Project Title

Product Name

Proposal for the ECE100 Design Project

Name of team member

Name of team member

Name of team member

Name of team member

Name of team member

Name of team member

**May xx, 20xx**

**University of Cyprus**

**Executive Summary**

*In a page or less, summarize the main reasons for performing the design and the scope of the design that your group attends to achieve. Typically, all the sentences in a proposal’s summary can be found in one form or another in the sections that follow. The purpose of the Executive Summary is to give the reader an overview of what the design need is and what design is being proposed to fill that need. Because of its content and location, this section is the most widely read section of the document. For that reason, the section should be well written and carefully proofread.*

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**Project Title – Product Name**

# Problem Definition

## Unmet Need or Desire

*Here you would place some paragraphs that explain how you identified the needs or desires of the customer or how you will identify the needs of the customer.*

* *What is the problem or issue your project will solve or address?*
* *Why is this problem, issue or question important?*

## Target Population and Impact

*Here you would place some paragraphs that explain who are your customers and how the proposed solution will affect them or have an impact on their life or why it would be desirable to buy. (Brief. More details in Section 5)*

* *Who or what does this problem affect or who has this desire? Who is involved? [target population]*
* *What will be the significance or impact of solving this problem or addressing this issue?*
* *Have project beneficiaries participated in identifying the problem?*

# Background

*In this section, you will describe the existing knowledge and the state of the art. You will perform a detailed literature and patent review and include all references.*

* *What is the relevant state of knowledge about the problem or question? What has been done before to solve this problem, answer this question? What has succeeded and what has failed? And why? [literature review, preliminary studies]*
* *What are the current gaps in knowledge about this issue? Will your project potentially fill these gaps? How?*
* *What are the main constraints and barriers in solving this problem or answering this question?*
* *What preliminary work or pilot studies have been conducted? What results have been achieved?*
* *Who and what organizations are the key players concerning this problem?*

# Proposed Solution - Project Goal & Objectives

## Project Goal

* *What is the ultimate purpose of your project? (Goal)*

## Project Objectives

*Here you formally state what you propose to design. Often, the design has two to four specific objectives. These you might consider listing vertically as follows:*

1. *first design objective,*
2. *second design objective, and*
3. *third design objective.*

*A reason that a vertical list is appropriate here is that readers often return to this section to review those objectives. Having the objective in a vertical listing makes it easier to find. If your design objectives are complicated and depend on variables, consider placing them into a formal table, which would be introduced by name: Table 1, Table 2, and so forth.*

*In this section, you would present text that discusses more fully what you mean by the different design objectives. That explanation would include a discussion of not only what you intend to do, but also a justification of what you will not do (in other words, what your audience might assume that you will do). You might consider having a paragraph for each objective. Adopt the same paragraphing format as discussed in previous sections.*

*Note that if you have done a good job in stating the problem, then all the design objectives should make sense to the audience. Avoid having more than four objectives. Lists more than four are often not read. To avoid having more than four, you might consider grouping two or more objectives.*

*In addition, you might want to elaborate on what will change or happen as a result of the project. These Outcome Objectives better explain the rationale behind the design objectives. You can also list those as*

1. *Outcome objective 1*
2. *Outcome objective 2*
3. *Outcome objective 3*

*Devote a paragraph or two to further elucidate the outcome objectives if needed.*

## Generating Design Concepts

*Here you would place paragraphs that explain how you generated the design concepts. Please identify all of your design concepts in this subsection. You might consider placing those concepts into a table with one column giving a short summary of the concept. In this subsection, you should probably discuss at least three concepts, giving perhaps a paragraph to each.*

* *What is your theoretical framework or approach?*
* *Why is the proposed approach the best way (most effective, cost efficient, most equitable) to solve this problem or address this issue?*
* *How is the proposed approache based on lessons learned?*

## Selecting Design Concept

*Here you would place paragraphs that explain how you selected the design concept. What other approaches could be taken to this problem or question, and what are the comparative and compelling advantages of your approach? Why were these rejected?*

