

Kumon EduVault: AI-Assisted Secure File Management

Business Objectives

Improve File Management Efficiency

- Automate the organization and labeling of academic files using AI to reduce manual effort by instructors, students, and staff.

Enhance Data Security and Integrity

- Protect sensitive academic documents through encrypted storage, AI-powered threat detection, and secure access controls.

Support Seamless Collaboration and Accountability

- Enable students, instructors, and administrators to securely upload, share, and monitor files, with audit trails and activity logs to ensure transparency and accountability.

User Requirements

- The administrator shall create new users (students, instructors, and staff) in order to register them into the system and provide appropriate access.
- The student, instructor, staff, or administrator shall log in to the system in order to securely access their respective dashboards.
- The user shall edit their personal information in order to update contact details, email, or password as needed.
- The student or instructor shall upload academic files in order to submit assignments, worksheets, reports, or teaching materials securely.
- The system shall automatically classify uploaded files in order to organize them into predefined categories (worksheets, student records, participation logs, administrative documents).
- The system shall scan uploaded files in order to detect malware or suspicious content and protect system integrity.
- The administrator shall assign access permissions in order to ensure students, instructors, and staff can only access files relevant to their roles.

- The user shall download or share files in order to retrieve documents or distribute materials securely.
- The student, instructor, or administrator shall view a list of files and activity logs in order to track submissions, uploads, and actions taken in the system.
- The student, instructor, or administrator shall view file details and audit trails in order to monitor file status (uploaded, edited, deleted) and maintain accountability.

Functional Requirements

- **Creating New Users**
 - This function allows the system administrator to create new users such as students, instructors, and staff.
 - The customer can sign up to avail the service with the following required details:
 - Email
 - Password
 - Confirm Password
 - Full Name
 - Role (Student/Instructor/Staff)
 - The system administrator has to input the new employee's information. Required information:
 - Email
 - ID number
 - Password
 - Confirmed Password
 - Full Name
 - Starting Date
- **Login for Users**
 - This function allows authorized users (students, instructors, staff, and administrators) to log in.
 - The system automatically detects if the user is a student, instructor, staff, or administrator and directs them to the appropriate dashboard.
 - The system shall lock accounts after three failed login attempts and notify the administrator.
- **Editing User Information**
 - This function allows the user to edit personal information.
 - The system requires verification before changes to sensitive information (such as email or password) are applied.
 - Editable information includes:
 - Contact Number
 - Email Address
 - Saved Address
 - Password

- **Uploading Files**

- This function allows users to upload academic files such as worksheets, assignments, reports, and instructional materials.
- Required information:
 - File name
 - File type
- The system shall validate file type and size before upload, and all files shall be encrypted for secure storage.

- **AI-Based File Classification**

- This function automatically organizes and labels uploaded files based on document type, such as worksheets, forms, reports, or participation logs. The AI system scans the file content and categorizes it accordingly, improving file organization and reducing manual sorting.
 - **Features:**
 - **Automatic Labeling:** Categorizes files into predefined types such as worksheets, student records, participation logs, and administrative documents.
 - **Search and Retrieval:** Files are indexed and can be easily searched and retrieved based on the AI-assigned labels.
 - **File Tags:** Each file receives metadata tags to indicate its content, making it easier for users to filter documents by type.

- **AI-Powered Threat Detection**

- This feature scans all uploaded files for potential threats such as viruses, malware, or suspicious content to ensure the files do not compromise the system or user data.
 - **Features:**
 - **Malware Detection:** Scans files for viruses, worms, and other malware.
 - **Suspicious Content Detection:** Identifies files with potentially harmful or unauthorized content.
 - **Quarantine and Reporting:** If a threat is detected, the file is quarantined, and an alert is generated to notify the administrator or user of the potential danger.

- **File Access Control & Permissions**

- This function ensures that files are accessed only by authorized users.
 - Students can upload and view their own files.
 - Instructors can upload teaching materials and view student files assigned to them.
 - Administrators can view, edit, and delete all files in the system.
- All file access and modifications are logged for security purposes.

- **File Download & Sharing**

- This function allows users to download and share files securely.
 - Users can generate secure download links.
 - Download links may be set to expire after a specified period (24 hours).
 - Unauthorized users are prevented from accessing shared files.

- **List of Files & Activity Logs**

- This function allows the user to consult a list of uploaded files or activities.
 - If the user is a student, the list displays all files uploaded by that student
 - If the user is an instructor, the list displays both student submissions and instructor uploads.
 - If the user is an administrator, the list displays all files in the system, sortable by filters.
- The system also generates an activity log that shows who uploaded, viewed, downloaded, or edited each file.

- **Audit Trail (File Details)**

- This function allows users to check the details of a specific file and its usage.
 - Students can view their file details.
 - Instructors can view student file details for academic purposes.
 - Administrators can view all file details and actions.
- Statuses and tracked actions include:
 - File Uploaded
 - File Viewed
 - File Edited
 - File Deleted
- For each file, the system records:
 - Upload date and uploader's name
 - Last access date
 - Actions taken