

# MSc in Computer Science - Team Project

**Interim Report**

**Team Name: AI Study Buddy (Group 3)**

Anika Mayesha – D24125187

Lorenzo Palleschi – D24126922

Rumaysa Babulkhair – D24125711

Yurii Sykal – C23512523

Contents

[MSc in Computer Science - Team Project 1](#_Toc211730262)

[Table of Figures 2](#_Toc211730263)

[List of Tables 2](#_Toc211730264)

[1. Introduction 3](#_Toc211730265)

[2. User Scenario: The Characters 3](#_Toc211730266)

[2.1 Identifying target users 3](#_Toc211730267)

[2.1.1 Personas 4](#_Toc211730268)

[2.2 Importance of target users 6](#_Toc211730269)

[2.2.1 Survey 6](#_Toc211730270)

[2.3 User Problems 7](#_Toc211730271)

[3. Technical Problem: The Setting (1,000 words approx.) 7](#_Toc211730272)

[4. Technical Solution: The Plot (1,000 words approx.)**.** 8](#_Toc211730273)

[5. Evaluation: The Reviews (500 words approx.) 8](#_Toc211730274)

[6. Conclusion: The Plan (500 words approx.) 8](#_Toc211730275)

[7. References and Key Resources 10](#_Toc211730276)

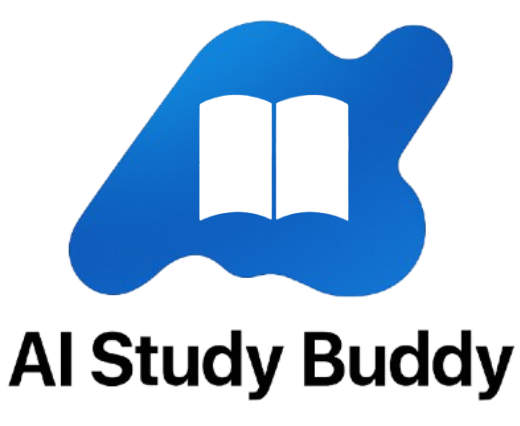
# Table of Figures

# List of Tables

# 1. Introduction

The goal of this project was to build a mobile first web application called AI Study Buddy, which provides an essential service for the modern-day university student. As artificial intelligence (AI) is in a state of rapid advancement, the services it can provide for students are ever expanding; allowing for a highly adaptive and personalised user experience. According to the *OECD (2023),* AI is becoming far more prominent within higher education, particularly in areas such as automated tutoring, content summarisation, and intelligent feedback systems. Despite the aforementioned advancements, many learners are still reliant on a fragmented ecosystem of various applications, rather than one application which accommodates all of their needs. This issue is what AI Study Buddy aims to resolve, by centralising all of a user’s needs into one cohesive space.

This report will run through various details, ranging from who the application is designed for, the core issues faced along with their resolutions, the technical architecture, user evaluations, and will conclude with how the application evolves from this data.



