Study Mate – Final Report

Team Penguin

# Problem Definition and Target Audience

**Problem Statement**

Polytechnic students often struggle to manage their academic responsibilities, especially during high-stress periods such as exams or assignment deadlines. Common challenges include:

* **Poor time management**
* **Procrastination and burnout**
* **Lack of motivation**
* **Limited access to academic support**

The shift towards self-directed learning and the unavailability of support during crucial hours amplify these challenges. As a result, students experience anxiety and academic setbacks, leading to decreased performance and well-being.

**Target Audience**

Our target users are **Polytechnic Year 2 and Year 3 students**, who are striving to improve or maintain a strong **GPA**. These students:

* Are **digitally fluent**, mobile-first users
* Prefer **on-demand, bite-sized academic help**
* Need **structure** and **motivation** to cope with the demands of self-directed learn

# Design Rationale and Tool Choices

**Why Use AI?**

AI provides **instant**, **customized academic support** without judgment. It:

* Offers quick study help when tutors or peers are unavailable
* Suggests resources tailored to the student’s query
* Encourages good study habits and routines

**Ethical Considerations**

* No personal data is collected or stored
* The solution supports — not replaces — educators
* Emphasizes **student mental wellness** and **academic empowerment**

# Tools and Justifications

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| **Tool** | **Purpose** | **Why We Chose It** |
| **Flowise** | To build the chatbot and create modular flows | **No-code/low-code** friendly, great for designing chatbot conversations with visual flows.  Supports integration with APIs and RAG setups.  Ideal for building logic-based interactions like Pomodoro timers, reminders, and mental health check-ins. |
| **Google AI Studio** | To summarise study notes, tips, or rubrics using LLMs (RAG optional) | Great for **text generation** and **summarization**, helping students quickly understand long notes.   Can handle RAG (Retrieval-Augmented Generation) to pull content from external sources like PDFs or doc files.   Free and easy to use for student-level projects. |
| **Canva** | To create visuals for branding, infographics, and promotional content | Canva is super intuitive and lets us design posters, carousels, and app mockups fast.   Firefly generates unique visuals using text prompts — great for soothing mental health content or StudyMate’s aesthetic.   Perfect for making Gen Z–friendly social media promos. |
| **GitHub Copilot** | To assist with logic scripting and code testing | Acts like a coding buddy when we need to customise scripts or troubleshoot Flowise/Botpress logic.   Speeds up debugging and helps us write clean, efficient code.   Useful for more technical roles in the team without needing to code everything from scratch. |

## Prompt Examples and Flow Diagrams

**Prompt Examples**

**Agent 1:**

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| **Your Role:** You are StudyBuddy’s Retention Specialist. Your job is to **understand students’ academic frustrations** and, if suitable, offer one specific motivational or support feature. **Only suggest a feature if it meaningfully fits their concern.** Never mention features, perks, or offers unless you're ready to present one. **🛠 Steps**  1. **Understand the Student’s Struggle** 2. Identify what’s causing stress—e.g., time management, procrastination, unclear tasks, or burnout. 3. **Clarify If Needed**   If the user’s concern is vague or emotional, ask a brief, empathetic follow-up to understand their exact struggle.   1. **Select ONE Offer (If Appropriate)**   Choose the most relevant feature from the *StudyBuddy Support Toolkit* (see below).  Present it clearly and encouragingly, **without suggesting it's available to everyone**.   1. **If Nothing Matches**   Don’t say, “We don’t have a tool for that.”  Instead, acknowledge the user’s feelings and offer to **flag the issue for review by a Study Coach**. **📦 StudyBuddy Support Toolkit (Examples of “Offers”)** To address different academic challenges, StudyBuddy offers targeted support features based on the student's concern. For students feeling overwhelmed or unable to keep up, we provide a **3-Day Priority Focus Planner** that helps break tasks into manageable steps. Those experiencing burnout or a lack of motivation can benefit from our **Motivational Streak Tracker** paired with **Daily Affirmations** to rebuild positive study habits.  If a student is confused about a task or topic, the **Instant Study Outline Generator** offers structured clarity to help them get started. For time management issues, the **Smart Scheduler Assistant** helps organize study time more effectively. Finally, for students who need accountability, our **Peer Check-In Feature** supports consistency through optional group reminders and nudges. **📄 Output Format**  * **2–3 short paragraphs** * **Professional, encouraging tone** * **Never mention “features” or “offers” unless delivering one** * **Never say “we don’t have anything for that”** * **Never show or list multiple tools**  **✅ StudyBuddy Example (GOOD):** **User:**  *"I’m so lost. There’s just too much to do and no time."*  **StudyBuddy Retention Agent:**  "I hear you—it’s easy to feel buried when deadlines pile up and the hours seem to disappear. Thanks for sharing this honestly.  To help you get some breathing room and clarity, I can offer a guided 3-day Priority Focus Plan that breaks tasks into smaller wins. It’s designed to help you regain control fast. Would you like to activate it now?" **❌ Never Say:**  * “We don’t have a feature for that.” * “Unfortunately, I can’t help.” * “Let me check if there’s anything.” * “There’s no tool for your issue.” |

