University of Ottawa | Université d'Ottawa

GNG1103 | Fall 2021

uOttawa

GNG1103

Engineering Design

Course Professor: Dr. Rubina Lakhani

Deliverable E

Project Schedule and Cost

Presented to: Abhilasha

Prepared by Group # 11

Team Members:

Family Name, Name:	Student ID:
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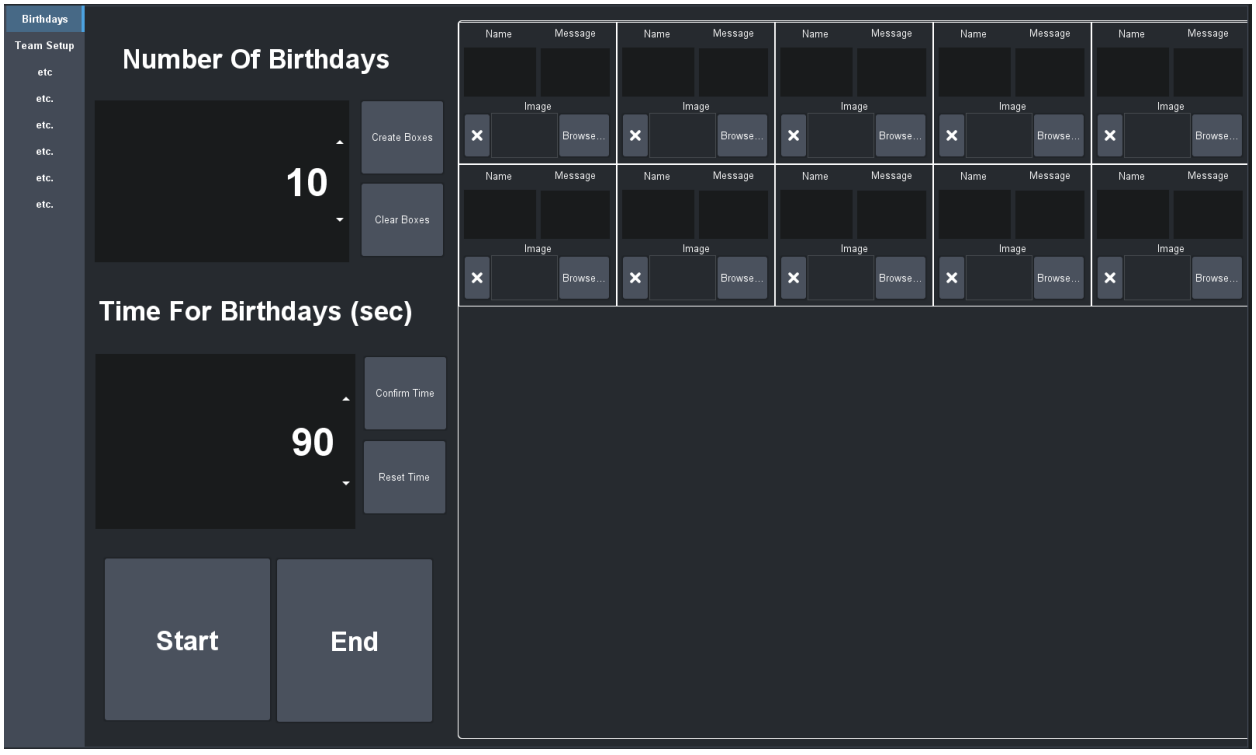
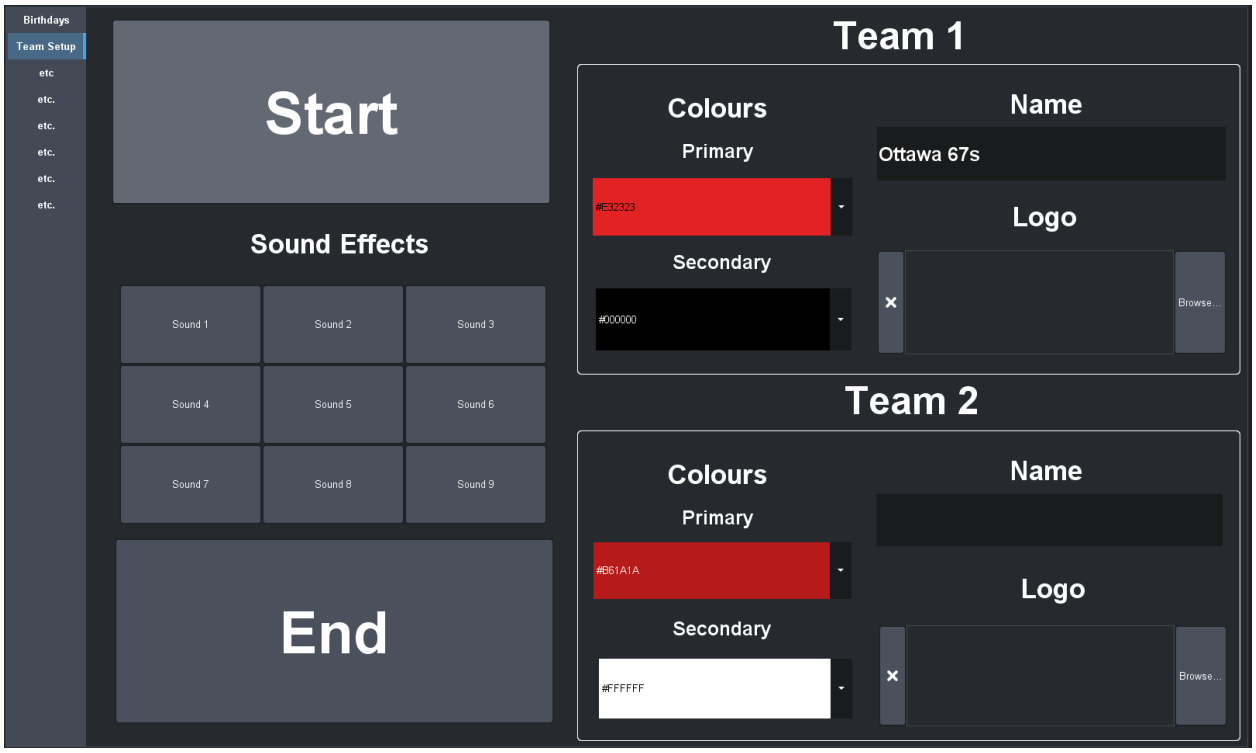
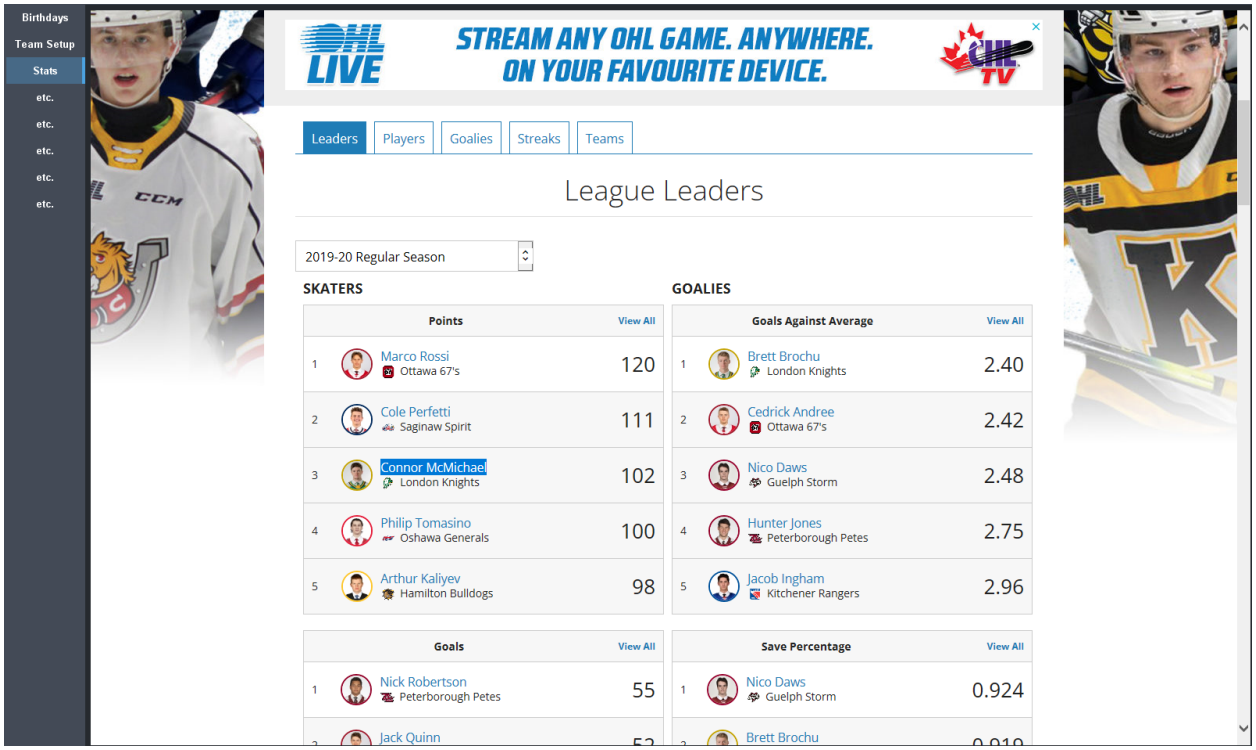
Date: October 21, 2021

