

PROJECT PROGRESS REPORT
FOR GROUP PROJECT
CST291-2/IIT271-2

Group No: IIT 03

SkillBridge

“Knowledge Sharing Web Application”

Industrial Information Technology Degree Program
Department of Computer Science and Informatics
Uva Wellassa University
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1. Introduction.

a. Project Title.

Knowledge Sharing Web Application.

SkillBridge is an online platform that facilitates Skills and Knowledge sharing between tutors and learners.

b. Project Background.

In today's fast-paced world, people possess a wide range of skills, knowledge, and experiences that often remain untapped within their local communities. Many individuals seek opportunities to share their expertise or acquire new skills but face challenges in finding suitable avenues for Sharing. Traditional methods of skill-sharing, such as workshops or classes, maybe often required physical proximity and synchronous availability, which posed challenges for individuals with busy schedules or those who lived in different locations. Additionally, when relying on informal networks or unfamiliar individuals for skill Sharing, trust and reliability became major concerns. People were unsure about the qualifications, credibility, and authenticity of individuals offering their knowledge, which created a barrier to effective skill Sharing.

In a rapidly evolving world, there is a growing need for platforms that facilitate skills sharing and collaboration. However, ensuring the privacy and security of learner and tutor's resources is crucial to building trust and encouraging participation. Additionally, offering a non-profit platform allows individuals from all backgrounds to access valuable skills and expertise without any financial barriers. The skills Sharing platform website seeks to address these needs within the community by providing a secure and reliable environment for the learners and tutors to connect, share, and learn from one another.

The skills sharing platform website project aims to create an online platform that facilitates the Sharing of skills and knowledge among individuals, fostering a sense of community and enabling lifelong learning. The website will serve as a centralized hub where learners and tutors can connect with others who possess complementary skills, enabling them to share services, tutoring, and expertise.

The website will provide a platform for tutors to list the skills they have to offer and learners to search for skills they wish to acquire. Tutors will have the option to set their resources as private until they grant permission to specific individuals. This privacy feature ensures that learners and tutors can maintain control over who can access their resources, enhancing security and trust.

By operating as a non-profit website, it ensures that individuals with limited financial resources or access to traditional educational opportunities can participate and benefit from the platform, fostering equality and inclusivity and also it has user-friendly interface (UI) and a seamless user experience (UX) that prioritizes security and privacy settings.

This platform ensures a diverse range of skills and expertise are available with the continuous monitoring and updating of the platform based on user feedback, emerging security trends, and evolving user needs to maintain a secure and trusted environment.

This allows for the formation of diverse teams and promotes collaboration and innovation and also can share resources such as educational materials, documents, tools, and templates, providing access to valuable resources that can support learning and skill development.

Overall, the skills learning platform website offers learners and tutors a variety of uses and benefits, enabling them to connect, share, and learn from one another, thereby fostering personal and professional growth within a secure and user-centered online community. By prioritizing high-security measures, operating as a non-profit platform, and catering to the specific needs of users within the community, the project seeks to empower individuals, foster community, and promote personal and professional development throughout the country.

c. Project Aims/ Objectives.

Aim

The aim of "SkillBridge" is to offer a user-friendly and comprehensive skill-Sharing platform that links learners with expert tutors, promotes collaboration within a vibrant Sharing community, and enables people to grow personally and professionally.

Objective

- The learner can find their appropriate related field tutors and gain knowledge on the specific field.
- This web application helps learners to search, view, select, customize, and make portfolios as per the required skill.
- Web application helps the tutor to update their skills and also learn from other tutors. Further they can find people with skills they want.
- Peer-to-Peer Sharing: Online skill-sharing platforms foster a sense of community and encourage peer-to-peer Sharing. Learners can engage with instructors and fellow learners through discussion forums, and feedback mechanisms, creating an interactive and collaborative Sharing environment.

2. Project Description.

Skillbridge is a dynamic and inclusive skill sharing website that empowers individuals to connect, learn, and share their expertise with others. It serves as a vibrant platform where people from diverse backgrounds and experiences can come together to exchange knowledge, enhance their skills, and foster a collaborative learning community.

a. Functional/ Non-Functional Requirements.

Functional Requirements.

1. User registering and Profiles.

- Allow tutors and learners to create accounts and set up profiles.
- At first user is going to be a learner.
- Enable learners to add information about their skills, expertise, and areas of interest.
- The learner has to send the formal certification to the administrator to become a tutor in a specific skill or knowledge field.
- Administrator can edit, delete and create the set of tutors in the list.

2. Gaining tokens.

- Learners can gain tokens by unlocking the modules via doing quizzes.
- Using the tokens, the tutors will be paid by the learners.

3. Provide user Badges.

- Learners and Tutors shall have the user levels such as silver, gold, platinum and diamond.
- The user level shall be upgraded according to their token count in their profile.
- If someone needs to learn only one part from the module, learners have free chances to do it without quizzes.

4. Tutoring.

- Both the learner and tutor can share their expertise field resources.
- Tutors can be rated by any both learners and tutors.
- Learners shall be able to fill and submit the feedback about the tutor.

5. Adding skills in their profile and maintaining Portfolio.

- Tutors can add any number of skills in their profile.
- They can share the access of the resources to other tutors.
- Every skill and their resources that they add in their profile will be totally separated from one another.
- Both tutor and learner shall maintain their own portfolio through our web application. They can maintain an online CV for themselves.
- They can be able to share the portfolio with external sources.

6. Learners can post their new skills.

- The learners and tutors of the SkillBridge Application can share their new updates on their profile publicly to everyone.

7. Skill Listing.

- Allow tutors to list the skills they have to offer.
- After login as a learner, they can add their learning skills and tutoring skills.

