



Blue Cheese

FRC Team 1086 Blue Cheese
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Capstone Project Proposal

Project Name: Not a "GOUDA" kiosk, but a "GRATE" kiosk

Student: Sophia Larson

Area of Concentration: Project Management

Final Product: Kiosk and User Guide

1 PROJECT BACKGROUND

FIRST FRC team 1086 Blue Cheese Robotics excels at our presentations. Our presenters are amazing, but it is hard to show some of the wonderful aspects of the team. We can't show them the thrilled face of a kid enthralled with our robot. We can't show them the dedicated work the students put in in the workspace. We can't show the student taught lessons. We can't show them who we are. It had been suggested by the Media team mentor and now the Mentor for this current project, Mrs. McCandlish, that we create a kiosk to use while presenting in our pits.

It may be a cliché, but a picture really does say 1,000 words. A kiosk would allow the team to show those who come up to our pits in competition or booths at events see who we are, what we do, how we do it, and what makes Blue Cheese Robotics such a great team. It is one thing to say that we have an impact on the lives of children in our community; It is a completely other thing to show the look of wonder, enthrallment, joy on the face of a kid as he builds his own circuit. This kiosk would allow us to be able to communicate with others in event and competition settings without so much as a word. The kiosk will be there to tell all who wish to see the Grate parts of Blue Cheese Robotics. It can be a tool to be used while presenting or to present on its own what makes Blue Cheese Robotics. The experience could be easily tailored by the click of a button to each individual curious mind's interests.

2 PROJECT SCOPE

The scope of the project includes the creation of a kiosk and an associated user guide. The creation of a kiosk includes: the acquisition of any and all components related to the kiosks including: one tablet or tablet-like device to act as hardware in order to host the kiosks; the software if not already accessible on the hardware in order to create the kiosk with; the digital media and written materials to be incorporated. But, the digital media, data, and written media may be accessed from the Blue Cheese archives and from what is created in this year's competition season. As co-lead for media, I will add any photos or

video to the shot list for what we will take at a competition or take the photos and/or videos myself during my shift.

It is my responsibility to act as the primary designer for the layouts of all parts of the software of the kiosk. It is my responsibility to put together the kiosk layout and search in the archives or create any necessary components. This includes the designing of all portions of the kiosk and how they interact while keeping the end user in mind. This involves the creation of an organized specific form of layout that is able to complete all the software requirements that will be specified in a software requirements checklist. It is also my role to carry out testing and test that the kiosk fits its purpose among all the user groups. The user groups being those most commonly to come up and talk to us during competitions. They are as follows: a child in 4th to 8th grade, a student member of Team 1086 Blue Cheese, a student member of another robotics team, a mentor on a robotics team, and an individual able to judge based on Chairmans Award criteria. It is within the purview of the project to acquire the possible necessary requirements from others, however, only myself with the guidance of my mentor, Mrs. McCandlish, will be able to finalize the final list. The same can be said for the final creation of the hardware requirements checklist and user guide checklist in terms of the finalization process. It is my responsibility throughout the development of the kiosk to be creating a user guide in order for the kiosk software to be able to be used, edited, and updated for years to come. Throughout the process, it my responsibility to create prototypes for testing and to reflect a physical model of the plan. To reiterate, it is not my responsibly to do maintenance or in any way to continue work on the kiosk after the physical kiosk including the hardware (a.k.a tablet) and software and the completed user guide are physically in the hand of a Blue Cheese Robotics representative for the final drop off.

Goals and Objectives

Goals	Objectives
Visually Appealing- it is appealing to the user's eye using the design to maximize the ease of eyes comprehending the content on the page and enjoying the content on the page	One representative from each of the five user groups ¹ gives a positive review on whether the kiosk is visually appealing. Meaning of the five people tested all five must give positive reviews. <ol style="list-style-type: none"> 1. Develop a survey to be given in phases to test the aesthetics that clearly defines positive versus negative survey results. 2. Give the survey to a representative of the five user groups incrementally throughout the project
Functionality of Software- the ability of the software to do the required tasks	The software has all the requirements from a checklist <ol style="list-style-type: none"> 1. Create requirements list for the functionality of software by: 12/9/18 2. Complete Checklist
Functionality of Hardware- the ability for the hardware to work under the required conditions	The hardware has all the requirements from a checklist <ol style="list-style-type: none"> 1. Create check list of requirements list for the functionality of software by: 12/9/18 2. Complete Checklist

¹ a child in 4th to 8th grade, a student member of Team 1086 Blue Cheese, a student member of another robotics team, a mentor on a robotics team, and an individual able to judge based on Chairmans Award criteria.

Results of Final User Testing	<p>One representative from each of the five user groups gives a positive review on whether the kiosk is functional and effective. Meaning of the five people tested all five must give positive reviews.</p> <ol style="list-style-type: none"> 1. Develop a survey to be given in phases to test the usability 2. Give the survey to a representative of the five user groups incrementally throughout the project
Acceptable User Guide- in order for the kiosk software to be able to be edited and updated throughout the years and can be used without any other assistance	<p>The User guide has all the requirements from a checklist</p> <ol style="list-style-type: none"> 1. Create requirements list for the functionality of software by: 12/9/18 2. Complete Checklist

2.1 Organizational Impacts – If they exist. If they do not, take this section out.

Organization	Impact to and Participation of Organization
FRC Team 1086 Blue Cheese Robotics	Can be used for sponsorship and completion marketing
FIRST Robotics	Could be used as an example for other teams

