Final Year Project Report

**Full Unit – Final Report**

Human Computer Interaction

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A report submitted in part fulfilment of the degree of

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Abstract

1st paragraph - HCI what it is and how it is measured/main principles

Human computer interaction (HCI) combines computer science, cognitive science, and human factors engineering. HCI began to be a popular topic of discussion that appeared in the late 1970s when more people had access to interfaces which affected personal computing. (Dix, n.d.) An example of HCI is through a desktop metaphor demonstrated by the apple Macintosh where essentially, you would see files and folders as icons that could be dragged and dropped. However, some people use Linux, where you use commands. Even though at the time, it seemed odd to move these icons around, this trend has become part of our everyday lives. This is an excellent example of how HCI can make a user find a process more personal and meaningful to them. (Sawyer, 1992)

Considering HCI is a quite widespread topic, there are several ways to measure it, for example there could be four design principles: Learnability/Familiarity, Ergonomics/Human Factors, Consistency/Standards, Feedback/Robustness. (Hinze-Hoare, 2004) Here in this report it shows a comparison of all these principles between 3 different texts and breaks them down. I agree that these principles measure HCI well, as humans will process information in a specific way, understand it, and then receive it in a consistent and familiar design throughout an interface to create feedback that can allow the design to grow. This is important as my interfaces need to be easily understandable and well designed to help me understand the chosen HCI issues.

2nd Paragraph – Why I choose this project and what I am interested in it

I picked to do this project because I wanted to understand how different types of users interact with the process, and I would like to spend more time researching how these types of processes are made and executed and how I can make similar judgements within my ideas to allow my users to interact with my interfaces fully. I would also like to learn how to create an interface that can be used intuitively for different types of users.

3rd Paragraph – Which sub topics of HCI am I exploring?

The HCI issues I am focused on solving are aesthetics, design, navigation and feedback to the user, and cognitive issues (memory). I want to tackle more issues, but since HCI is quite broad and I only have a limited time to complete these three interfaces, I will ensure that these issues will be fully explored before implementing any onto my interfaces. Two of my ideas will be websites are both directed to different target demographics. Therefore, I will try to match many of the visual parts, such as aesthetics, to all genders. Nowadays, certain websites can be more influenced by feminine/masculine and less inclusive to everyone. This can take up in the form of the colour themes or even when filling out a form you only get a choice of male and female or even take into account different disabilities. So I will consider these factors and make sure to make it as inclusive as possible. (Abrosimova, 2019) Since one of my ideas will be a parent-guided website but a child learning, the navigation must be simple enough to use so that a child can use their cognitive functions to learn from this website. \*Insert Reference\* Talk about the third idea and reference

4th paragraph – what you hope to achieve from doing this project

I hope to achieve a better understanding of human computer interaction and hope to make successful websites and third idea that improve the gap between the issues I undertake.

Interface Requirements and Motivation

## Mental Health Online Journal

My motivation behind this interface is that as someone who is in this age range, I feel like we do have a lot of resources to seek mental health help however no private place to just express our emotions and anxieties. I also believe as our age group also has very gendered influenced mental health so I would like to address the problem through aesthetics and using all pronouns to make sure to show that anyone can use this interface and that mental health can happen to anyone. I will be still providing resources to mental health access but this journal will be a like a middle-man between someone’s thoughts and talking to someone.

The reason I want to create an online journal is because journaling for mental health can help manage anxiety, reduce stress, and cope with depression. (L Renee Watson, n.d.) Since journals is supposed to be a regular thing to do it is something familiar to a user if used often.

I was doing research into mental health to figure out who should have access to this service and I discovered that 16 to 25 years olds have a significant gap from first showing symptoms and then only getting help 10 years later. (Khan, 2016) I also found that people from this age groups that are LGBTQ+ can have more mental health issues to bullying at young age or just neglect. That is one of the many reasons I would like make this interface very welcoming and private to a user, so they do have a place to keep their private thoughts.

**Target Demographic:** ages (16 -25)

**Technologies to be used to create this:** React/React-Bootstrap, HTML, CSS and Node.js

**Interfaces that it will consist of:**

* **Home page**
* **Create Account Page** – Taking information relevant like, e.g. name, email, and password.
* **Login page** – As I have explained previously, this space has to be private to a user to make them feel like they can trust this journal and confide into it.
* **Settings** – I would like to have certain Daily/Weekly/Monthly Affirmations and Mood settings that can be changed depending on the user’s preferences.
* **Goal Page** – A way to set a user’s goals short-term or long-term
* **Journal** – A user will be able to create a new entry allows you to set a date, automatically sets to current’s day, a place to write thoughts.
* **Reach out to assistance Page** – to go seek help, resources to specific age groups/location

## A Parent-guided shape learning tool for young children

I want to create this website as I am curious about how young children learn and how they retain certain information throughout their lifetime, for example shapes. Another reason I am making this a parent guided website is because children can’t interact with a website unless it was one a specific platform where they could tap on click a screen. I thought shapes would be a good learning topic as when we become older I feel like we recognise shapes more easily in complex object for example a bike has two wheels which to a child is like 2 circles.

The reason I choose to pick shapes as the topic to learn is because it sets up children to understand math, sort and categorise, learn letters and numbers, use descriptive vocabulary, use visual discrimination. (BabySparks, 2019) Generally, by three years of age, a child should be able to identify some basic shapes. It also mentions how colours will be recognisable from 18 months as it will be normally natural to grasp that idea. (Anon., 2017)

**Target Demographic:** (18 months – 3 years old+, as described above.)

**Technologies to be used to create this:** React/React-Bootstrap, HTML, CSS and Node.js

Interfaces that it will consist of:

• **Home Page** – Introducing to parents what this website hopes to achieve – teaching shapes to children

• **Settings page** – If a child had trouble recognising colours, I would have a monochrome setting since the shapes could be recognisable by patterns.

• **Information Page** – It will have different webpages for shapes.

• **Example** **Shape page** – Images of different shapes that could be hovered on to everyday objects, e.g. a circle will be highlighted over a car wheel, baby bottle. These objects should be objects that children see more often in their everyday life rather than unusual objects. The circle will have its own pattern to be recognised in that way too. It could be a dotted pattern so it still fits in the theme of a circle.

• **(Undefined)** **Practice Paint page** – Drawing shapes and match to the images.

• **Quiz menu:**

• Quiz page – testing their memory on basic shapes due to colours/pattern association.

## Third Idea

Brief Description (2 paragraphs)

A way to bring together gaming and the beautiful art into an interface that will be able to be useful to new players.

**Target Demographic:**

**Technologies to be used to create this:** Django, JavaScript, HTML, CSS

**Interfaces that it will consist of:**

• Different parts of my idea

Project Timeline

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| **Term 1** | | | | |
| **Start of the week (date)** | **Milestones (report)** | **Milestones (program)** | **Additional Notes** | **Deadline Date** |
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Risk Assessment

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| **Risk** | **How likely is the risk to occur** | **How significant the risk is** | **Mitigation** |
| Time Management – As I have other modules that also have assignments I have to complete on time. | High – I can get stressed easily from other assignments and might to neglect the project. | High |  |
| The technologies I will be using will be new to me, and will might take additional time then the planned time. Therefore may be wasting time doing that. | High/Medium | Low/Medium | Organise my time to allow myself to have enough time to research as well, time to learn new languages for the technologies since I assume that will take the longest and the setting up the environments rather than the coding for the interfaces. |
| I might lose my work, if my laptop crashes, or some other accident that is not foreseen. | Low | High | I will be upload all my work to a git hub repository that I will regularly commit and push to. |

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