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GNG1103 | Fall 2021



uOttawa

GNG1103

Engineering Design

Course Professor: Dr. Rubina Lakhani

Deliverable D

Conceptual Design

Presented to: Abhilasha

Prepared by Group # 11

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Introduction

“Ross Video is looking to add multiple functions to their DashBoard, however two are of top priority. One to display personalized fan birthday messages, and the other is to display team set up. The functions will include highly editable designs, simple and intuitive panels that can be operated easily, as well as new and engaging content that can grab the attention of the fans.”

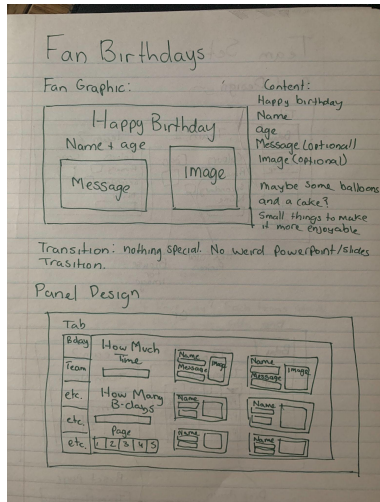
The team has generated preliminary conceptual design ideas that answer the interpreted needs of the user based on the problem statement defined above. Based on subsequent analysis and evaluations, the ideas will be combined into one global conceptual design idea that contains three subsystems: team setup graphics and transitions, panel design and fan birthday experience. This brainstorming process, alongside the conclusion on which conceptual designs are the most optimal, will be shared with our client during the next meeting. When we share our ideas, we will listen to our client’s verbal and non-verbal responses while empathizing with them. We will try to understand what they like and do not like about the design and dig deeper.

Aspects Included in the Subsystems:

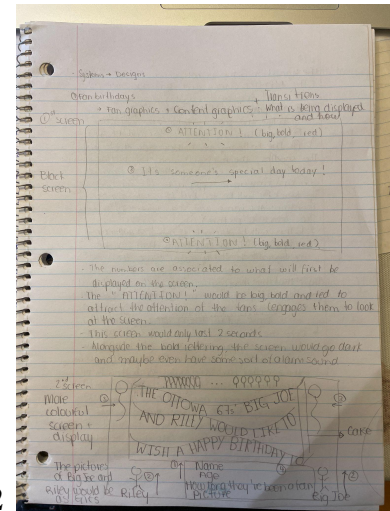
Based on the benchmarking and prioritized needs defined in previous deliverables, each team member will come up with design ideas on their own to increase creativity. We will then meet again and present our ideas to each other and try to combine the best thoughts for the best ideal conceptual designs. Every design should take into account the functional requirements and non-functional requirements that apply to their ideas. For example, when coming up with an idea for a panel design, they should come up with a design that fulfills all of the function requirements that we set in the target specifications stage.

- **Fan Birthdays Should:**
 - Include a time limit for the total amount of time allocated for birthday messages.
 - The ability to input a personalized birthday message, a picture and a name.
- **Team Set Up:**
 - Team logos, primary and secondary colours.
 - The ability for the information displayed to be configurable for different teams.

Fan Birthdays Brainstorm Ideas:



1



2

Pros:

- Simplistic design that is easy to comprehend for both the fans (who are viewing the screen) and the operator.
- The panel design is not cluttered with useless information and only contains the essentials for the operators.
- Easily configurable information and the fan graphics are readily organized for the viewers.

Cons:

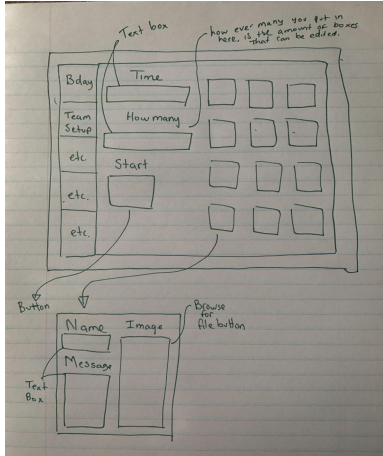
- The fan graphics are not engaging enough to the fans.
- Although it is good to have a simple design, a *too* simplistic design would bore the fans.
- The graphics are too basic.

