

Assessment 2

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Practical and Professional Development of the
Proposed Project

MODULE NAME: CHANGEMAKERS, CREATIVITY AND VALUE CREATION

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STUDENT NAME: MAURICIO HONORATO ACORDI

STUDENT ID: 2429788

LECTURER: DR. FAHAD AHMAD

TRINITY SAINT DAVID UNIVERSITY OF WALES (LONDON CAMPUS)

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Introduction

This assignment presents the concept and evaluation of Skill Bridge, an online platform created to help university students exchange skills and knowledge through a collaborative learning model. While there are already several platforms that support skill-sharing and peer learning, most are designed for the general public or freelance markets rather than the specific needs of higher education students. Skill Bridge is differentiated by focusing exclusively on university users, creating a trusted academic community where students can develop both academic and employability skills in a relevant environment.

As higher education becomes increasingly competitive and digitally focused, many students face challenges in accessing affordable support to improve their capabilities. Traditional options such as tutoring, training courses, and mentoring can be expensive, limiting opportunities for many learners. Skill Bridge addresses this issue by allowing students to teach skills they already possess while learning new ones from their peers, encouraging collaboration and equal access to development opportunities.

The purpose of this report is to apply project management methods, enterprise awareness, and innovation thinking to the development of a realistic technology-based solution. It examines key areas such as project planning, platform functionality, commercial viability, and the wider external environment. By combining academic theory with practical application, the report demonstrates how digital innovation can generate value for students, educational institutions, and society while also supporting the development of professional and technical competencies throughout the project process.

Project Management & Planning

Project Scope

Effective project management is essential to ensure that **Skill Bridge** is developed in a structured, efficient, and controlled manner. It provides the framework required to define objectives, allocate resources, manage risks, and monitor progress throughout the project lifecycle. A clear scope is particularly important in digital projects, as it helps prevent scope creep, delays, and inefficient use of resources [1].

The chosen project is the development of **Skill Bridge**, a peer-to-peer skill exchange platform designed specifically for university students. The primary objective is to address the issue that many students possess valuable skills and knowledge but may lack the financial means or access to formal training in other areas. The proposed solution is a web-based application where users create profiles outlining the skills they can teach and those they wish to learn. The platform then uses a matching system to connect students with compatible peers for mutual learning opportunities [2].

The project scope for the initial version includes several core features required to create a functional minimum viable product (MVP). These features consist of user registration and authentication, profile creation, a skill-matching algorithm, session booking with calendar integration, real-time messaging, a rating and review system, and a gamification engine to encourage engagement. The platform will initially be launched as a web application, with a mobile version considered for future development phases. Features excluded from the MVP include payment processing systems, employer dashboards, and native mobile applications, allowing resources to remain focused on core user needs and timely delivery.

Required Technologies and Resources

The technology stack was selected based on developer familiarity, community support, and suitability for the type of application being built. The table below summarises the main tools and justifications for each choice.

Layer	Technology	Reason for Choice
Frontend	React.js + Tailwind CSS	Component-based architecture allows for rapid UI development and easy maintenance as the platform grows.
Backend	Node.js + Express.js	Non-blocking I/O handles multiple simultaneous user connections efficiently, important for real-time messaging.
Database	PostgreSQL + Redis	PostgreSQL stores relational data (users, sessions, reviews). Redis handles caching for leaderboards and session tokens.
Matching Engine	Python + scikit-learn	Cosine similarity model compares user skill profiles to generate match scores — straightforward to implement and tune.
Authentication	Auth0 (OAuth 2.0)	Provides secure login via Google or GitHub with minimal setup, reducing security risks from custom auth implementation.
Hosting	AWS (EC2, S3, RDS)	Free tier covers development and early beta. Easily scales as the user base grows without changing the architecture.
DevOps	GitHub Actions + Docker	Automated CI/CD pipeline ensures consistent builds and deployments across environments.

Figure 1: SkillBridge technology stack (Source: Self-developed).

