



TU259

Web & User Interface Design

Assignment Submission 1

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Declaration

I hereby declare that the work described in this report is, except where otherwise stated, entirely my own work and has not been submitted as an exercise for a degree at this or any other university.

Signed:

Bearach Byrne

Bearach Byrne

19/04/2021

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1. Introduction

For this assignment I have chosen to create a personal CV page/portfolio website for myself. I chose to do a CV/portfolio website as I think it will be a very useful topic to look at and I am hoping to actually use this going forward to keep it up to date with any programming projects I complete in my spare time.

2. Design Guidelines

Below, I have detailed 3 of the design guidelines that I have used to create the prototypes of this webpage.

2.1. Guideline 1

The Gestalt Principles (sometimes called laws) are a set of principles of human perception that describe how humans recognise and group patterns of complex objects in order to make sense of the world around us. There are varying number of primary Gestalt Principles depending on which source you take them from, however six of the most common are:

- Similarity
- Continuation
- Closure
- Proximity
- Figure/Ground
- Articulation
- Symmetry/Order

The Gestalt Principles offer a tangible way of creating attractive, simple designs and can give the designers confidence that a given user will be able to intuitively use whatever application they are designing.

Symmetry - Right at the forefront of my webpage, you can see the use of symmetry in laying out the two column layout for the content of the site on both the desktop version and the tablet version of the site.

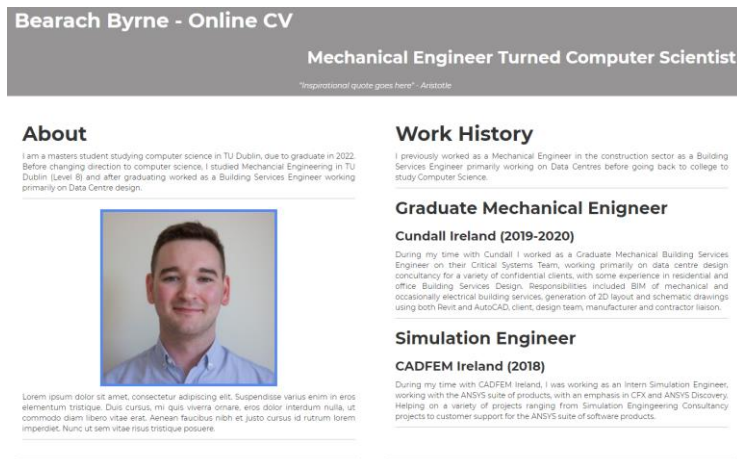


Figure 1 - Desktop layout

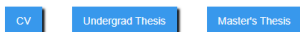


Figure 2 - Tablet layout

Proximity – The gestalt principle of proximity can be seen by the way that similar sections of the site have been groups together. The two interactive sections of the site, the “Downloads” section and the “Contact Me” section have been placed side by side on the desktop and mobile site. This is done so that users will group them using the Gestalt principle of proximity and intuitively be able to tell that they are both interactive.

Similarity – Similarity can also be seen in the download buttons. As they are a user interaction button, they all have exactly the same styling so that users are aware that they have similar functions.

Downloads



Contact Me

If you want to get in touch with me, feel free to use the form below to send me an email. Or you contact me through any of the social media links below.

Name

Email Address

Message

2.2. Guideline 2

The second design guideline that I followed when designing my web page is that of Miller's Chunking. Miller's theory of chunking deals with the capacity of human's short term memory. Designers can take advantage of this theory by sticking to the basic rule of presenting information in chunks of 7 ± 2 . This is immediately apparent on the navigation bar of my page where I have grouped the 8 navigation buttons together.



Figure 3 - The navigation bar showing the 8 buttons

The number of 8 is coincidentally within the range of Miller's Chunking and thus ensures that users of the site will be able to keep all the options available within their short term memory.