8. Unlocking Quizzes.

- Some sort of resources will be available to all the learners before unlocking the module. Quiz system is used here to set the demand of the module. Once the learner passes the quiz, they can access the module furthermore. Quiz marks and barriers are set by the owner of the module.

9. User Feedback and Rating.

- Enable learners to leave reviews and ratings for skills after completing the modules.
- Rating will be given by the learner to the specific course module only. There they can mention the skills and the feedback about the tutor.

10. User Dashboard and commenting.

- Provide learners with a personalized dashboard to manage their skills, and reviews.

11. Restrict the access to resources.

- The Tutors can share their resources to another tutor. One tutor can request another tutor to get the resources within them.

12. Search and filter by module Categories.

- Implement a search feature to help learners find specific skills or browse through categories.
- For example, Fine art, painting, singing, acting, craft, sewing etc.
- Further the learner can filter their search by topic name and by the ratings of the tutor.

13. User access.

- Unregistered users can view the learners and tutors' profiles, ratings and skill or knowledge name and module titles.
- To access the resources and modules of the skills and knowledge, the user has to register to the web application.

Non-Functional Requirements.

1. Performance

- The website must be able to load and display pages quickly, even when there is a lot of traffic.

2. Scalability

- The website must be able to handle a large number of users without slowing down.

3. Security

- The website must be secure from unauthorized access and data breaches.

4. Accessibility

- The website must be accessible to learners and tutors with disabilities.

5. Usability

- The website must be easy to use and navigate.

6. Reliability

- The website must be reliable and available 24/7.

7. Maintainability

- The website must be easy to maintain and update.

b. User Levels/ User Roles.**i. Administrator**

- Administrator can access the whole system.
- Administrator can add and remove both learners and tutors.
- Administrator can remove the abusive Skills.

ii. Learner

- Learners have separate logins.
- Learners can register themselves on the website and setup profile.
- Learners can search for knowledge in a specific field.
- Learners can filter their search by availability, badges and rating.
- Learners can leave reviews and ratings for the received skills.
- Learners can use the dashboard and see their progress.
- Learners have to use a quiz after finishing one chapter for unlocking the next chapter.

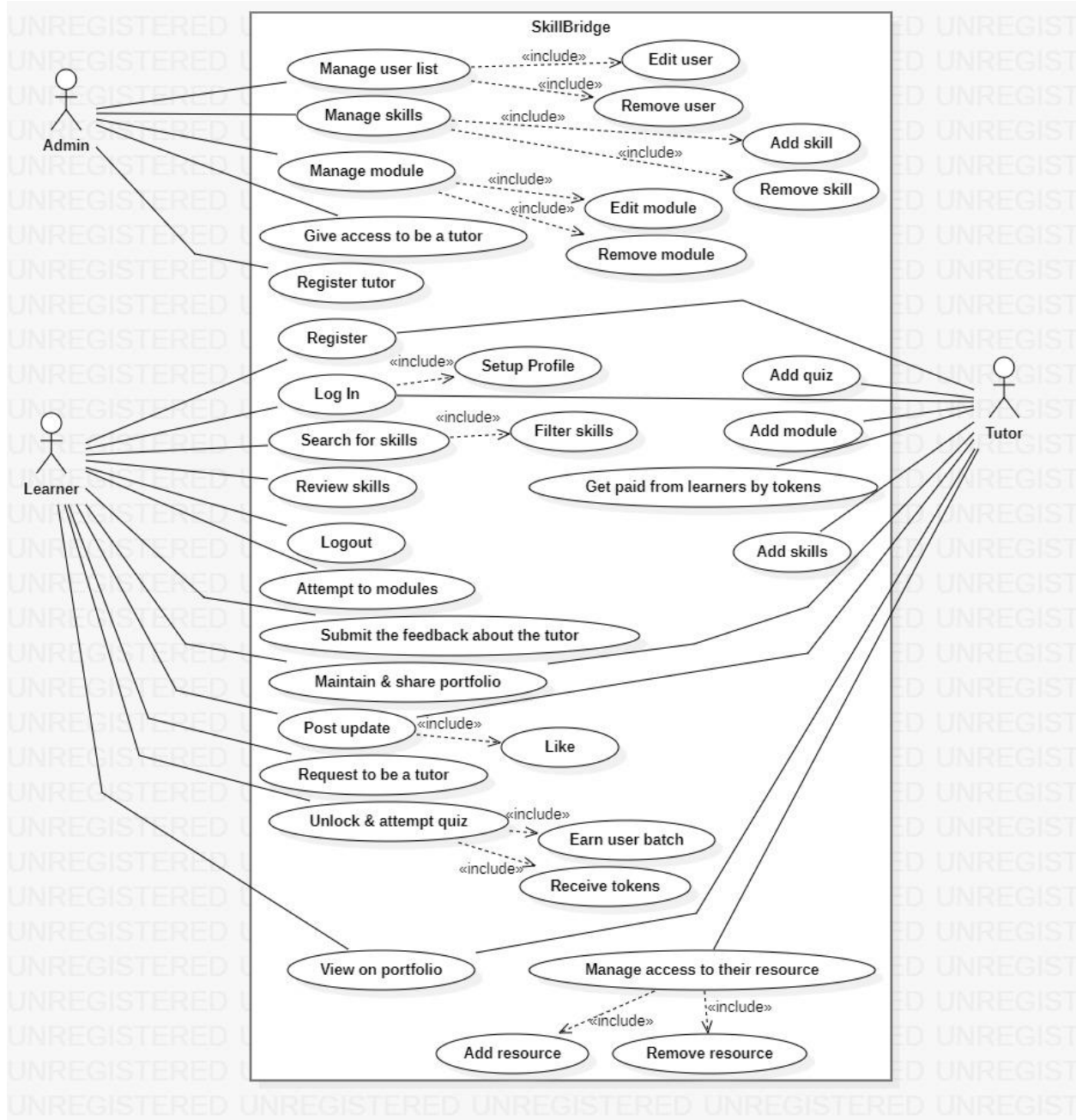
iii. Tutor

- Tutors can register themselves on the website setup profile.
- Tutors can add their information, skills, experiences and interests.
- Tutors can share their modules with learners (Videos/PDF, Images)
- Tutors can share their resources with another tutor.
- Tutors can update their profiles accordingly.

