Requirements specification

Multiplatform Websites Outcome 2

Dundee & Angus College

HND Software Development Year 2

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# Overview

This website project will be based on and updated per requirements of the Multiplatform Websites Module on a popular DJ Duo called Daft Punk. The Duo have asked for a website to be created for them and their fanbase where they could browse songs, purchase media such as albums, CDs, vinyl, Tour Dates and possibly merch. This website will be useful for the loving fans and the duo themselves as they would have a place where everything connects so that they and the fan base could enjoy the duos releases. The website would also bring in a contact form that could make communication between Daft Punk and the fans closer, this would be used for Questions, queries and more whilst implementing a cart page with payment form and search function connecting to a database and storing and retrieving data stored within cookies on the site.

# Requirements Specification

The Requirements Specification is created to be working directly with the Daft Punk Duo, this is because the client would possibly like specific features to be in the final website created. Without this specification document, the final product may not fit the standards that the clientele has requested which may cause disruptions to the development and tension between the client and the developer.

# Assumptions

## Users

* Mobile Phone, Tablet, Laptop, Desktop
* Microsoft Edge, Google Chrome, Mozilla Firefox
* Windows, MacOS, iOS
* User viewing the site would have minimal / basic knowledge and understanding on how to run and use a computer.

## Employed Staff

* Tablet, Laptop, Desktop
* Microsoft Edge, Google Chrome, Mozilla Firefox
* Windows, MacOS
* Above normal knowledge and understanding on how to run and use a computer so they can perform tasks fit to the job description.

## Advertisers

* Mobile Phone, Tablet, Laptop, Desktop
* Microsoft Edge, Google Chrome, Mozilla Firefox, Safari
* Windows, MacOS, iOS
* Advanced knowledge with computers, due to the software and programs being used in the job role

## Site Administrator

* Laptop, Desktop
* Microsoft Edge, Google Chrome, Mozilla Firefox, Safari
* Windows, MacOS, Linux
* High level technological skill as they are the site administrator, they must carry out site maintenance, databases and more.

# Constraints

* If these individuals didn’t have the correct technological knowledge, most tasks would be incomplete / not completed correctly and can cause disruptions for the end user.
* Database issues created by site administrator mistakes will cause user orders or inventory to come to a halt and will harm user reputation with the service.
* Unsecure Databases could result in data breaches placing customer data and company data at risk, this could also result in a fine for breaking the Data Protection act.
* If the internet is down, tasks would not be able to be completed, this could be fixed by having a power generator.
* Accessibility options must be considered when creating the site, if not then some users may be unable to access the website, this could be little things like having alt tags on imagery to even dark mode, font zooming and more.

# User Personas

## Persona #1

Jimi is a 27-Year-old man from East Ayrshire, He has semi advanced knowledge with the use of technology and computer and shouldn’t have any issues with accessing the website. Jimi works as a solo DJ and plays at various venues for parties or events.

### User Scenario #1

Jimi is trying to look up some songs to use and remix for his next event to make attendees have the best time possible. Jimi will be using this website to browse at songs and possibly purchase vinyls to use at the event. Jimi may also send a question to the duo using the Contact form found on the site.

### Task Analysis #1

1. Turn on Device i.e Tablet, Laptop
2. Open a browser
3. Use the search function to search and enter the website
4. Browse the site to look for music that he would like to use
5. Also navigate to the contact form page and send question about the music and the use of them at an event
6. Type and submit a question
7. Await a response from them via email or phone number

## Persona #2

Ashley is a 20-Year-old Woman from Aberdeen; she has basic knowledge on how to use technology and should be able to access and browse the site at her leisure. She is a barista and is a big fan of Daft Punk and their music titles.

### User Scenario #2

Ashley is planning to use the site to purchase some music via CDs or other forms of media. And may browse at merch if there is anything that she may want to purchase which will go through a cart and payment page system. Ashley will also be submitting a contact form to show her appreciation to her favourite Artists.