Miller's Chunking can also be seen in the content of the page itself, as I have split each section into multiple parts, with a title, title paragraph, and then sub-titles and paragraphs, so that each section (Education History, Projects etc.) is not made up of more than 4 or 5 clearly distinguishable subsections.

Education History

After graduating from St. Mary's College Rathmines, I studied Mechanical Engineering in TU Dublin. Now, after 1.5 years in industry I have chosen to pursue a masters in computer science again from TU Dublin.

Technological University Dublin (2021 - Present)

MSc Computer Science



Currently studying the Fundamentals of Computer Science conversion course, with the aim of progressing to the full MSc course in September 2021.

Technological University Dublin (2015 - 2019)

BEng Mechanical Engineering

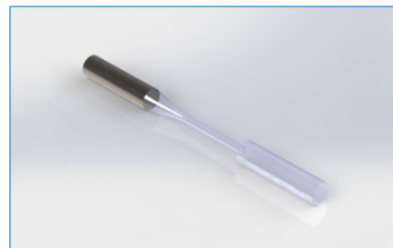


I studied mechanical engineering at undergraduate level in TU Dublin. My final year project focused on the area of a Computational Fluid Dynamics (CFD) Analysis of a generic medical device designed by the US FDA (FDA Round Robin Study Benchmark #1). Aspects of this project included academic research into fields of CFD, medical device design & regulation, along with CFD modelling and CFD

Projects

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Project 1



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Project 2

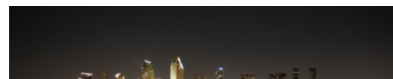


Figure 4 - Miller's Chunking in the main body of the page

2.3. Guideline 3 – Mental Models

The 3rd design guideline I have chosen to be aware of is that of mental models. A mental model is the preconceived way that a user believes a user experience works. The primary mental model that I have targeted for my web page is that of a typical CV that almost every person is familiar with. CVs tend to have a very similar layout from one to the next involving the usual headings/sections of Work history, Education History, Interests, Projects. By exploiting this, every user that looks at the web page will be immediately familiar with the layout of it as being

similar to a typical CV (with a few added sections). This can be seen in the overall layout of the page, or in the navigation menu.

