**CNHS File Depot: System Overview**

**1. Executive Summary & Vision**

The CNHS File Depot is a secure, centralized, and modern web application designed specifically for the teaching and non-teaching personnel of Cogon National High School.

The Problem It Solves: The system replaces traditional, often scattered methods of file sharing (like email attachments, USB drives, or unorganized cloud folders) with a single, reliable, and access-controlled online platform.

The Vision: To create an efficient, transparent, and secure digital ecosystem for all school-related documents, enhancing collaboration, ensuring data integrity, and providing easy access to resources for both staff and students.

**2. User Roles & Permissions Hierarchy**

The system is built on a robust, multi-level permissions structure, ensuring that users only have access to the features and data relevant to their role.

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| Role | Who They Are | Key Permissions & Capabilities |
| Students / Public | Unauthenticated Visitors | View-Only Access: Can access the main landing page and use the "Student Access" portal by entering a valid Class Key to view and download files shared specifically for that class. They cannot log in or see any other part of the system. |
| Standard User | Teachers & Non-Teaching Personnel | Personal & Classroom Management: Can log in, manage their account password, view all public files, and manage their own private, secure file depot. Crucially, they can create "Classes," generate unique access keys, and upload specific files for their students to access. |
| Administrator | Department Heads, Key Personnel | Universal File Curation: Possess all capabilities of a Standard User. Additionally, they have a "master view" of all files in the system—both public and private. Their key function is to curate content using a Share Toggle Switch on every file, allowing them to instantly make a user's private file public, or move a public file back to its owner's private storage. They upload files directly to the public repository by default. |
| System Administrator | The Primary System Manager | Total System Control: Has all the powers of an Administrator. Their unique responsibilities include: (1) Creating new user accounts and setting initial passwords. (2) Promoting standard users to Administrator status or revoking it. (3) Acting as the site's webmaster through a built-in Content Management System (CMS) to update public-facing pages like "History," "Learning Links," and manage the scrolling "Achievement Banner." |

**3. Core System Features & Functionality**

**A. File Management & Sharing**

* Centralized Repository: A single, searchable table displays all available files for a logged-in user.
* Public vs. Private Files:
  + Private: Uploaded by a Standard User, visible only to them and all Administrators. This is their personal, secure workspace.
  + Public: Files uploaded by an Admin or files promoted to public status. Visible to all authenticated users.
* Admin Curation Power (The Toggle Switch): This is a cornerstone feature. On the master file list, an Administrator sees a toggle switch next to every single file. This allows them to:
  + Promote: Instantly move a teacher's valuable private file to the public educationalMaterials depot for everyone to see.
  + Privatize: Move a public file back into the original owner's private userMaterials folder if it's no longer needed for general access.
* Google Drive Integration: The system cleverly converts standard Google Drive "share" links into direct "download" links, providing a seamless experience for users.
* Download Tracking: The system automatically counts and displays the number of times each public file has been downloaded, providing useful analytics.

**B. Classroom & Student Access Module**

* Class Creation: Teachers can create distinct virtual classrooms (e.g., "Grade 10 - Math").
* Automatic Key Generation: Upon creation, each class is assigned a unique, secure Access Key (e.g., 2025-4567).
* Targeted File Sharing: Teachers can upload specific files directly to their created classes, separate from the main public/private depots.
* Student Portal: A dedicated, login-free portal allows students to enter a Class Key. If the key is valid, they are shown a clean list of files exclusively for that class, which they can then download.

**C. System Administration & Content Management**

* User Account Management: The System Admin can create and manage all user accounts.
* Role Control: The System Admin has a dedicated panel to view all users and can promote or revoke Administrator privileges with a single click.
* Dynamic Page Content: The System Admin can edit the content of informational pages (like "History" or "Faculty and Staff") directly through the dashboard without needing to touch any code. This includes managing image galleries and lists of external resource links.
* Achievement Banner: A scrolling banner at the top of the site displays school achievements or important announcements. The System Admin can add or remove these messages on the fly.

**D. Security & User Experience**

* Secure Authentication: The system uses Firebase Authentication for robust and secure email/password logins.
* Audit Trail: Every critical action—such as file uploads, deletions, user creation, and role changes—is automatically logged with a timestamp and user details in the database. This provides full accountability and a historical record of system activity.
* Modern, Responsive UI:
  + Aesthetics: A "glassmorphism" design with blurred, translucent elements provides a modern look and feel.
  + Animated Background: A subtle, animated particle background adds a dynamic touch to the interface.
  + Dark/Light Mode: Users can toggle between themes, and their preference is saved in their browser for future visits.
  + Responsive Design: The entire application seamlessly adapts to any screen size, from large desktop monitors to mobile phones.
  + Intuitive Feedback: The system provides clear user feedback through loading spinners, pop-up "toast" notifications for success or error messages, and confirmation dialogs before any destructive action (like deleting a file).

**4. Technology Stack**

* Frontend: Built with standard, reliable HTML5, CSS3, and modern JavaScript (ES6 Modules).
* Backend & Database: Powered entirely by Google Firebase, utilizing:
  + Realtime Database: For instant data synchronization across all users.
  + Firebase Authentication: For secure user management and login.
* Third-Party Libraries:
  + tsParticles: For the engaging animated background effect.