### Task Analysis #2

1. Turn on Device i.e Mobile Phone, Laptop, Desktop
2. Open a Browser
3. Use search function to locate and access the website
4. Search through music and merchandise
5. Locate items she wants to purchase
6. Add them to the cart
7. Proceed to Payment page
8. Place order and await arrival via delivery service.

# Requirements

## Functional

A Basket, the website should have a working basket feature that users can add products that they would like to buy, this cart will then take you to payment options then address etc.

This basket system may also connect to a database that has all product types and product pricing stored for the website to access. This system could also have another database connected for customer shipping details, with GDPR and data protection laws we would have to ensure that the database is fully secure against fraudulent actors and methods like SQL Injection to avoid data breaches.

Hyperlinks should be found throughout the website and its subpages; they should be taking you to relevant places that is mentioned on the link. Doing this would allow users to shortcut through the site to the places they want to go to.

Search function, if the website is big enough, a search function may need to be required to users can easily and efficiently find information. Without it, the user may spend too much time trying to find what they want. This would then lead to frustration and the user leaving the site.

Store page could have an add to cart button under each item, when clicking will add that item to the cart which later can be purchased in the next menu to add payment information.

Correct Imagery and branding images throughout the site. Having correct images would signify that it is the correct website to be on and to avoid user confusion.

## User Interface

* Fonts, the website should follow the correct font. Depending on the option chosen the main mood of the page will change. For example, if a sans serif font were used it would be more classical and formal whereas serif fonts are used to give a professional and clean look.
* Colour Scheme, Throughout the entire page there should be a strict colour palette chosen that would fit the theme of a company or brand.
* You should also be keeping the colours light and don’t keep it too heavy, giving the user bright and shining colours right as they enter the site may deter them elsewhere. This is also a good thing to keep in mind as if this is not done, it may harm the user’s eyes and damage the company or brands reputation that will eventually cause users to avoid the page.
* Keeping the navigation of the page simple would allow users to use the site again and again with no issues, this will also help new users understand and learn to use the site as quick as possible.
* Ability to sign in, if a user can log-in to the page they could Wishlist products so they would be notified if they go on sale or release from pre order. This also opens the possibility to send the user emails about products or sales to potentially get more people purchasing products in future.

## Usability

* Errors, ensuring that if errors do occur, the message is left light and small, this would ensure the user isn’t frightened about the error or even allow them to understand what went wrong and what to do to fix it. i.e Refreshing the page or contacting the site administrator. Another thing to mention regarding errors, if you have a look at windows error screen which is called the Blue Screen of Death, it keeps information minimal and clean.
* As mentioned in prior headings, keeping hyperlinks, buttons, and general accessibility easy to learn and use. This would help in making the site easier to use for the user and make them want to use it again.
* Page Content, ensure that the website and its subpages aren’t cluttered with random useless information, keeping subpages on topic, and ensuring that the screen doesn’t look too busy will make it cleaner and professional. On Screen Clutter can include but not limited to excessive use of advertisements or irrelevant information.
* Accessibility, everyone around the world should be able to access and use all websites online – but this could only be possible with accessibility options integrated into sites by its developer. Some of these would be very useful for the visually impaired with features like font size zooming or even light options. Visually impaired users could use the site with a screen reader but if the developer doesn’t code correctly, the software won’t work as expected.

## Performance

* Daft Punk is a very popular group within the music scene. This means that the number of users browsing the site at one time would be at minimum of a few hundred and max could exceed to 10 thousand at one time or maybe more. To prepare from this we may have to investigate into getting powerful servers depending on the provider.
* It would also be a good idea to stress test the website to ensure that the influx of website traffic won’t disrupt the functionality of the site as if it does go down it can harm the reputation of the site.
* Database functionality would also work in line with the website, orders would cycle through the site form and onto the database to keep the data sorted and easily managed.
* Ensuring that the site works well under all internet conditions, if a user attempts to load the page on a slow mobile device we would want the page to load and have no issues with images being displayed etc.

