University of Ottawa

Project Deliverable B - Needs, Problem Statement, Benchmarking, Metrics and Target Specifications

Submitted by

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Introduction:

The following document is intended as a technical document to clearly identify the needs and problem statement of the online teaching format for students involved with CEED training and learning environments. This document will help break down the different levels of needs, the product requires. After the first client meeting and empathizing with our clients, many important needs have been identified. The objective of this document is to formulate a problem statement, rank each customer need to then be able to do customer perception and technical performance benchmarking.

Needs identification:

- Students get full knowledge as they would get from an in person workshop
- TA's understand the module better than the students that they can help them when needed.
- Very interactive environment with a priority on questions and answers
- Informative
- Product cost is around a $100
- Students (or users in general) pay $20-$30 maximum to get access
- An introduction video as a prelab to ensure that students have an idea about the beginner 3D printing before coming into the lab.
- Length of online learning session is less than 90 minutes (length of a lab session)
- Bilingual content
    - Primarily English and French to serve the majority of consumers
- Mini quizzes to allow students test their understanding
- Bank of pre asked questions to allow the user to get an answer right away.

Priority ranking:
Scale:
1. Necessary
2. Important
3. Useful
4. Optional

Table 1. Ranking of Needs of Product

Needs	Ranking
Students and users get full knowledge as from an in person workshop	Necessary
TAs or instructors should be capable of understanding how it works easily to provide assistance	Necessary

Very interactive environment with a priority on questions and answers	Necessary
Informative	Necessary
Length of online learning session is less than 90 minutes (length of a lab session)	Necessary
Product Cost is around a 100$	Important
Students (or users in general) pay 20-30$ maximum to get access	Important
An introduction video as a prelab to ensure that students have an idea about the beginner 3D printing before coming into the lab	Useful
Bilingual content	Optional
Mini quizzes to allow students test their understanding	Optional
Bank of pre asked questions to allow user to get answer right away	Optional

Problem statement:

A need exists for the University of Ottawa's Ceed program to teach students how to apply technical engineering knowledge and machine operation through an online learning tool which is interactive, user friendly and is available on all platforms.

Customer perception Benchmarking:

Table 2. Benchmarking Table

Company	Khan academy	Udemy Inc.	Chegg	SkillShare	Coursera

Cost($)	Free/ Month	$16.99/ Month	$14.99/ Month	$14.99/ Month	Free/ Month
Interactive	No	Yes	No	Yes	Yes
Student cost($)	Free	$16.99	$14.99	$8.99	Free
Informative	Yes	Yes	Yes	Yes	Yes
Bilingual content	Yes	Yes	No	Yes	No
Mini Quiz	Yes	Yes	No	Yes	Yes
Aesthetics	Good	Good	Good	Good	Good

Metrics:

Table 3. Relative Metrics of the Product

Metric	Unit	Scale	Need addressed
User Cost	Canadian dollars	< 20-30 $	Students (or users in general) pay $20-$30 maximum to get access
Product cost	Canadian dollars	< 100 $	Product cost is around a $100
Length of visual Tools	Minutes	< 90 $	Length of online learning session is less than 90 minutes (length of a lab session)

Target Specifications:

Table 4. Target Specifications

Needs Associated	Target Specifications	Marginal Value	Target Value	Units
Affordability	Cost	>$100	$30	Canadian Dollar
Time management?	Duration	User Independent	User Independent	Seconds
Efficiency	Setup Time	30 seconds	TBD	Seconds
Availability on all platform	Operating Platforms	Broader Customer Base	Mac / Android	Google/Apple Play Store (CAD/USD)
Profit	Ad Revenue?	TBD	TBD	CAD/USD Dollars
Efficiency	Ergonomics	TBD	TBD	Percentile

Client meeting reflection:

The client meeting was very clear and gave us all the relevant information needed to properly identify user needs and rank them. Even if a lot of product details were left up to us the designers. A clear format of an interactive, user friendly environment where learning and question based platforms were prioritized was identified as being a top priority for our clients at CEED.

Conclusion:

The purpose of this product is to help students get the required engineering and machine operation knowledge through online learning tools. The product should be

as interactive and informative as possible with an affordable price. It should also be user friendly and available on all platforms.