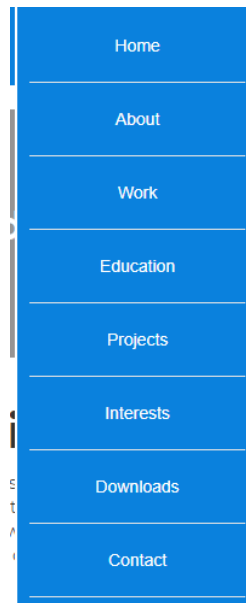
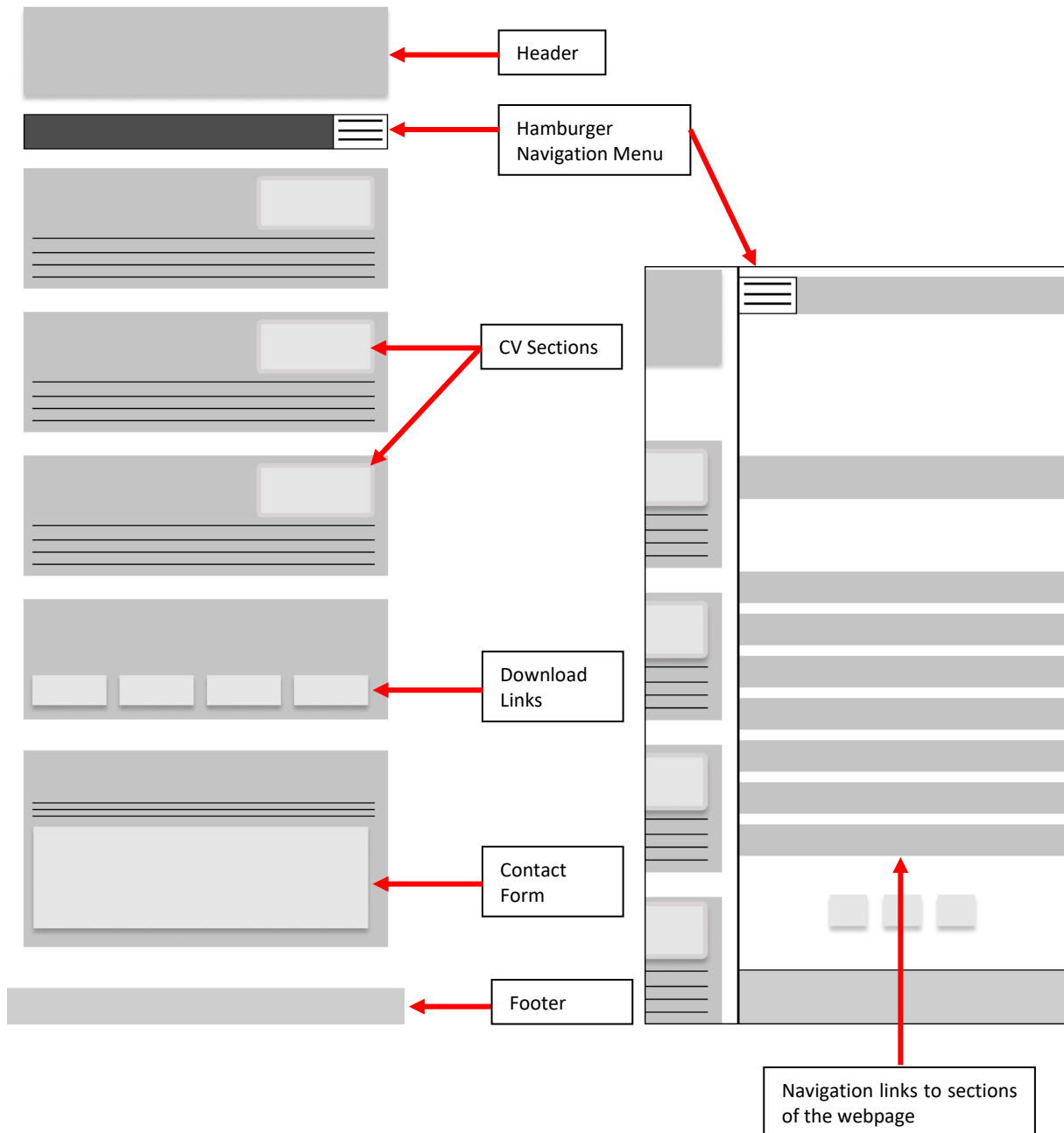


