**1. Introduction**

**About my application**

**Small breakdown about the application**

The product created was a music application that allows the user to select playlists based on emotions.

**What makes it unique**

**Choosing a Framework**

**Speak about ionic and any other framework.**

**Using PhoneGap to allow distribution on IOS and Android as apposed to a native app.**

**2. Research**

**Setting up PhoneGap**

**PhoneGap desktop application**

The PhoneGap desktop application provides a simpler alternative to those who are not confident working on the command line. It is a visual user interface that requires simple tasks to get your first PhoneGap application setup and running. When initially testing my PhoneGap app with the desktop application the setup was fast and simple. However not long after the setup, the application continuously crashed and irregularly updated when prompted to. This is because the application is still in its beta stages.

**PhoneGap CLI**

The command line interface (CLI) states that it is the recommended platform to use if you are comfortable using the command line. Currently the CLI has additional features for building, running and packaging your application that are not yet available with the desktop application. I was not too familiar with the command line prior to this project. However the step-by-step install instructions are easy to follow and once it is setup, you maintain it with a single line of writing each time you begin working. I decided to continue to use the CLI because it took less processing power to run, it is faster to use, it is a good platform to learn and as stated before you gain additional features not available on the desktop application.

**Psychology of colours**

E-mu, which stands for emotional music, is a mobile music application that focuses on the users emotions. When designing the colour scheme for the application it was apparent that colours are widely used to portray emotion. A colours meaning, interpretation and perception are widely varied between different cultures. This makes it difficult to ensure every individual will feel the same emotion when shown a certain colour. The psychology behind colours can be very subjective, however there are proven links to colours and emotions that will be shared among a large percentage of humans. [[1]](#footnote-1)

When selecting the colours for E-mu’s emotion playlists it was important to try and cater for the largest audience possible, this meant finding widely acknowledged emotional colours. By combining colours that across cultures represent the same emotion, can improve the emotional connection towards a colour for a greater number of users.[[2]](#footnote-2)

**User tests**

**Small amount of information about the user test (mainly the results and recommendations) and then link to the appendix.**

**3. Design**

**Colour scheme**

**Angry**

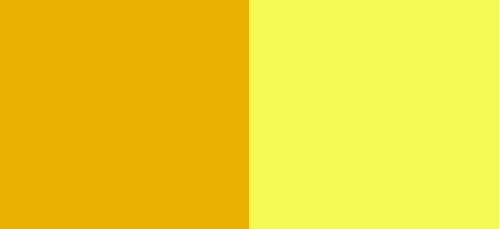
The most common colours used globally to represent anger are: red, black and yellow. In the East, red is used to represent happiness and power, black is the colour commonly used to represent anger and evilness.[[3]](#footnote-3) The combination of red and yellow are more globally recognised as anger.



The usage of black/red and vibrant red together in a radial gradient creates a dark and menacing background.

**Happy**

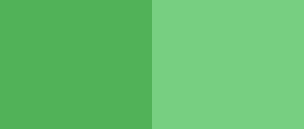
White, yellow and orange are the most commonly used colours to represent the emotion happiness. In the East, white represents death and sadness, whereas orange signifies happiness.

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The combination of yellow and orange in a radial gradient makes this background seem calm and joyful.

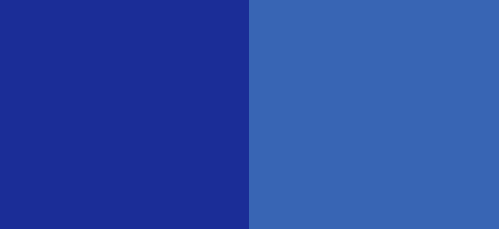
**Calm**

**WRITE ABOUT THE COLOURS FOR BEING CALM**

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**Sad**

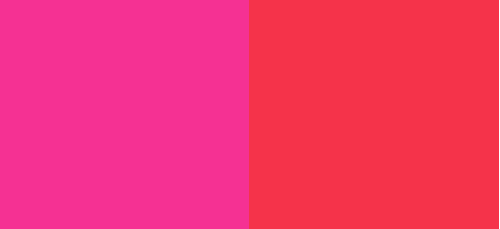
The colours most frequently used for this emotion are blue, purple and white. In the East, blue is used to represent life and immortality. It also is commonly regarded as a feminine colour. Purple is used to signify sorrow and mourning.

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The mix of dark blue and light blue in a radial gradient gives the feeling of sombreness and being alone.

**Loving**

Pink and red are quite globally regarded as colours to represent passion and love. In South Africa, the colour red is used to signify mourning. [[4]](#footnote-4)

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The combination of red and pink in this radial gradient gives the background a warm and loving feeling.