#### Figure 1: Application Logo

# 2. User Scenario: The Characters

## Identifying target users

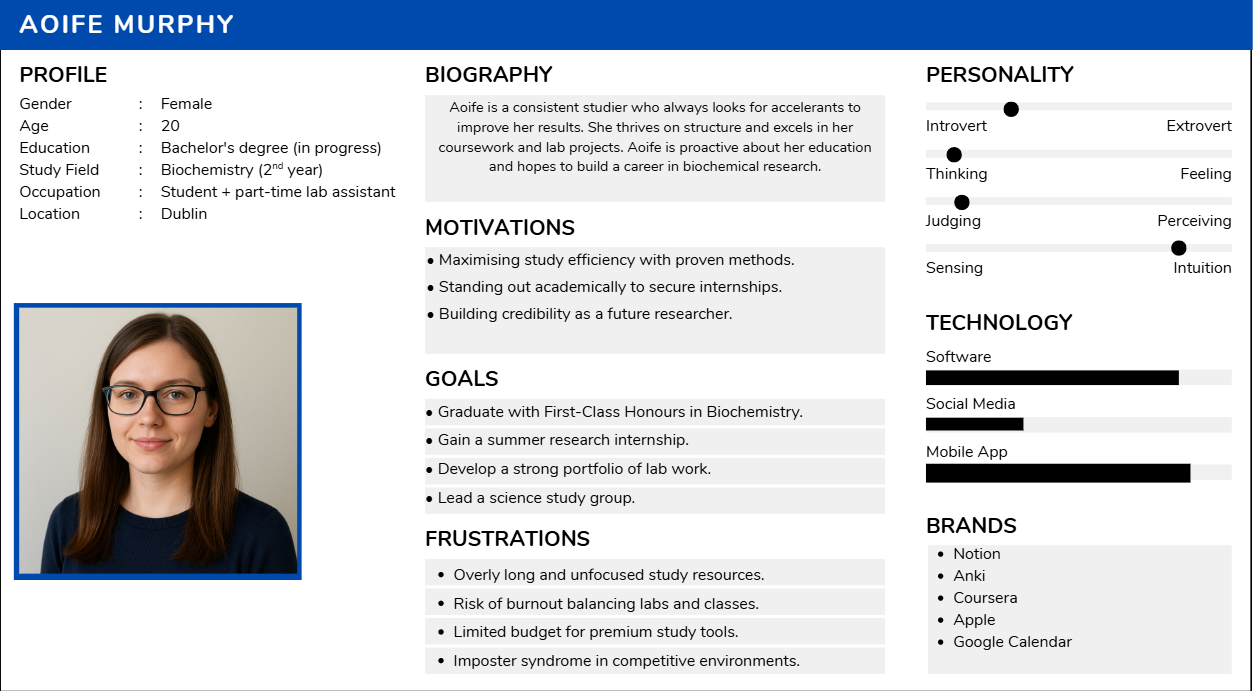
AI Study buddy is primarily aimed at third-level students who aim to improve their studying habits with the use of artificial intelligence. This groups in both undergraduate and postgraduate learners across various disciplines and age groups. We can also account for some of the potential struggles that students face, varying from balancing their social, academic, and work commitments, often times leading to time pressuring, and information overloads. Whilst the app is aimed at university students, it may also be utilised by independent learners or professionals who want to further their knowledge within a field and have the need for structured adaptive feedback.

Many students are typically interacting with a multitude of digital tools, ranging from AI chatbots for explanations, note-taking apps for documentation, and even productivity apps to manage their time. However, the use of these applications in isolation creates an inefficient workflow, and cognitive fragmentation. As reported by the Higher Education Authority (*HEA, 2025*), there are over 275,000 students which are currently enrolled in Irish higher education, many of which are reliant on hybrid and digital study modes. The OECD’s *Digital Education Outlook (2023)* notes that whilst AI-tools are becoming increasingly prevalent, their lack of unification remains as a key barrier to real adoption within academic contexts *(OECD, 2023).*