2.2 Project Deliverables

Project Milestone	Date Estimate	Deliverable(s) Included
Research Paper Outline Due	[10/26/18]	Research Paper Outline
Final Project Proposal With Rubric Due	[10/29/18]	Final Project Proposal Final Project Rubric
Research Paper Due	[12/03/18]	Research Paper
Requirements for Hardware, Software, and User Guide due	[12/9/18]	Requirements checklist for Hardware Functionality Requirements checklist for Software Functionality Requirements checklist for User Guide Functionality
Create Dynamic list of necessary	[12/10/18]	A preliminary list to be added to throughout the project.

media, data and other digital materials list.in the archives		
Preliminary Presentation Plan	[12/17/18]	First plan for marketing strategies to be included
Initial Physical Requirements Plan	[12/24/18]	The initial plan for what hardware is going to be used.
Final Physical Requirements Plan and Hardware Purchase due	[12/31/18]	Final decision on what hardware to use is complete and the hardware is either in hand or purchased.
Preliminary Design Plan	[12/31/18]	First layout plan with an update to the dynamic list of materials for use in the digital content.
Kiosk Prototype # 1	[1/14/19]	The first version of the kiosk based on the preliminary design plan.
Preliminary User Guide Prototype	[1/17/19]	The first user guide prototype for the kiosk prototype.
1 st Hardware Survey	[1/26/19]	The first hardware survey to test if it meets the requirements.
1 st Software Survey	[1/26/19]	The first software survey to test if it meets the requirements.
Second Preliminary Design Plan	[2/5/19]	Second layout plan with an update to the dynamic list of materials for use in the digital content.
Second Preliminary User Guide Prototype	[2/8/19]	The second version of the user guide for the kiosk based on the preliminary design plan.
Kiosk Prototype# 2	[2/8/19]	The second version of the kiosk based on the second preliminary design plan.
2 nd Hardware Survey	[2/19/19]	The second hardware survey to test if it meets the requirements.
2 nd Software Survey	[2/19/19]	The second software survey to test if it meets the requirements
1 st User Guide Survey	[2/19/19]	The first survey to test the user guide's ability to meet the requirements.
Progress	[03/01/19]	Progress Report PowerPoint Presentation

Report PowerPoint Presentation Due		
Final Static Media, data and other digital materials list.	[3/2/19]	The final digital materials list.
Initial Combined Kiosk Plan	[3/8/19]	Initial plan encompassing the presentation plan, hardware requirements plan, and design plan, and user guide combined in one document
Kiosk Prototype # 3	[3/19/19]	The third version of the kiosk based on the second preliminary design plan.
Third Preliminary User Guide Prototype	[3/19/19]	The second version of the user guide for the kiosk based on the initial combined kiosk plan.
3 rd Hardware Survey	[3/30/19]	The third hardware survey to test if it meets the requirements.
3 rd Software Survey	[3/30/19]	The third software survey to test if it meets the requirements
Preliminary Project Portfolio Due	[04/15/19]	Preliminary Project Portfolio
Final Combined kiosk plan	[4/16/19]	Final plan for final kiosk prototype
Final Kiosk Prototype	[4/19/19]	The final kiosk prototype
Final Hardware survey	[4/23/19]	The final Survey to measure if the hardware goal was reached.
Final Software Survey	[4/23/19]	The final Survey to measure if the software goal was reached.
Final User Guide Survey	[4/23/19]	The final Survey to measure if the user guide goal was reached.
Proof of completed project and final portfolio due to advisors by 4:00 p.m.	[04/26/19]	Proof of Completed Project Final Portfolio
Reflective Essay Due	[04/29/19]	Reflective Essay

3 PROJECT CONDITIONS

3.1 Project Cost

Any possible project cost will mainly come from the acquisition of hardware in the form of the tablet in order to run the kiosk. The cost of the hardware will be kept at least ideally under \$200. The predicted range for the kiosk cost is \$100-\$200. I will attempt to make the purchase of software free if not as close to free as possible. The main possible methods for paying can include, but are not limited to as anything arises; funding in any percentage of the cost from Blue Cheese Robotics, funding in any percentage of the cost from company or other interested parties to be a sponsor of the project, and if none of the other possible routes enable the full funding the final amount will be paid in full by my personal money.

3.2 Project Assumptions

- The kiosk will be used at robotics events
- I will be able to acquire a device to use for the kiosk
- The application I use would have the correct components
- The software will be able to run on the hardware I purchase

3.3 Project Risks

#	Risk	Likelihood	Project Impact-Mitigation Plan
1	Losing data	Medium	Backing up all my data.
2	Issues getting financing	Low	Having money set aside from myself just in case to help pay
3	Issues getting proper software and hardware	Low	Acquiring early on in the project

3.4 Project Constraints

- A factor that could hinder the process like a lack of funding stopping production.
- Quality Materials being too expensive
- Arrival time of materials
- Time it takes for approval from stakeholders
- Amount of Funding Available

4 Project Structure Approach

The project will be structured using Scrum, an agile method of iterative and incremental product delivery that uses frequent feedback and collaborative decision making

- What are the dependencies of the project?
 - Materials must be acquired for creation to start
 - At least some of the kiosk must exist for testing
 - Hardware testing requires the hardware to be present
 - How will you Plan and Manage the project?
 - I will plan and manage the project through a trello board in order to organize, past, current, and upcoming tasks and their project associated groups within the overall project.
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5 MENTOR ASSISTANCE

The mentor will give advice on the requirements and will help in figuring out the acquiring of materials and software. The mentor will be able to give advice on the status of the aesthetics and functionality as it relates to its end use to the team

6 APPROVALS

Prepared by

Sophia Larson

Date

Approved by

Mrs. McCandlish

Date

Mrs. Norris

Date