Pros:

- Engaging content, the first screen "Attention!" will grab the fans attention and make people feel special when everyone is looking.
- The design idea is simplistic enough to the point it is easily configurable.
- The fans will feel a connection with their team wishing them a happy birthday rather than a basic birthday message.

Cons:

- The team's message is a bit long, reading it might take away from the fan's dedicated time.
- The large size of the cake takes away from the spot dedicated for the birthday message.



3

The transition between both screens (the Attention screen and Birthday screen)

- First the screen will change colors
- The date with the birthday will pop up from below the screen (below the buttons)
- The team statistics (goals and biggie)
- The ballboys on either side of the cat
- The cards, the marshall and the balloons will be displayed on left (so that there could be any still potential happen on the screen)
- The block will be the last thing to appear (contains the name, age, how long they've been a fan and a picture)
- This will be the only thing that will change (containing the only thing that can be controlled by the operator since the information spontaneously changes)
- Time that the information will be displayed will also be controlled by the operator (large text birthdays required)
- Time slot for each birthday
- Once the time is chosen and that birthday info is ready to be inputted into a section, the birthday will not be a clickable instead of the operator having to press on button to change the information displayed on the screen
- Then the operator does not need to manually change the information during the game
- Then the operator would have to input all the information before the time to before displaying the fan birthdays on the screen

4

Pros:

- Simple panel design that includes a way to edit everything that might need to be edited.
- Designed to be easy to use.
- Only includes what is necessary.

Cons:

- It might get hard to see everything if a large number of birthdays get added.
- Only allows for a small amount of customization.
- It might be difficult to automate the creation of the correct amount of birthday boxes, and the time that they each get shown for.

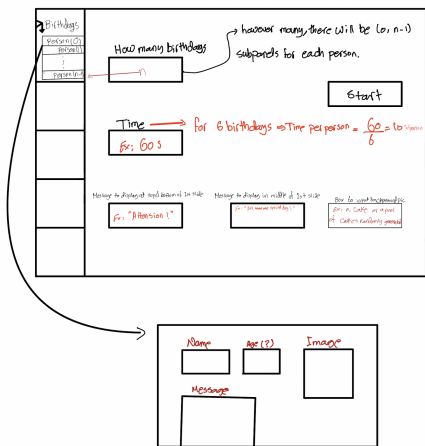
A continuation of the picture above, specifying more description on what the conceptual design should look like for fan birthdays.

Pros:

- The operator does not need to manually change the information during the game (he/she would only need to input the total time slot for the birthdays and the number of birthdays and the software will take care of the rest).

Cons:

- Inversely, the operator would have to input all the information before the start of the game or before displaying the fan birthdays (a bit of manual work required).



5

Display:
 • Slide show: First slide shows
 Message to display at top of bottom of 2nd slide
 Message to display in middle of 1st slide
 • Then a slide show with name/message/picture/age with birthday cakes or one cake.

6

Pros:

- Simple design, easy to understand what is required

Pros:

- Design is personal to the fans, thereby making the fan experience better

- Has only what is needed.

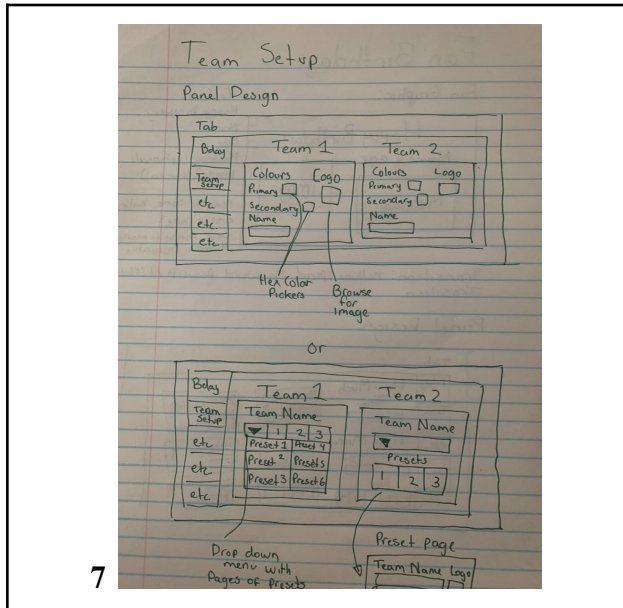
Cons:

- Might be too simple, not allowing for a lot of customization
- Might also get hard to read everything when a large number of birthdays are inputted.