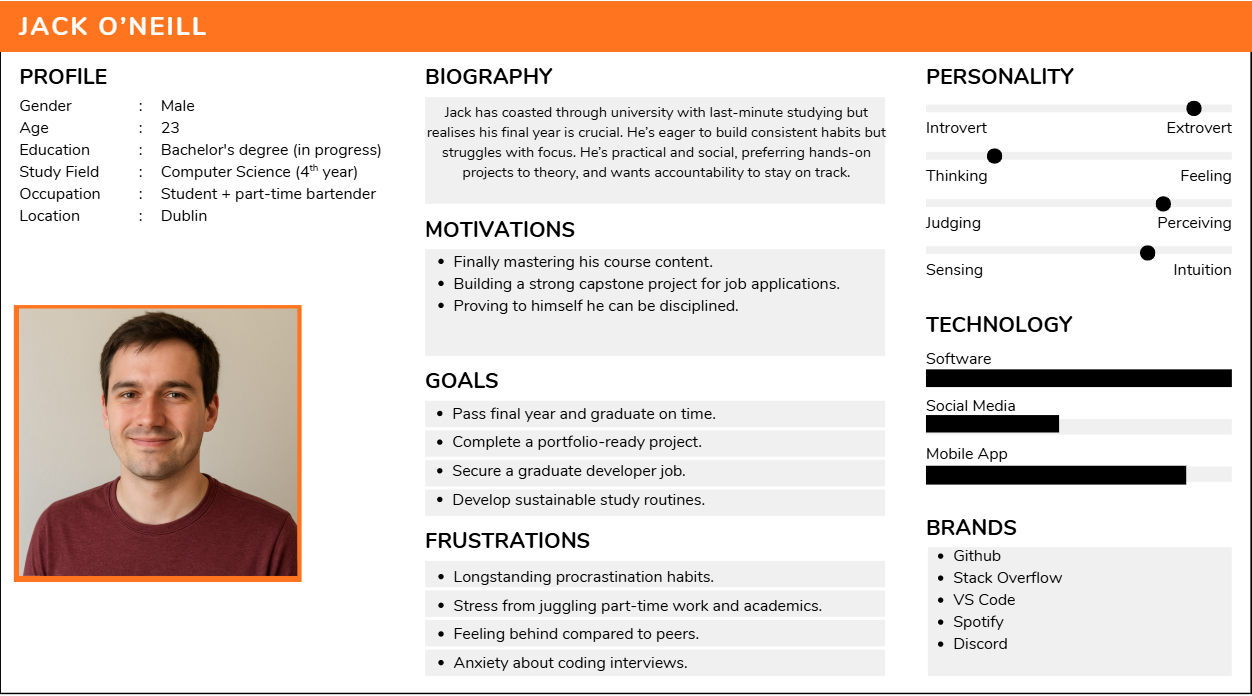
As such, AI Study Buddy targets this gap by merging AI oriented note summaries, adaptive quiz generation, and productivity tracking into one accessible platform. This is notably relevant for any students who are reliant on a personalised learning experience, yet do not have the time or resources to build the structured system themselves. The userbase is highly targeted to retain motivation, provide personalised feedback, and support both independent and collaborative learning.

### Personas

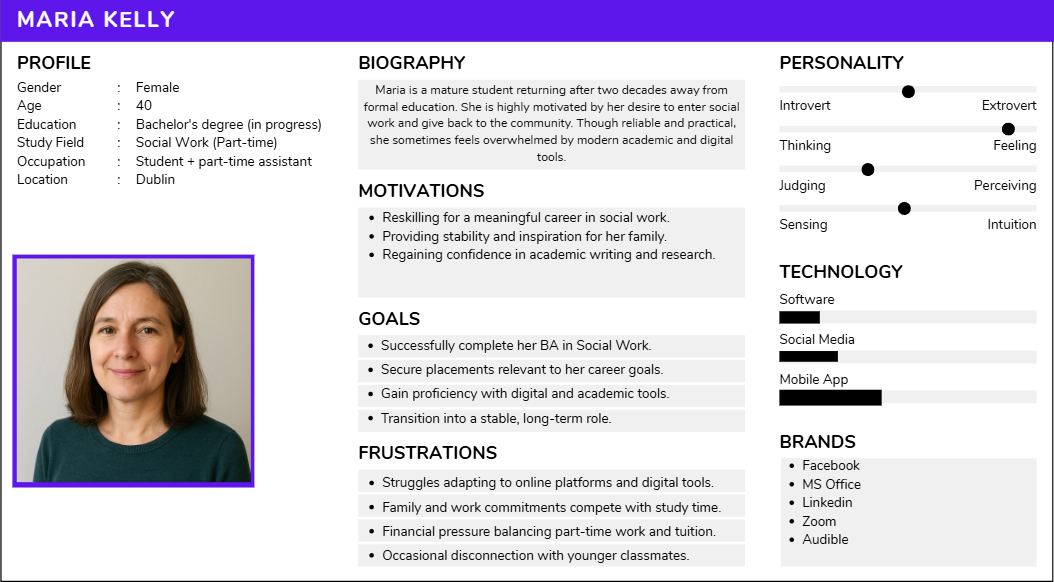
Personas are a way for us to further identify our target users; by creating semi-fictional characters, we can represent the various student types, along with their needs, experiences, behaviours, frustrations, and goals. Viewing the product through the eyes of these personas allows us to take somewhat of an outside perspective, and provides a way for us to better understand what is desired from the diverse userbase.



