

# School Student Portal

## Project Documentation

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**Theme Color:** Green

## 1. Project Overview

The School Student Portal is a web-based platform designed for Borabu Technical Training Institute to manage student, teacher, and administrative activities in a centralized, secure, and user-friendly environment. The portal supports multiple academic departments and offers programs across Artisan, Certificate, and Diploma levels. The system features a green-themed interface to reflect growth, harmony, and a fresh learning environment.

## 2. Objectives

- Provide students with online access to academic information.
- Enable teachers to manage grades, attendance, and learning resources.
- Allow administrators to manage courses, departments, and users.
- Improve communication through announcements and notifications.
- Facilitate fee payment tracking.

## 3. Scope

- User Authentication (Students, Teachers, Admin)
- Academic Departments & Course Management
- Student Profile Management
- Course Registration
- Attendance & Grade Tracking
- Fee Management
- Announcements
- Reports Generation

## 4. Users and Roles

Student: Can register, view courses, enroll, view grades, check fees, and receive announcements.

Teacher: Can manage courses, record attendance, submit grades, and post announcements.

Admin: Can manage all users, departments, courses, fees, and generate system reports.

## 5. Academic Departments & Programs

Computing & Informatics:

Artisan: Computer Packages, Computer Repair & Maintenance

Certificate: ICT, Computer Programming, Graphic Design

Diploma: ICT, Software Development, Web/Mobile Development, Networking & Cybersecurity

Electrical & Electronics:

Artisan: Electrical Installation, Electronics Repair

Certificate: Electrical Engineering (Power), Electronics Engineering

Diploma: Electrical Engineering, Electronics & Telecommunication

Institutional Management:

Artisan: Catering & Accommodation, Housekeeping

Certificate: Catering & Accommodation, Food & Beverage Management

Diploma: Catering & Accommodation, Food Production & Service

Business:

Artisan: Business Studies, Storekeeping

Certificate: Business Management, Sales & Marketing, Supply Chain Management

Diploma: Business Management, Sales & Marketing, Procurement & Supply Chain

Mechanical Engineering:

Artisan: Motor Vehicle Mechanics, Welding & Fabrication

Certificate: Mechanical Engineering (Production), Welding & Fabrication

Diploma: Mechanical Engineering (Production), Automotive Engineering

Health Sciences:

Artisan: Community Health

Certificate: Community Health, Nutrition & Dietetics, Health Records

Diploma: Community Health, Nutrition & Dietetics, Health Records Management

Liberal Studies:

Artisan: Social Work Support

Certificate: Social Work & Community Development

Diploma: Social Work & Community Development, Early Childhood Education

Building and Construction:

Artisan: Masonry, Carpentry & Joinery

Certificate: Building Technology, Plumbing

Diploma: Building Technology, Civil Engineering

Fashion Design, Beauty & Therapy:

Artisan: Hairdressing, Beauty Therapy, Tailoring & Dressmaking

Certificate: Hairdressing & Beauty Therapy, Fashion Design, Cosmetology

Diploma: Fashion Design & Clothing Technology, Advanced Beauty Therapy, Cosmetology & Spa Management

## 6. System Architecture

Architecture Type: MERN Stack (MongoDB, Express.js, React.js, Node.js)

- Frontend: React.js
- Backend: Node.js + Express.js
- Database: MongoDB
- Authentication: JSON Web Tokens (JWT)
- File Storage: Multer/Cloudinary

## 7. MongoDB Collections

Users, Departments, Courses, Students, Grades, Attendance, Announcements

## 8. Key Features

1. Authentication & Role Management
2. Dynamic Course Listings by Department & Level
3. Student Enrollment System
4. Grade Tracking
5. Attendance Management
6. Fee Management
7. Announcements
8. Admin Dashboard with Reports

## 9. Development Roadmap

- Phase 1: Backend Setup (Node.js, Express, MongoDB, JWT auth)
- Phase 2: Frontend UI (React, TailwindCSS) with role-based routes
- Phase 3: Implement Student Features
- Phase 4: Implement Teacher Features
- Phase 5: Implement Admin Features
- Phase 6: Testing & Deployment

## 10. Deployment

- Frontend: Vercel
- Backend: Railway / Render
- Database: MongoDB Atlas