Cons:

- Could run the risk of not being editable, thereby lowering the versatility of the product (this is particularly important for the fan birthday feature since the fans might have qualms about privacy last minute)

Team Setup Brainstorm Ideas:

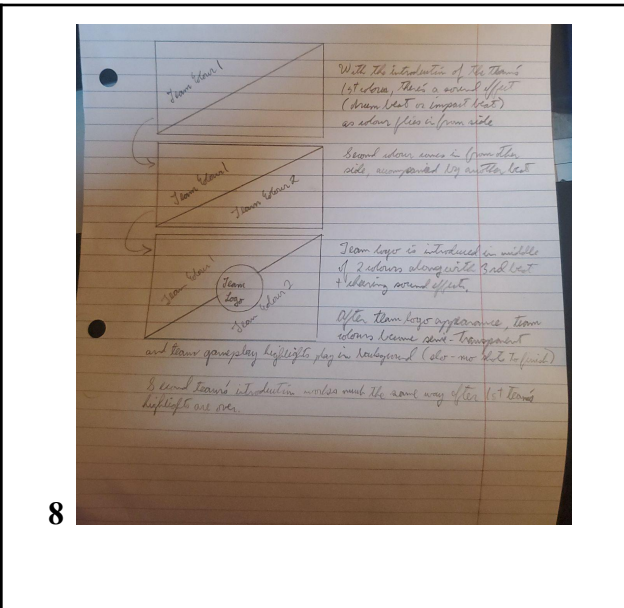


Pros:

- This panel design is easy to understand, adding to the ease of use of the final product

Cons:

- The option to include presets in the team setup names without the ability to type in a team name decreases the product's versatility

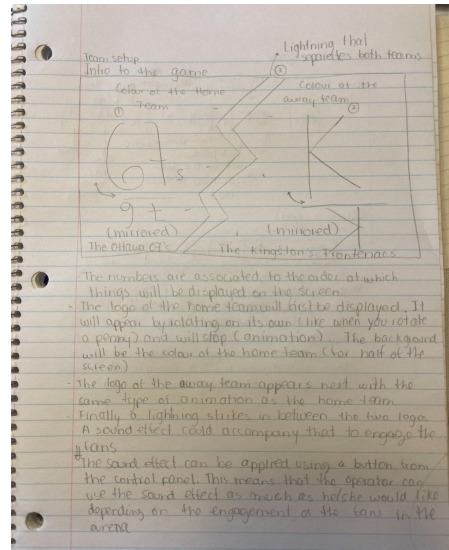


Pros:

- Engaging graphic design, simple to the audience isn't confused

Cons:

- Would be difficult to program an entirely new setup in the event of a team swap, thereby decreasing the versatility aspect for the engineers



9

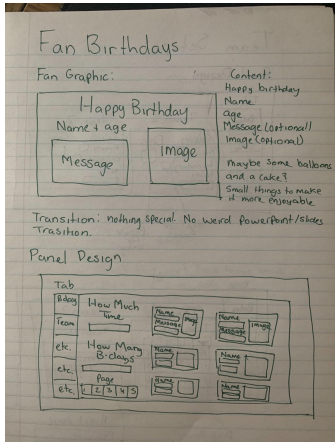
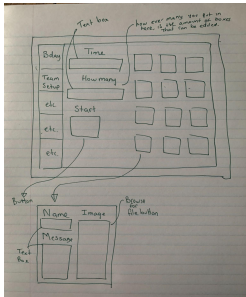
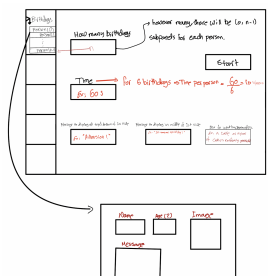
Pros:

- Engaging design for the fans, good contrast between teams to increase fan involvement (i.e. cheering for respective teams)
- The lightning bolt and accompanying sound effects would also help with the fan experience since the start of the game will already be engaging and thus, foreshadowing what the rest of the game would look like.