#### Figure 2: Persona 1 - (The consistent studier)



#### Figure 3: Persona 2 - (The coaster)



#### Figure 4: Persona 3 - (The mature student)

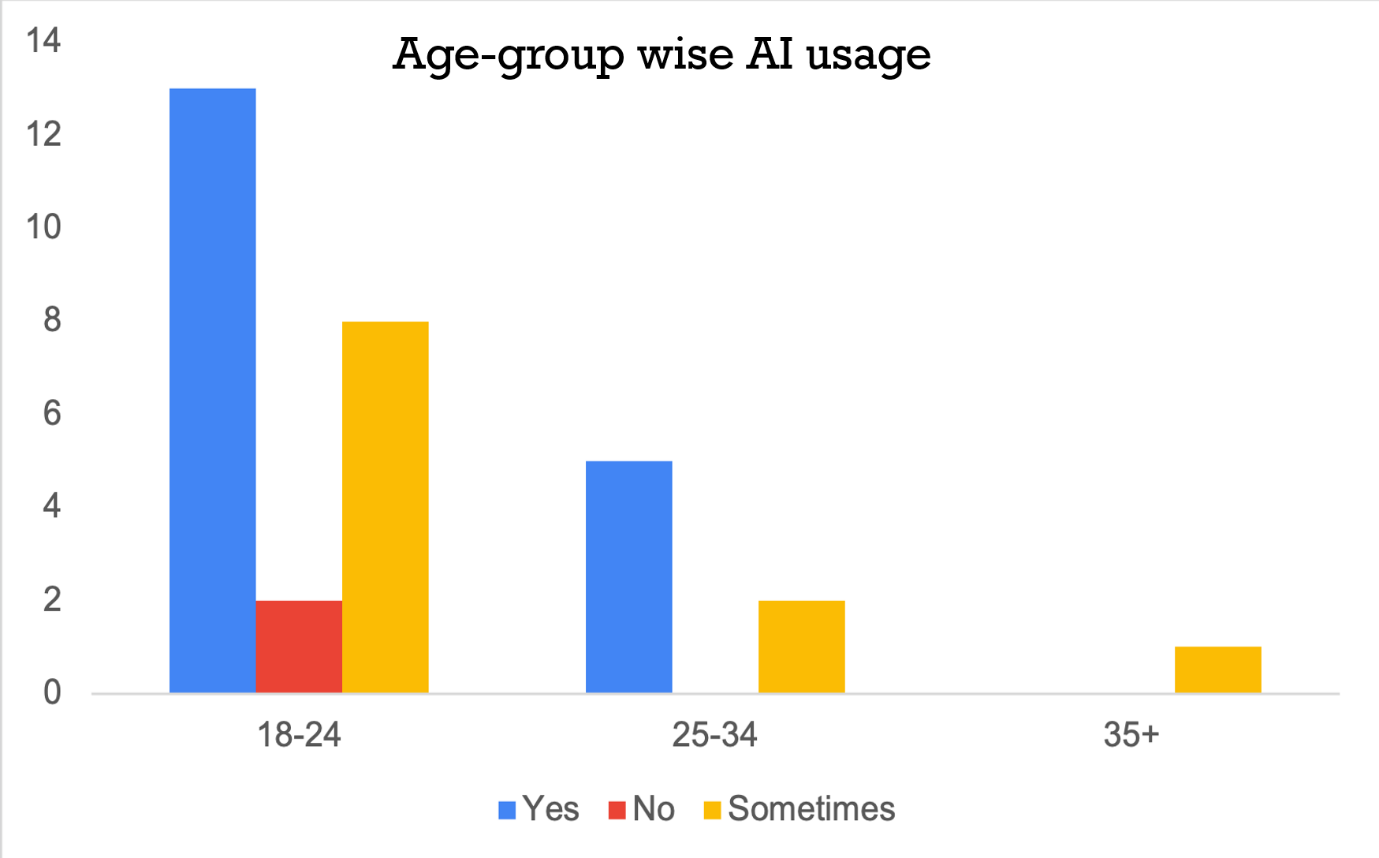
These 3 personas provide a diverse userbase for university level studies, and help us understand deeper, what some of the struggles may be; allowing us to accommodate various situations in an adaptable manner.

