

BSc Applied Computing

LEVEL 5 ASSESSMENT

Changemakers: Creativity and Value Creation

Programme: BSc Applied Computing

Module: Changemakers: Creativity and Value Creation

Module code: ACCA5033

Lecturer: Dr Osman Elgawi

Component 1: Innovation and Research

Submission deadline: Friday 3rd July, 2026

2pm

Student : Deyby Alexis Osorio Guevara

Student ID: 2437960

Intro

25 June 2026 13:20

Artificial Intelligence has become a key element of everyday life, assisting people in doing things more. There are so many people who are utilising AI for writing, coding, studying, making images, solving languages and arranging daily routines. While these technologies have many advantages, users frequently must use multiple applications to accomplish a task. This can prevent them from completing their tasks and make the job less convenient and efficient for them to carry out. The following is a proposal for an AI Virtual Assistant Platform: an application that integrates multiple AI services. The goal is to develop an easy-to-use web app that offers users AI-driven chatbots, code support, image generation, voice assistant, document summarisation, and other productivity tools—all in a single place. The project is aimed at enhancing the user experience, ensuring that the solution is simple, efficient, and accessible. The plan is broken down into 3 key tasks. The first task involves a mind map exploring creativity and innovation with the project idea and an explanation of how it can help the users. The second task outlines the research domain, project purpose, project objectives, research philosophy, and research approach to locating relevant research literature. The third task describes the methods of research to be employed and also covers ways in which validity, reliability, generalisability and ethical practice can be enhanced. It also outlines the data collection procedures, pilot study and quantitative and qualitative data analysis techniques to be used. In summary, this project aims develop a practical AI solution to assist users in their academic, professional, and personal endeavours. By following a user-centred approach and using appropriate research methods, the proposed AI Virtual Assistant Platform seeks to improve productivity while providing a more efficient and convenient way of using Artificial Intelligence.

