones
- Resources and Budget
- Safety Issues
- Engineering ethics issues

Cover

Introduction

Problem Definition

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Project Management

Conclusions

Proposal Contents - Conclusions

- **7. Conclusions**

- Rephrase problems, needs, and benefits
- Rephrase objectives
- Summary of the engineering solution approach
- Summary of timeline and milestones

- **8. References**

- Must be cited in the main body with [number]

Example Proposals



PDMs_Proposal_FINAL.doc



LDWS_-_Proposal_(v2)[1].doc

Team Assignment 2 -- Proposal Writing

- Write a proposal following the format:
 - Introduction
 - Problem definition
 - Current Status of Art
 - Engineering approach for solution
 - Tasks and deliverables
 - Project management (timelines and milestones)
 - Conclusions
 - References
- Format:
 - Letter size
 - Times New Roman 12pt
 - Left justified, single space, 1" margin all sides
 - Page numbers at the bottom center

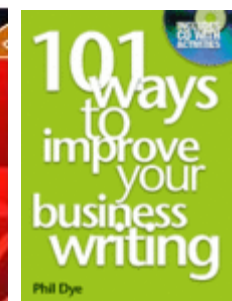
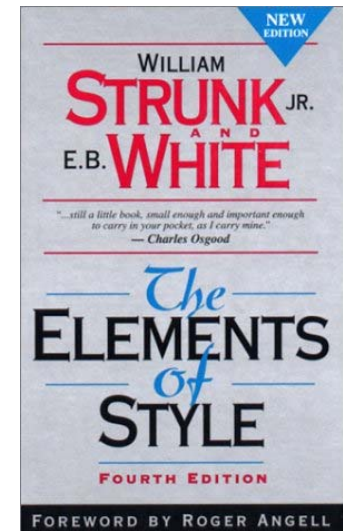
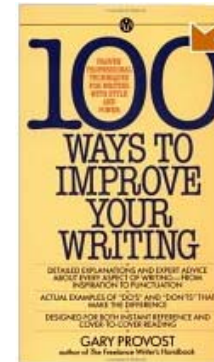
0	Cover
1	Introduction
2	Problem Definition
3	Current Status of Art
4	Engineering Approaches
5	Tasks and Deliverables
6	Project Management
7	Conclusions
8	Reference

Proposal Writing Assignment

- Submission Due:
 - Paper submission:
 - W 24OCT2012 2:10pm
 - Electronic (MS Word DOC(X) file) Submission:
 - W 24OCT2012 8:00pm
 - File Naming:
 - **TeamName_Prop.docx**

Technical Writing Tips

- Write like a newspaper staff writer
- Outline, a long outline, and sections
 - Divide into members
 - Every topic must be covered
 - Single topic must not be covered multiple times
- Tips
 - Know your audience/reader
 - Rule 17 of “Elements of Style” – Omit unnecessary words.
 - Avoid wordy phrases and sentences
 - Avoid information and conversational words and phrases
 - Why, What, When, & How
 - Correct Grammar and Spelling
 - Third Person, Active Voice, Same Tense
 - Direct and to the point
 - Paragraph Construction: Topic Sentence – Support - Description
- Finish Draft
 - Integrate the sections completed by members
- Spend More Time on Revising
 - Consistency
 - Terminology
 - Flow
 - Check Format



Proposal Presentation Format

- **Cover (1 slide)**
 - Title and Members
- **Background (2 slide)**
 - Background of the project (industry, technology, customer, etc)
 - Needs and demands in customer's point of view
- **Problem Formulation (2 slides)**
 - Refined Problem Definition in Engineering point of view (1 slide)
 - Design Requirements (1 slide): emphasis on alternative solutions, knowledge contents, and constraints
- **Current Status of Art (2 Slides)**
 - Prior art (fundamental theory) and available technology, weakness, etc
- **Solution Approaches (3 slides)**
 - Overall introduction of the technology field (with system level schematics) and summary of the alternative solution ideas (1 slide)
 - Explanation of the first and major solution approach (why this may work)(1 slide)
 - Systematic Approaches that will be applied through the project period(1 slide)
- **Tasks and Project Management (1 slide)**
 - Assigned tasks for finding solutions and solution implementation
 - Timelines and milestones
- **Costs and Resources (1 slide)**
 - Rough budget
 - Resources available and resources needed
- **Conclusion (1 slide)**
 - Crisp and clear summary of the proposal

Proposal Presentation Event – Early November

- 2011 Event



Charles Kim – Howard University