Clear and detailed design drawing





Client also asked for a way to import stats into the dashboard to avoid operator leaving and manually gathering stats from a website. So a tab on the panel was designated towards the statistics. It imports the OHL website into the dashboard for easy searching and usage.



List of Required Materials

- DashBoard
- Xpression
- Machine running operating System Linux, Windows 7 or later.
- Stats, and team logos.
- Computer (Mouse, Keyboard, Screen).
- Display screen.
- Birthday Pictures, names, messages.
- LAN cable? HDMI?

Prototype Schedule and Testing Solution

The schedule of completion of each of the different prototypes will coincide with the due dates posted on Brightspace, but more specifically the first prototype will have our original panel design plan. In order to accomplish this by the due date specified on Brightspace however, we need to be able to get in touch with the Ross Video team about their typical graphics, animations, sound effects, etc in order to find out what specifically we need to program into Dashboard to finalize the first prototype.

After the client has evaluated this first iteration and we have received feedback on our design, we will take into account Ross' recommendations on how to make the system more

straightforward to use for the operators, incorporate these recommendations into our panel design, and present the second prototype to the client.

This will continue, with each prototype being revised and re-presented on schedule with the deliverable due dates until either we run out of time or we finalize a functionally perfect design. For even the first prototype to be possible however, several key things need to be done:

a. List of all the tasks

Task	Duration/Who
Deliverable E	1. Firstly, we have to ascertain the specific graphic design that we need to program (this is a task that will preferably be completed in person so as to minimize message turnaround time) (this step will hopefully be completed before reading week, within one to two days of making the graphics request during the Thursday lab period). Whoever is in person for this lab session will attend to this matter. 2. Secondly, every team member should familiarize themselves with Dashboard and it's inner workings, both through successfully completing the procedures for both labs concerning Dashboard but also the various tutorials and resources on Brightspace (this should be done over reading week, hopefully taking no more than 2 full days of work, the dates of occurrence of which depend on each individual team member's availability, but hopefully done before the 28th of October). This is every individual's responsibility. 3. Thirdly, Jonathan has already been active in designing the layout of the Dashboard panel, and the other team members, with their newly acquired knowledge about the software, will begin assigning tasks and functionality to the buttons in order to create a functioning prototype (this will hopefully be done over the course of 2 group sessions, totalling approximately 6 hours of work together). In order to disperse an even workload, every person will contribute in some way to the final panel design. 4. Presentation of the 1st prototype to the client will occur on November 4th, thereby beginning the iterative stage of the project.
Deliverable F	1. Develop a prototype (3h) Everyone 2. Analysis of critical components or systems (40 mins) Eli 3. Document prototyping test plan, analysis and results (1h30) Laura 4. Gather feedback and comments on ideas and prototype from potential clients/users (2h) Justine 5. Update target specifications, detailed design and BOM after tests are completed and analyzed, if applicable. (40 mins) Faraj

