LEARNITY

Wasif Malik, Syed Ahsan, Abdul Rafay
Supervisor: Sir KamranTaj Phatan
BS (Software Engineering) Batch 2022 - Morning / Evening
Department of Software Engineering
Faculty of Engineering and Technology, UoS

Project ID - 29

Session: 2026

ABSTRACT

Students have been facing problems in the online learning space due to the absence of a platform that provides high quality education. This project, "LEARNITY" solves this problem by providing students a platform that is focused on delivering dedicated courses and education, which are aligned with the curriculum of Sindh, making learning smart and hassle-free.

Learnity is designed to facilitate and build a direct connection between the subject specialist and student. Once a student registers on the website, he/she select courses of their own choice and start learning. Teachers also register on the website and offer student courses of their specialty. Teacher are ranked based on their performance and teaching expertise. This project will also help with collaborative learning.

The role of the administrator is that he/she will have full access of website and be able to access user data, control information between teachers and students, check profiles for errors and bugs, and supervise the system to ensure the safety of user data.

AIM & OBJECTIVES

- To develop a system that enables students to easily access Sindh Board-compatible learning resources, study notes, and academic notifications in one centralised location
- To develop a system that enables automated management of assignments, course timetables, and student performance, which were previously managed manually
- To develop a system that enables a digital space for teachers and students from different cities to interact for online learning, thereby overcoming the geographical constraints of a conventional school.
- To develop a system that enables a secure platform for qualified teachers to monetize their knowledge and receive payment for their courses.
- To develop a system that enables quality education to be accessible to students in both urban and rural Sindh through an intuitive.

TOOLS & TECHNOLOGY

- Next Js 16
- Tailwind with Shadcn
- Framer motion
- Zustan
- Firebase
- Neon DB with Postgresql
- github actions

- Prisma (ORM)
- GetStream for chatting
- 100ms video sdk
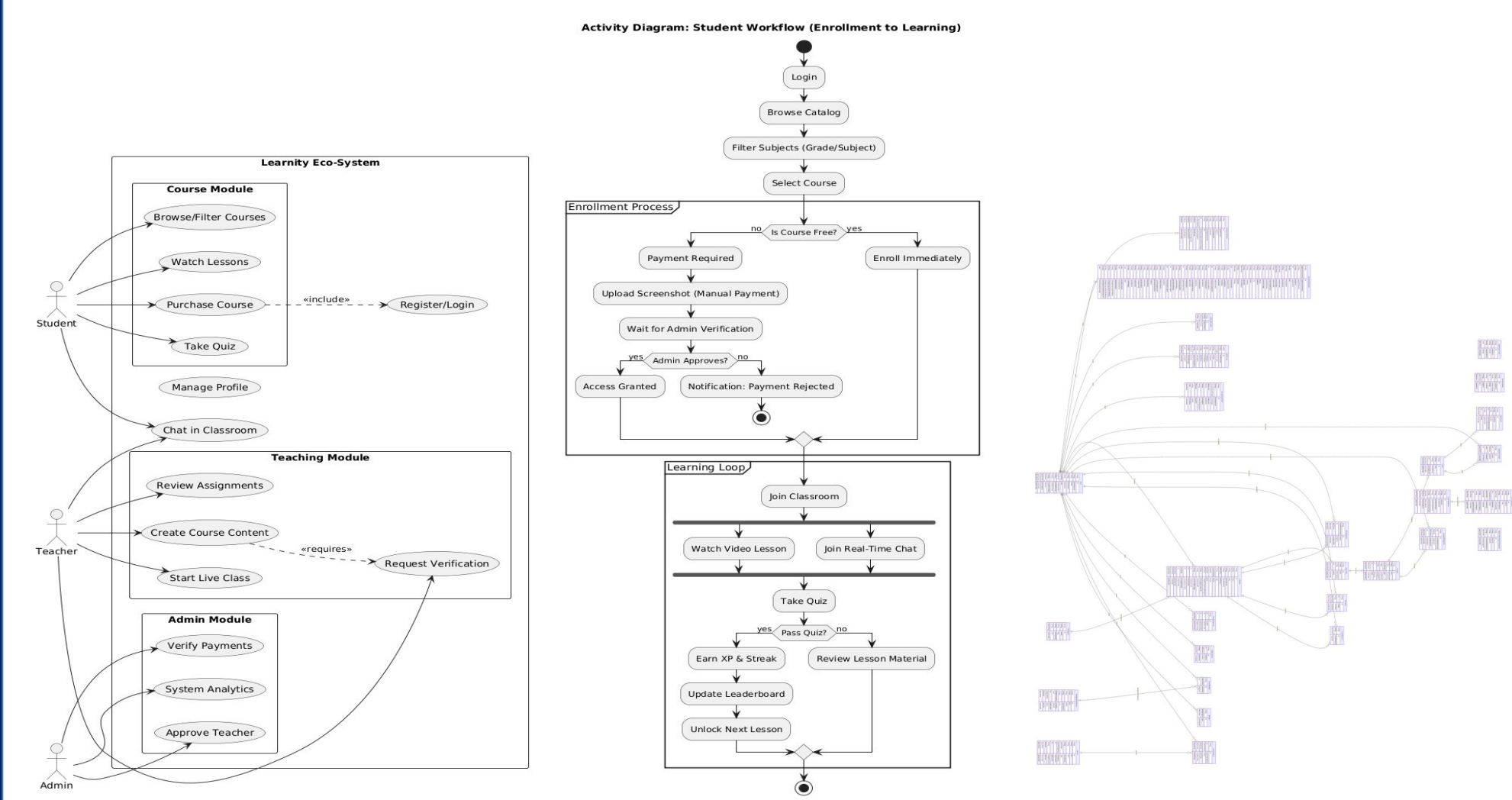- Vercel
- Git & Github