Figure 5 - The navigation menu using a typical CV section layout

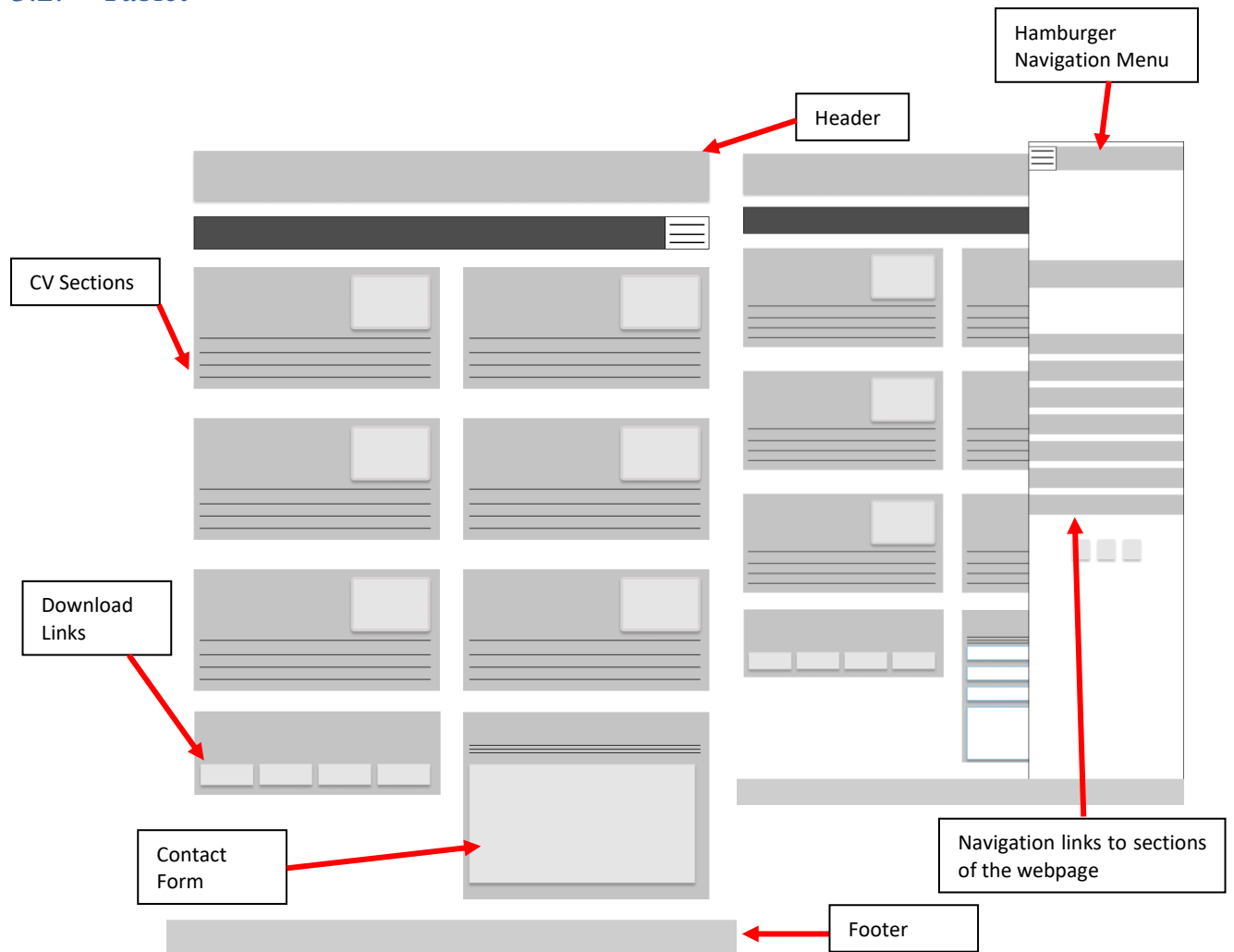
3. Wireframes

Three wireframes were created for this assignment, one for the mobile layout, one for the tablet layout, and one for the desktop layout. These are shown below under the relevant heading.

