1. Introduction

1.1 Motivation

Attention Deficit Hyperactivity Disorder (ADHD) is a neurological condition that affects millions of people worldwide [1]. In the UK, an estimated 3-4% of adults have ADHD, which can have a significant impact on their ability to manage their time and stay organised [2]. As a result, individuals with ADHD often experience feelings of stress and overwhelm when they struggle to stay on top of their responsibilities.

As someone diagnosed with ADHD, I can personally attest to the challenges that come with managing this condition. In particular, time management and organisation have been ongoing struggles throughout my life. These issues have motivated me to develop an application that can help individuals with ADHD improve these skills and feel more in control of their lives.

It's becoming increasingly common for technology to be used as a method of helping individuals with ADHD on their time management and organisation [3]. There are a few existing applications such as Structured – Daily Planner [4] that currently aim to help individuals with ADHD however, many of them are unintuitive to use, or require too many steps to setup. Many of them also have paid features or require a subscription which is an immediate barrier to entry for many users. On top of this, many existing solutions are also mobile only, limiting their availability, which is a problem as access to the tools should be available wherever possible.

1.2 Rationale

For my project, I intend to produce an application, which aims to help improve time management and organisation skills in people with ADHD by including only strictly necessary features to avoid complications and distractions and a user interface (UI) that is intuitive through the use of usability principles. The idea is that the application will provide feedback to the user, using notifications and data visualisation for tasks and jobs the user has inputted. This is important as two of the main symptoms of ADHD according to the NHS are poor organisational skills and continually starting new tasks before finishing old ones [5]. As the application collects more of this data, it will be able to provide daily and weekly reports on the progress made by the user on their organisation and time management. While my initial focus is on creating a solution for students between the ages of 18 and 23, the potential impact of this solution could extend to a much broader range of age groups.

1.3 Aims and Objectives

1.3.1   Aim

The aim of this project is to develop an application aimed at helping students diagnosed with ADHD, improve their organisation and time management skills. I intend on testing and utilising user feedback to extend and improve the application. By collecting feedback, I will be able to effectively evaluate the functionality and performance of the application.

1.3.2   Objectives

1) Research and identify three current applications and solutions for time management / organisation for users with ADHD.

By developing an understanding of existing solutions / methods of improving time management and their features, I will be able to gain an understanding of the features currently implemented by these solutions as well as their effectiveness and performance. I intend on choosing the top three most downloaded solutions on the Apple App Store for this research.

2) Investigate established HCI usability principles and their practical implementation in order to inform the design and evaluation of a prototype for enhancing the user experience and efficiency.

For this objective, I plan to research and analyse established HCI usability principles that can be incorporated into the design of the application, such as user-centred design, simplicity, and consistency by reading research papers. This research will be integrated into the prototype which will enhance the user experience and efficiency and allow for the evaluation of the principles I have incorporated.

3) Gather feedback from target users by conducting a survey to understand their needs and requirements.

This objective will be carried out by collecting data relating to the usability, functionality and design of the application. I intend to do this by carrying out a survey on 5 - 10 students diagnosed with ADHD. This survey will include designs and features from existing solutions and will allow me to refine the requirements for my own solution.

4) Explore available development frameworks and tools to identify the most suitable and effective options for designing and developing a prototype application.

As part of this objective, I aim to explore and evaluate various existing frameworks and tools that can be utilized to create a functional and efficient prototype application, taking into consideration factors such as ease of use, flexibility, compatibility, and scalability.

5) Design a prototype application based on the features and data gathered in research objectives 1, 2, 3 and 4.

In order to be able to produce a prototype, I will need to create some designs using relevant design mock-up software. I intend to experiment with and implement features identified in the previous research objectives, including the HCI usability principles.

6) Develop a full-stack prototype based on the designs created in objective five.

To complete this objective, I will need to implement the designs created in objective five into a prototype application. I will also be using the frameworks and tools researched in objective four. Testing will be carried out throughout development as well as after the prototype is complete.

7) Summarise and evaluate the solution.

Evaluating my solution will allow me to identify any mistakes I made, features overlooked, and whether my solution is adheres to HCI usability principles. Evaluation will be carried out through a user study by allowing individuals to use the app, followed by a survey to collect feedback.