# SYNOPSIS OF THE PROPOSED MINI PROJECT WORK

**ON**

**“STUDENT PROGRESS TRACKER SYSTEM”**

**Submitted by**

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# 1. SYNOPSIS

# 1.1 TITLE OF THE PROJECT

**"Student Progress Tracker System"**

# 1.2 INTRODUCTION

The Student Progress Tracker System is a comprehensive web-based platform developed using the MERN Stack (MongoDB, Express.js, React.js, Node.js). The system is designed to streamline the management and tracking of academic progress for students by teachers. It provides individual dashboards for students and teachers, offering insights into academic performance, assignments, feedback, and progress visualization.  
  
This system replaces traditional manual progress reports and makes it easier for educational institutions to digitally monitor student development. Teachers can manage classes, enter grades, and provide feedback. Students can log in to track their assignments, grades, and see visual progress reports over time. The application is optimized for performance, responsiveness, and user engagement.

# 1.3 OBJECTIVES

* Implement secure login systems for both teachers and students.
* Allow teachers to create classes, manage students, and assign grades.
* Enable students to view grades, progress, and feedback.
* Provide in-app notifications for updates (new grades, assignments).
* Visualize student performance with charts and dashboards.
* Offer teacher tools for filtering students, generating reports, and giving remarks.
* Maintain structured, persistent storage using MongoDB.
* Ensure responsive, intuitive user experience using React.js.

# 1.4 PROJECT CATEGORY

**Web-Based Application**

# 1.5 TOOLS/PLATFORM, HARDWARE, AND SOFTWARE REQUIREMENTS

**1.5.1 HARDWARE REQUIREMENTS:**  
 - Processor: Intel i5 or equivalent  
 - RAM: Minimum 8 GB  
 - Storage: 50 GB or more  
  
**1.5.2 SOFTWARE REQUIREMENTS:** - OS: Windows/Linux/macOS  
 - Editor: Visual Studio Code  
 - Browsers: Chrome, Firefox, Edge  
  
**1.5.3 TOOLS/LANGUAGES USED:** - Frontend: React.js, HTML, CSS, JavaScript  
 - Backend: Node.js, Express.js  
 - Database: MongoDB  
 - Communication: RESTful APIs between frontend and backend

# 1.6 DESCRIPTION

* Students and teachers log in through separate dashboards.
* Teachers can add students, create assignments, enter grades, and write feedback.
* Students can track assignments, check grades, and read teacher remarks.
* System tracks submissions and visualizes individual progress using charts.
* Built using the MERN stack ensuring fast performance and full-stack integration.
* In-app notification alerts help users stay updated on progress changes and new entries.

# 1.7 MODULE DESCRIPTION

**STUDENT MODULE:**  
 - Login/Signup  
 - View assignments and grades  
 - Track progress via dashboard  
 - Read teacher feedback  
 **TEACHER MODULE:**  
 - Login/Signup  
 - Add/manage student profiles  
 - Assign and grade assignments  
 - Provide feedback and generate reports

**DASHBOARD MODULE:**  
 - Graphical progress tracking for students  
 - Filtering and sorting by subject, grade range, etc.  
  
**NOTIFICATION MODULE:**  
 - In-app alerts for new assignments, grades, and teacher feedback  
 - Status flags updated in MongoDB

# 1.8 FUTURE SCOPE

* Addition of admin panel for managing teachers and system-level settings.
* Exporting performance reports in PDF format for parents.
* Enhanced analytics for multi-class comparisons.
* AI suggestions for student improvement areas based on performance trends
* Integration with learning materials for personalized academic resources.
* Offline access to reports using service workers and local caching.