Web Application

# Introduction

I have been asked by my employer to develop a prototype web application, they have developed a database schema and provided it to me in order to integrate it into the web application. I will have to design and implement some user interfaces in order to display data about ‘ESport Championship’, these interfaces will have control to add, edit, and delete data from the database. I will create several pages for my application in order to display specific data from the database, this includes a player’s page, a game’s page, and a team’s page.

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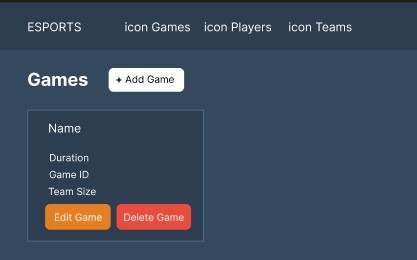
# Planning

## Choosing a colour scheme

If I wanted my website to stand out from others, I needed to start with finding a good colour scheme that I could follow throughout my website. After researching colour schemes and trying to figure out how to create/find a colour scheme that would fit my application, I came across a website called “[Flat UI Colours](https://flatuicolors.com/)” that contains various colours schemes, of which I selected “Flat UI Palette v1”, containing colours that would allow me to create an intuitive website where the colours of items would be meaningful to users. I believe these colours would have meaning to the user due to the gestalt principle, similarity. This principle implies that your eyes build relationships between similar elements, such as colours in this case. This information was also backed up by (Soegaard, 2022) in the quote “The human eye tends to build a relationship between similar elements within a design. Similarity can be achieved using basic elements such as shapes, colours, and size.” I kept the colours for elements consistent throughout the creation of my application in order to not deteriorate the user experience.

## Wireframes

In order to start creating my web application, I needed a plan that I could follow. For my plan, I created wireframes in order to design an initial layout for the application. They are a basic concept that allow you to easily create a base design for your website, (Hannah, 2022) agrees with this in the quote “They may seem basic enough to be overlooked, but wireframes will enable you to get vital user, client, and stakeholder approval when it comes to the layout and navigation of the product’s key pages.”. While I was creating the wireframes, I integrated the colour scheme I chose previously so that I was able to view what the colour scheme looked like in practice, doing this allowed me to conclude that I will continue to use the colour scheme throughout the project. I created a wireframe for all the pages on my website, including the add, edit, and delete forms.



The above is the wireframe that I created for the games page, both the player’s and team’s wireframes follow a similar format to the game’s wireframe. The wireframe shows how each row of data from the database will display inside a card alongside buttons that will allow you to modify data within the database. Also included in this wireframe is my navigation bar, in development the ‘icon’ placeholders will be replaced with actual icons in order to utilize the dual coding theory, which is the idea of supporting text with images in order to support understanding of the buttons use. This has been supported by (Tes, n.d.) in “Dual coding involves presenting information in multiple different formats - for example in writing and in pictures - to support pupils’ understanding.”

# Functionality

## Adding/removing data

I needed to make adding and removing data from the website as intuitive as possible to make it an excellent user experience. On each respective page for games, players, and teams, I created a ‘card’ which would display for each entry in the database. The cards are then shown in an alphabetical list, which I believe would help the user to easily identify the game that they are looking for. I believe this to be true due to the gestalt principal ‘continuity’, “Continuity is that our brains tend to see objects as continuous or smooth rather than disjointed or discontinuous. A great example of this phenomenon is a movie. Movies are just millions of pictures put together and flipped through at a fast rate.” (Brown, 2020). I have created separate forms for each separate add/remove function on the webpage, the forms are centralized on the page with many including validation rules to help the user input the correct data, as well as this the forms have been kept simplistic in order to not confuse the reader. I also drastically changed the layout of the forms towards the end of the project in order to make them more suitable, as the old form was in the top left corner of the screen and had lots of white space. The old version of the form is displayed in Figure 1, and the newest version of the form is displayed in Figure 2.

Graphical user interface

Description automatically generatedGraphical user interface, application

Description automatically generated

Figure 1

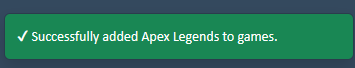
Figure 2

After making these changes and using the website myself, I found that it felt nicer to add things and navigate through the new forms.

## Alert Messages

I have created alert messages upon submitting forms in order to inform the user whether it has been successful or not. The alert message is a toast that appears in the bottom right of the user’s screen, the same location as notifications on every windows device in order to use something that the user is already used to. The colour of the alert will either be green or red indicating if it was successful or not, as well as this it will display text explaining what the error was so that the user can solve it, or if it was successful the message would display what data was added to the database.

A picture containing text

Description automatically generated

# Research

## Usability Survey

In order to retrieve primary research for my project I conducted a usability survey, I had 6 different users complete the survey after completing the same set of tasks on my website. I read through all the feedback and adjusted the website based on what I approved off, for example, centralising the input forms further was one feedback from a user, which I then implemented into my website and wrote about previously. Another change I made was increasing the contrast of the add button so that it is more visible in each individual page as well as slightly increasing the size of the button. The user feedback gave me a better insight into my web application that allowed me to make changes I otherwise wouldn’t have seen. The images below show the old add button, and the new add button. After making the change the button is much more identifiable and harder to miss.

Icon

Description automatically generatedText

Description automatically generated

# Conclusion

In conclusion, I would say that the creation of my website went extremely well, and I have fulfilled all the original requirements of the employer. I have created a functioning web application that can add data to a database and display it back to the user, with options to edit and delete the data. I believe my web application to have an intuitive design where each page quickly flows into another, with proper confirmation messages upon the user completing an action, so that they can verify whether the action has or hasn’t completed successfully. I also believe that the colour scheme I have chosen is appealing to the eye and helps users understand what each button does from the colour alone. I did also get some of the optional features implemented, such as the ability to view teams, although that is as far as I got with the optional tasks and did not manage to complete specific players for teams.

# References

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