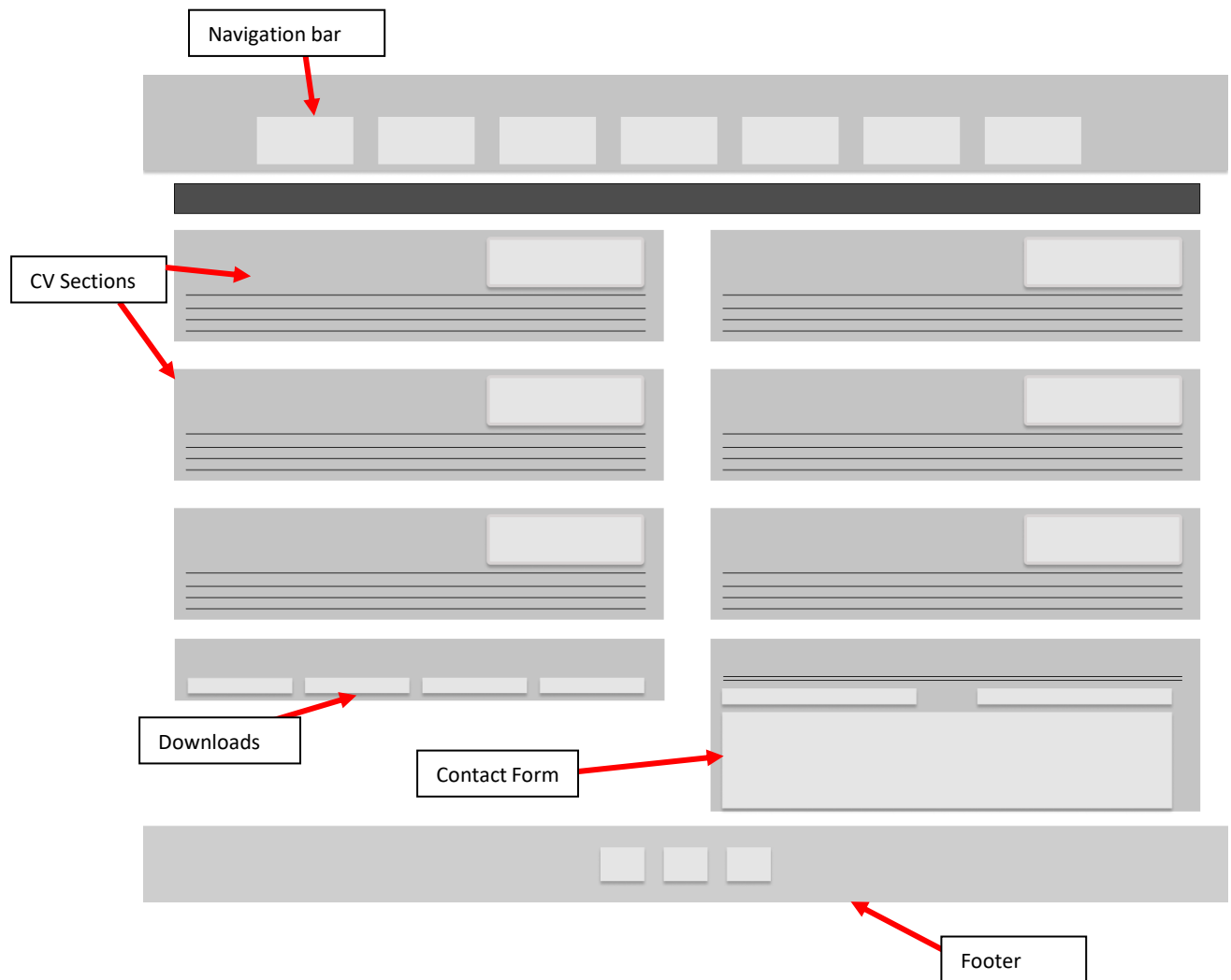
3.1. Mobile



3.2. Tablet



3.3. Desktop



4. Website Prototype

4.1. Desktop Prototype (1400 px Wide)

For the desktop prototype of my website, I have created a storyboard to show the steps needed for a user to get in touch with me via the contact form on the CV page.

When the user loads onto the page they will be presented with a navbar at the top showing the different sections. They will then have 2 ways of reaching the contact me section, they can either manually scroll to the bottom or they can use the navbar button at the top which will bring them to the contact me section.