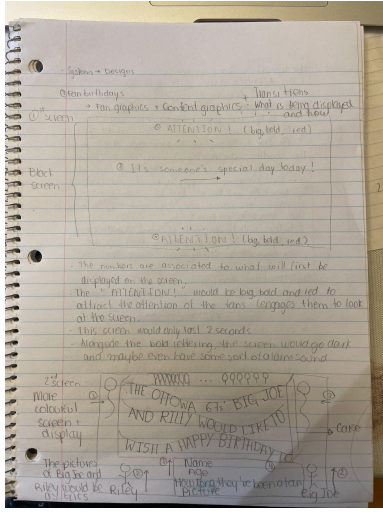
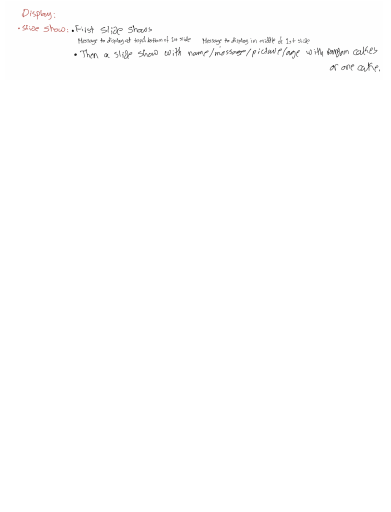
Cons

- Possibly difficult to design and program; although having a lot of graphics and transitions would result in a great engagement of the fans, the question remains if it is feasible considering the time constraints of the project.

Fan Birthday Panels

Fan Birthday Panels			
Specifications			
Easy to learn	1	3	2
Versatile	3	2	1
Editable	2	2	2
Total	6	7	5

Fan Birthday Designs

Fan Birthday Designs		
Specifications		
Engaging	3	2
Total	3	2

Team Setup Panels

<p>Specifications/Team Setup Panel Design</p>		
<p>Easy to learn</p>	<p>2</p>	<p>3</p>
<p>Versatile</p>	<p>2</p>	<p>3</p>
<p>Editable</p>	<p>3</p>	<p>2</p>
<p>Total</p>	<p>7</p>	<p>8</p>

Team Setup Designs

<p>Specifications</p>		
<p>Engaging</p>	<p>3</p>	<p>3</p>
<p>Total</p>	<p>3</p>	<p>3</p>

Collectively Decided Idea Culmination:

A combination of a number of the different subsystems brainstorming ideas were combined into the final 3 subsystem ideas. Firstly:

Team Setup Graphics and Transitions:

A combination of idea 8 and idea 9 was used. The idea is that once the teams have each introduced their two principle colours and logo (along with semi-visible highlights in the background for each respective team and the appropriate sound effects (as described in the drawing)), the two teams with their logos would come into the screen from either side and meet in the middle in a blinding lightning bolt. Not only is this design entertaining and engaging for the fans, but it is also personal and unique to each team. This design therefore satisfies the need to entertain the fans, and also offers all of the information the team setup is meant to convey in a simple setup.

Fan Birthdays Fan Experience:

It was decided that we would use a combination of ideas 2 and 4 in order to make the experience personal and enjoyable for the fans.