*In addition, you should also identify what alternative design concepts you have selected for the project in case the first one does not work (contingency plan).*

# Plan of Work

*This section presents the plan for the proposed work. This plan should follow a logical sequence. Please make sure that you have a transition paragraph between the plan and the subheading “Deliverables.” That paragraph should introduce and explain your Gantt chart for the project. An example of such a chart appears in Figure 1. In this section you should answer the following questions*

* *What activities will be undertaken to achieve the goal and objectives?*
* *What specific activities will be conducted to achieve each objective? Each activity should clearly relate to the achievement of one or more of the stated objectives.*
* *What are the expected outputs and outcomes of each activity? How will these activities generate the desired outcomes?*
* *What methods or means will be used to carry out your activities? What is the rational for using these?*
* *Develop a project implementation time line. When will activities occur? When will outputs and outcomes be generated? Break out your project timeline by quarters or months depending on funder requirements and duration. Every activity should be on the implementation timeline.*



**Figure 1:** Gantt chart for the project. The solid bars indicate the tasks to be accomplished.

## Deliverables

*Here you would place a paragraph or paragraphs that present the deliverables that you will provide the customer.*

## Communication and Coordination with Sponsor

*Here you would place paragraphs that explain how and when you will communicate and coordinate with your sponsor.*

# Project Management

*Here you will explain the mechanisms that will assure the smooth administration of your project.*

* *How will the project be managed and/or administered within your organization?*
* *Who is the project manager/PI and what are her/his qualifications for the role?*
* *How will you coordinate staff, partners, and subcontractors?*
* *How will you supervise field staff who may report to someone other than the project manager/PI?*
* *How will money flow?*
* *Who will do procurement? What bid process will be used and why?*

## Project Monitoring & Evaluation

*Here you will explain how the project progress and success will be monitored and evaluated.*

* *What are the key indicators of project progress, impact, and success?*
* *How will these be tracked and measured?*
* *Is a baseline survey necessary?*
* *What are some key turning points of the project (go/no-go decisions) of the project (milestones)?*
* *What are potential barriers to success and when may they occur?*
* *What methods and techniques will be used for overcoming potential barriers to success?*
* *How will information from project monitoring and evaluation be used to review activities and revise methods and processes? What is the evaluation schedule?*
* *What project data will you request or keep? For how long (e.g., through payback period)? What will you do with the data? What approvals do you need?*

# Project Personnel (partners & subcontractors)

## Team Qualifications

*Here you would place a paragraph that introduces the qualifications for the team and refers to the resumes located in an Appendix. In this section, you should provide a paragraph for each team member.*

* *Who are the key people involved in the project? Who will carry out each activity?*
* *What existing staff will assist with the project? (Don’t forget field staff!)*
* *Will you need to hire project-specific staff for the life of the project?*
* *What is each person’s role and responsibility on and qualifications for the project? What will they do? What skills do they need to have?*
* *Develop resumes/biosketches for key staff tailored to their roles on this project and in required sponsor formats.*

## Partners

*Here you would describe other key partners whose expertise is necessary for the completion of the project.*

* *What organizations will you partner/coordinate with? What do you expect each of your partners to do/contribute? List official name of all partners and historic and current relationship in the context of this project.*
* *What is each partner organization’s role and responsibility on and qualifications for the project?*
* *Why have you chosen these organizations to be involved in the project?*
* *What institutional capacity and expertise do they bring to the project?*
* *How will they increase the likelihood that the project meets its objectives and has impact?*
* *What are their key institutional qualifications and experiences for this project?*
* *Develop Memoranda of Agreement and Letters of Commitment.*

## Subcontracting

*Here you would explain whether any services will have to be sought that no partner processes and which are necessary for the completion of the project.*

* *Will you need to subcontract significant portions of the project? If so, describe what will need to be subcontracted, and the skills and experience needed.*