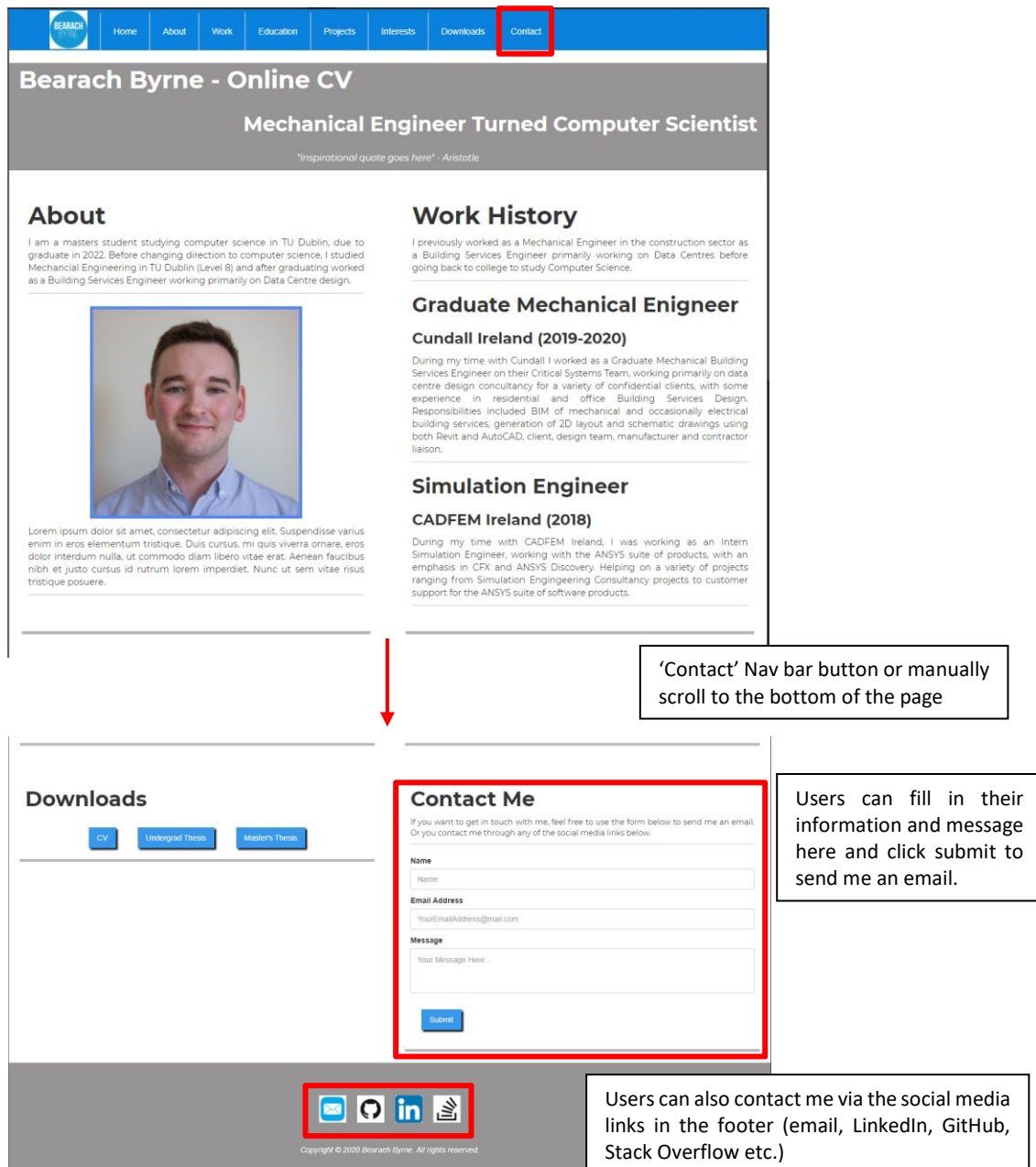


Figure 6 - Storyboard showing the flow of a user logging onto the page and contacting me via the form

Contact Me

If you want to get in touch with me, feel free to use the form below to send me an email.
Or you contact me through any of the social media links below.

Name

Email Address

Message

Figure 7 - The contact me form fill

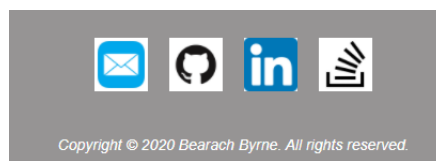


Figure 8 - There will also be links to my various social media accounts (LinkedIn, GitHub etc.)