## System Integration

There is a variety of different integrations you can add to your website, each could improve user experience a lot, they could be integrations that allow functionality on the site or even just quality of user life and experience. I will list a couple here:

* Media Content integration, Adding the integration of videos or music would make a great feature on the site, this could ensure that users spent more time on your website rather than clicking off as everything is based on your website.
* PayPal Functionality, Adding PayPal to your website would allow more users to use this payment option when purchasing products.
* Chat Assistant Functionality, adding a small chat feature at the bottom right of the page would allow a staff member to communicate with the user to help them use the site and will boost user engagement.

## Security

Security is a massive and incredibly important thing to consider and think about when making a website and database along with it. When you have users on your website, you will be generating User Data. This data is something you need to protect due to the existence of GDPR (General Data Protection Regulation).  
This regulation ensures that all websites follow a strict set of protection to limit the amount of personal data being released to the public. If you are in breach of GDPR You can be fined up to around £15-20 Million Pounds. This is a massive sum of money being charged against you and it really shows how important it is to keep your users and its data safe. You can work towards keeping it safe with such things as:

* Keeping passwords stored as hashed, keeping it plain text will subject it to easily being hacked and stolen.
* Always Keep information stored on databases on the server side, never on user client side.
* Ensure that your database is set up correctly, this will ensure that it cannot be used maliciously by a technique called SQL Injection this is when a malicious actor enters a prompt that is read by the database and causes it to do things it shouldn’t.
* If you ever do find yourself in a data breach you have to by law inform every single one of your users that the breach took place. This is another law put in place by the General Dats Protection Regulation.

With this updated website there are additional requirements, one being a database to connect the website to. In order to have a successful database we need to keep it secure from attacks like SQL Injection or Cross Side Scripting, such efforts to prevent them are as follows:

### SQL Injection

* Permissions, ensuring that database permissions are limited to required only for database functionality and staff requirement to use it. This will lower the risk of damage to the database if attacked.
* Prepared / Parameterized queries, using this when dealing and treating user input is paramount to database security due to these queries not being susceptible to any form of injection attack attempts against the database through an input section on the webpage its connected to.
* Input Validation, ensuring that all input sections on a website can only allow for specific input datasets that are intended to be entered such as numerical input fields should only accept integers/numbers and deny strings/words.

### Cross Side Scripting

* Input Validation, this more follows along the lines with the previous point on Input Validation for SQL Injection, ensuring that all input fields only accept values intended to be sent through the system to avoid failure or errors.
* Content Secure Policies, This is a method of stopping / preventing where JavaScript could be loaded from which overall will improve security by limiting malicious actors attempting to execute fraudulent scripts against the website/database.

## Dependencies

There are many things that you may have to pay for when wanting to run a website, however there is ample services that companies offer that will aid you in hosting these on their servers for a price. Depending on the scale of the website or database the price can vary but if you don’t have the money, you can host it on your own server at home or at a business office.

You can also investigate into getting DDOS Protection, many companies that offer a hosting service will offer some kind of protection, but some sites are better than others. One of the best protection services to get is called Cloudflare, this company offers a high scale service of protection to hundreds of websites online. They also offer a hotline so you can call them when you are under fire of an attack, to provide instant and professional assistance to prevent and stop it from occurring on your webserver.

## Data Management

Previously above I have mentioned some points that would also be discussed here, there is a lot of regulations are rules in place to ensure the security and privacy of users and their data. It is key to site administrators to keep user’s personal data secure from fraudulent actors.

If this website were to use a database, there are measures in place that professionals making them should know how to properly create and secure them to avoid it getting hacked and data stolen.