## Organizational Chart

*Include a project organizational chart.*

# Business Model

*Summarize your business model here. A business model describes the rationale of how an organization creates, delivers, and captures value, in economic, social, cultural or other contexts. The process of business model construction and modification is also called business model innovation and forms a part of business strategy. In theory and practice, the term business model is used for a broad range of informal and formal descriptions to represent core aspects of a business, including purpose, business process, target customers, offerings, strategies, infrastructure, organizational structures, sourcing, trading practices, and operational processes and policies including culture.*

## Value Proposition

*Here you would place some paragraphs that explain who your beneficiaries are and how the proposed solution will benefit them or have an impact on their life or why it would be desirable to buy.*

*The value proposition provides value through various elements such as newness, performance, customization, "getting the job done", design, brand/status, price, cost reduction, risk reduction, accessibility, and convenience/usability. The value propositions may be:*

* *Quantitative – price and efficiency*
* *Qualitative – overall customer experience and outcome*

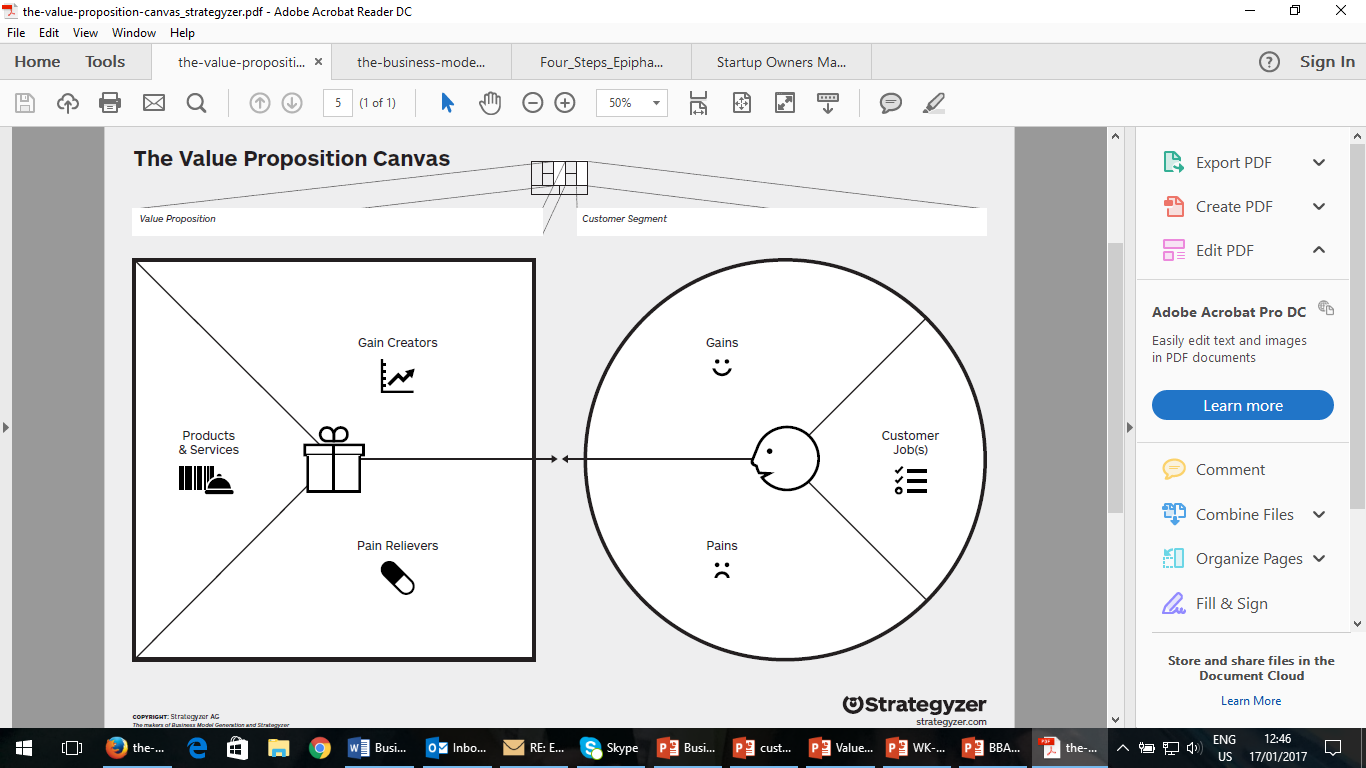
*Various sets of customers can be segmented based on their different needs and attributes to ensure appropriate implementation of corporate strategy to meet the characteristics of selected groups of clients. Choose which of the different types of customer segments below is/are more appropriate for your case:*