## Importance of target users

Ultimately, ensuring that the target users are identified correctly, will ensure that the projects development remains on track with relevant features being prioritised and issues being resolved.

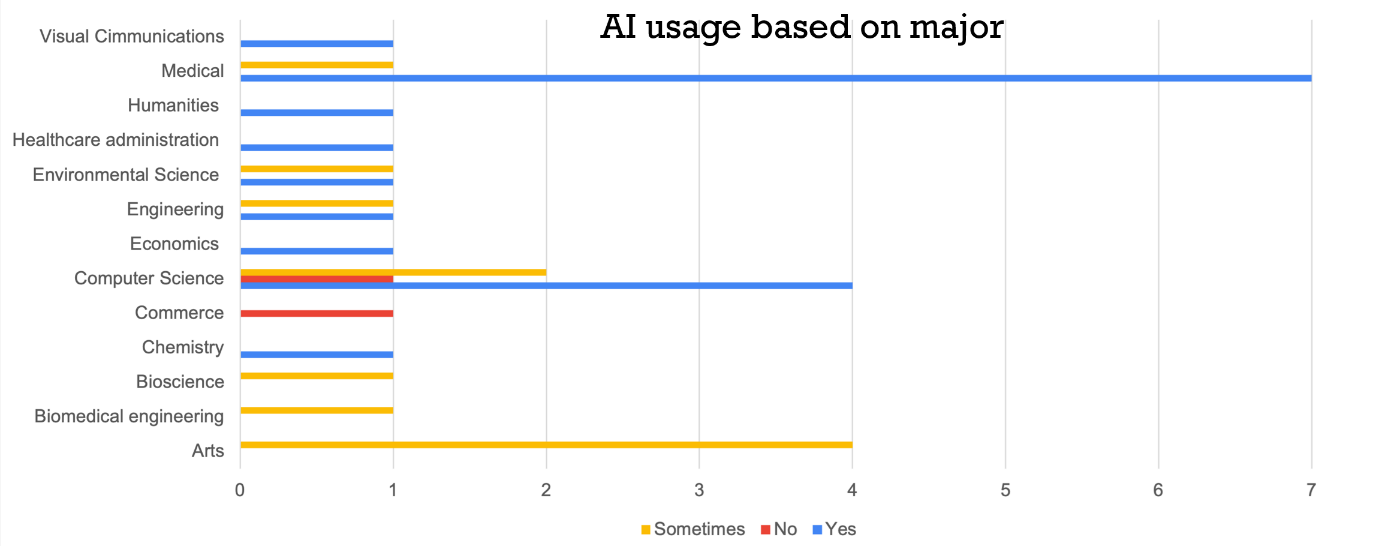
### Survey

To verify this data for ourselves, we conducted a survey with various students around the local campus, and student accommodations.



