**Goal**  
To develop a web-based AI Buddy system that interacts with University of Newcastle (UoN) students to identify their challenges and direct them to the appropriate university resources in a timely and efficient manner.

**Key Features**

* **Interactive Chatbot**  
  An AI-powered chatbot capable of conducting natural, conversational dialogue with students to build trust and encourage open sharing.
* **Problem Identification**  
  The chatbot will ask targeted questions to understand the student’s specific challenges, which may include:
  + Academic pressure or study-related stress
  + Social adjustment and homesickness
  + Mental health and emotional wellbeing
  + Time management and productivity
  + Cultural adaptation and language difficulties
  + Domestic or family issues
  + General life challenges
* **Keyword Recognition Engine**  
  The AI will use natural language processing (NLP) techniques to extract key phrases and categorize issues, enabling more accurate referrals and support.
* **Resource Direction Module**  
  Based on the categorised challenge, the system will recommend appropriate university resources. This may include:
  + UoN counselling services
  + Academic support or faculty advisors
  + Student engagement officers
  + Cultural support and mentoring programs
  + Emergency contacts (when necessary)

Resource links will include department names, email addresses, and where appropriate, phone numbers or direct contact forms.

* **Conversation Logging System**  
  All chatbot-student interactions will be securely logged (with user consent) for the purpose of system monitoring and refinement.
* **Backend Analytics Engine (Phase 2)**  
  In a future phase, conversation logs (unstructured text data) will be analysed to:
  + Detect common trends and emerging student issues
  + Refine the AI’s question-and-response strategy
  + Suggest university service improvements based on actual usage patterns

**Target Users**

* Current UoN students (domestic and international, undergraduate and postgraduate)

**Platform Requirements**

* **Frontend Platform**: Web-based interface
  + Accessible via the **UoN Student Portal**
  + Optimised for **Google Chrome** browser
  + Built using **HTML/CSS/JavaScript**, running on **Nginx** with a **PHP-based UI** layer for session handling and interaction management
* **Backend System**:
  + AI model engine to be powered by **GPT-2** or a similar large language model (open-source alternatives or API-based LLMs may be evaluated)
  + Secure backend services to manage conversations, student session data, and analytics, designed for future scalability
  + Deployed on a Linux-based environment with support for API requests and storage

**Security & Privacy Considerations**

* All personal data will be handled according to university privacy policies and relevant data protection laws (e.g., GDPR if applicable).
* Users will be informed of data logging and asked for consent prior to any storage of interaction content.
* Data will be anonymised for analytics in Phase 2 to protect individual privacy.