In terms of human resources, the initial development team consists of one main developer (myself) with two additional contributors joining from month three onwards

to support testing and front-end design. Cloud infrastructure will use AWS free tier during development, keeping costs at near zero for the MVP phase.

Project Timeline and Schedule

The project will be completed over a **12-week schedule** divided into six phases: planning and research (weeks 1–3), data collection and requirements analysis (weeks 3–4), feature development (weeks 5–7), testing and validation (weeks 8–9), deployment (weeks 10–11), and final evaluation and documentation (week 12). Each phase has defined deliverables and the phases overlap slightly to allow for iteration — for example, some design work continues while early development begins.

The Gantt chart below was created to visualise these overlaps and help manage time and resources across the project. Each phase is colour-coded for clarity.

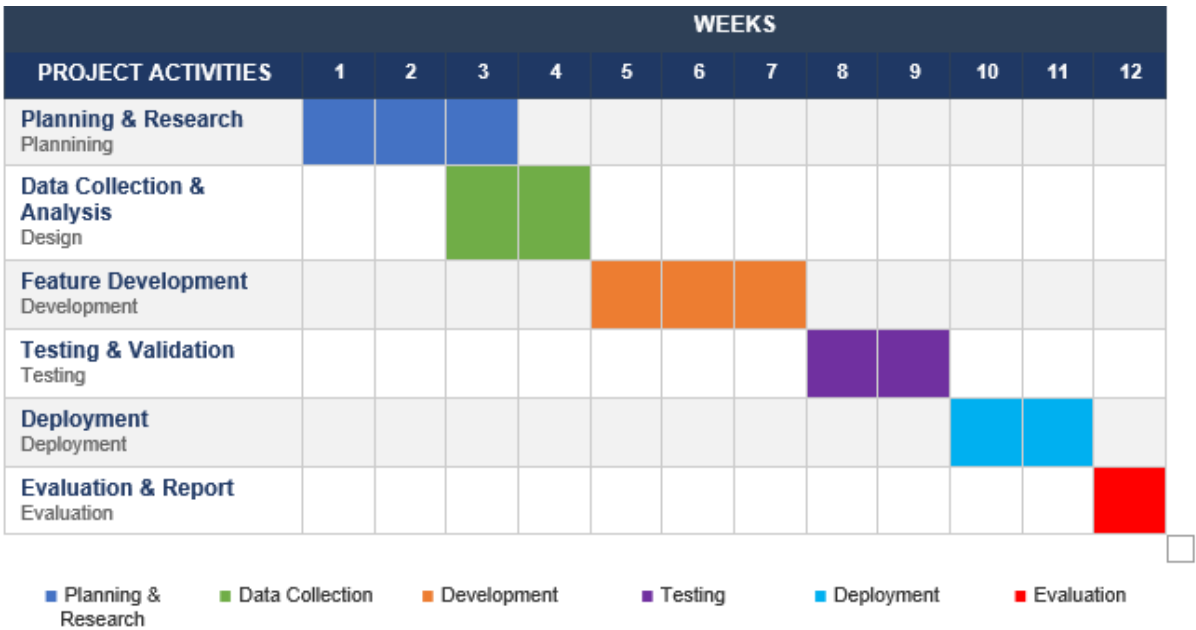


Figure 2: SkillBridge Gantt Chart (12-week project timeline) (Source: Self-developed)

A **Gantt chart** is used within this project to illustrate the sequence of activities, task dependencies, and overlaps between development stages, allowing time and resources to be managed more effectively [3]. By presenting the schedule visually, it becomes easier to monitor progress, identify critical tasks, and ensure that milestones are achieved within the planned timeframe. This is particularly valuable for technology projects where multiple activities, such as design, development, and testing, may occur simultaneously.

However, the project may be influenced by several constraints that could affect delivery. These include limited access to real-time user data during the early development stages, budget restrictions that may reduce the availability of premium third-party APIs, time pressure created by academic submission deadlines, and the challenge of

operating as a single developer during the first phase of the project. Recognising these constraints at an early stage supports more realistic planning and effective risk management [4].