**Typography**

When choosing the fonts for each emotion in my application, it was important to portray each emotion through the corresponding typography. Once the font was selected it would then be converted into a web-safe font using font squirrels web-font generator [[5]](#footnote-5). The web-font generator allows you to convert standard font file types (.ttf, .eot, .woff) into web-safe fonts and produces the relevant CSS code block to allow for easy use. You must ensure the fonts used are eligible to be converted before doing so.

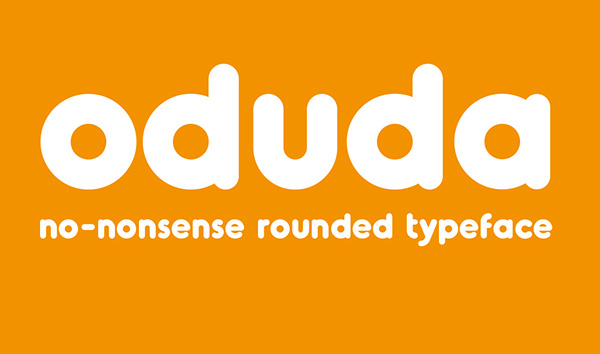
**Anger**

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Helv children was the font used for the emotion anger. It is a large, bold and aggressive font that when combined with the deep red coloured background conveyed a feeling of anger.

**Joy**

Oduda is the font used for the emotion joy. Oduda is a large, bold, rounded and friendly font that gives the user a feeling of joy when complementing and yellow background.

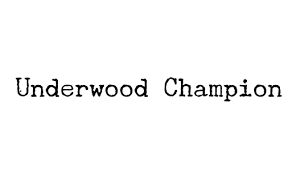
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**Relaxation**

Moon is the font used for the emotion relaxation. Moon is a clean, thin and simplistic typography that flows well and allows the user to feel comfortable and calm with the security of not having any intrusive text.

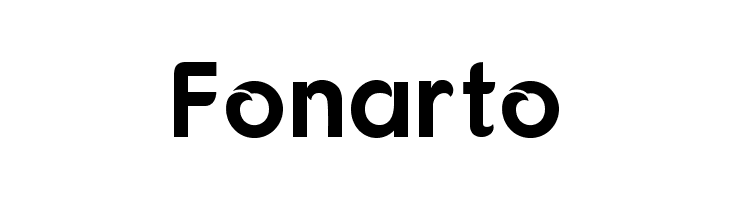
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**Sadness**

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Underwood champion is the text used for the emotion sadness. It is a

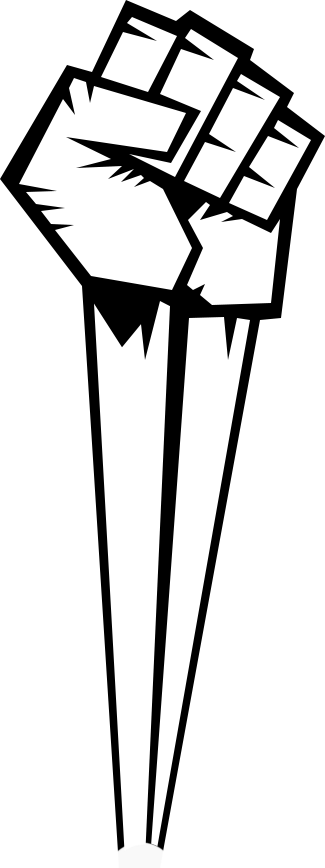
**Love**

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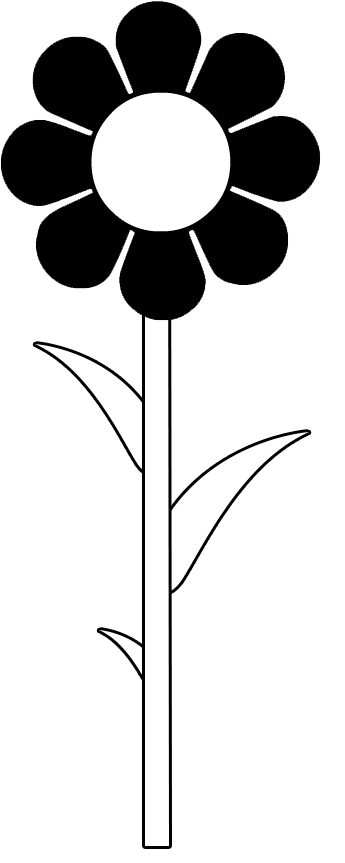
Fonarto is the text used for the emotion sadness.

