**Interim report**

**aims, objectives and literature survey**

Aims: I decided to choose this project because it is part of the computer science field that first drew me to the course and is a part of my career aspirations post university. Whilst studying A levels I took part in a week’s work experience with Sky and worked with a group of graduate front end developers on a streaming application tailored for business clients of the company. Being able to get hands on experience in the agile process of front end development is where I started thinking more about how we actually interact with computers and how much fine detail goes into making a fresh and usable interface. As well as this, my second year team project based on creating a website gave me the chance to design a user interface as part of a team. After finishing the team project and getting a better idea of how consumers want interfaces to work and look, I wanted to do something similar for the individual project in my final year. With this project I would like to incorporate one of my passions which is sport. Using sport as a focal point will open up a variety of options for design within the interfaces I will produce. Having taken part in university sport over my time at university and also being elected to be the captain for a sports team I understand that fixture management can be difficult. Therefore I would like to design some interfaces to be used by university students and staff to check fixtures, post results and view the availability of students for fixtures in each team.

Objectives:

Background Theory: Human-Computer Interaction (HCI) research began in the early 1980’s due to the rise of personal computing in the late 1970’s. Prior to the 1980’s computing was carried out by IT professionals or dedicated individuals as a hobby. As a result of this the computer science community needed to find a way to present information for a wide variety of humans. HCI theory is broken up into three parts; how humans process information, how computers store and present information to its users and the interaction that occurs between the two to address the required action. I will now discuss these parts further and explain how they come together to have an impact on interface design.

**Human**s receive information via certain channels; visual, auditory, haptic and movement. Information is then stored in classes of memory; sensory, short-term, long-term and processed via reasoning, problem solving, skill acquisition and error which can be defined as cognitive tasks. Another process which falls under the umbrella of cognition is attention, this is the procedure of selecting things to concentrate on at one point in time from a range of possibilities. This allows us to focus on the information that is relevant to the task we want to achieve at that point in time. The success of the task is based on whether we have clear goals and how easy the environmental information is to interpret. As a result dealing with human attention is paramount in dealing with HCI. Earlier I explained the classes of memory that humans use to store information, this stored information is then used respond appropriately to a certain task. However, it is not possible for humans to remember everything we ever store in memory or our brains would overload, instead information is filtered through based on how much attention that is paid to it. It is also well known that humans tend to pay more attention to colours and shapes rather than numbers, words or speech .Here we can see how parts of cognition come together to deal with information processing in our brains. Therefore when dealing with HCI we need to reduce the load on user’s memory with simple procedures and prioritise recognition using menus and icons.

The human ability to learn is another important aspect to consider when discussing HCI theory which uses the concepts of attention and memory to recall similar past experiences and use previous responses to act upon a required task. We tend to learn a lot more from doing than following a set of instructions, as a result it is important to design with exploration in mind in order to allow humans to learn the most efficient and productive solutions to problems. Learning is also about improving upon mistakes, allowing users to return to previous states will encourage learning and help guide them through the task. Overall, as humans we process information in a variety of ways and using the concepts of cognition we can employ the use of computers to deal with complex tasks much faster and easier than we could on our own.

**Computers** have similar human features that are used to process information; input/output devices, memory and processing power.

The **interaction** between a human and a computer addresses the translations between what the user wants and what the system does. Interfaces are used to deal with these interactions hence the style of an interface is determined by the style of interaction that needs to occur. Users share common capabilities but also have distinct differences to be considered when designing HCI concepts.

We also have to consider that there are a number **HCI issues** that arise from how diverse we are as a species, these can stem from age, gender, culture, special needs etc.

**planning and time-scale**

**summary of completed work**

**bibliography and citations**

Human-Computer Interaction (3rd Edition) (website)

Interaction Design: Beyond Human-Computer Interaction (5th Edition), Wiley 2019

Sketching User Experiences: Getting the Design Right and the Right Design, Elsevier 2007

The Encyclopedia of Human-Computer Interaction, 2nd Ed.

**some form of diary.**

**Appendix (file structure)**