METHODOLOGY

Requirement Analysis: Identified system needs for the Sindh Board curriculum. Defined requirements for role-based access, mentorship chat, and localized gamification.

System Design: Architected the platform using Next.js and Prisma for scalability. Designed a premium, mobile-responsive UI tailored for student engagement.

Implementation: Developed using the T3 stack (Next.js/Prisma). Integrated GetStream for real-time chat and built a custom automated XP/badge engine.

Testing: Performed rigorous functional testing on multiple devices. Validated role-based security, real-time data sync, and database integrity.
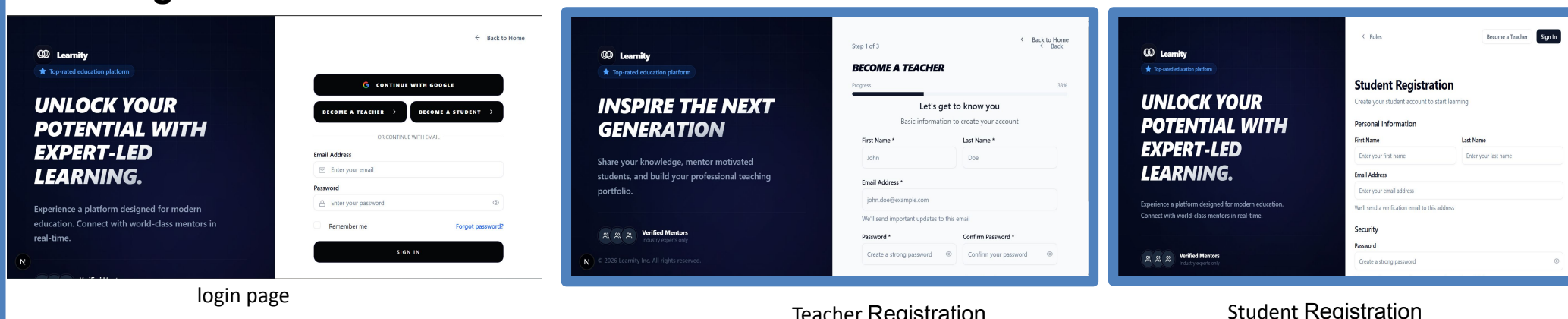
•**Deployment:** Finalized for production on Vercel with Neon PostgreSQL. Optimized for low-bandwidth areas to ensure accessibility across rural Sindh.