Project proposal P1

25 June 2026 13:21

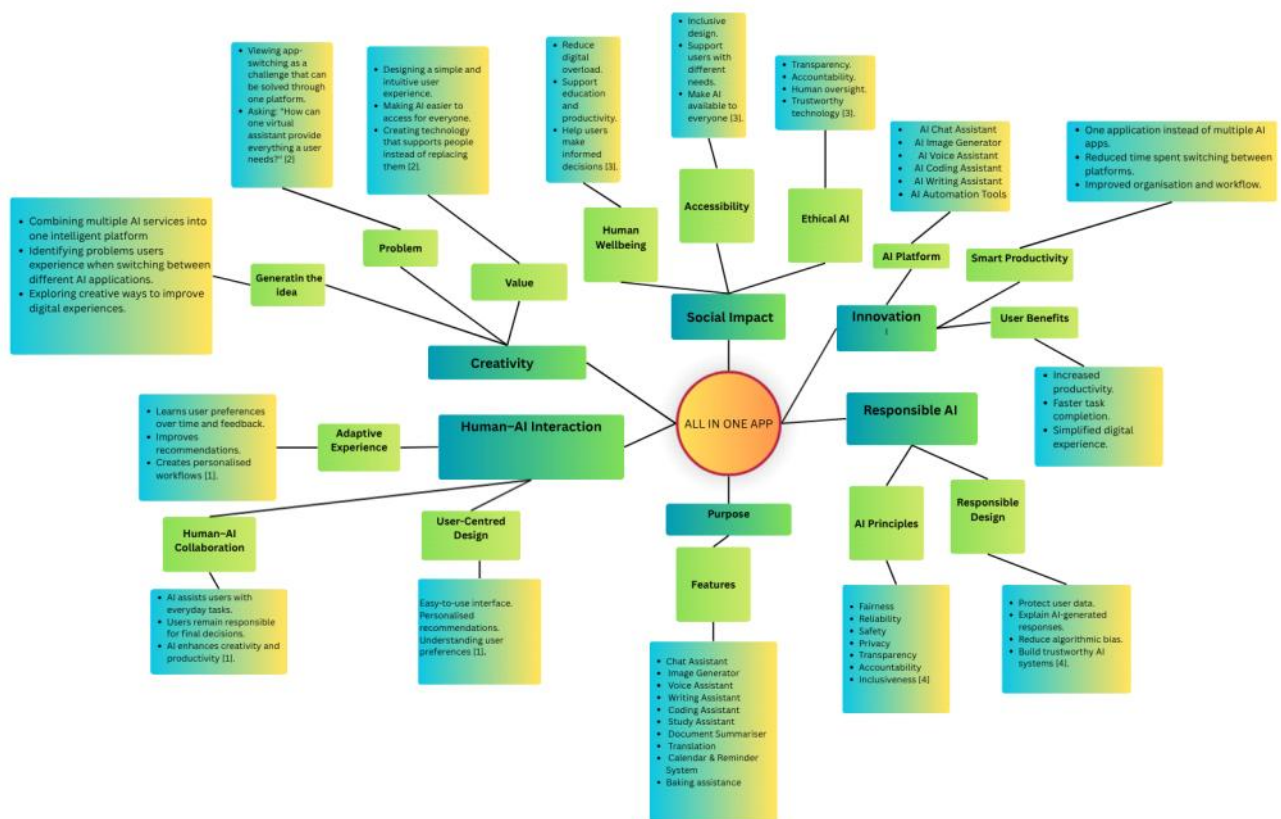


Figure 1: Mind map for All In One App.

Project proposal P2

Creativity
Creativity is the foundation of innovation because it enables people to develop original solutions to real-world problems. Rather than inventing entirely new technologies which involves more cost, creativity often involves improving existing ideas or combining them in more effective ways and keeping the human operation at any point[2].
Generating the idea: • Combining multiple AI services into one intelligent platform • Identifying problems users experience when switching between different AI applications. • Exploring creative ways to improve digital experiences. Problem • Viewing app-switching as a challenge that can be solved through one platform. • Asking: "How can one virtual assistant provide everything a user needs?" Value • Designing a simple and intuitive user experience. • Making AI easier to access for everyone. • Creating technology that supports people instead of replacing them [2].

Social Impact
Artificial intelligence should improve people's lives while respecting ethical principles and human values. Technology should prioritise human wellbeing, accessibility, accountability, and inclusion [3].
Human Wellbeing • Reduce digital overload. • Support education and productivity. • Help users make informed decisions [3] Accessibility • Inclusive design. • Support users with different needs. • Make AI available to everyone [3] Ethical AI • Transparency. • Accountability. • Human oversight. • Trustworthy technology [3].

Project proposal P2

Innovation
Innovation transforms creative ideas into practical solutions that improve everyday life.
AI Platform • AI Chat Assistant • AI Image Generator • AI Voice Assistant • AI Coding Assistant • AI Writing Assistant • AI Automation Tools Smart Productivity • One application instead of multiple AI apps. • Reduced time spent switching between platforms. • Improved organisation and workflow. User Benefits • Increased productivity. • Faster task completion. • Simplified digital experience.

Human–AI Interaction
• Human-AI interaction focuses on designing AI systems around the human needs, goals, and experiences of users. AI should support people by improving collaboration rather than replacing human decision-making [1].
Adaptive Experience • Learns user preferences over time and feedback. • Improves recommendations. • Creates personalised workflows [1]. Human–AI Collaboration • AI assists users with everyday tasks. • Users remain responsible for final decisions. • AI enhances creativity and productivity [1]. User-Centred Design • Easy-to-use interface. • Personalised recommendations. • Understanding user preferences [1].

Project proposal P2

Develop an all-in-one AI Virtual Assistant Platform that integrates multiple AI services into a single application.

- Chat Assistant
- Image Generator
- Voice Assistant
- Writing Assistant
- Coding Assistant
- Study Assistant
- Document Summariser
- Translation
- Calendar & Reminder System
- Baking assistance

Responsible AI

AI Principles

- Fairness
- Reliability
- Safety
- Privacy
- Transparency
- Accountability
- Inclusiveness [4]

Responsible Design

- Protect user data.
- Explain AI-generated responses.
- Reduce algorithmic bias.
- Build trustworthy AI systems [4].