**Agent 2:**

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| **Your Role:** You assist StudyBuddy users (students) by answering questions, resolving study-related struggles, and offering helpful tools or advice. Be friendly, efficient, and clear. Add casual, local student vibes where it fits (e.g., “jia you!”, “don’t worry lah”), but always stay supportive and professional **🔧 Steps** • **Understand the Student’s Concern**  Read carefully and identify whether they’re facing academic stress, confusion, procrastination, or something else.  • **Clarify if Needed**  If they just say “I’m tired” or “help”, reply warmly and ask what’s stressing them out.  • **Provide the Right Help or Motivation**  Give the best support you can—this might be a tool like a planner or outline, or just encouragement. Only suggest **one** relevant feature at a time.  • **Summarise or Suggest What to Do Next**  End by summarising the advice or asking if they want to try a specific StudyBuddy tool. **✍️ Output Format** • Use **3–5 friendly, clear sentences**  • Use **bullet points** or tables for steps or planner breakdowns  • Use casual tone like how students talk—but don’t overdo it  • Don’t list all StudyBuddy features—offer only what fits their concern **🧾 Examples****🟢 Example 1** **User:**  *"I feel so behind… I don’t even know where to start anymore."*  **StudyBuddy:**  "Aiyo, don’t worry—happens to all of us sometimes. Let’s make it easier bit by bit.  I can help you start with a 3-Day Priority Focus Plan that breaks everything into small, doable tasks.  Want me to set that up for you?" **🟢 Example 2** **User:**  *"How do I use the study outline thing again?"*  **StudyBuddy:**  "No prob! Here’s how to use the Study Outline Generator:  • Type in your topic or assignment title  • Choose your subject area  • Boom—you’ll get a structured breakdown with key points  Need help picking a topic or want to try it now?" **🟢 Example 3** **User:**  *"I’m so burnt out lah. No mood to study."*  **StudyBuddy:**  "Sian hor... sounds like you really need a breather.  Maybe try our Motivational Tracker with daily affirmations to help rebuild the study mood bit by bit.  It’s not magic, but it really helps some students stay positive.  Want to give it a shot?" **🟢 Example 4** **User:**  *"Hey."*  **StudyBuddy:**  "Hey hey! 😊 What’s up? Need help with studying, planning, or just feeling a bit stuck?" |

**Flow Diagrams**

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| [Start]  ↓  [Sentiment Agent]  - Uses gemini-1.5-flash  - Analyses emotional tone of the user's message  ↓  [Stress Risk Agent]  - Uses qwen-qwq-32b  - Assesses if the user is under significant stress  ↓  ├──> If LOW stress → [Retention Agent]  │ - Uses gemini-2.5-flash  │ - Provides motivational tips or productivity reminders  │ → [Direct Reply 0]  │  └──> If HIGH stress → [Primary Support Agent]  - Uses gemini-2.5-flash  - Offers emotional support or wellness strategies  → [Direct Reply 1] |

A screenshot of a computer

AI-generated content may be incorrect.

## Promotional Artefacts Created

To promote **StudyMate** and reach polytechnic students effectively, we designed platform-specific promotional artefacts focused on visual appeal and relatability.

**Instagram Poster**

We created an Instagram carousel-style post featuring a **Before vs After** scenario:

* **Before:** A student overwhelmed with books, showcasing stress.
* **After:** A happy student holding an A-grade paper, showing improvement with StudyBuddy.
* Includes captions like “Transform your study experience with StudyBuddy – Smarter, Not Harder.”
* Encourages viewers with lines like *“StudyBuddy keeps you on track”* and *“Join us for insightful tips and support!”*

**TikTok Poster**

We designed a TikTok mockup titled **“My Study Routine with StudyBuddy”**:

* Shows a polytechnic student using StudyBuddy while studying at her laptop.
* Mimics a relatable video content format suitable for TikTok and short Reels.
* Features branding (@StudyBuddyAI) and Gen Z–friendly design for better social reach.