The kinds of data that would be stored in the database would be:

* Names, People who have signed up to the site or has purchased something on the website would have names stored. Their names would also be on the payment information stored after a purchase has gone through.
* Payment information / Bank details, the database or website may store the payment information for the user if they wanted to so they could make a purchase quicker next time. This information would be crucial to keep protected via hashing or encrypting the data to make it harder for fraudulent actors taking hold of it.
* Home Addresses, the website / database would also be storing addresses to post the product to the individual.

If this data were ever breached, the company or brand would have to inform customers immediately under GDPR Law.

## Standards Compliance

The Web Standards Compliance is a set of standards set out by the W3C (World Wide Web Consortium) that developers are expected to follow when creating websites online today. Some of them will be:

* GPDR (General Data Protection Regulation) this regulation is something that I have mentioned many times in this document above, it exists to make sure that developers and site owners are keeping user data private and protected. If this didn’t exist, user data would be in the hands of everyone which isn’t great. Its heavily monitored especially by our governments, if you break this you can get fined up to 20 million pounds.
* Ensuring your website is HTTPS Secure, HTTPS means: Hyper Text Transfer Protocol Secure. If a website is under this, data will be sent securely and privately whereas if it were just HTTP your personal data may be subject to be stolen as the website isn’t secure. This works in line with the GDPR Law to ensure all data is secure, always.
* Cookies, if you were to go on a modern website for the first time today, you will most likely be given a pop up alerting you to accept cookies. With the General Data Protection Regulation, you must have this pop up to acquire the consent from the user to collect them. Cookies are used to speed up the user experience by storing data to make the website load quicker.

## Portability

Ensuring that your website can be viewed, access and used on any device is crucial to gather the most audience to your website, if a site can only be viewed on a tablet and not a phone, laptop, or desktop the user range drastically decreases. Luckily there is many options and things to do out there to allow your website to function almost everywhere such as:

* Website Scale, Using CSS (Cascading Style Sheets) You can push content depending on screen resolution. This means that content on a phone compared to a desktop will look different, desktop content will be filling the whole page whereas mobile will be stacked on top of each other to conserve space. Mobile devices will also be able to zoom in and out allowing visually impaired users to read page content.
* You could also create or have a mobile app created that can be installed via the app store on your device, this would allow for more capabilities and functionality on your website depending on what its used for.