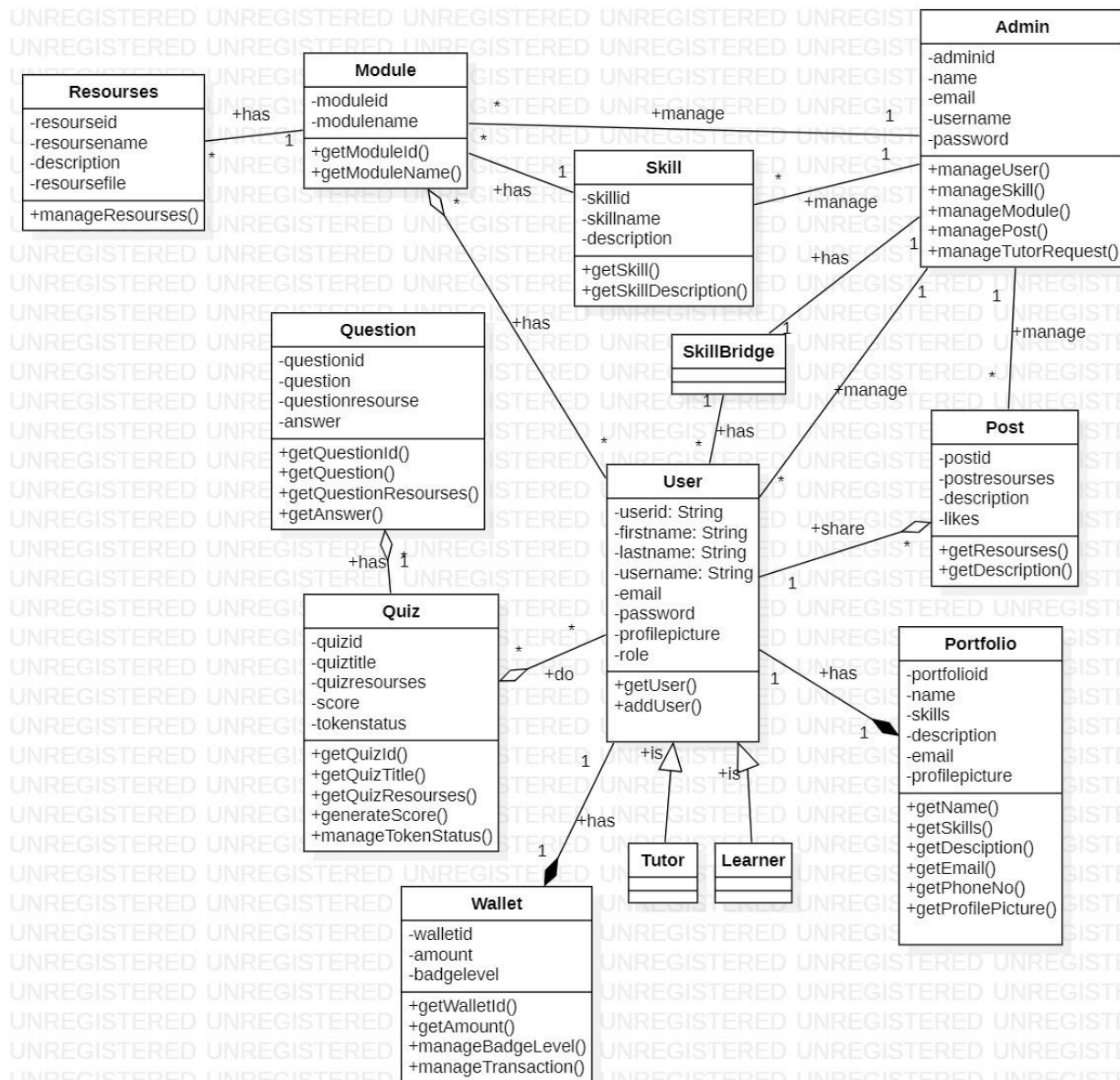
iv. Visitor

- Visitor can see all the skills, badges, portfolio of learners and tutors.
- To access the resources and modules, the visitor has to login to the web application.

