

Frontend Documentation for Degree Management Platform

Table of Contents

1. Overview
2. Folder Structure
3. Page Components and Functionalities
4. UI Mockups (ASCII Representations)
5. API Endpoints
6. Component Interaction Flow
7. State Management Strategy

1. Overview

The Degree Management Platform is a web-based system designed to manage student degrees efficiently. It includes user authentication, student management, degree issuance, and administrative controls. The frontend is built with React (Vite), TailwindCSS for styling, and Context API for state management.

2. Folder Structure

```
degree-management-platform/
├── public/                # Public assets
│   ├── index.html        # Root HTML template
│   ├── manifest.json     # PWA manifest file
│   └── assets/           # Static files (logos, images)
├── src/                  # Application source code
│   ├── components/       # Reusable UI components
│   │   ├── common/       # Common UI components (Sidebar, Navbar, etc.)
│   │   ├── dashboard/    # Components specific to Dashboard
│   │   ├── students/     # Components for Student Management Page
│   │   ├── degrees/      # Components for Degree Issuance Page
│   │   └── settings/     # Components for Admin/User Management
│   ├── pages/            # Page-level components
│   ├── services/         # API calls & backend communication logic
│   ├── context/          # Global state management (Context API)
│   ├── utils/            # Helper functions (formatting, constants, etc.)
│   ├── hooks/            # Custom React hooks for logic reuse
│   ├── routes/           # Routing configurations (React Router)
│   ├── App.jsx           # Main application component
│   └── main.jsx          # Entry point
└── styles/               # Tailwind & global CSS configurations
```

3. Page Components and Functionalities

A. Dashboard Page (**Dashboard.jsx**)

Components:

- **StatsOverview.jsx**: Displays student status distribution (pie chart)
- **DepartmentStatsTable.jsx**: Shows department-wise student performance
- **DegreePreviewBox.jsx**: Provides a preview of a degree certificate

B. Student Management Page (**StudentManagement.jsx**)

Components:

- **StudentTable.jsx**: Displays list of pending students
- **MoveToQueueButton.jsx**: Moves selected students to queued status
- **StatusIndicator.jsx**: Shows status changes

C. Degree Issuance Page (**DegreeIssuance.jsx**)

Components:

- **QueuedStudentsTable.jsx**: Displays students queued for degree issuance
- **PreviewDegreeButton.jsx**: Allows admin to preview a degree before sending
- **SendDegreeButton.jsx**: Sends degrees to students
- **MarkAsIssuedButton.jsx**: Bulk action to issue all selected degrees
- **DegreeStatusTracker.jsx**: Logs total students and status transitions

D. Settings Page (**Settings.jsx**)

Components:

- **AdminList.jsx**: Lists all administrators
- **AddAdminForm.jsx**: Allows adding new admins
- **ProfileSettings.jsx**: Allows profile updates

E. Authentication (**Login.jsx**)

- Login functionality for admins
-

4. UI Mockups (ASCII Representations)

Dashboard Page

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Sidebar | Dashboard |

+

[🏠] Home | [📄] Students | [🎓] Degrees | [⚙️] Profile |

+

📊 StatsOverview (Pie Chart of Student Status) |

🎓 Pending: 600 (60%) | 📝 Queued: 300 (30%) | |

✅ Issued: 100 (10%) | |

+

📄 DegreePreviewBox (Preview of Sample Degree) |

[Degree Certificate Sample Preview] | |

[🔍] Preview Button | |

+

📊 DepartmentStatsTable (Table View) |

Department	Pending	Queued	Issued		
Comp Sci.	150	80	20		
Mechanical	200	100	50		

+

Sidebar		Students Management			
<div> <div>🏠 Home</div> <div>📄 Students</div> <div>🎓 Degrees</div> <div>⚙️ Profile</div> </div>					
<div>📝 Pending Students Table</div>					
<input checked="" type="checkbox"/>	Name	Student ID	Dept		
<input type="checkbox"/>	Alice Brown	20241234	CSE		
<input type="checkbox"/>	Bob Smith	20241235	MECH		
<div> <div>✓ Move to Queue</div> <div>Button (Moves selected students)</div> </div>					

+-----+									
Sidebar Degree Issuance									
+-----+									
[🏠] Home [📄] Students [🎓] Degrees [⚙️] Profile									
+-----+									
📋 Queued Students Table									
+-----+									
+-----+									
✓ Name Student ID Dept Status Preview Send									
+-----+									
+-----+									
[] Alice Brown 20241234 CSE Queued 🔍 🍷									
[] Bob Smith 20241235 MECH Queued 🔍 🍷									
+-----+									
+-----+									
[✓ Mark as Issued] Button (Updates status)									
+-----+									

Settings Page

Sidebar

Settings

Home

Students

Degrees

Profile

Admin Profile

Name: John Doe

Role: Super Admin

User Management (Admins Only)

Name	Role	Actions
Alice Brown	Admin	<div><div>Edit</div><div>Remove</div></div>

+ Add New Admin

 Button

Sidebar (Constant in All Pages)

University Logo

Dashboard

Students

Degrees

Profile

5. API Endpoints

Authentication

- `POST /api/auth/login`: Admin login
- `GET /api/auth/profile`: Get logged-in admin profile

Student Management

- `GET /api/students/pending`: Fetch pending students
- `PATCH /api/students/move-to-queue`: Move selected students to queue

Degree Issuance

- `GET /api/degrees/queued`: Fetch queued students
- `POST /api/degrees/send`: Send selected degrees
- `PATCH /api/degrees/mark-as-issued`: Mark selected degrees as issued

Admin Management

- `GET /api/admins`: Fetch list of admins
 - `POST /api/admins/add`: Add a new admin
-

6. Component Interaction Flow

1. **Pending students** → **Queued** (Moved via `MoveToQueueButton.jsx`)
2. **Queued students** → **Issued** (Sent via `SendDegreeButton.jsx`)
3. **Dashboard** updates in real-time to reflect student status changes

4. Admin can track status via `DegreeStatusTracker.jsx`
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7. State Management Strategy

Context API is used for state management.

- **AuthContext:** Manages admin authentication state
 - **StudentContext:** Handles student data fetching and updates
 - **DegreeContext:** Tracks degrees' statuses and updates them dynamically
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