Development Method

The chosen development methodology for Skill Bridge is Agile Scrum. This approach is considered appropriate because the platform is user-focused and its requirements are likely to evolve over time, particularly once prototype testing and beta-user feedback begin. A traditional linear model such as Waterfall would offer less flexibility when responding to changing requirements or emerging user expectations [5].

Under Scrum, the project is divided into two-week sprint cycles. At the beginning of each sprint, tasks are selected from the product backlog and prioritised according to business value and development urgency. Progress is monitored through regular stand-up meetings, while each sprint concludes with a review session to demonstrate completed work and a retrospective meeting to identify improvements for the next cycle. This iterative structure encourages continuous improvement, transparency, and efficient problem-solving.

The Agile approach is especially suitable for a start-up style concept such as Skill Bridge because it enables the continuous delivery of working software, allowing features such as the matching algorithm, user interface, and booking system to be tested and refined throughout development. Project management and collaboration tools such as Jira for backlog control, GitHub for version control, and Confluence for documentation can be used to support effective delivery and team coordination [6].

Project Design

The design work for SkillBridge covers four main areas: the requirements specification, a data flow diagram, a system flow diagram, and a low-fidelity dashboard wireframe. These are presented together in the figure below as a single project design overview, similar to how a developer would present them at the start of a sprint.