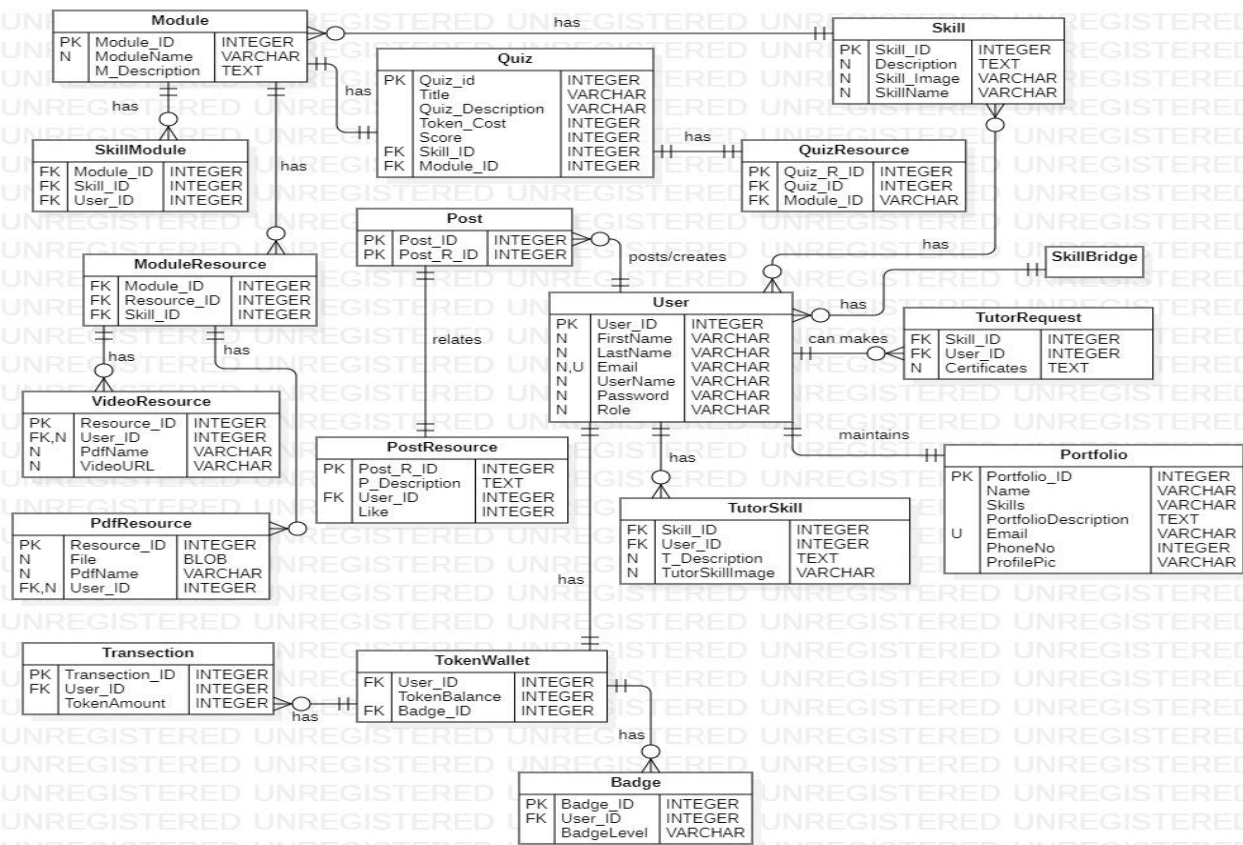
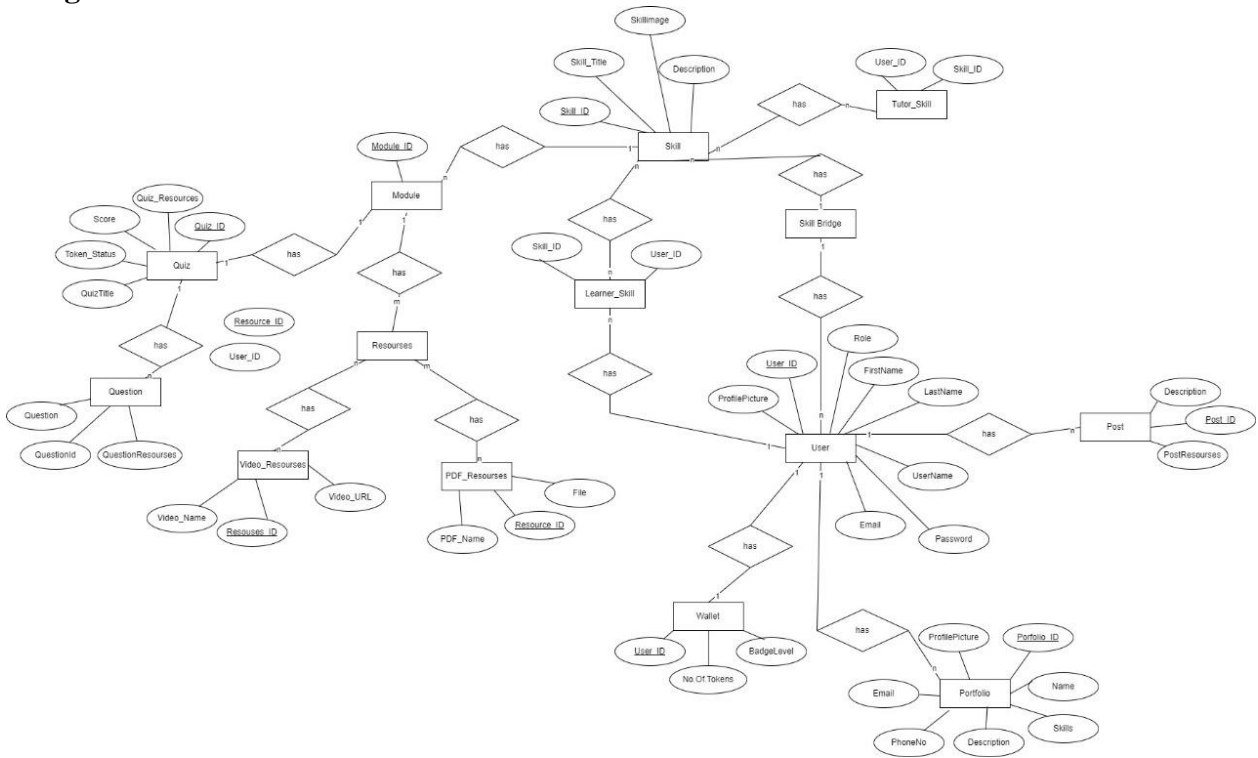
c. Use Case Diagram.



c. Class Diagram.



e. ER Diagram.



3. Methodology.

a. Requirements gathering:

User comments were considered by us to obtain and document the requirements. That is,

We considered our own user comments to highlight and document the requirements defining key features and functionalities, as well as a complete description of the users' needs and stakeholders we defined for and to the "SkillBridge" online platform.

"SkillBridge" for the online platform and this included a clearly defined description of the needs of our users and defining stakeholders as well as key features and functionalities.

b. Design Iteration:

Each iteration was planned based on priority requirements and objectives and the development of the highest priority requirements began in the first increment. And other requirements applied to subsequent increments.

