Project Deliverable G: Prototype 2 and Customer Feedback

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Test ID	*Test Objective (Why)*	*Description of Prototype used and of Basic Test Method (What)*	*Description of Results to be Recorded and how these results will be used (How)*	*Estimated Test duration and planned start date (When)*
001	Ensure Functionality of each subsystem by testing each button	First prototype designed to test functionality of the subsystem (Test)	Check to see if the subsystem's first prototype can perform the tasks outlined in the design drawings (basic functions and commands).	November 2nd Duration: 2hr per subsection
002	Optimization and debugging of subsystems (Some issues with getting buttons to perform the correct commands and some bugs to work out after prototype 1)	Second prototype builds upon the first by improving usability and taking feedback gained during testing into account (Analyze)	Check to see that layout is easy to use, size and style of buttons is acceptable	November 8th Duration: 1hr per subsection (Over a few days, few subsections per day seemed to work over reading week)
003	Improve Aesthetics and Finalization of subsystems (Change fonts, add style tags, make sure adding new components is as seamless as possible, takes even less time to input)	Third prototype allows us to develop a clean and final product that will incorporate the original aesthetics and designs (Inspect) (Some issues with button commands, will be fixed and styled differently in third prototype)	Look through the program and make sure all subsystems are up to the agreed upon standards. Merge all panels into one design to show clients (make sure all are included)	November 15th Duration: 2hr per subsection

Future test plan objectives: Communicating and getting feedback on ideas, checking feasibility, analyzing critical components of subsystems, reducing risk and uncertainty and lowering the number of tasks required to add a new element or edit data (time and task efficiency). Final prototype testing will be done the week of November 15th, once prototype 3 is complete. Changes to the design will be finalized before final project presentations and design day.

The reason for our second prototype testing was to ensure that each subsystem was bug free, with an easy to use layout and appropriate button size. We achieved this by analyzing each button from each subsystem. We start off with simple design features and in our later prototype testing, we will focus specifically on the appearances and visual aesthetic of the panels. In our third prototype, we will also merge everyone's individual panels into one, final panel on Dashboard. The purpose of the first prototype design was to test functionality of the subsystem (test). The purpose of the second prototype design was to analyze the layout and functionality of each subsystem (analyze). We improved the buttons from the first prototype so that they all perform the correct tasks as outlined in the design drawings (basic functions and commands). For our third prototype, we are planning on merging all the panels and we will actually test the commands using the Xpression set up in person.

Prototype 2 Test Results

Subsystem	**Easy to read fonts**	**Well-organized**	**Easy to use panel (simple user controls)**	**Easy to import new information**	**User friendly (good UX/UI)**
Crowd prompts	MOST	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES
Goalies matchup	MOST	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES
Standings	MOST	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES
Sponsor Bugs	MOST	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES
Birthdays	MOST	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES	1. YES 2. YES 3. YES 4. YES

When analyzing the panels, we determined that some fonts were hard to read when all the information is displayed. This can lead to issues with adding new information in the wrong sections, or being unable to read the labels/buttons. For our next prototype, we want to make the font size of each button larger to lower the risk of an easily avoidable mistake for the client (the challenge is to make the font size larger without the panels seeming too cluttered). We determined that all of our panels are well organized and easily customizable, and they are also well organized. This allows for the client to easily import new information as needed.

To determine if a panel had large enough font sizes and was well-organized, we ran each other's programs and discussed the layout as a team. If everybody was happy with the layout and where panel elements were located, we said it was well organized. For some of our panels, we thought it could be difficult to read what was on some buttons, especially in a time-sensitive environment, so larger buttons and controls is something we would like to implement in our next prototype.

When running each other’s programs, we would observe to see if there were any problems when trying to import or enter information. If everything went well, we said that it was easy to import information into that panel, and that it had a positive user interface.

We found that this round of prototype testing was more subjective (analyze) compared to the first round of prototype testing (where each member was given instructions on how to use the panel and it was a simple “yes” if it was practical, and a “no” if it was not). The results we collected testing this prototype show that each subsection is highly effective and easy to use. We fixed a couple issues with buttons not performing the correct commands and a couple things that made the program run less smoothly. Group members gave feedback after they observed each subsystem, and this was a good way to gather feedback.