	6. Outline a prototyping test plan (1h30) Jonathan
Deliverable G	1. Develop a prototype (3h) Everyone 2. Include an analytical, numerical or experimental model (2h) Jonathan 3. Document prototyping test plan, analysis and results (1h30) Laura 4. Gather feedback and comments on ideas and prototype from potential clients/users (2h) Faraj & Eli 5. Update target specifications, detailed design and BOM after tests are completed and analyzed, if applicable. (40 mins) Justine
Deliverable H	1. Develop a prototype (3h) Everyone 2. Document prototyping test plan, analysis and results (1h30) Justine 3. Gather feedback and comments on ideas and prototype from potential clients/users (2h) Laura & Jonathan 4. Update target specifications, detailed design and BOM after tests are completed and analyzed, if applicable. (40 mins) Faraj
Deliverable I	1. Prepare a 2 minutes pitch (30 mins) Everyone 2. Provide visual stimuli (30 mins) Everyone (team work)
Deliverable J	1. Summary of the project (2h30) Everyone 2. Include solution options and chosen concept (why/how) (30 mins) Laura 3. Include decisions made (15 mins) Faraj 4. Include Trials and tribulations, lessons learned, future work, etc. (1h30) Jonathan, Justine & Eli
Deliverable K	1. Document the work done (2h30) Everyone 2. Include material that would be a ‘gotcha’ (40 mins) Justine & Jonathan 3. Include images and diagrams needed (30 mins) Laura, Faraj & Eli

Risk	Contingency Plan
Not finishing on time	In order to make sure that we finish all of our tasks on time, we will make sure to do more frequent checking in with each other as to the progress of each of our respective tasks in each deliverable, and modifying our task plan and work dispersion to accommodate individual progress (within reason)
Lack of knowledge of Dashboard	To address this issue, not only will the members who are better at using Dashboard coach the less-adept, but also we will make sure to recognize our shortcomings ahead of time and make sure to take appropriate steps to correct them (ex. Making time in our busy schedules to train with Dashboard)

Lack of ability to see fan view	In order to combat this issue, we will talk not only to the client but also do some of our own research into softwares that can connect with Dashboard to display what the fans are seeing as a result of the panel animations
Losing the prototype	The risk of losing the prototype comes with working on a macbook, which is not powerful enough to guarantee the software not crashing. In order to address this, the important work on Dashboard will be saved on a laptop, where the probability of the system crashing (and thus work being lost) are lower.
Changes to the prototype not saved	In order to address this issue, many of the changes to the prototype (if they are in code) should be saved on a separate document as backup. In this case, any lost code can simply be replaced in the "source code" window of the concerned object, thereby making any edits relatively easy to remake, if necessary.

2. Product/cost spreadsheet

Product	Cost
Dashboard	$0
XPression Software	$0
Laptop	$0
Stats, and team logos	$0
Display screen	$0
Birthday Pictures, names, messages	$0
LAN cable	$14
HDMI	$15

3. List of equipment needed

None that is not already within the group's possession, such as a Laptop that operates Dashboard, the Dashboard software and other software/hardware components listed above.