The development team defined the scope, deliverables, and timeline for each iteration.

Priority requirements are those features and functionality that are critical to the core functionality and success of the "SkillBridge" online platform. Following are the priority requirements that we have defined:

I. User Registration and Profiles:

Allowing tutors and learners to create accounts and set up profiles is essential for the platform's functioning as it forms the basis for user engagement.

Enabling learners to add information about their skills, expertise, and areas of interest is important to match them with suitable tutors.

I. Gaining Tokens:

Implementing the functionality for learners to gain tokens by unlocking modules via quizzes is a key aspect of the platform's payment and reward system.

Ensuring that tutors can receive payment from learners using tokens is vital for the platform's financial transactions.

II. User Badges:

Providing user levels (e.g., silver, gold, platinum, diamond) based on token count is crucial for motivating users and recognizing their progress and contributions.

III. Tutoring:

Facilitating resource sharing between learners and tutors is fundamental for the knowledge exchange aspect of the platform.

Implementing a rating and feedback system for tutors ensures transparency and accountability in the tutoring process.

IV. Adding Skills and Maintaining Portfolio:

Allowing tutors to add multiple skills and share resources among themselves is important for fostering a diverse knowledge-sharing community.

V. Enabling both tutors and learners to maintain their portfolios is crucial for showcasing their expertise and progress.

VI. Skill Listing and Unlocking Quizzes:

Allowing tutors to list their skills and learners to add their learning and tutoring skills is essential for creating a comprehensive database of available expertise.

Implementing the unlocking quiz system for resources encourages learners to engage actively in the learning process.

VII. Search and Filter by Module Categories:

Implementing an effective search feature and filtering options by module categories and tutor ratings help learners find relevant skills easily.

VIII. Unregistered User Access:

Allowing unregistered users to view learner and tutor profiles, ratings, and module titles can attract potential users to register and use the platform.

c. Design and development

During the design phase, we created a use case diagram and ER diagram for logical design and database design and also created a class diagram for ease of development phase.

The development team works to implement the identified features and functionality for each iteration. Here the focus is on providing a functional enhancer that can be tested and evaluated.

During the development phase, for this web-based project,

We provide HTML and CSS for the front end, first we completed all the frontend work and we also used a wireframe for that.

We are in the process of developing JavaScript, Java, MySQL and PHP for our backend.

I. Testing and Verification:

At the end of each iteration, a thorough test is conducted to ensure the quality, accuracy, and reliability of the given enhancement and if there are errors, they are corrected before proceeding to the next phase.

In the verification phase, the system can be evaluated early in development to see if it delivers what the learner and tutor need, validate the currently implemented features and get stakeholder feedback for further improvements.

I. Integration and Implementation:

After all the iterations are tuned and validated, the developed increments will be integrated into a fully functional skill-sharing web application.

II. Full system testing:

After completing all the increments, the full system implementation is done. Finally, the system is tested and validated. The final system check will be done and it won't be too difficult since every incremental system has already been checked. After the test is completed, the system will be provided to the stakeholders.

III. Maintenance:

Ongoing maintenance and support will be provided to address any issues, perform updates, and ensure the system's continued smooth operation. We hope to achieve a dynamic and collaborative development process focused on producing a high quality, user-centric skill sharing online platform using an incremental development methodology. Throughout the project lifecycle, this method enables flexibility, adaptability, and continuous development.

4. Implementation.

As of the current project status, we have completed the initial phase of implementation, which involved the creation of wireframes for the "SkillBridge" online platform. Wireframes serve as a visual representation of the platform's user interface and provide a blueprint for the design and development process. The wireframes have been designed to capture the layout, structure, and navigation flow of key features and functionalities.

Next Steps:

Going forward, we plan to proceed with the following steps in the implementation phase.

I. Front-end Development:

Based on the wireframes, we finished front-end development using HTML, CSS, and JavaScript, supplemented by the Bootstrap framework. This approach involved crafting interactive and responsive web pages to enhance the user interface.

II. Back-end Development:

Simultaneously, the back-end development commenced using technologies such as Java, PHP, and MySQL to handle user accounts, skill listings, resource sharing, and other server-side functionalities.

III. Database Design:

We designed and implemented the database structure using MySQL to store user profiles, skill information, and other relevant data.

IV. Integration and Testing:

Once the front-end and back-end components are developed, we will integrate them to form a cohesive system. System testing will be conducted to ensure the functionality and usability of the platform.

V. User Testing and Feedback:

We will conduct user testing sessions to gather feedback from potential learners and tutors. This feedback will be invaluable in refining the platform to meet user needs.

VI. Refinement and Iteration:

Based on the feedback received, we will make necessary refinements and improvements to enhance the user experience and address any identified issues.

Present Progress:

Frontend Development: The frontend development phase of the project has been successfully completed. All user interfaces, design elements, and interactive components have been implemented, resulting in a fully functional and user-friendly frontend.

Backend Development: In the backend development phase, we have made substantial progress in terms of creating the necessary classes and designing the database structure. However, the backend implementation is still in progress, and specific functionalities are yet to be integrated.