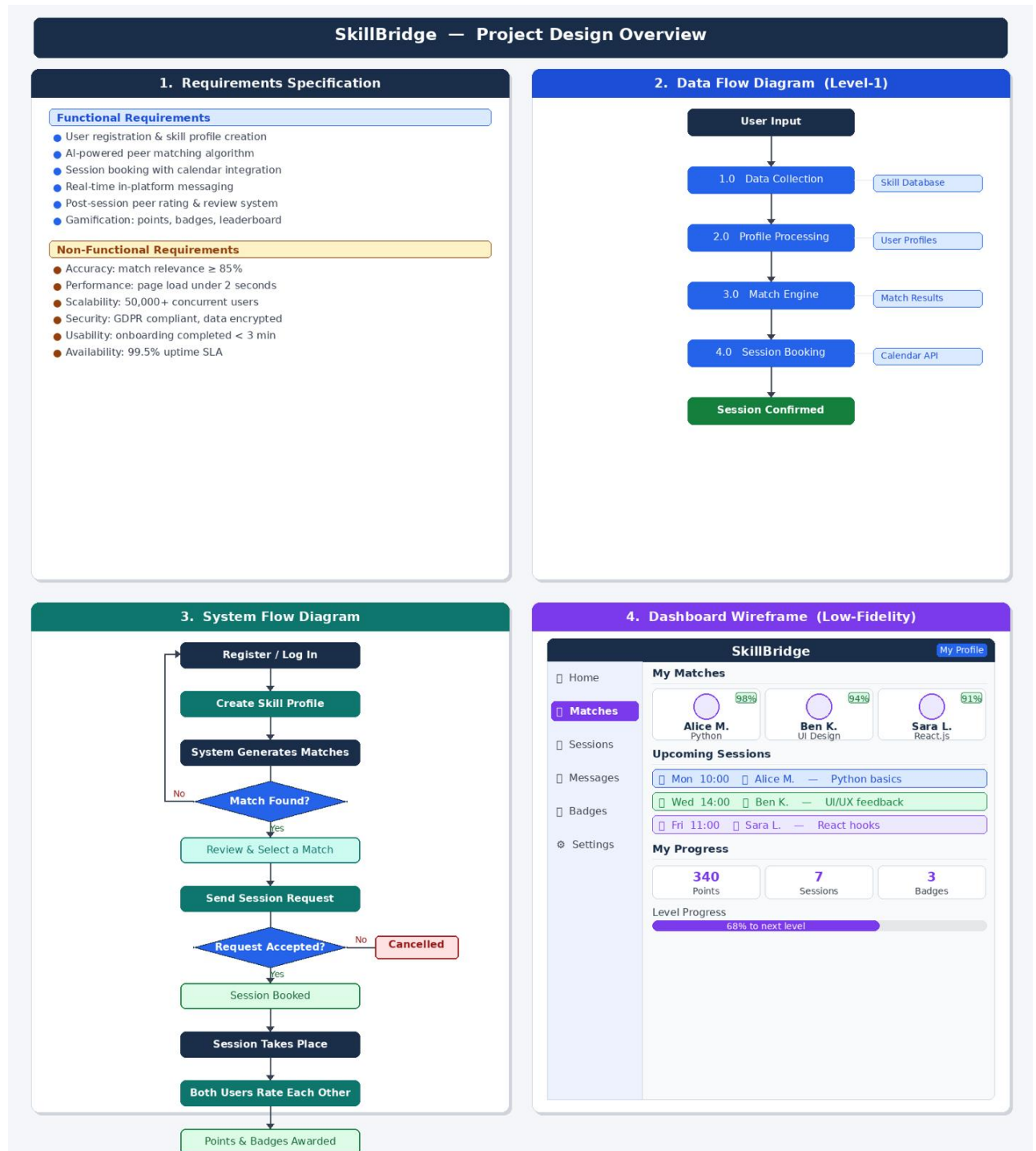


Figure 3: SkillBridge project design overview. requirements, data flow, system flow, and wireframe (Source: Self-developed)

The requirements specification defines what the system must achieve. Core functional requirements include user registration, profile creation, skill matching, session booking, and peer reviews. Non-functional requirements focus on performance, scalability, and data security, including GDPR compliance.

The data flow diagram explains how information moves through the platform. User data is collected, processed into profiles, analyzed by the matching engine, and then used within the session booking process. This ensures efficient movement of information across the system.

The system flow diagram outlines the user journey from registration to completed sessions. Users create profiles, receive match suggestions, request sessions, attend meetings, and receive points or badges after providing feedback. This creates a structured and engaging experience.

Finally, the dashboard wireframe presents the initial interface layout, including navigation tools, matched users, upcoming sessions, and progress tracking. Keeping the design low-fidelity allows changes to be made quickly based on early feedback before full development begins.

Enterprise & Innovation

T2-Enterprise

Q1- PEST Analysis

The PEST analysis below examines the macro-environmental factors that could affect SkillBridge as a technology start-up operating in the education sector. Each factor has been evaluated with a specific focus on its implications for the platform's development and growth.

Factor	Key Considerations	Impact on SkillBridge
Political	Government funding for EdTech, GDPR, online safety legislation	The EU Digital Education Action Plan and UK Online Safety Act create both compliance requirements and support opportunities for platforms like SkillBridge.
Economic	Rising cost of education, growth of the gig economy, inflation	Students are increasingly looking for low-cost ways to upskill. The gig economy has normalized skill-based exchanges outside traditional employment.
Social	Gen-Z preference for collaborative learning, diversity in education	Research from the OECD (2022) shows that younger students engage more with peer-driven and experiential learning formats than traditional lectures.
Technological	AI development, cloud infrastructure, mobile-first behaviour	Accessible cloud services (AWS, Google Cloud) and open-source ML libraries make it feasible to build a matching algorithm at low cost with a small team.

Table 1: PEST Analysis for SkillBridge (Source: Self-developed)

Legal and ethical considerations

Legal and ethical considerations are essential in the development of Skill Bridge, particularly due to the collection and processing of user data. From a legal perspective, the platform must comply with the General Data Protection Regulation (GDPR), ensuring that personal information such as names, university details, and communication records is collected lawfully and with explicit user consent. Users must also be informed about how their data is stored, processed, and used within the matching system.

Another legal issue relates to intellectual property rights. If users share original content, code, or unique methods during learning sessions, ownership and permitted use of that material should be clearly defined within the platform's Terms of Service.

