

Content Management System for Efficient Organization and Access to Digital Assets

Actors:

- **Content Managers:** Users responsible for uploading, organizing, and managing digital assets.
 - **End Users:** Individuals seeking access to digital assets for various purposes.
 - **System Administrators:** Manage user accounts, oversee system performance, and ensure compliance with security protocols.
 - **Search Engine:** Enables efficient searching and retrieval of digital assets.
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Preconditions:

- Users must register and create accounts to access the CMS features.
 - The system should have a secure database for storing digital assets and user information.
 - The application must be hosted on a server with adequate storage and processing capabilities.
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Postconditions:

- Users can efficiently upload, organize, and retrieve digital assets.
 - The system maintains a structured repository of digital assets with metadata for easy access.
 - Administrators can generate reports on asset usage and user activity.
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Functional Requirements

1. User Authentication

- **Description:** Users can create accounts and log in to access CMS features.
- **Details:**
 - Users must provide an email and password to register.
 - The system must validate user credentials and manage sessions securely.
 - User profiles should store roles (e.g., content manager, end user) and preferences.

2. Digital Asset Upload

- **Description:** Users can upload various types of digital assets (e.g., images, videos, documents).
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- **Details:**
 - The system should support multiple file formats and sizes.
 - Users can add metadata (e.g., title, description, tags) during the upload process.
 - The system should provide feedback on upload success or failure.

3. Asset Organization

- **Description:** Users can categorize and organize digital assets into folders and collections.
- **Details:**
 - Users can create, rename, and delete folders and collections.
 - The system should support drag-and-drop functionality for easy organization.
 - Users can assign tags for better asset management and retrieval.

4. Search and Retrieval

- **Description:** Users can efficiently search for digital assets using various criteria.
- **Details:**
 - The system should support full-text search and filtering by metadata (e.g., tags, dates).
 - Search results should display relevant assets with thumbnails and brief descriptions.
 - Users can save frequently used search queries for quick access.

5. Version Control

- **Description:** The system maintains a history of changes to digital assets.
- **Details:**
 - Users can view and revert to previous versions of assets.
 - The system should track changes made by users and timestamps.
 - Users can compare different versions of an asset.

6. User Permissions and Roles

- **Description:** Administrators can manage user roles and permissions for asset access.
- **Details:**
 - Users can be assigned different roles with specific access rights (e.g., read, write, delete).
 - The system should enforce permissions for sensitive assets.
 - Administrators can update user roles as needed.

7. Collaboration Features

- **Description:** Users can collaborate on digital assets with comments and feedback.
- **Details:**
 - Users can leave comments on assets and tag other users for notifications.
 - The system should notify users of updates or changes made to assets.
 - Users can resolve comments to keep track of feedback.

8. Reporting and Analytics

- **Description:** Administrators can generate reports on asset usage and user activity.
- **Details:**
 - The system should provide insights into frequently accessed assets and user interactions.
 - Reports can be exported in various formats (e.g., CSV, PDF).
 - Administrators can set up automated reports to be sent via email.

9. Data Backup and Recovery

- **Description:** The system ensures data integrity through regular backups.
- **Details:**
 - Automatic backups of digital assets and metadata should be scheduled.
 - Users should have the ability to restore previous versions of the CMS.
 - The system should maintain backup logs for auditing purposes.

10. Mobile Accessibility

- **Description:** The CMS should be accessible on mobile devices for users on the go.
 - **Details:**
 - The application should be responsive and optimized for mobile use.
 - Users can access all features, including uploading and retrieving assets, from their mobile devices.
 - Mobile notifications for updates and comments should be implemented.
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Delivery Checkpoints

Total Duration: 48 hours

Delivery Checkpoints: Every 8 hours

1. Checkpoint 1 (Hours 0-8):

- Implement user authentication and registration functionalities.
- Test account creation and login features.

2. Checkpoint 2 (Hours 8-16):

- Develop digital asset upload features with metadata input.
- Test file upload success and error handling.

3. Checkpoint 3 (Hours 16-24):

- Implement asset organization features (folders, collections, and tags).
- Test drag-and-drop functionality for asset management.

4. Checkpoint 4 (Hours 24-32):

- Develop search and retrieval functionalities.
- Test search accuracy and filtering options.

5. Checkpoint 5 (Hours 32-40):

- Implement version control and change tracking features.
- Test the ability to revert to previous versions of assets.

6. Checkpoint 6 (Hours 40-48):

- Finalize user permissions, collaboration features, and reporting functionalities.
- Conduct final testing, bug fixing, and prepare for deployment.