Prototype Testing Plan- Team Setup & Fan Birthdays

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)*
1	Inputting data from external sources (For The Team Setup panel)	The client wishes to integrate data from the OHL statistics, which could tremendously aid the operator in easily inputting the valid information during the game. Thus, our objective is to ensure that the data inputted into Dashboard is inputted correctly and that the data is accurate to the current news.	To record the results and to make sure our test method is done correctly, it is important to go through various trial and error. In other words, each trial will be recorded to ensure that we do not repeat the same error. We will know that the results are correct once the data found in the Dashboard panel resembles exactly to the OHL Stats and that it switches simultaneously as statistics from the OHL site changes as well.	The input of data from external sources will be tested during the time frame of October 27th and November 4th.
2	Configurability of the data (For both panels)	It is important for the client to receive a panel that is fully configurable, so that the panel can be applied and used during any games, no matter what teams and players are playing. Thus, the team setup panel needs to be configurable to the	After completing the panel, this is when we test the configuarability. We test this by acting as the operator and changing the configurable information as if it were a game. Thus, not only do we need to test if the Dashboard panel effectively accepts configurable data, but we also need to test how easy it is to configure the data, such that the operator does not need to search for the information he/she needs, but rather can find it directly	The configurability of data will be tested during the time frame of October 27th and November 4th.

		operator, such that the primary and secondary colour of the teams playing can be changed and that the logo of each team can be modified as well. For the fan birthday panel, the information that needs to be configurable is the information of the fan who is projected on the main screen (name, age, picture). Most importantly, the information must be configurable especially for things that happened on the fly (e.g. a player that is injured, a fan that wants his/her birthday not projected on the main screen, etc.)	at his/her fingertips. Thus, we will know if our results are effective if these two guidelines are answered. More precisely, to ensure that the search for information is done quickly and effectively, we will time ourselves as we go through the operator's task. If each task takes less than 10 seconds, we can progress through the other tests, if not, we need to modify the panel further.	
3	The optimization of the layout of the panel (For both panels)	For an operator, it is important that the panel is designed with simplicity, such that he/she does not need to waste time looking for a specific button (which in turn could be very costly during a game- i.e. if there is an awkward downtime). Thus, the panel should be	Once again, we need to place ourselves in the operator's shoes and understand the importance of an optimized panel layout. We will know we reached the optimized panel design once we have reached the peak of our modifications (we cannot come up with any more modifications). To ensure that our modifications are not biased (that we are not too overly confident with our panel layout), we can ask our classmates or other people in	The optimization of the layout will be tested during the time frame of October 27th and November 4th.

		designed in a way where the placement of the buttons is relevant and easily accessible (i.e. the operator does not need to go from one side of the panel to the other for a consecutive task).	our entourage if the layout of the panel is cluttered or not (we will essentially conduct a survey). If 80% or more of the people we surveyed said 'no it is not cluttered', we can be satisfied with our panel layout. If it is below 80%, we must iterate the process.	
4	Engagement on the main screen	Hockey is known for its fan engagement. Thus, it is important that not only satisfy the operator, but also satisfy the fans who are eager to watch the game. In other words, it is important for the main screen to not only translate effectively what the panel design is implying, but also be done in a manner that is engaging. The main screen cannot be cluttered with information, and the design cannot be too simplistic in fear of boring the fans. Thus, it is important to find the perfect balance between the design and the engagement of the fans.	Depending on if we have the chance to test our panel design on the main screen (for example, using a fan view of the panel), we should put ourselves in the fans' shoes and essentially determine and define what aspects of the main screen could engage the fans and what does not. These results will be recorded and translated to the panel design, so that the operator can effectively answer to the fans' engagement. More precisely, we will need to use external information that defines what essentially makes a hockey game engaging; if our panel design (and the information implemented in the panel design) conforms to these functional and non-functional requirements, then the results are satisfied.	This test will be done last, during prototype phase III, the date is within the time range of November 11th and November 18th.