We do have to work more on the layout of each panel and making sure that they integrate with each other seamlessly in each future phase in the prototype testing. We

will include specific changes to the layout and general appearance of the full design before the next prototype test date, so that group members can see the changes and make more comments that will benefit us as a group, and the client when we present our ideas on Design Day. We found that by holding group meetings where we discuss each subsystem together (and talk about pros/cons of specific aspects), we can gather feedback that can be used to improve the subsystems to create our third (and final), perfected prototype.

Note: No changes were made to the cost plan.
Initial Cost Plan and Estimate:

Material/Hardware/Software	Cost
Dashboard	$0
Total Cost	$0

Prototype 3 Test Plan

Test ID	***Test Objective (Why)***	***Description of Prototype used and of Basic Test Method (What)***	***Description of Results to be Recorded and how these results will be used (How)***	***Estimated Test duration and planned start date (When)***
002	Improve Aesthetics and Finalization of subsystems	Third prototype allows us to develop a clean and final product that will incorporate the original aesthetics and designs (Inspect)	Look through the program and make sure all subsystems are up to the agreed upon standards.	November 21st Duration: 2hr per subsection

Link to google drive folder containing subsystem prototype screenshots (2nd prototype)

Objective:

Develop your second prototype and devise a test plan for your third. Get customer feedback on your prototype.

Instructions:

1. Develop a prototype which will be used to achieve the objectives your team has set out in the plan created in the last deliverable (i.e. you need to answer the "why", "what" and "when" of prototyping).
    1. Remember: a prototype is not normal work on your project, it is something that has a smaller, targeted objective with specific tests and measurable results.
2. An analytical, numerical or experimental model should also be included.
3. Carefully document your prototyping test plan, analysis and your results (including detailed images of your prototype).
4. You must gather feedback and comments on your ideas and prototype from potential clients/users that you have sought out and identified on your own.
5. If applicable, update your target specifications, detailed design and BOM after tests are completed and analyzed.
6. Finally, teams will outline a prototyping test plan based on the template provided in "Lecture 11 – Prototyping Test Plan" to prepare to build the second prototype in the next deliverable.
    1. Typical objectives include: communicating and getting feedback for ideas, verifying feasibility, analysing critical subsystems or system integration or reducing risk and uncertainty.
    2. You must also define a stopping criteria which will allow you to end the test once you are satisfied that you have achieved your testing objectives.
    3. Be very clear about what you are trying to measure and define an acceptable fidelity based on the objectives of your prototype. See https://wiki.makerepo.com/wiki/Design_for_manufacturing.

Since this will be your team's second prototype, your justifications and reasoning for this prototype should include a short explanation of your results from your previous prototype and how this second prototype continues the development of your solution. This second prototype should be of a **critical** (or *the* most critical) subsystem, in order to ensure that your design will work (keeping in mind the total course budget of $100 or 50$). Get creative in order to improve your results.

Again, it is strongly recommended that you start early while keeping in mind that this prototype can be integrated into a more comprehensive prototype later and that you will have twice as much time for your final prototype and another week after that to create the demonstration prototype for Design Day.

Task Plan Update:

1. Update your Wrike task boards to include any changes in estimated task duration, missing tasks, task responsibilities, milestones, or dependencies, based on your better understanding of the project or based on feedback that you have received from your PM/TA.
2. Include more detailed sub-tasks for the tasks that will need to be completed over the next few weeks.
    - *Important note*: It should be possible for ONE person to complete each identified task or sub-task in the allotted time. The allotted time should also be *reasonable*, based on the task owner's availability. Everyone should be doing their fair share of the work.
3. Verify and update the task start dates and end dates for each task, based on your project progress.
4. Ensure that you have taken into account each team member's *actual* availability over the next two weeks, as well as significant events, such as particularly high course loads, exams or travel, which might be going to limit actual project work progress.
5. For *each* person in your group, it should be possible to determine:
    - What was completed last week (i.e. "**Completed**" tasks),
    - What will be done next (i.e. "**In Progress**" tasks)
    - If tasks are going to be put "**On Hold**" or "**Cancelled**" altogether
6. Any and all group "Issues" should be discussed and dealt with, ideally with the assistance of your Project Manager (PM). This should happen during **each** of your lab sessions or can happen earlier, using your defined communication methods. As already explained, it is essential to keep your PM/TA "*in the loop*" throughout the term. It is usually *not* a good idea to ignore conflicts between team members. Instead, you should deal with them in a constructive way.