Objectives

Artificial Intelligence (AI) is becoming an important part of everyday life. Many people use AI to help with writing, coding, studying, creating images, and organising their work. However, most AI tools are separate applications, meaning users have to switch between different platforms to complete different tasks. This can reduce productivity and make the overall experience less efficient.

My project is to design an AI Virtual Assistant Platform All in one app that combines different AI services into one application. The platform will include an AI chatbot, coding assistant, image generator, voice assistant, document support, and productivity tools. The design will follow a user-centred design approach, which means the platform will be developed around the needs of users to make it simple, useful, and easy to use. User-centred design also encourages involving users throughout the design process so their feedback can improve the final product [5].

Aim

To design an AI Virtual Assistant Platform that combines called multiple AI services into one easy-to-use application to improve productivity and simplify everyday tasks.

Objectives

- Investigate the features available in current AI virtual assistants.
- Identify the needs of users who regularly use AI tools.
- Design a platform that integrates AI chat, coding assistance, image generation, voice support, and productivity tools.
- Create a user-friendly interface that is simple to navigate.
- Evaluate whether the platform improves productivity by reducing the need to switch between different AI applications.

Philosophy

Research Philosophy

The research philosophy chosen for this project is Pragmatism. I chose this approach because my project focuses on solving a real problem by creating an AI Virtual Assistant Platform. Pragmatism is about finding practical solutions and choosing the research methods that work best for the project instead of following just one method [6].

This approach is suitable because I want to understand both the technical side of developing the application and the needs of the people who will use it. To do this, I will first review books, journal articles, and other reliable sources to learn about AI virtual assistants and user-centred design. I also plan to collect feedback from users through questionnaires or interviews to understand what features they would find most useful. If possible, I will test a simple prototype to see how users interact with it and identify any improvements that can be made.

Pragmatism gives me the flexibility to use different research methods if they help answer my research question. This makes it a good choice for a computing project because the main aim is not only to study a topic but also to design a practical solution that can improve the user experience. According to [6], researchers should choose the methods that best fit the problem they are trying to solve, which is why this philosophy is appropriate for my project.

Search tools

A good search strategy is important because it helps researchers find relevant and reliable information while reducing unrelated results. According to [7], an effective search strategy starts with selecting suitable keywords and combining them with Boolean operators such as AND and OR. They also explain that search strategies should be clear, well planned, and easy to repeat so that other researchers can understand how the information was found.

[8] highlights the importance of selecting the right research databases when carrying out a literature review. The author explains that no single database contains every relevant publication, so using more than one database increases the chances of finding high-quality research. The paper also introduces SearchSmart, a tool that helps researchers identify the most appropriate databases and search systems based on their research topic.

Based on these recommendations, this project will use trusted academic databases such as **Google Scholar, IEEE Xplore, ACM Digital Library, ScienceDirect, and SpringerLink**. These databases provide access to peer-reviewed journal articles, conference papers, and books, helping ensure that the information used in the project is reliable, relevant, and academically credible [7], [8].

The literature search was conducted using carefully selected keywords combined with Boolean operators to improve the accuracy of the search results. The following Boolean operators were used:

AND – Narrows the search by retrieving results that contain all specified terms.

Example: "AI virtual assistant" AND productivity

OR – Broadens the search by retrieving results that contain either of the specified terms. It is useful for searching synonyms or related concepts.

Example: "AI virtual assistant" OR "intelligent virtual assistant"

NOT – Excludes unwanted terms from the search results.

Example: "AI virtual assistant" NOT chatbot

Quotation marks (" ") – Searches for an exact phrase.

Example: "human-centred design"

Parentheses () – Groups related search terms to improve the accuracy of the search.

Example: ("AI virtual assistant" OR "intelligent assistant") AND "user experience"

Validity, reliability, generalisability and ethical considerations

To make this research trustworthy, I will consider validity, reliability, generalisability, and ethics throughout the project.

Validity means making sure the research collects information that is relevant to the project. To improve validity, the questionnaire will focus on users' experiences with AI tools and their opinions about the proposed AI Virtual Assistant Platform. A small pilot test will also be carried out before the main study to identify any unclear questions and make improvements [9].