# Design Documentation

## Wireframes

### Mobile:

A screenshot of a page

Description automatically generated

A page of a document

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a phone

Description automatically generated

A screenshot of a form

Description automatically generated

### Desktop:

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

A screenshot of a computer

Description automatically generated

## Asset Log

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **File Name** | **File Type** | **File Size** | **File Resolution** | **Description** | **Copyright Status** |
| Alive1997 | PNG | 81.4KB | 500X500 | Album cover used on Music Page | Fair Use, Copyright free, remade by a fan for free use |
| Alive2007 | JPEG | 42.2KB | 500x500 | Album cover used on Music Page | Fair Use, Copyright free, remade by a fan for free use |
| Daftclub | JPEG | 53.6KB | 500x500 | Album cover used on Music Page | Fair Use, Copyright free, remade by a fan for free use |
| Discovery | PNG | 39.6KB | 500x500 | Album cover used on Music Page | Fair Use, Copyright free, remade by a fan for free use |
| Homework | JPG | 60.3KB | 500x500 | Album cover used on Music Page | Fair Use, Copyright free, remade by a fan for free use |
| Humanafterall | JPEG | 51.4KB | 500x500 | Album cover used on Music Page | Fair Use, Copyright free, remade by a fan for free use |
| Musique | PNG | 15.9KB | 500x500 | Album cover used on Music Page | Fair Use, Copyright free, remade by a fan for free use |
| Ram | PNG | 43.7KB | 500x500 | Album cover used on Music Page | Fair Use, Copyright free, remade by a fan for free use |
| Nav-button | PNG | 3.30KB | 250x250 | Navigation button used on site on mobile mode | Created by Chris Cannon, Copyright Free |
| Daftimage | JPG | 87.4KB | 700x700 | Image used on Music Page | Created by Venti Views on Unsplash  Copyright Free |
| Logo | PNG | 69.8KB | 1200x630 | Image used throughout website as main image | Copyright Free, Uploaded by John3 on TopPNG.com |
| Herobg | JPG | 5.50MB | 5472x3648 | Image used on main page as a splash image | Copyright free, Created by Wendy Wei on Pexels.com |
| France | JPG | 2.18MB | 5376x2054 | Image used on About me Page as a splash image | Copyright free, Created by Anthony Delanoix on Unsplash.com |
| Slideshowimage1 | JPG | 157KB | 700x700 | Image used on Slideshow on home page | Copyright free, Created by Ehimetalor Akhere Unuabona on Unsplash.com |
| Slideshowimage2 | JPG | 58KB | 700x700 | Image used on Slideshow on home page | Copyright free, Created by Dmitry Novikov on Unsplash.com |
| Slideshowimage3 | JPG | 124KB | 700x700 | Image used on Slideshow on home page | Copyright free, Created by Manny Moreno on Unsplash.com |
| Slideshowimage4 | PNG | 97.3KB | 700x700 | Image used on Slideshow on home page | Creative Commons, Created on PNGAll.com |
| Darlin | PNG | 42.0KB | 1200x630 | Image used on about page | Created by Me in Pixlr Online Editor |
| breakup | PNG | 437KB | 1200x630 | Image on about page | Creative Commons, Created on PNGAll.com |
| Discoveryabout | PNG | 130KB | 1200x630 | Image on about page | Fair Use, Copyright free, remade by a fan for free use |
| Homeworkabout | PNG | 383KB | 1200x630 | Image on about page | Fair Use, Copyright free, remade by a fan for free use |
| Humanafterall | PNG | 305KB | 1200x630 | Image on about page | Fair Use, Copyright free, remade by a fan for free use |
| Punk | PNG | 276KB | 1200x630 | Image on about page | Creative Commons, Created on PNGAll.com |
| Ramabout | PNG | 142KB | 1200x630 | Image on about page | Fair Use, Copyright free, remade by a fan for free use |
| Tronlegacy | PNG | 140KB | 1200x630 | Image on about page | Fair Use, Copyright free, remade by a fan for free use |

## 

## Site Map

A screenshot of a chart

Description automatically generated

## Style Guide

A white and red square with black text

Description automatically generated

## Project Schedule

1. Transition Music Page to Shop to hold Albums to purchase with possible implementation of merch.
2. Alter Code and implement Add to Cart Button to Shop Page on each listing.
3. Add Additional Page for entering Payment and shipping information after viewing basket.
4. Add ability for a Dark and Light mode switch on each page, this will save inside the browser Cookies.
5. Add Search Bar on the Shop Page for ease of access to products customers / Fans wish to view or purchase.
6. Add Ability to purchase tickets for Tours from the Tour Dates Page.
7. Work on creating a Database to hold Product information, Prices customer shipping details.
8. Ensure Database is secure against SQL Injection and other malicious threats.
9. Ensure Website is secure against Cross Side Scripting and other malicious threats.
10. Update Footer Date from 2023 to 2024.

## Provisional Test

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Cases** | **Expected Results** | **Actual Results** | **PASS/FAIL & Notes** |
| Enter Words into Contact Form and click submit | Submits Form Successfully |  |  |
| Enter Numbers into Contact Form and click submit | Does not submit form due to invalid input prevented by input validation |  |  |
| Shrink Browser down to other Resolutions | Content shifts evenly when viewed on other screen resolutions |  |  |
| Add Items to Cart | Items added to cart will show up in basket |  |  |
| Listen to a song from media embed | Song plays through the browser |  |  |
| Add a Tour Ticket to basket | Tour Ticket will show up in basket |  |  |