**Icons**

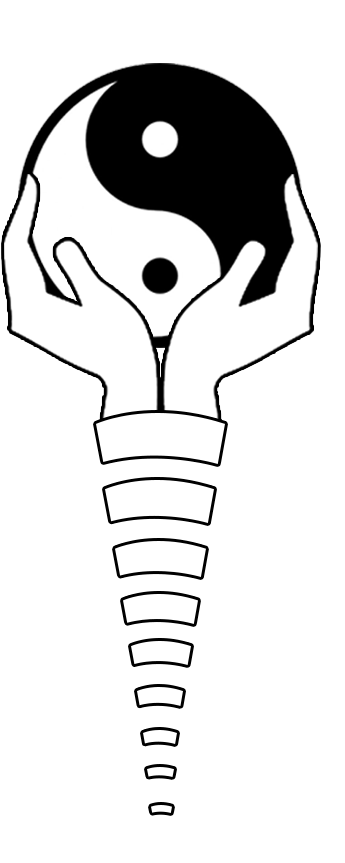
**Anger**

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**Joy**

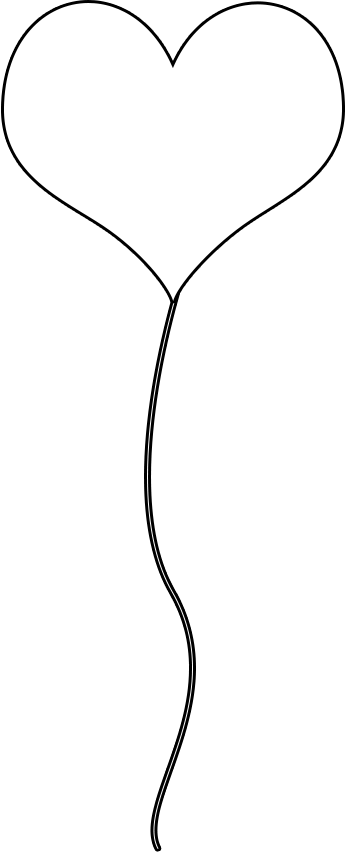
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**Relaxation**

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**Sadness**

**Love**

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**4. Development**

**Debugging the application in real-time**

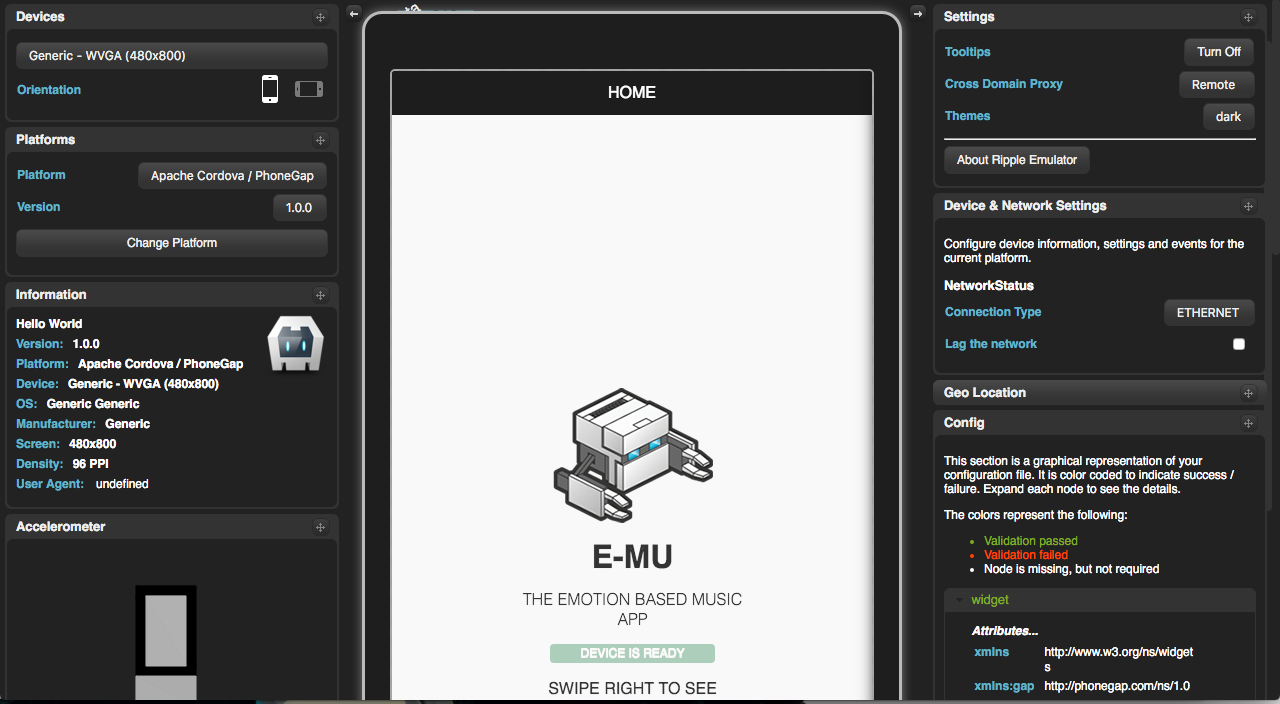
**Weinre**

Weinre was the tool chosen to debug the mobile application. It is used as a remote web inspector to allow the developer to remotely debug a mobile app through their computer browser.[[6]](#footnote-6) Unfortunately this method of debugging was not integrated with my mobile application well enough. It did not have a virtual example of my application, therefor I had to solely test on the mobile device and check the browser console logs. It did not allow stepping through with the source files.