Reliability refers to the consistency of the results. Every participant will complete the same questionnaire and view the same prototype. Using the same questions and process for everyone will help produce more reliable data [9].

Generalisability is about whether the findings can be applied to a larger group. Although this project uses a small sample, participants with different backgrounds and levels of AI experience will be invited to provide a wider range of opinions [9].

Ethical considerations are also important. Participation will be voluntary, informed consent will be obtained, responses will remain anonymous, and participants will be free to withdraw at any time. All data collected will only be used for this academic project and handled confidentially following BERA's ethical guidelines [10].

Data collection

This project will use primary data collection because it allows information to be collected directly from the people who will use the AI Virtual Assistant Platform. According to Mazhar et al. [11], primary data can be collected using methods such as questionnaires, interviews, observation, and databases. For this project, an online questionnaire is the most suitable method because it makes it easy to collect feedback from several participants in a structured and organised way [11].

The questionnaire will ask users about their experience with AI tools, the challenges they face when using different AI applications, and the features they would like to see in one AI Virtual Assistant Platform. In addition, participants will be shown a simple prototype of the application and asked to give their opinions on the design, navigation, and overall usability.

Before collecting the final data, a pilot study will be carried out with five participants. The purpose of the pilot is to check whether the questions are clear and whether the prototype is easy to understand. Any suggestions or comments from the participants will be used to improve both the questionnaire and the prototype before the main data collection begins. The pilot questionnaire and the feedback received will be included in the Appendix and discussed in the main report.

Quantitative and qualitative analysis

This project will use both quantitative and qualitative analysis to understand users' opinions about the AI Virtual Assistant Platform.

Quantitative analysis focuses on numerical data. In this project, closed questions from the questionnaire will be analysed using percentages, charts, and graphs. This will help identify patterns, such as the most requested AI features or how many participants use AI tools regularly. Quantitative analysis makes it easier to compare results and present the findings clearly [12].

Qualitative analysis focuses on non-numerical data, such as comments and opinions. Open-ended questions in the questionnaire will allow participants to explain their experiences and suggest improvements for the platform. The responses will be reviewed and grouped into common themes, such as usability, design, or additional features. This will provide a better understanding of users' needs and help improve the final design of the application [12].

By combining both types of analysis, the project will collect numerical results as well as detailed user feedback. This will provide a more complete understanding of what users expect from an AI Virtual Assistant Platform.



ALL IN ONE APP

YOUR AI ASSISTANT FOR EVERYTHING, IN ONE PLACE

An all-in-one AI Virtual Assistant Platform that combines multiple AI services in one easy-to-use application to improve productivity and simplify everyday tasks.



PROJECT OVERVIEW

Artificial Intelligence (AI) is widely used for writing, coding, studying, creating images, and organising work. However, most AI tools are separate applications, meaning users have to switch between different platforms to complete different tasks. This can reduce productivity and make the overall experience less efficient.

This project proposes an AI Virtual Assistant Platform – All in One App that combines different AI services into one application. It will provide a simple, efficient and user-centred solution for students, professionals and everyday users.

AIM

To design an AI Virtual Assistant Platform that combines multiple AI services into one easy-to-use application to improve productivity and simplify everyday tasks.

OBJECTIVES

- 1 Investigate the features available in current AI virtual assistants.
- 2 Identify the needs of users who regularly use AI tools.
- 3 Design a platform that integrates AI chat, coding assistance, image generation, voice support, and productivity tools.
- 4 Create a user-friendly interface that is simple to navigate.
- 5 Evaluate whether the platform improves productivity by reducing the need to switch between different AI applications.
- 6 Ensure the platform follows ethical and responsible AI principles.

