

Learn-Bridge-Senior Junior Connector: An Innovative Doubt Solving Platform for Modern Education

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Abstract: So, this paper is about something called "Learn Bridge - Senior-Junior Connector." Basically, it's made for college students to get help from seniors. The whole point is to have a place where juniors can ask whatever questions they have about their subjects, and the seniors who already went through that stuff can reply and give their own tips and simple advice. There's cool stuff on the platform: you can just chat live, jump into a group forum, join mentorship sessions, or even earn points that make it more fun to use. All these things help you clear your doubts quicker, learn stuff faster, and also make friends in college. Seniors get to work on their own skills, like explaining things and being a leader. In the end, Learn Bridge just wants college to be a place where everyone's friendly and helpful and it's easy to learn and grow together.

Keywords: Learn Bridge, Senior-Junior Connector, college students, peer mentorship, academic support, live chat, discussion forums, mentorship sessions, points system, leadership skills, doubt solving, student community, friendly learning, growth together

I. INTRODUCTION

This Lot of times, when we are in college, it's tough to get help for our doubts. Juniors feel weird asking teachers and seniors directly, and seniors actually know a lot because they've already been through those subjects. But there's no chill way for everyone to share help.

So, "Learn Bridge – Senior-Junior Connector" is basically an easy spot online where juniors put their doubts, and seniors reply with whatever tips or tricks they know. Stuff like live chat, group talks, and mentorship sessions make it friendly. Plus, there's a point and reward thing so people want to join in. This whole thing is just about making college less stressful, getting help quick, and making good connections. Seniors pick up skills for later, and juniors don't feel stuck. The point is just college friends helping each other out and getting better.

II. PROBLEM STATEMENT

Lots of students get stuck in subjects because they can't talk to others much and teachers take time to reply. If there's a platform where everyone asks and answers doubts together, learning becomes quicker and more fun. Doing things like peer problem-solving and game-style features keep students interested and help them do better in studies overall. College feels more relaxed and supportive when friends help each other out.

III. OBJECTIVES

- To make it easy for students to get their questions answered fast.
- To help students learn together by sharing doubts and tips.
- To use points, levels, and badges to motivate everyone on the app.
- To add flashcards and short quizzes for quick and easy revision.
- To provide instant chat for quick talks with mentors and groups.
- To give smart study advice based on how each student is doing.



IV. LITERATURE REVIEW

Kovari, A., et al. (2025). AI-powered collaborative learning.

Kovari and his team checked out how AI makes group study more fun and keeps college students interested. Their study says when the app helps each person in their own way, students ask more doubts and join in more.[1]

Sankar, S., et al. (2025). AI powered cloud e-learning.

Sankar's team made an online learning platform where students can clear doubts pretty fast with help from friends. This way, students don't get stuck for long and can understand things better without too much waiting.[2]

Zhu, Chengzhang, et al. (2024). AI-driven peer agents.

Zhu and friends brought in game-like things—like points and rewards—to make studying with AI helpers cooler. They saw that more than 80% of students felt more pumped up and joined more group chats because of these features.[3]

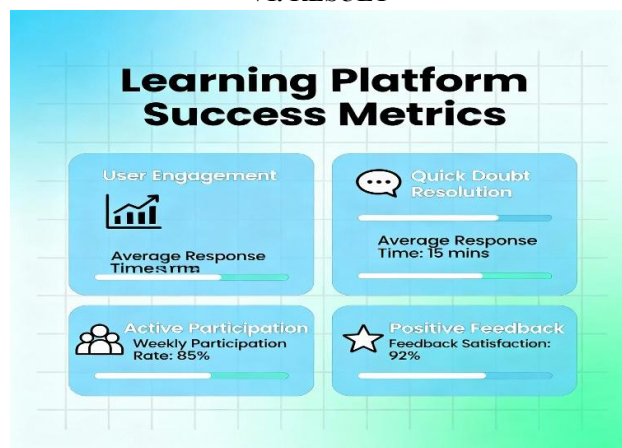
Sharma, Vashu, et al. (2024). MERN Stack e-learning.

Sharma and his gang used tech like MERN Stack to build a study-sharing app where lots of students could team up, learn together, and swap notes easily. Their work says this made studying together smooth and helped everyone join in.[4]