System Pages	System Designing	Frontend	Backend
Portfolio [learner,Tutor]	100% Finished	100% Finished	
Learner Profile	100% Finished	100% Finished	
Admin Panel	100% Finished	100% Finished	
Add Module	100% Finished	100% Finished	
View Module	100% Finished	100% Finished	
Popup Message	100% Finished	100% Finished	
Posts feed	100% Finished	100% Finished	
Create Post	100% Finished	100% Finished	
Tutor List	100% Finished	100% Finished	
Home Page [Visitor,Learner]	100% Finished	100% Finished	
Skill Viewing Page	100% Finished	100% Finished	
Tutor profile	100% Finished	100% Finished	
Sign In	100% Finished	100% Finished	
Log In	100% Finished	100% Finished	

5. Resources.

a. Software Requirements

1. Visual Studio Code

- Visual Studio Code is built on top of the Electron framework and is available for Windows, macOS, and Linux. Visual Studio Code is a lightweight editor that is fast and easy to use. It has a wide range of features, including syntax highlighting, code completion, and debugging. Visual Studio Code is also extensible with a large number of extensions available from the Visual Studio Marketplace

2. XAMPP Server

- XAMPP is one of the widely used cross-platform web servers, which helps developers to create and test their programs on a local webserver.

3. Documentation: MS Word, MS PowerPoint.

- Microsoft Word is a word processing program that allows for the creation of both simple and complex documents.
- Microsoft PowerPoint is a powerful slide show presentation program.

4. Designing Tool: StarUML.

- Open-source modeling software uses UML to generate code for different languages and provide UML diagrams to create a fast and flexible UML platform.

5. IDE: NetBeans (IDE8.2)

- NetBeans IDE is an open-source tool for application development on Windows, Linux and Mac.

6. Web browser

- Any Web Browser(Google Chrome)

b. Hardware requirements

1. Laptop / Desktop Computer

- 4GB RAM(Minimum)
- 10GB Hard disk space
- Wi-Fi adapter or Ethernet Port
- Mobile phones
- Operating System - Windows 10 or 11
- Dual-core or Higher Processor

2. Internet Connection

c. Technologies

1. Front-end

- HTML5
- CSS3
- JavaScript

2. Back-end

- PHP8
- MySQL 8.0. 33
- Java 20

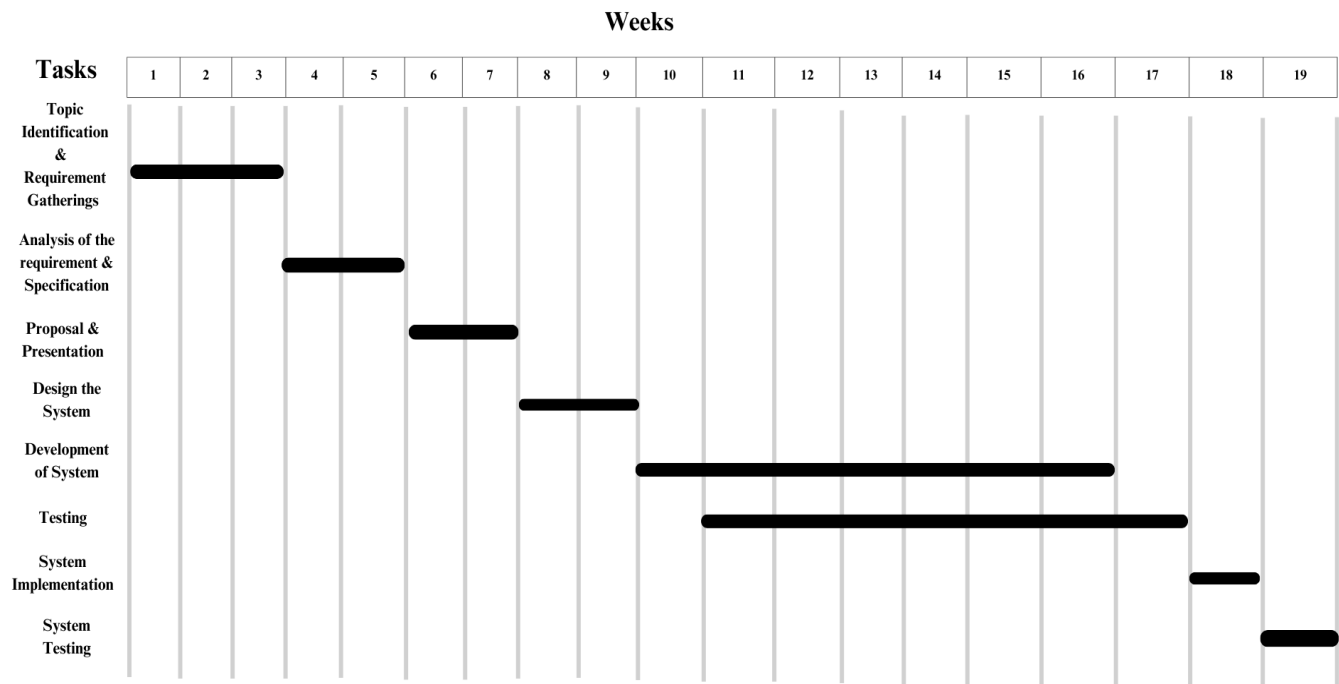
3. Framework

- Bootstrap v5

6. Project Plan (Gantt chart).

a. Timeline with each milestone of the proposed project.

Time line



b. Individual contribution.

Enrollment No	Name	Contribution	
		Frontend	Backend
UWU/IIT/20/006	I.S.Silvia	Learner profile Admin Panel Add Module View Module Popup Message	Tutor List, Learner List
UWU/IIT/20/012	W.P.Buddhima	Post Feed Create Post Tutor Listing Page	Log In
UWU/IIT/20/067	B.S.Shyamindi	Home Page(Leaner & Visitor) Skill Viewing Page	Sign In
UWU/IIT/20/083	A.L.Mawujoon	Tutor profile Sign In	
UWU/IIT/20/041	A.F.M.Rajwan	Skills Page Log In	
UWU/IIT/20/002	D.Sharon Caphona	Portfolio(learner& Tutor)	All Classes and methods

d. Future works.

a) Backend Development:

Currently, our project's frontend is fully complete. However, the backend, which includes the development of server-side logic, databases, and APIs, is planned for future implementation. This addition will provide the necessary functionality to complement the frontend and create a fully functional Skill Sharing Web Application.

b) Testing:

We will perform thorough testing to ensure the reliability and robustness of our application. This includes both unit testing, focusing on individual components, and system testing, which evaluates the entire system's functionality.

c) Non-Functional Requirements:

Security: Security measures will be implemented to safeguard user data and maintain data privacy. This will encompass various aspects such as data encryption, user authentication, and access control.