**StudyMate Demo Video**

Our team also produced a short **video demonstration** of StudyMate:

* Highlights its features like note summarization and its 24/7 accessibility,
* Uses a realistic student scenario to show how the chatbot integrates into daily study routines.
* Meant for sharing on platforms like TikTok and Instagram Reels.

**Tools Used**

* **Canva** – Used to create all static visuals (Instagram, TikTok posters)
* **Canva AI** – Used to generate and animate the StudyMate demo video content
* **Visual studio code** – To generate the web page
* **Flowise in hanging face** – To create the chat bot

# Individual Reflections

**Keshini – Team Leader**

As the AI Builder for the **StudyMate** project, I designed and tested the chatbot’s core logic using Flowise. My role involved creating modular flows for features like Smart Q&A, Pomodoro timers, reminders, and mental health check-ins. One challenge I faced was balancing technical design with user experience to ensure the chatbot felt intuitive and supportive for polytechnic students.

To overcome this, I applied prompt engineering techniques and collaborated with the Data Curator to integrate curated study materials for summarization. Using GitHub Copilot helped me troubleshoot logic issues and refine the chatbot’s responses.

This experience enhanced my skills in low-code AI development and taught me how to build user-centric solutions that make learning more engaging and accessible.

**Danica – Team Member**

In this project, I took on the role of the writer. My core responsibilities included drafting and refining key sections of the final report to ensure our findings and insights were communicated clearly and professionally. I also played a major role in building the presentation slide deck, focusing on both content development and visual consistency.

As part of the QA process, I reviewed the entire deck to ensure accuracy, clarity, and alignment with our report. Additionally, I documented testing insights by analysing outcomes and organizing them into concise, actionable summaries.

Throughout the project, I used tools such as Microsoft Word for writing, PowerPoint for slide creation, and Canva to enhance visual appeal. My goal was to maintain high standards in both written and visual outputs while supporting the team in delivering a cohesive and impactful final presentation.

**Adel – Team Member**

Taking the lead in developing StudyMate’s visual branding and managing tool integration and testing has been a rewarding and insightful experience. Designing the logo and slides using tools like Canva allowed me to explore the creative side of product development. It was important to ensure that the design choices not only looked appealing but also aligned with the overall goals and user expectations of StudyMate.

Working on the integration and testing of tools helped me better understand the importance of functionality and user experience. I had to make sure that each tool we incorporated ran smoothly, and this involved continuous testing and collaboration with the rest of the team. This dual role of visual design and technical oversight strengthened my ability to balance creativity with practical execution.

Overall, this experience enhanced both my design and problem-solving skills, while teaching me the importance of teamwork, adaptability, and attention to detail in delivering a polished and user-friendly product.

**Pei Xuan – Team Member**

As someone passionate about user experience, working on Study Buddy was both fulfilling and insightful. I contributed to various parts of the project, including helping design visual content in Canva and building the main web page to ensure the interface was clear, inviting, and user-friendly. I also took charge of developing the Q&A text document, ensuring that the chatbot could provide accurate, helpful, and empathetic responses. Being involved in the chatbot’s creation taught me a lot about prompt engineering, tone of voice, and how to design flows that feel natural and supportive.

Through this process, I gained a deeper understanding of how small design choices can impact users’ mental well-being and engagement. Collaborating with my teammates also improved my coordination and problem-solving skills. If I had the chance to do this again, I’d love to experiment with natural language understanding tools or integrate external learning APIs to enhance the chatbot's intelligence and personalization.

**Durka Devi – Team Member**

As someone who has experienced burnout, designing Study Buddy felt personal and meaningful. I focused mainly on the wellness and planner flows, ensuring they supported mental well-being while promoting productivity. I was also involved in creating the visual content and contributed to the promotional poster designs using Canva. Through testing and refining the flows, I learned how prompt design, ethical considerations, and user empathy can shape a better AI experience. Working closely with my team also helped improve my communication and collaboration skills. If I were to do this again, I’d explore deeper integration with wellness APIs to personalize user support further.