* *Mass Market: There is no specific segmentation for a company that follows the Mass Market element as the organization displays a wide view of potential clients. e.g. Car*
* *Niche Market: Customer segmentation based on specialized needs and characteristics of its clients. e.g. Rolex*
* *Segmented Market: A company applies additional segmentation within existing customer segment. In the segmented situation, the business may further distinguish its clients based on gender, age, and/or income.*
* *Diversified Market: A business serves multiple customer segments with different needs and characteristics.*
* *Multi-Sided Platform / Market: For a smooth day-to-day business operation, some companies will serve mutually dependent customer segments. A credit card company will provide services to credit card holders while simultaneously assisting merchants who accept those credit cards.*

*Consider:*

* *Who will benefit from the project, and how will they benefit? State demographics and numbers.*
* *Why is this project of more benefit now than other projects that could be funded?*
* *How did and how will project beneficiaries or target groups participate in the project?*
* *Does the project address a problem as identified, defined, and articulated by the groups the project is supposed to benefit?*
* *Did the project’s beneficiaries help identify the problem, design the project and the solution to the problem?*
* *How will project beneficiaries help implement and manage the project?*
* *Has the project been designed so that all involved groups have equitable and appropriate access to project resources?*
* *How will implementing this project change and improve (build capacity within) your organization?*

*Use the Value Proposition Canvas to summarize*

**

## Business Model

*Describe in brief your business model by identifying the building blocks for its activities. Describe whatever applies of the the following:*

* *Infrastructure*
  + *Key Activities: The most important activities in executing a company's value proposition. An example for Bic, the pen manufacturer, would be creating an efficient supply chain to drive down costs.*
  + *Key Resources: The resources that are necessary to create value for the customer. They are considered assets to a company that are needed to sustain and support the business. These resources could be human, financial, physical and intellectual.*
  + *Partner Network: In order to optimize operations and reduce risks of a business model, organizations usually cultivate buyer-supplier relationships so they can focus on their core activity. Complementary business alliances also can be considered through joint ventures or strategic alliances between competitors or non-competitors.*
* *Offering*
  + *Value Propositions: The collection of products and services a business offers to meet the needs of its customers. See previous section.*
* *Customers*
  + *Customer Segments: To build an effective business model, a company must identify which customers it tries to serve. See previous section.*
* *Channels: A company can deliver its value proposition to its targeted customers through different channels. Effective channels will distribute a company’s value proposition in ways that are fast, efficient and cost-effective. An organization can reach its clients through its own channels (store front), partner channels (major distributors), or a combination of both.*
* *Customer Relationships: To ensure the survival and success of any businesses, companies must identify the type of relationship they want to create with their customer segments. Various forms of customer relationships include:*
  + *Personal Assistance: Assistance in a form of employee-customer interaction. Such assistance is performed during sales and/or after sales.*
  + *Dedicated Personal Assistance: The most intimate and hands-on personal assistance in which a sales representative is assigned to handle all the needs and questions of a special set of clients.*
  + *Self Service: The type of relationship that translates from the indirect interaction between the company and the clients. Here, an organization provides the tools needed for the customers to serve themselves easily and effectively.*
  + *Automated Services: A system similar to self-service but more personalized as it has the ability to identify individual customers and their preferences. An example of this would be Amazon.com making book suggestions based on the characteristics of previous book purchases.*
  + *Communities: Creating a community allows for direct interactions among different clients and the company. The community platform produces a scenario where knowledge can be shared and problems are solved between different clients.*
  + *Co-creation: A personal relationship is created through the customer's direct input to the final outcome of the company's products/services.*
* *Finances*
  + *Cost Structure: This describes the most important monetary consequences while operating under different business models. A company's DOC.*
  + *Classes of Business Structures:*
  + *Cost-Driven – This business model focuses on minimizing all costs and having no frills. e.g. Low-cost airlines*
  + *Value-Driven – Less concerned with cost, this business model focuses on creating value for products and services. e.g. Louis Vuitton, Rolex*
  + *Characteristics of Cost Structures:*
  + *Fixed Costs – Costs are unchanged across different applications. e.g. salary, rent*
  + *Variable Costs – Costs vary depending on the amount of production of goods or services. e.g. music festivals*
  + *Economies of Scale – Costs go down as the amount of goods are ordered or produced.*
  + *Economies of Scope – Costs go down due to incorporating other businesses which have a direct relation to the original product.*
* *Revenue Streams: The way a company makes income from each customer segment. Several ways to generate a revenue stream:*
  + *Asset Sale – (the most common type) Selling ownership rights to a physical good. e.g. retail corporations*
  + *Usage Fee – Money generated from the use of a particular service. e.g. UPS*
  + *Subscription Fees – Revenue generated by selling access to a continuous service. e.g. Netflix*
  + *Lending/Leasing/Renting – Giving exclusive right to an asset for a particular period of time. e.g. Leasing a Car*
  + *Licensing – Revenue generated from charging for the use of a protected intellectual property.*
  + *Brokerage Fees – Revenue generated from an intermediate service between 2 parties. e.g. Broker selling a house for commission*
  + *Advertising – Revenue generated from charging fees for product advertising.*