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
Available at: <https://www.talentlms.com/>

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8. Appendix



HomeSkillsLeading TutorsAbout




[Sign In](#)

The Best Way To Learn Skills

Become Learner

Become Tutor


Want to learn new skill?

 Skill Bridge

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Home Page - Appendix 1



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Sign In

Username

Password

Don't have an Account? Create Your Profile


[Sign In](#)

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Sign in Page - Appendix 2



[Home](#)
[Skills](#)
[Leading Tutors](#)
[About](#)

Sign In

Create Your Profile

First Name*

Last Name*

Email*

Username*


Password*

Conform Password*

Profile Picture

Upload Your Profile Picture Here

Sign Up




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Sign up Page - Appendix 3




[Home](#)
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[Leading Tutors](#)
[About](#)

Profile

Posts

Portfolio




Meredith Smith

★★★★★

meredithsmith@gmail.com

#signing #dancing


Reviews



Kasun Fernando

★★★★★


#signing



Manisha Nayakam

★★★★★

#dancing



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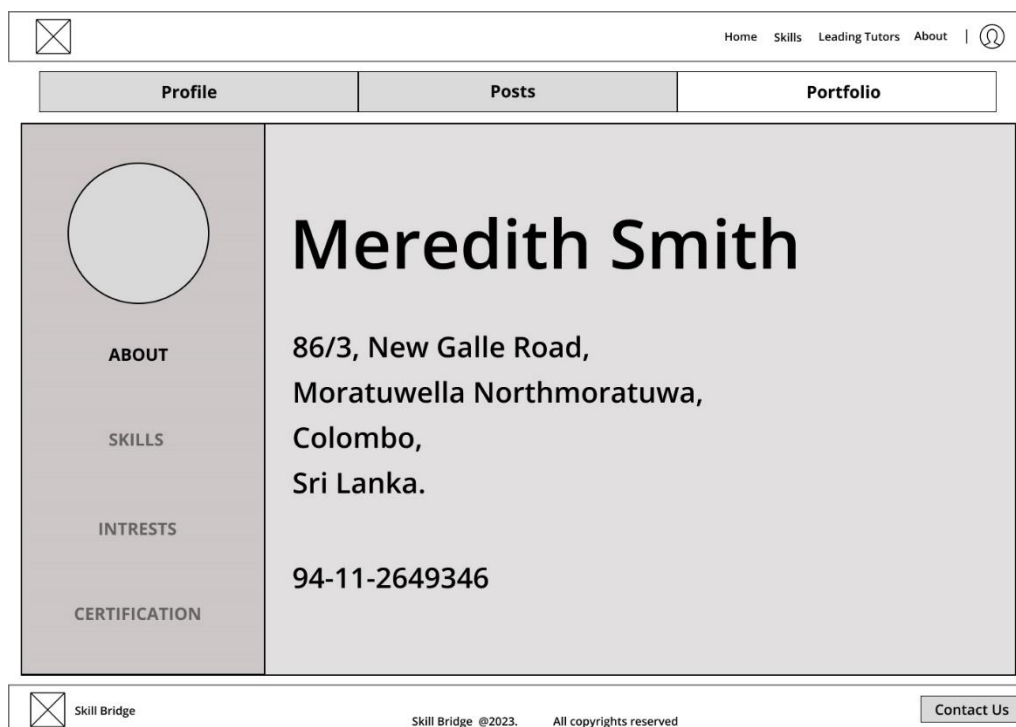
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User Profile – Appendix 4



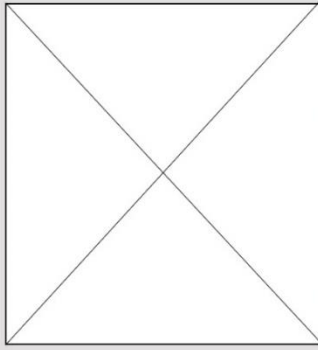
Posts – Appendix 5





User Portfolio – Appendix 6



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 **CALL US**
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 **HOURS**
Monday - Friday 08:00 - 16:00
Saturday 08:00 - 12:00


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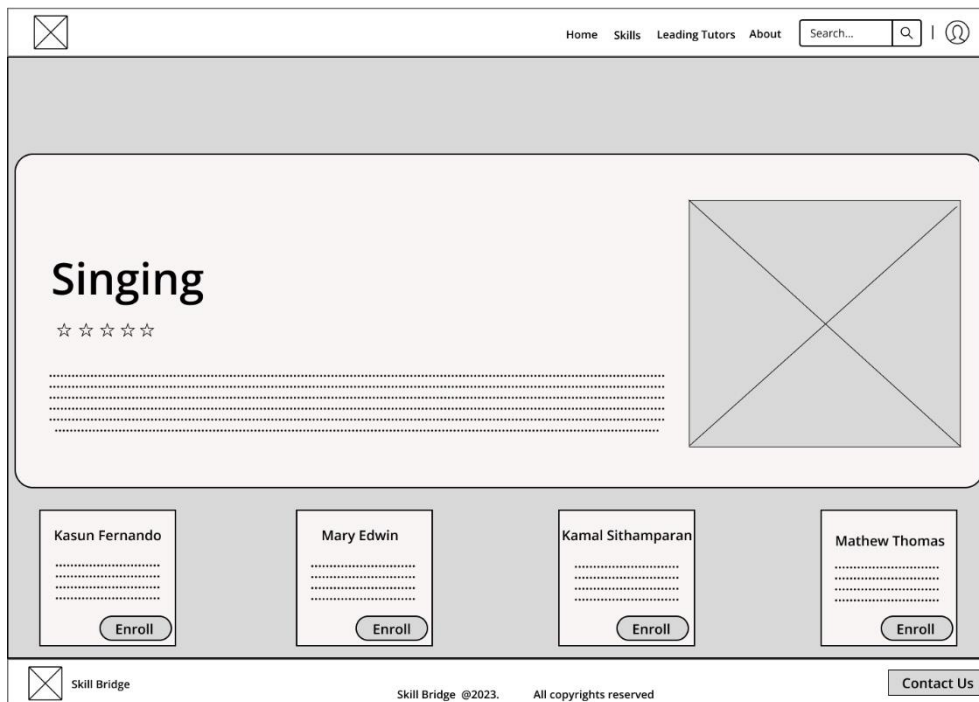