From an ethical perspective, the main concern is algorithmic bias within the matching engine. If data patterns reflect existing inequalities, some users could be unfairly disadvantaged during the matching process. To reduce this risk, regular system audits, transparent decision-making processes, and ethical development standards such as the ACM Code of Ethics should be applied throughout the project lifecycle.

SWOT Analysis

Strengths • Strong network effect potential once critical mass is reached • Low marginal cost - the value is user-generated • Gamification boosts retention significantly • No tuition fees required - purely a skills exchange • Can scale internationally with minimal structural changes	Weaknesses • Cold start problem - needs users to be useful for users • Quality of sessions depends on user commitment • Trust is hard to build early on without reviews • Solo development means slower initial progress • Limited brand recognition at launch
Opportunities • EdTech market projected to reach \$404B by 2026 • Growing demand for peer and collaborative learning • University partnerships can provide early user base • EU Digital Education Action Plan supports this model • Potential to expand into employer-facing recruitment tools	Threats • Established platforms like Coursera and LinkedIn Learning • GDPR non-compliance risks can be costly • Low user retention is a known challenge in peer learning • Potential misuse of the platform or disputes between users • Competitor could replicate the model with more resources

Table 2: SWOT Analysis for SkillBridge (Source: Self-developed)

The main insight from the SWOT analysis is that Skill Bridge's greatest strength, its zero-cost skill exchange model, is also linked to its most significant challenge: the cold start problem [7]. As the platform depends on active user participation rather than paid content, its value increases only when a sufficient number of users are available to create high-quality matches.

This means that the early growth strategy should prioritize building a strong initial user base, particularly through partnerships with universities, student societies, and campus networks. Reaching critical mass at an early stage is essential for the matching system to operate effectively and deliver consistent value to users [8].

Q2

Propose

Skill Bridge is designed to help university students exchange skills and knowledge through a collaborative peer-to-peer platform. The main purpose of the application is to provide students with an affordable and accessible way to develop new academic, technical, and professional skills while also sharing their own expertise with others.

Unlike many existing skill-sharing platforms that are aimed at the general public, freelancers, or commercial users, Skill Bridge is specifically focused on the student community. This allows the platform to address the unique needs of university students, such as limited budgets, employability development, academic support, and networking opportunities within a trusted educational environment.

By focusing on students, the application encourages collaboration across different degree subjects, promotes practical learning, and helps users build valuable experience that can support future career opportunities.

Name and Logo

Start-up Name: SkillBridge

The name SkillBridge was chosen because it clearly communicates what the platform does. It bridges the gap between the skills students already have and the skills they want to develop. The word bridge also suggests connection and accessibility, which is exactly what the platform aims to create.



Figure 4: Logo (IA GENERATOR)

Type of business (Legal classification)

SkillBridge will be incorporated as a Private Limited Company (Ltd) in the United Kingdom. This legal structure provides limited liability protection for the founders, which is essential when handling user data and managing potential legal risks. It also increases the company's credibility when approaching universities for partnerships or applying for grants.

If the platform grows and the social mission becomes more central, the company may later consider converting to a Community Interest Company (CIC) to formally embed the social purpose into its legal structure.

Business Strategy and Funding

SkillBridge will adopt a freemium growth strategy. The core features of the platform, including matching, messaging, and profile creation, will always remain free. This removes the main barrier to adoption and allows the network effect to grow organically.

Revenue will be generated through two premium tiers:

- SkillBridge Pro (£4.99/month): Offers priority matching, detailed skill growth analytics, and unlimited session bookings for individual users.
- Institutional Tier (£500/month): Provides a white-label version of the platform for universities and coding bootcamps to use with their own student communities.

This model has proven successful with companies like Duolingo and Notion, which built large user bases by offering free access before converting a small percentage of users to paid plans. The main advantage for SkillBridge is that the free version is already fully functional, making the network effect even stronger.