4.2. Tablet Prototype (768 px Wide)

The use case I will be looking at for the tablet version of the site is a user logging on and wishing to view my education history. As this is effectively a CV, the website will contain a reverse chronological list of my education to date.

Again, there is 2 ways for the user to achieve this, they can manually scroll to the section in question, or they can expand the hamburger menu to the side and select the “Education” link which will bring them directly to the section.

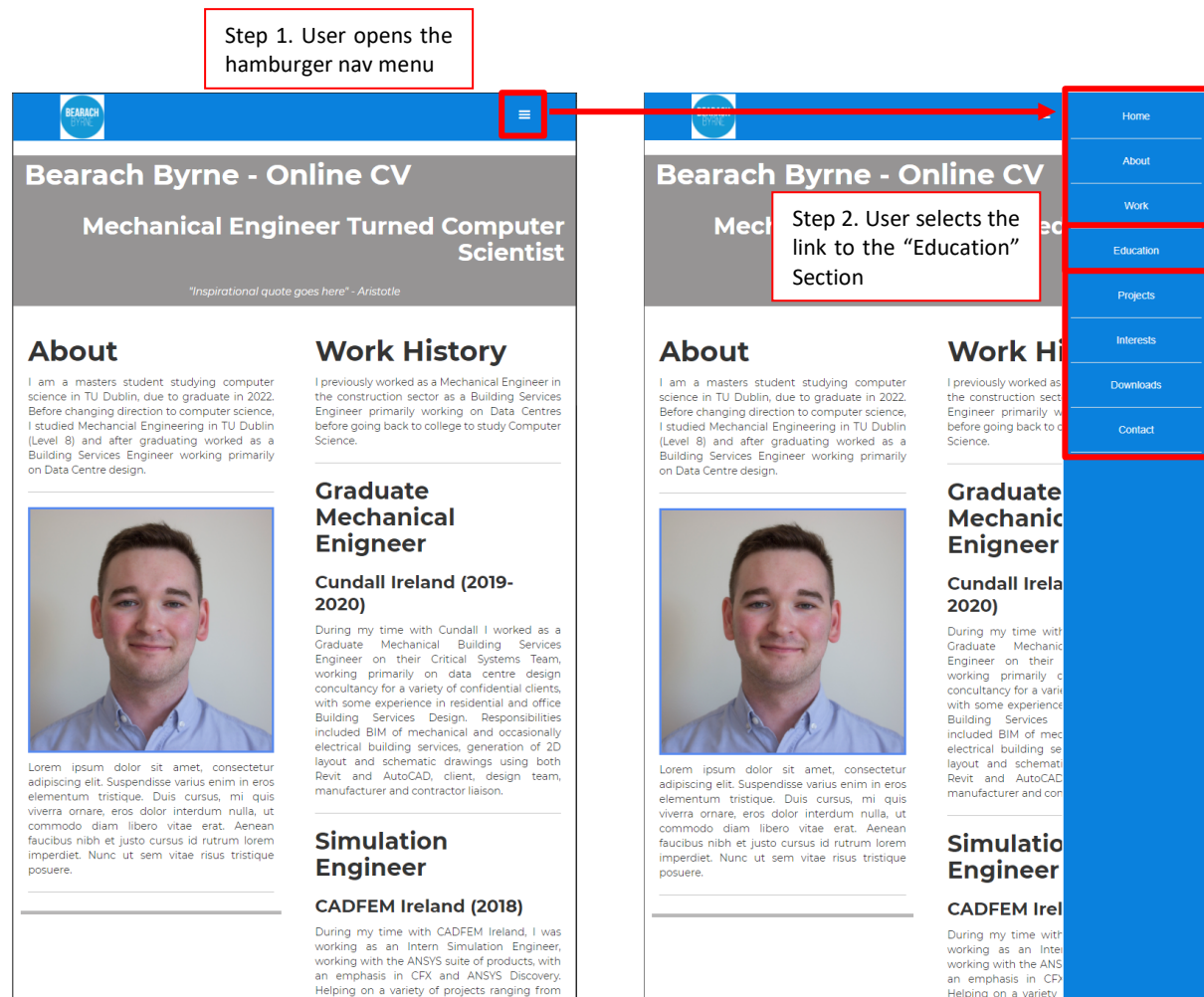


Figure 9 - Showing how a user would access the "Education" section

Step 3. When the nav button brings the user to the relevant section. The user can view my education history in reverse chronological order