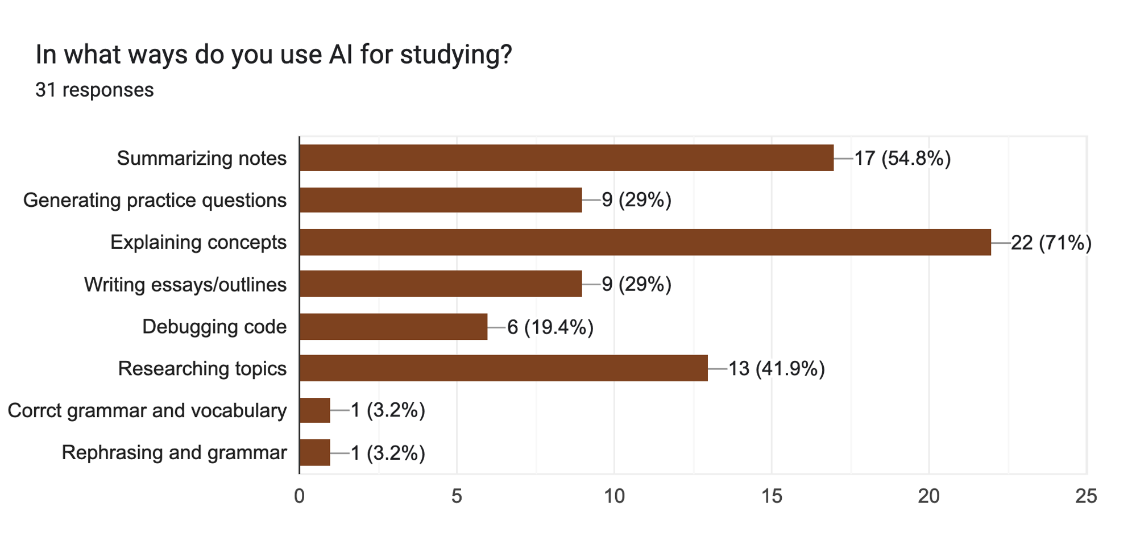
#### Figure 5: Survey Response - Age Group

Whilst limited to a total of 33 responses, we can get a rough idea of how various age groups are interacting with AI usage.



#### Figure 6: Survey Response - AI Majors

This graph also gives a rough idea of the most common study uses for AI



#### Figure 7: Survey Response - AI Usage

Lastly, the ways in which AI are utilised.

## 2.3 User Problems

From the research conducted, we can determine that the primary issues for university students regarding AI study are as follows:

* Fragmented ecosystems – The switch between platforms to accomplish various tasks leads to a lack of focus.
* Limited feedback – Users not understanding why they are incorrect on feedback leads to poor retention and results.
* Low motivation or discipline – The absence of a gamified system greatly reduces user motivation
* Accessibility limitations – The inability to upload handwritten notes or spoken content is a limiting factor, particularly for disabled users.

# 3. Technical Problem: The Setting (1,000 words approx.)

* Why does your system exist?
* What is the core technical problem? (provide an example, an image or a diagram that describes the technical components)
* Can you review other existing systems or products that address this problem? (how do they meet or fail to meet the needs of your target users)

# 4. Technical Solution: The Plot (1,000 words approx.)**.**

* What does your system do?
* How does it work? (System diagram)
* Front-end: Technologies, User interface components including interface mock-ups
* Back-end: Technical components
* Data: What data resources are you going to use and how will you access, collect, and store them?

# 5. Evaluation: The Reviews (500 words approx.)

* What does success look like for your system?
* How will you evaluate the system that you built?

# 6. Conclusion: The Plan (500 words approx.)

* What is your project management strategy?
* What are the biggest challenges you are currently facing?
* How will you use the time remaining to achieve a successful outcome?

A diagram of a learning cycle

AI-generated content may be incorrect.

This goin somewhere

# 7. References and Key Resources

* List of resources (software, papers, tutorials, books, stats, business indicators)
* *OECD. Digital Education Outlook (2023): Towards an Effective Digital Education Ecosystem. Retrieved from:* [*https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/12/oecd-digital-education-outlook-2023\_c827b81a/c74f03de-en.pdf*](https://www.oecd.org/content/dam/oecd/en/publications/reports/2023/12/oecd-digital-education-outlook-2023_c827b81a/c74f03de-en.pdf)
* *HEA. Higher Education Authority (2025): Student data. Retrieved from:* [*https://hea.ie/statistics/data-for-download-and-visualisations/access-our-data/Access%20our%20Data%20-%20Students/*](https://hea.ie/statistics/data-for-download-and-visualisations/access-our-data/Access%20our%20Data%20-%20Students/)
* *Deci, E.L, & Ryan, R.M. (2000): The “What” and “Why” of Goal Pursuits: Human Needs and the Self-Determination of Behavior. Retrieved from:* [*https://selfdeterminationtheory.org/SDT/documents/2000\_DeciRyan\_PIWhatWhy.pdf*](https://selfdeterminationtheory.org/SDT/documents/2000_DeciRyan_PIWhatWhy.pdf)