For initial funding, the plan is to apply for the Innovate UK Smart Grant, which supports innovative EdTech businesses with up to £500,000. Other options include joining the Entrepreneur First accelerator programme for pre-seed funding and mentorship, as well as applying to university innovation funds that support student-led ventures.

Project reflection

The suggested project, SkillBridge, is aimed at creating a peer-to-peer skill exchange platform designed specifically for university students. Looking back on this project, it can be seen as more than just a technical proposal. It was also an opportunity to develop practical skills, think critically about real problems in higher education, and consider the wider impact that a platform like this could have on society.

Working on this proposal helped develop skills in a number of areas. On the planning side, applying Agile methods and producing the Gantt chart gave a clearer understanding of how to organise a project into smaller, manageable stages.

Carrying out the PEST and SWOT analyses improved the ability to research a topic thoroughly and think about how external factors can shape the direction of a project. Writing and refining the report across multiple drafts also helped improve academic writing in general, particularly in terms of structure and clarity. Producing the design artefacts such as the wireframe and flow diagrams encouraged thinking from the perspective of an end user, which is an important skill in any technology-based project.

Positive Social Impact

SkillBridge is built around the idea that learning should be accessible to everyone, not just those who can afford extra support. By allowing students to share and exchange skills for free, the platform removes a real barrier that many university students face. It also gives students the chance to develop practical skills such as communication and teamwork that are important for employment but are not always covered within a formal degree programme. The concept supports the United Nations Sustainable Development Goal 4, which focuses on making quality education inclusive and available to all.

Risks, Challenges and Mitigation Strategies

Every project carries a degree of risk, and SkillBridge is no exception. Identifying these risks early and thinking about how to manage them is an important part of responsible project planning.

User Adoption

One of the biggest challenges for a platform like SkillBridge is attracting enough users at the start. A skill exchange platform only works well when there are enough people on it to create good matches. If the initial user base is too small, the experience will feel limited and people may stop using it. To reduce this risk, the plan would be to launch the platform within a single university first, partnering with student societies and the institution itself to encourage sign-ups before a wider rollout.

Data Privacy and Legal Compliance

Because the platform collects personal information from students, there is a legal responsibility to handle that data correctly. Failing to comply with regulations such as GDPR could result in serious consequences [9]. This risk would be managed by building data protection into the platform from the beginning rather than adding it later, and by keeping the privacy policy clear and easy for users to understand [10].

Technical Reliability

Any online platform can experience downtime or technical issues, which can damage user trust quickly. To reduce this risk, the development plan includes thorough testing before launch and the use of reliable cloud infrastructure that can scale as the number of users grows.

Scope Creep

There is always a temptation to keep adding features to a project, which can delay delivery and increase costs. This was managed throughout the planning process by clearly defining what was included in the MVP and what would be considered for later phases, keeping the initial version focused and achievable.

Conclusion

This report has covered the planning, design, enterprise analysis, and reflection behind the SkillBridge project proposal. The project management section set out a clear development plan using Agile Scrum, supported by a twelve-week Gantt chart and a technology stack chosen to balance capability with practical constraints. The design artefacts, including the data flow diagram, system flow diagram, and dashboard wireframe, translate the core concept into something concrete and workable. The enterprise analysis placed the platform within the broader EdTech market, identifying both the opportunities available and the challenges that would need to be managed. The reflection section considered the skills developed throughout the process, the social value the platform could generate, and the risks that any future development would need to address.

Taken together, these sections present SkillBridge as a realistic and well-considered concept rather than just an idea. The freemium business model, the focus on university partnerships, and the decision to keep the initial version simple and focused all point to a project that has been thought through with both ambition and practicality in mind.

At its core, SkillBridge addresses a genuine problem in higher education. Many university students do not have access to affordable skill development outside of their formal studies, and a peer exchange model offers a practical way to close that gap. With a focused MVP and the right institutional partnerships, the platform has real potential to grow into something that creates lasting value for students across different backgrounds and disciplines, making peer learning more accessible, more structured, and more rewarding for everyone involved.

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