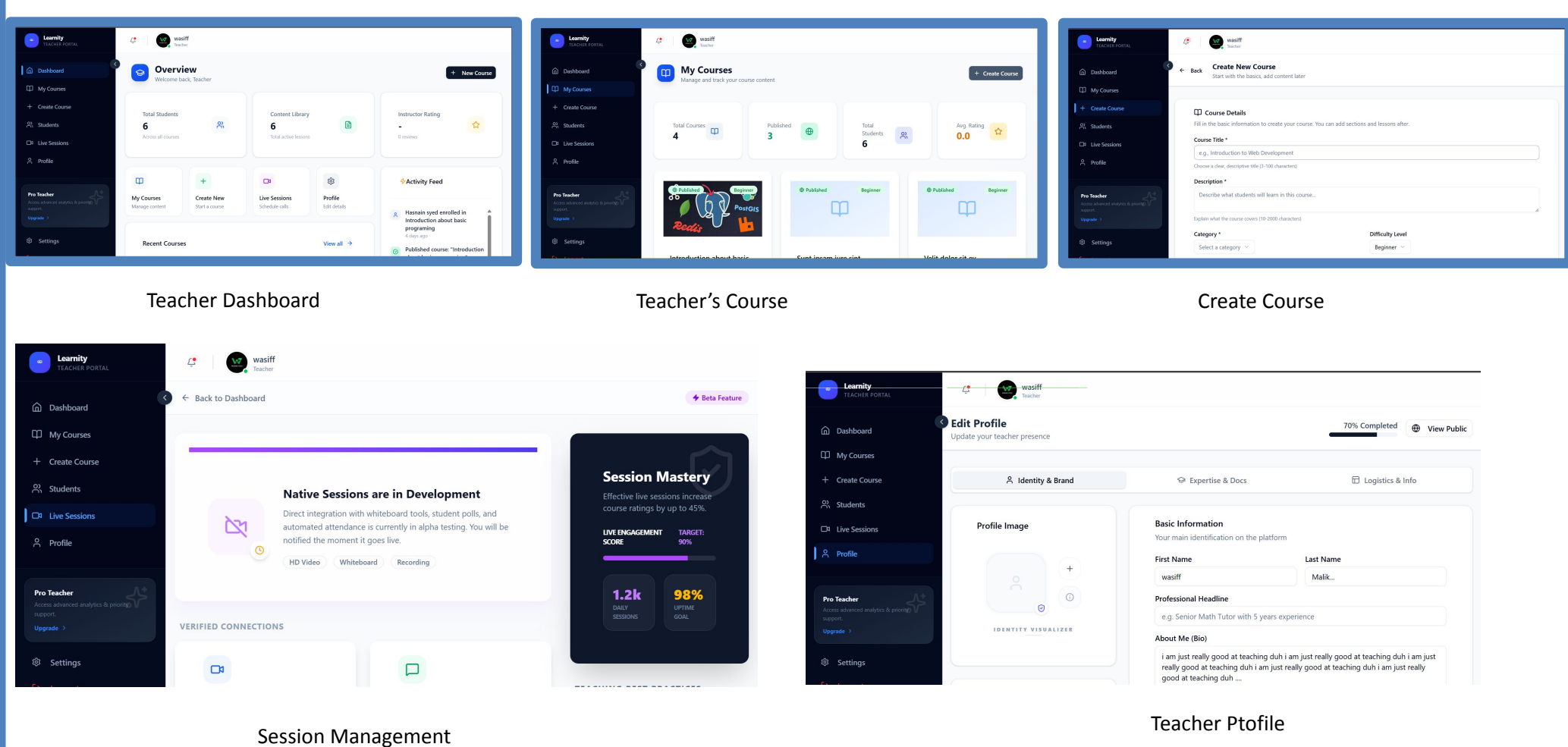Activity Diagram: Student Workflow (Enrollment to Learning)