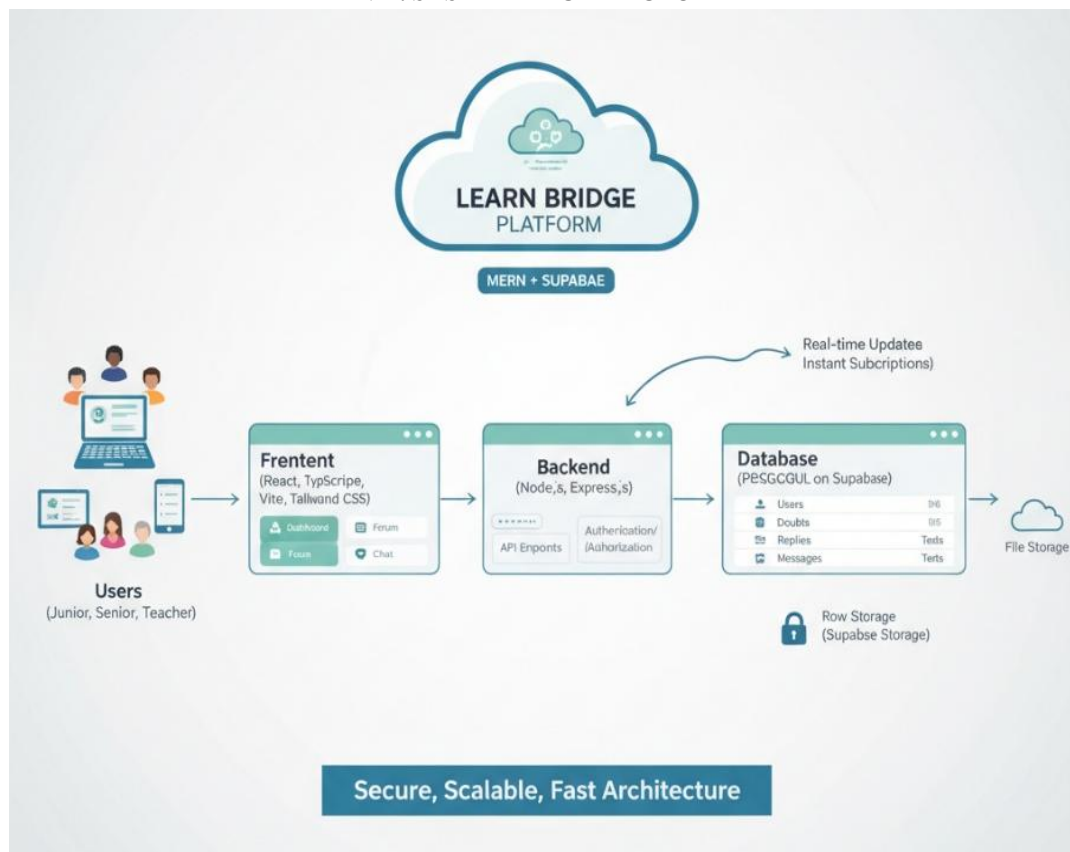
V. METHODOLOGY

- **Tech Choice:** Picked MERN stack because it's popular, easy to use, and lets everything connect well—good for building sites that lots of people can use at the same time.
- **Building The Site:** Made a basic version with pages for put-your-doubt, chat with seniors, forums, and mentorship meets. Set up logins so juniors and seniors can make their own profiles.
- **Adding Cool Stuff:** Put in quick chat, group talks, instant pop-up notifications, and points and badges that keep everyone interested. Made sure the reward system works smooth so people want to join in.
- **Testing In Real Life:** Called up friends and other college students to use the site, post doubts, and help others. Watched how easy or confusing it was, and noted any issues or glitches.
- **Getting People's Opinions:** After they tried it, asked them what's nice and what sucks. Changed things to make it easier after hearing their ideas, so next batch of students had a better time.

VI. RESULT



VII. SYSTEM ARCHITECTURE



System Architecture – Main and Key Points

Main Overview:

- The Learn Bridge system is mainly built with three sections — frontend, backend, and database.
- Each section has its own job but they all work together to make the platform run easily and safely.
- The idea is to keep it simple so that students, teachers, and seniors can use it without any difficulty.

Frontend:

- It's the part users actually see and use every day.
- Contains things like login, doubt asking form, and answer view page.
- Made with React and TypeScript to make it fast and clean.
- Vite helps in quick loading, and Tailwind CSS gives a neat and flexible design.

Backend:

- This is the behind part that controls how things work inside the app.
- It connects the screen part (frontend) with the database.
- We used Node.js and Express because they are simple and fast for handling data.
- It also checks user login, manages doubts, and controls access rights.



Database:

- Keeps all the saved data like user info, questions, and answers.
- Created with PostgreSQL and linked using Supabase.
- Supports live updates so that changes appear right away.

VIII. BENEFITS TO SOCIETY

Learn Bridge makes college learning more open and easy for everyone. It gives juniors a safe place to ask their questions without feeling shy or scared of being judged. This helps them get clear guidance whenever they are confused. Seniors also get a good chance to build their confidence, leadership, and communication skills by helping and guiding juniors.

Since doubts are cleared faster, students can understand topics better and don't waste time staying stuck on small problems. The platform also creates a friendly environment where students help one another, which builds teamwork and a sense of belonging. In this way, Learn Bridge not only improves learning but also makes education more equal and helpful for all students.

IX. CONCLUSION

The Learn Bridge platform successfully helps students clear their doubts quickly by connecting juniors with seniors in real time. Using the MERN stack and Supabase, the system works fast and can handle lots of users at once without problems. The live chat, forums, and reward features make learning more interesting and encourage everyone to join in. Students feel more confident asking questions and seniors improve by guiding others. Overall, Learn Bridge makes studying easier, faster, and more fun, which can really boost student performance and cooperation in college.

X. FUTURE SCOPE

Learn Bridge still has a lot of space to grow and become better. One important improvement can be adding AI-based tools that give students more personalized help, such as suggesting answers or study topics based on their weak areas. Another good idea is to include video calls and virtual study rooms, so students and teachers can interact face-to-face, just like in a real classroom.

Adding test series and LMS (Learning Management System) features will help track student progress and performance more clearly. The platform can also support group projects and peer reviews, so students can easily work together and share ideas. Lastly, creating a mobile app with offline features will allow students to learn and solve doubts anytime, even without internet. These updates will make Learn Bridge more useful, interactive, and enjoyable for all users.

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