Education History

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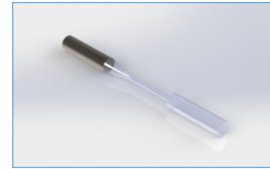
I studied mechanical engineering at undergraduate level in TU Dublin. My final year project focused on the area of a Computational Fluid Dynamics (CFD) Analysis of a generic medical device designed by the US FDA (FDA Round Robin Study Benchmark #1). Aspects of this project included academic research into fields of CFD, medical device design & regulation, along with CFD modelling and CFD results data management & analysis. The project was completed in ANSYS CFX, with results compared against experimental measurements provided by the FDA. I was awarded a 1.1 for this project.

Other subjects included: Fluid Mechanics, Computer Modelling, Thermodynamics, Heat Transfer, Mathematics, Electrical/Electronic Engineering, Computing, Materials, Control Engineering, Engineering Professional

Projects

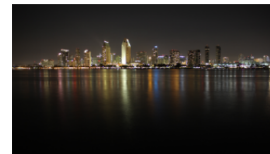
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Project 1



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Project 2



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Project 3

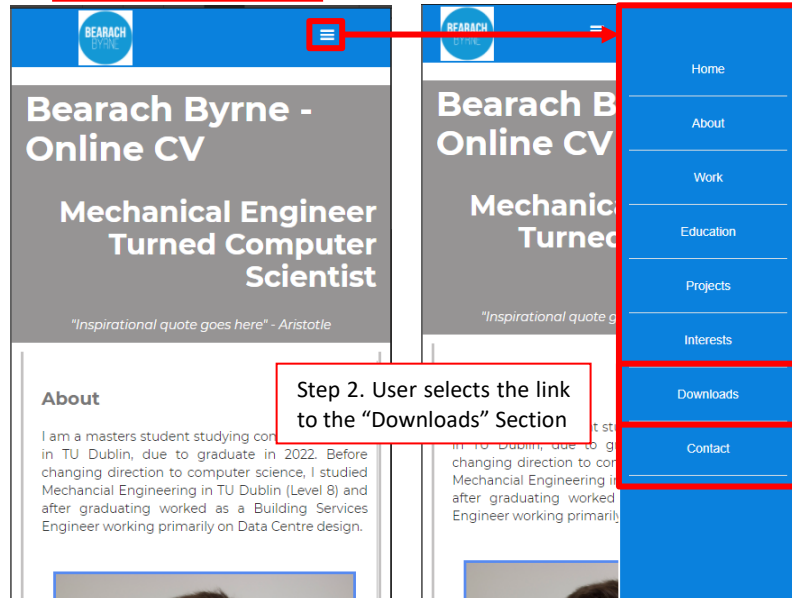


Figure 10 - The section showing my education history

4.3. Phone Prototype (420 px Wide)

The functionality I will be looking at for the phone prototype is of a user wishing to download a .pdf of my CV. To do this, the user must navigate to the relevant section of the page “Downloads” and then click on the button for the CV download.

Step 1. User opens the hamburger nav menu



Step 2. User selects the link to the “Downloads” Section

Step 3. User presses the download button marked “CV” to download an up to date .pdf version of my CV.

Downloads

CV

Undergrad Thesis

Master's Thesis

Contact Me

If you want to get in touch with me, feel free to use the form below to send me an email. Or you contact me through any of the social media links below.

Step 4. The user can then view the downloaded .pdf on their device

