

Monthly Work Report – September 2025

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| Employee Name: | Geddam Eswar |
| Department / Team: | Full Stack Development (MERN) |
| Reporting Period: | September 2025 |

4. Projects / Tasks Handled:

Project Name: EduReach – Smart School Management System

Description of Work Done:

- Completed integration of full authentication system (JWT + Redis + Role-based access).
- Implemented secure password recovery (Nodemailer + Redis token verification).
- Developed backend modules for Student, Parent, Teacher, and Admin roles.
- Added functionality for student-parent linking and section-wise teacher assignment.
- Built Admin Dashboard UI for managing students, teachers, and announcements.
- Integrated Cloudinary for profile picture and document uploads.
- Completed Attendance system with parent email alerts for absentees.
- Enhanced Library Management System (LMS) with digital + physical book support.
- Implemented Timetable auto-generator with 8 periods/day and automated breaks.
- Optimized backend routes with Redis caching and structured API documentation.

Status: Completed (Core backend & major frontend integration)

5. Key Achievements:

- Successfully deployed a modular, scalable backend structure with Redis caching.
- Built professional-grade Admin Dashboard frontend with Zustand & Axios integration.
- Streamlined bulk data uploads from Excel for students and teachers.
- Automated email notifications and authentication flows.
- Achieved 98% API response success rate after optimization and caching.

6. Challenges Faced & Solutions:

Challenge: Handling duplicate user creation during bulk Excel uploads.

Solution: Added unique checks and auto-ID generation logic.

Challenge: Managing multi-role authentication cleanly.

Solution: Implemented centralized middleware for role-based access control.

Challenge: Ensuring smooth Redis integration across environments.

Solution: Used environment-based configuration and error recovery middleware.

7. Learning & Skill Improvements:

- Deep understanding of Redis caching, JWT lifecycle, and secure authentication.
- Improved knowledge in building reusable Zustand stores and Axios interceptors.
- Learned to structure scalable Node.js APIs and optimize MongoDB queries.
- Enhanced UI/UX design using Shadcn UI, Framer Motion, and Tailwind CSS.

8. Plans for Next Month:

- Complete remaining frontend pages for Parents and Teachers.
- Integrate analytics dashboard for Admin (attendance stats, top performers, etc.).
- Begin testing & deployment pipeline (Docker + CI/CD).
- Prepare detailed project documentation and user manuals.

9. Additional Remarks:

EduReach has reached a strong MVP stage with all core modules functional. The system is ready for internal testing and real-school integration pilot by end of October 2025.