Product Requirements Document (PRD)

*… with vibe!*

🎯Your Mission

* **Project Name**: UniversityPathways.AI
* **One-Line Pitch**: A centralized AI-powered platform that helps polytechnic students in Singapore quickly find GPA requirements for local university courses.
* **Why It Matters**: Polytechnic students face the frustrating challenge of searching multiple university websites for GPA cut-offs. This platform delivers **epic value** by streamlining the search with **AI-powered retrieval** and **personalized suggestions**, reducing time, stress, and decision fatigue.

🚀Objectives & XP

* **Objectives (Level Up!):**
  + ✅ **Centralize Information Access**: Aggregate GPA cut-off data from university sources into a single platform.
  + ✅ **Automate Discovery & Personalize Guidance**: Use RAG and scraping to dynamically retrieve up-to-date info and recommend pathways tailored to students’ GPA.
* **Success Metrics:**
  + ✅ 90%+ task success rate in user testing (e.g., "find GPA for NUS Computer Science")
  + ✅ 70%+ of surveyed users report time savings and improved confidence in decision-making

👥 Who’s Playing

|  |  |  |
| --- | --- | --- |
| **Persona** | **Wants…** | **So they can…** |
| Final-year Poly Student | Know which unis accept their GPA | Make informed decisions quickly |
| School Counsellor | Provide trusted GPA data fast | Guide students without manually checking each website |
| Academic Advisor | Spot trends in GPA expectations | Help students plan ahead strategically |

🛠️Must-Haves & Bonus Rounds

* **Core Features:**
  + ✅RAG pipeline to retrieve GPA info from documents
  + ✅Web scraping module for extracting GPA info from university websites
  + ✅Search UI for students to input course/university and see GPA requirements
  + ✅Personalization engine to match student's GPA to possible options
  + ✅Document store integration for offline documents (e.g., PDFs, handbooks)
* **Bonus Rounds:**
  + GPT-based chatbot assistant for quick questions
  + GPA calculator integration
  + International Universities Pathways
* **Non-Functional Goals:**
  + Lightweight and fast-loading interface
  + Clear error handling with retry or manual override options
* **Team & Tools**
* **Dev Setup:**
  + VS Code + GitHub Copilot + Live Server extension
  + Plain HTML5, CSS3 and modern JavaScript (ES6+)
* **APIs:**
  + Weather API: [Name + URL]
  + Finance API: [Name + URL]

💻Vibe Coding Plan

We’re building a zero-backend static site. However you can build sites with backends, databases and other features with the same tools.

🔍**Clarify & Configure**

* 🎯 AI Kickstart Prompt:  
   "Generate index.html, css/styles.css, js/app.js. Add Live Server config and .gitignore for .DS\_Store and node\_modules."
  + - 🎯 Review File Structure & Commit
    - git commit -m "Initial static site scaffold"
* **🎯 Prototype & Flow**
  + - 🎯 Stub UI: Basic HTML search form for "university + course name
    - 🎯 AI Assist: Use Copilot to write JS fetch calls to mock API endpoints
    - 🎯 Fast Loop: Test UI with hardcoded data → connect to working endpoints
* **🎯 Integrate & Validate**
  + - 🎯 Replace mock with real scraping output or RAG result from Flowise
    - 🎯 AI-Test Prompt:  
       "Write JS to display API response in a div, handle loading/error states."
    - 🎯 Browser Debug: Use DevTools to verify success/error states

✅**Integrate & Validate**

* 🎯 Replace mock with real scraping output or RAG result from Flowise
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   "Write JS to display API response in a div, handle loading/error states."
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📦**Refine & Ship**

* 🎨 **Style It**: Tweak CSS for layout and visual polish.
* 🛡 **Robustness:** Add JS try/catch, user feedback (loading spinners, error messages).
* 📄 **Docs & Comments**: Update README with instructions on Live Server and usage.
* 🚀 **Deploy**: Push to GitHub and enable GitHub Pages for free hosting.

📆 **Milestones & Level Ups & Level Ups**

* **Week 1**: Project setup & skeleton complete
* **Week 2**: MVP with mock data ready
* **Week 3**: Full API integration tested
* **Week 4**: Polished app & deployment

🧪 **Test It!**

* Use Co-Pilot to write test plans and execute them.

*Customise anything to make this project truly yours. Good luck and have fun!*