*Use the business model canvas to summarize the above.*



## Sustainability

* *If appropriate, how will project activities or impacts continue when outside funding ends?*
* *How is sustainability built into the project design? What techniques will be used in project implementation to ensure sustainability of impacts and activities?*

## Budget & Funding Plan

*Here you would place a paragraph or paragraphs that explain the budget for the project.*

* *Each activity in your plan of work will have a corresponding cost (whether cash or in-kind match, part of your federal grant request or from another source).*
* *Identify other organizations that may/will make a financial contribution to this project (in kind or cash).*
* *What will they provide? For what purpose?*

*Include a table such as Table 1 for equipment.*

**Table 1:** Requested items and funds for initial design

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Item** | **Supplier** | **Catalog No#** | **Quantity** | **Unit Price** | **Total** |
| Vacuum Pump | McMaster Carr | IJ-60825 | 1 | $183.47 | **$188.72** |
| Flow Pump | Northern Tool | CJX-689 | 1 | $139.99 | **$156.62** |
| 23/32" Plywood 4'x8' | Lowe's Hardware | none | 1 | $24.95 | **$24.95** |
| 4" Ondine Rainmaker | Smartbargain.com | 129808 | 1 | $19.99 | **$37.86** |
| Acrylic Tubing 5' (OD 8") | McMaster Carr | 8486K626 | 1 | $236.70 | **$250.95** |
| "8" Flange (13" OD) | McMaster Carr | KD-ERW | 1 | $44.24 | **$44.24** |
|  |  |  |  | **Total** | **$703.34** |

# Information Dissemination

* *What are the potential lessons learned from this project?*
* *Who are the potential audiences for results and lessons learned? Who needs or would be interested in the information the project generates?*
* *How will these “lessons learned” be disseminated during and after the project?*
* *How do dissemination modes and methods meet the needs of the various audiences?*

# References

*All the literature reviewed or referenced in this report should be included here, in proper and consistent format. E.g.*

1. Houghton, Richard A., and George M. Woodwell, “Global Climatic Change,” Scientific American, vol. 260, no. 4 (April 1989), pp. 39–40.
2. Fox, R.W., and A.T. McDonald, Introduction to Fluid Mechanics (New York: John Wiley & Sons, 1978), pp. 242–245.
3. Varian Corporation, "Smithsonian Researchers Use High-Tech Digital Imaging Device to Study Collections," http://www.varian.com/ (Palo Alto, CA: Varian Corporation, 13 February 2002).

# Appendix A

## Résumés of Team Members

*The following pages present one-page résumés of the team members for this project.*