**STARTED USING IT AGAIN TO PROPERLY DEBUG THE MOBILE DEVICE.**

**Ripple**

Ripple is an open source debugger extension for Google Chrome. It allows the user to test their mobile application in the browser by emulating a mobile device. You can view your mobile application in the browser and fully inspect it using any standard web inspector. Ripple has an informative interface to allow users to get the best experience out of Ripple possible. The emulator treats the mobile application as a standard web application, allowing the developer to debug as thorough as they would a web application.



**Adding touch sensitive swipe gesture to app.**

Jquery mobile was implemented to allow touch sensitive gestures to be used throughout the mobile application. Adding touch sensitive swipe gestures allowed for streamline navigation throughout the application.

**Defensive programming**

Defensive programming is the method used to help ensure your software functions correctly in spite of unforeseeable usage of said software.[[7]](#footnote-7) In the event of a playlist becoming dynamic and allowing users to add to it, a countermeasure must have been implemented to ensure the playlist won’t break due to the number of songs added. This was achieved by adding large testing playlists to the application, to see the point it will begin functioning incorrectly. The maximum number of songs SoundCloud enable users to upload into a playlist is 500. Playlists are treated differently to groups when displayed on mobile. A group can hold thousands of songs, however due to this SoundCloud have limited mobile applications to only able to display 50 songs. I tested a playlist with 500 songs to ensure my app would run correctly if it reached the maximum capacity. The initial loading time was dramatically increased when accessing the 500-song playlist. To prevent this from being an issue for users I made each image get cached in the users local storage to speed up the following times the user accessed the playlists. Displaying a loading icon until the page is fully loaded allows the users experience between transitions smoother and more enjoyable.

Another potential section of E-mu that in time would inevitably evolve are the list of emotions that link to the individual playlists. By copy and pasting the existing emotions I was able to dramatically increase the amount of potential emotions in my application. I tested with 100 emotion pages. The fluidity of E-mu dramatically decreased when cycling through the emotions. I also noticed when swiping it had the tendency to skip emotions and have a reduced frame rate for the animations, this was due to the massive increase in file size. This test helped show the amount of emotions my application could hold before hindering the performance. This will allow countermeasures to be used if the app were to evolve to that stage.

**Caching images**

Here I will write about caching images on the application to increase loading time for returning visitors.

**Offline screen**

E-mu is an application that needs the user to be online for the whole during of its use. Due to this it was imperative to display information to the user if their internet connection was not connected. This was achieved by hiding all application elements and displaying a message once the users internet connection was lost. Once the users internet connection is turned on the message will disappear and the applications interface will return. A JavaScript event listener was used to indentify the users internet connection, it then calls a function you set up to manipulate the application dependant on the internet being on or off.

**Soundcloud API/SDK**

**Reason for not using Deezer anymore**

**Reason for choosing Soundcloud SDK**

**Using get request to access soundcloud playlists and select the tracks**

**Using SC.oembed to display the player from soundcloud and a bit about not repeating songs (putting played once in a separate array).**

**Why I decided to use a custom player and go against sc.oembed.**

**What will the application evolve to become?**

**Login system to hold personal information**

**The ability to like and dislike songs to personalise your experience**

**The ability to make your own playlists**

**Able to add songs to each global playlist potentially**

**Caching images, titles to improve loading times.**

**User test! And use heuristics analysis by Jacob Nielson to justify.**

**Lean start-up for the MVP in user test**

**Show previous design and development stages (sc.oembed) and talk about how and why I changed it.**

**REMEMBER TO REMOVE THE WEINRE TESTING LINE OF SCRIPT AS IT WILL FUCK UP TESTING!**

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**Appendix 1 – User test**

**Appendix 2 – Design**

1. Art Therapy. (2016). *Color Psychology: The Emotional Effects of Colors.* Available: http://www.arttherapyblog.com/online/color-psychology-psychologica-effects-of-colors/#.VvFb9hKLSRs. Last accessed 22nd March 2016. [↑](#footnote-ref-1)
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3. Changing minds. (2008). *The Meaning of Colors.* Available: http://changingminds.org/disciplines/communication/color\_effect.htm. Last accessed 22nd March 2016. [↑](#footnote-ref-3)
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