RESULTS

Learnity is a modern educational platform designed to bridge Sindh's learning gap by providing students with high-quality remote access to the local curriculum. We built a robust ecosystem using Next.js & Serverless PostgreSQL that features live interactive classes, a verified teacher marketplace, and gamified elements like XP and Streaks to ensure high student engagement and prevent dropouts. In the end, we delivered a stable, real-time digital classroom that empowers both educators and learners across the region. Below are the result that the Learnity website is working as intended to provide education all over Sindh:
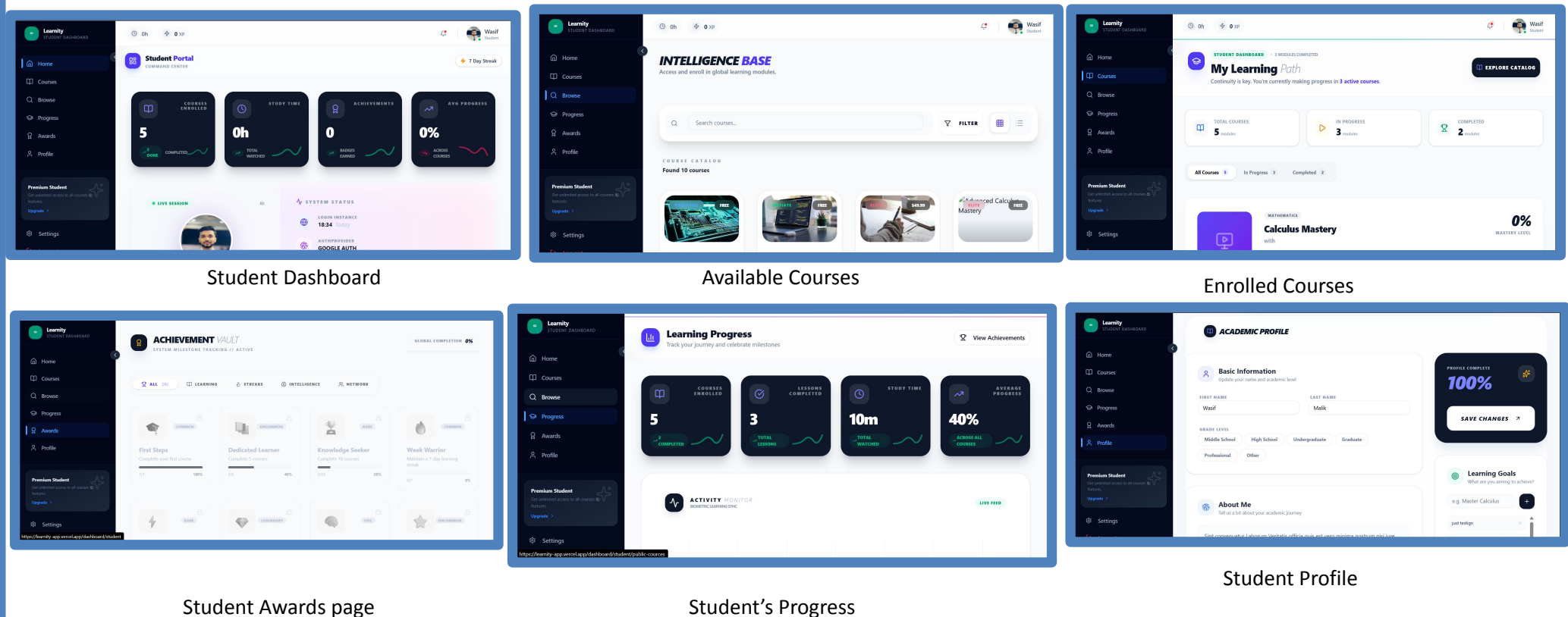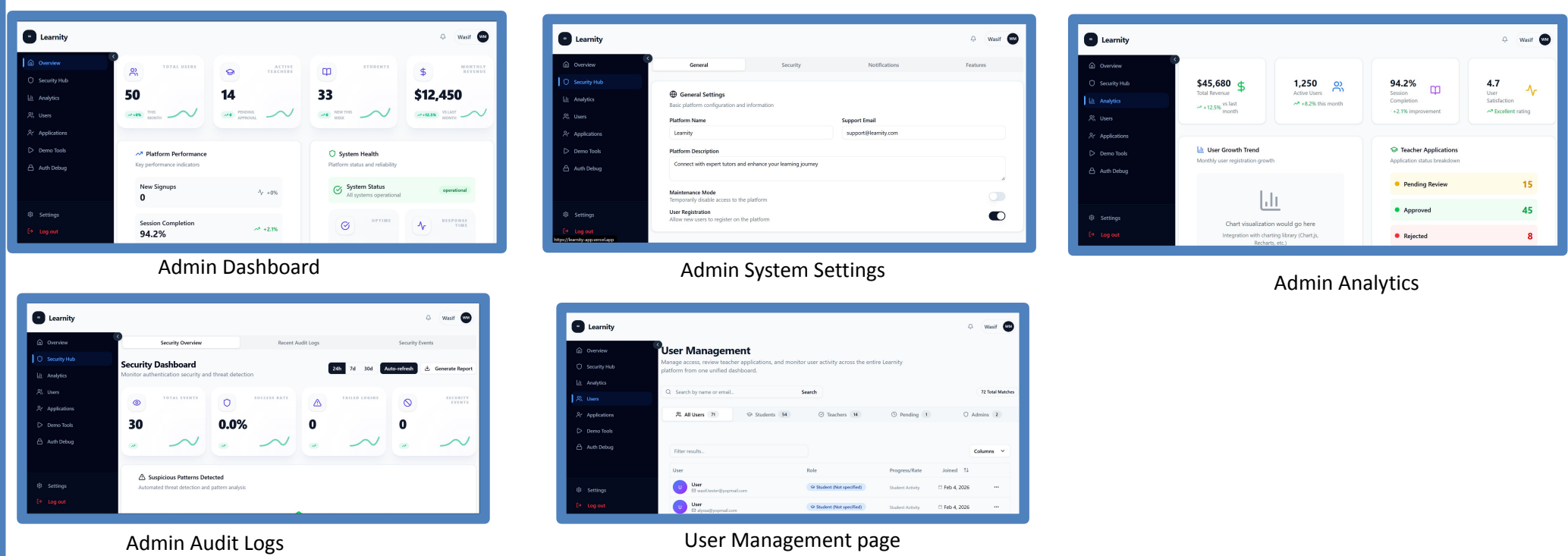
Auth Pages

login page

Teacher Registration

Student Registration

Teacher Portal

Teacher Dashboard

Teacher's Course

Create Course

Session Management

Teacher Ptofile

Student Portal

Student Dashboard

Available Courses

Enrolled Courses

Student Awards page

Student's Progress

Student Profile

Admin Portal

Admin Dashboard

Admin System Settings

Admin Analytics

Admin Audit Logs

User Management page

CONCLUSION

The "Digital Divide" in Pakistan is not just about a lack of internet; it is about a lack of relevant content. Learnity fills this void. This project has shown us that a project involving EdTech is not simply a matter of coding, but also about understanding the psychology of a user. By incorporating real-time video (100ms) and chat (GetStream), we have turned a stagnant website into a thriving community. The platform provides easy navigation, secure authentication, and a scalable database structure that can grow with the user base. Most importantly, Learnity demonstrates that high-quality educational infrastructure can be built on a student budget using modern "Serverless" technologies, providing a blueprint for future digital sovereignty in Pakistan's education sector.

OPEN DAY FINAL YEAR PROJECT EXHIBITION - 2026