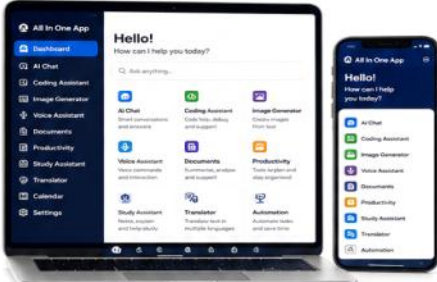
MAIN FEATURES

- AI Chat Assistant – Smart conversations and answers
- Coding Assistant – Code generation, debugging and support
- Writing Assistant – Grammar check, text improvement
- Voice Assistant – Voice commands and natural interaction
- Image Generator – Create images from text descriptions
- Document Summariser – Summarise long documents instantly
- Study Assistant – Notes, video help
- Translator – Translate text into multiple languages
- Calendar & Reminders – Manage tasks, events and reminders
- Automation Tools – Automate repetitive tasks easily

REFERENCES

- 1 Nielsen Norman Group. (2012). User-Centred Design Basics. www.nngroup.com
- 2 MacFarlane, A., Russell-Ross, T., & Shokraneh, F. (2022). Twelve Tips for a Good Search Strategy. *Education for Information*, 38(2), 91–104.
- 3 Gusenbauer, M. (2024). How to Find the Right Research Literature: SearchSmart Literature Review. *Management Review Quarterly*, 74, 17–37.
- 4 Mazhar, N., Janjua, P. Z., Ahmad, S., & Ahmed, A. (2021). Primary Data Collection: Methods and Tools. *International Journal of Research in Engineering and Science*, 9(4), 1–6.
- 5 Dehliwal, K., & Sharma, S. N. (2023). Exploring the Distinctions between Quantitative and Qualitative Research Methods. *Journal of Survey in Fisheries Sciences*, 27(1), 370–373.

ALL YOUR AI TOOLS IN ONE APP



EXPECTED BENEFITS

FOR USERS

- ✓ Save time with all AI tools in one place
- ✓ Increase productivity and efficiency
- ✓ Easy to use and accessible
- ✓ Better organisation and workflow

FOR SOCIETY

- ✓ Encourages responsible and ethical AI use
- ✓ Supports education, work and daily life
- ✓ Promotes accessibility and inclusion
- ✓ Helps improve overall human wellbeing

RESEARCH PHILOSOPHY

Pragmatism

This approach focuses on finding practical solutions by using the most suitable methods to answer the research question. It allows flexibility to use both qualitative and quantitative methods.

RESEARCH METHOD



DATA COLLECTION

- Online Questionnaire: Collect user opinions and preferences
- Prototype Evaluation: Users test the prototype and give feedback
- Pilot Study (5 Participants): Identify issues and improve the main questionnaire

DATA ANALYSIS

- Quantitative Analysis: Analyse numerical data using charts, graphs and percentages to identify patterns.
- Qualitative Analysis: Analyse open-ended responses to identify common themes and user insights.

RESEARCH PROCESS (OVERVIEW)



RESPONSIBLE AI

The platform will be developed following responsible AI principles:

- Fairness**: Treat all users equally without bias
- Privacy**: Protect user data and ensure confidentiality
- Transparency**: Explain how AI makes decisions
- Accountability**: Take responsibility for AI actions
- Reliability**: Ensure accurate and safe AI responses
- Human Oversight**: Keep humans in control of important decisions

RESEARCH QUALITY

- ✓ **Validity** – Questions are relevant and pilot tested to ensure accuracy.
- ✓ **Reliability** – Same process and questions for all participants.
- ✓ **Generalisability** – Diverse participants to achieve wider perspectives.
- ✓ **Ethics** – Informed consent, anonymity, right to withdraw, data used only for academic purposes.

KEYWORDS

Artificial Intelligence, Virtual Assistant, Human-Centred Design, User Experience, Productivity, Multi-Services Platform, AI Integration, Pragmatism, Ethics

One App. All AI Tools. Endless Possibilities.

Work Smarter. Save Time. Achieve More.

Designed for productivity. Built for everyone.

Questionnaire

Questionnaire

Thank you for taking the time to complete this questionnaire. I am developing an **All-in-One AI App** that brings together different AI tools, such as a chatbot, coding assistant, image generator, writing assistant, and productivity features, into one application.