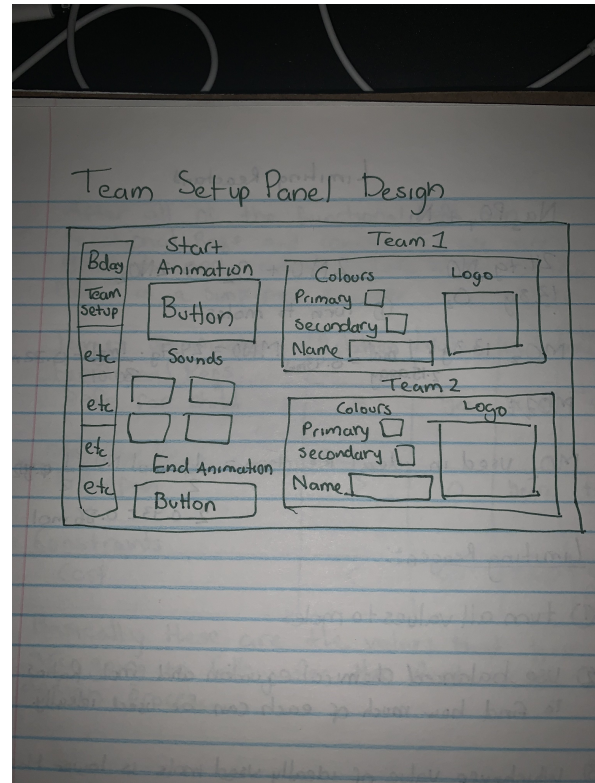
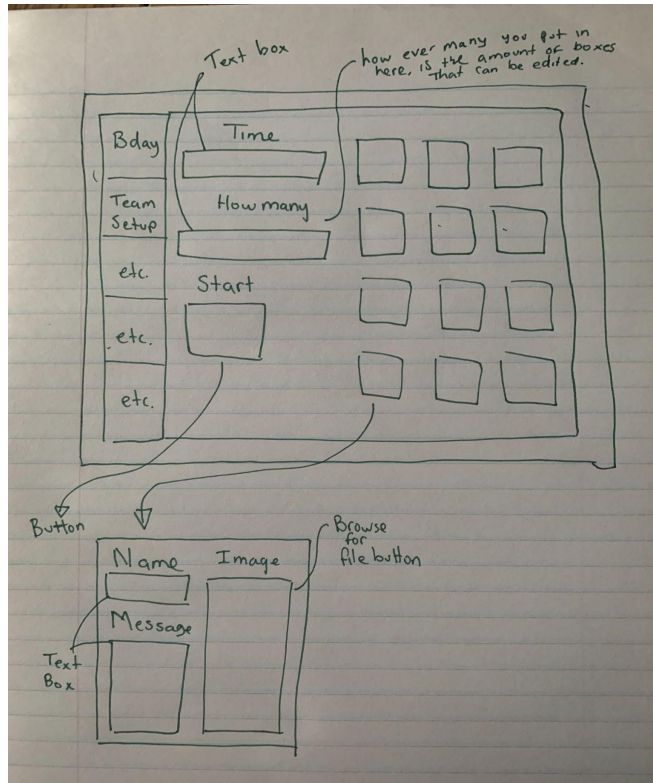
Starting with the whole jumbo screen going dark with a message appearing on the screen: “**Attention, Attention!** We have an important announcement to make!”. This is done to draw the attention of the fans to the screen as it wouldn’t be something that they would expect.

This would then be preceded by a change of the screen at which point it would say “The Ottawa 67s would like to wish a happy birthday to:..”.

At this point the slideshow showing all of the birthdays would begin, having each slide showing up for an equal amount of time as a function of the number of birthdays and the full time available for the birthday message displays. The slide will also include GIFs and small stickers of balloons, confetti, etc in order to lend a festive atmosphere to the slide, while also remaining small enough so as not to take the attention away from the fan name displayed or obstructing the birthday message.

Each slide would be able to include a name, age, short message (1-2 sentences), and an image, but could be as little as just a name. Our goal is to make it feel personal to the people who are having their birthdays displayed, while also making sure that it is still functional and easily editable.

Our Chosen Panel Designs:



Panel Design:

Two different tabs would be used to control the fan birthdays and the team setup respectively.

In the birthday tab there will be a text box to input the amount of time all of the birthdays added together are going to be played for, and another textbox for the amount of birthdays. Whatever amount is entered into this box, the system will automatically add that number of editable birthday boxes. There will also be a start button which will begin the birthday slideshow. Each editable birthday box will include a place to enter the name of the person, a short message (1-2 sentences), and a place to select an image. The whole point of this was to automate as much as could be done, and to keep it as simple as possible to edit.

In the team setup tab: there would be a button used to start the pre-programmed animation. This animation includes both team colours coming on screen along with their logos, and a video of highlights from the team's previous games in the background. There will be two boxes, one for each of the teams, that will allow the operator to change the team name, team colours, and the logo. There will be additional buttons for extra sound effects to be played during the team setup, and a button to end the animation so that the screen can go back to showing what it was before.

Conclusion:

The final conceptual designs established are achievable. The conceptual designs were based on our problem statement, benchmarking, non/functional requirements, user needs and constraints. The individual design ideas were shared and combined for better satisfaction of the project requirements, thereby making a superior product.