Home Skills Leading Tutors About  | 

Skills

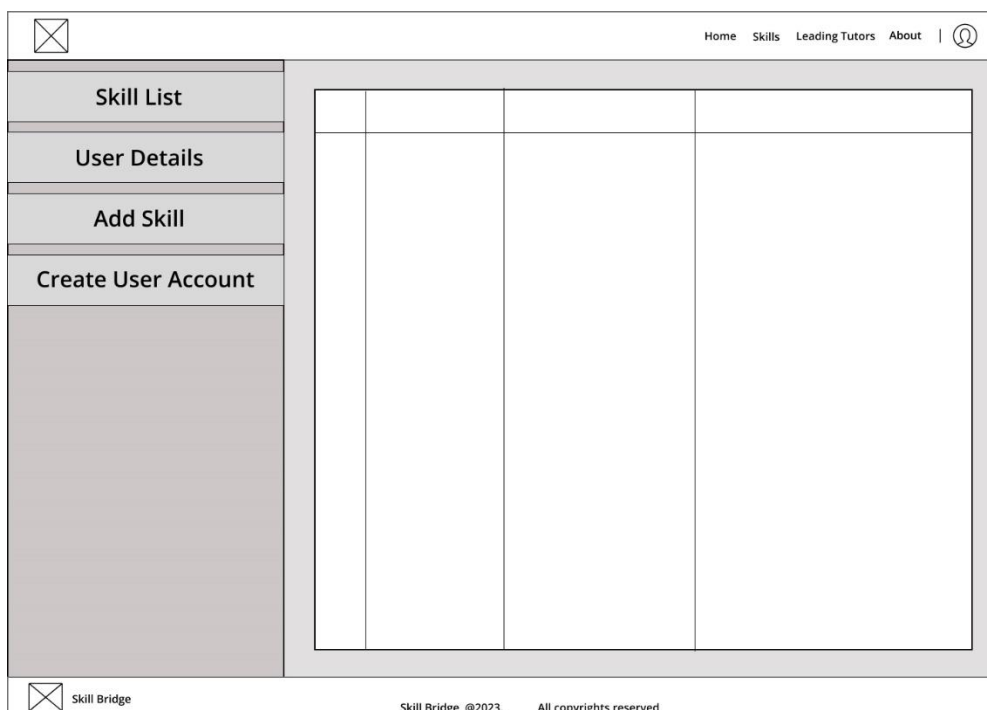
Singing	Dancing	Drawing	Violin	Piano
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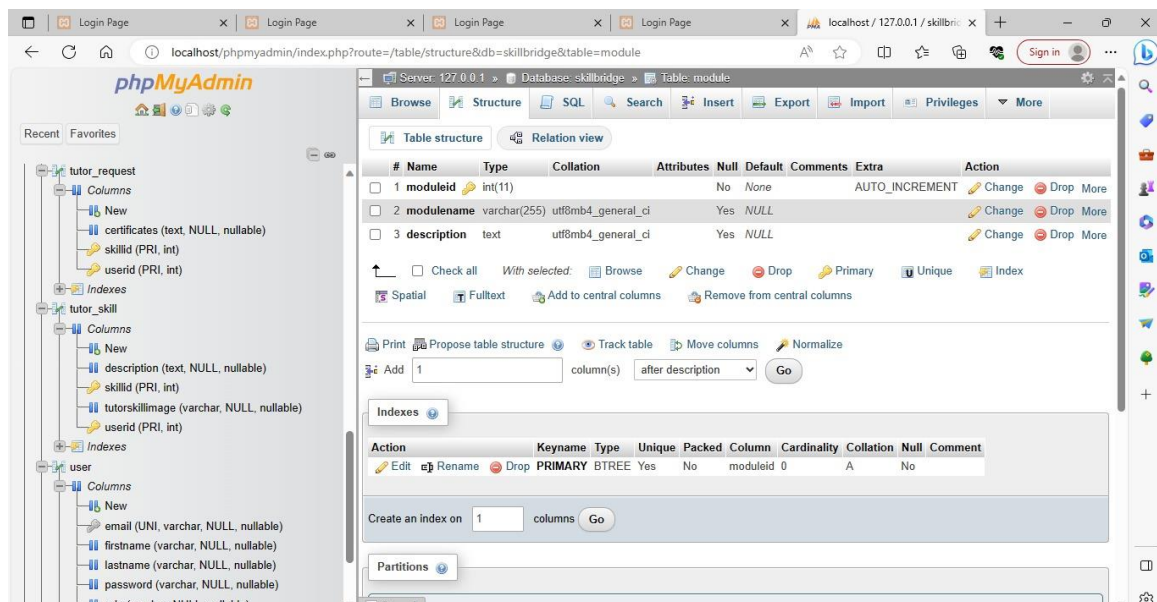
Skills Page – Appendix 8



Skill page – Appendix 9



Admin Dashboard – Appendix 10



Data Base – Appendix 11