The purpose of this questionnaire is to collect your feedback on the proposed app and understand what features users find most useful. Your responses will help improve the design and functionality of the application before the final version is developed.

The questionnaire will only take a few minutes to complete. Your participation is voluntary, and all responses will remain anonymous and will only be used for this academic project.

Link to access to the questionnaire. <https://eu.surveymars.com/q/NmqSjdHYt>

AI All-in-One App

1. How useful do you think an All-in-One AI App would be for your daily tasks?

- ☐ Very useful
- ☐ Useful
- ☐ Slightly useful
- ☐ Not useful

2. Which feature would you use the most in the app?

- ☐ AI Chat Assistant
- ☐ AI Coding Assistant
- ☐ AI Image Generator
- ☐ AI Writing Assistant

3. How easy does the app design look to use?

- ☐ Very easy
- ☐ Easy
- ☐ Difficult
- ☐ Very difficult

Questionnaire

4. What is the main benefit of having multiple AI tools in one application?

- ☐ Saves time by avoiding app switching
- ☐ Easier to organise work
- ☐ Better productivity
- ☐ All of the above

5. Overall, how likely would you be to use this application if it were available?

- ☐ Very likely
- ☐ Likely
- ☐ Unlikely
- ☐ Very unlikely

References

30 June 2026 20:08

- [1] Microsoft, "Responsible AI: Principles and approach," Microsoft. [Online]. Available: <https://www.microsoft.com/ai/principles-and-approach>. [Accessed: Jun. 30, 2026]
- [2] IEEE, Ethically Aligned Design: A Vision for Prioritizing Human Wellbeing with Autonomous and Intelligent Systems. Piscataway, NJ, USA: IEEE, 2022. [Online]. Available: <https://ethicsinaction.ieee.org/>
- [3] R. K. Sawyer, Explaining Creativity: The Science of Human Innovation, 4th ed. New York, NY, USA: Oxford University Press, 2024. [Online]. Available: <https://books.google.com/>
- [4] J.T. Jiang, Z. Sun, S. Fu, and Y. Lv, "Human-AI interaction research agenda: A user-centered perspective," Data and Information Management, vol. 8, no. 4, Art. no. 100078, 2024, doi:10.1016/j.dim.2024.100078.
- [5] Nielsen Norman Group, "User-Centered Design". [Online]. Available: <https://www.nngroup.com/topic/user-centered-design/>. [Accessed: Jun. 30, 2026].
- [6] V. Kaushik and C. A. Walsh, "Pragmatism as a Research Paradigm and Its Implications for Social Work Research," Social Sciences, vol. 8, no. 9, p. 255, Sep. 2019, doi: 10.3390/socsci8090255.
- [7] A. MacFarlane, T. Russell-Rose, and F. Shokraneh, "Search strategy formulation for systematic reviews: Issues, challenges and opportunities," Social Sciences, vol. 8, no. 9, p. 255, Sep. 2019, doi: 10.3390/socsci8090255.
- [8] M. Gusenbauer, "Searchsmart.org: Guiding researchers to the best databases and search systems for systematic reviews and beyond," J. Res. Synth. Methodol., Aug. 2024, doi: 10.1002/jrsm.1746.
- [9] L. Leung, "Validity, reliability, and generalizability in qualitative research," J. Family Med. Prim. Care, vol. 4, no. 3, pp. 324–327, Jul. 2015, doi: 10.4103/2249-4863.161306.
- [10] British Educational Research Association, *Ethical Guidelines for Educational Research*, 5th ed. London, U.K.: BERA, 2024. [Online]. Available: <https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-2024>.
- [11] S. A. Mazhar, R. Anjum, A. I. Anwar, and A. A. Khan, "Methods of Data Collection: A Fundamental Tool of Research," *Journal of Integrated Community Health*, vol. 10, no. 1, pp. 6–10, 2021, doi:10.24321/2319.9113.202101.
- [12] K. Dehalwar and S. N. Sharma, "Exploring the Distinctions between Quantitative and Qualitative Research Methods," *Journal of Survey in Fisheries Sciences*, vol. 27, no. 1, 2023.