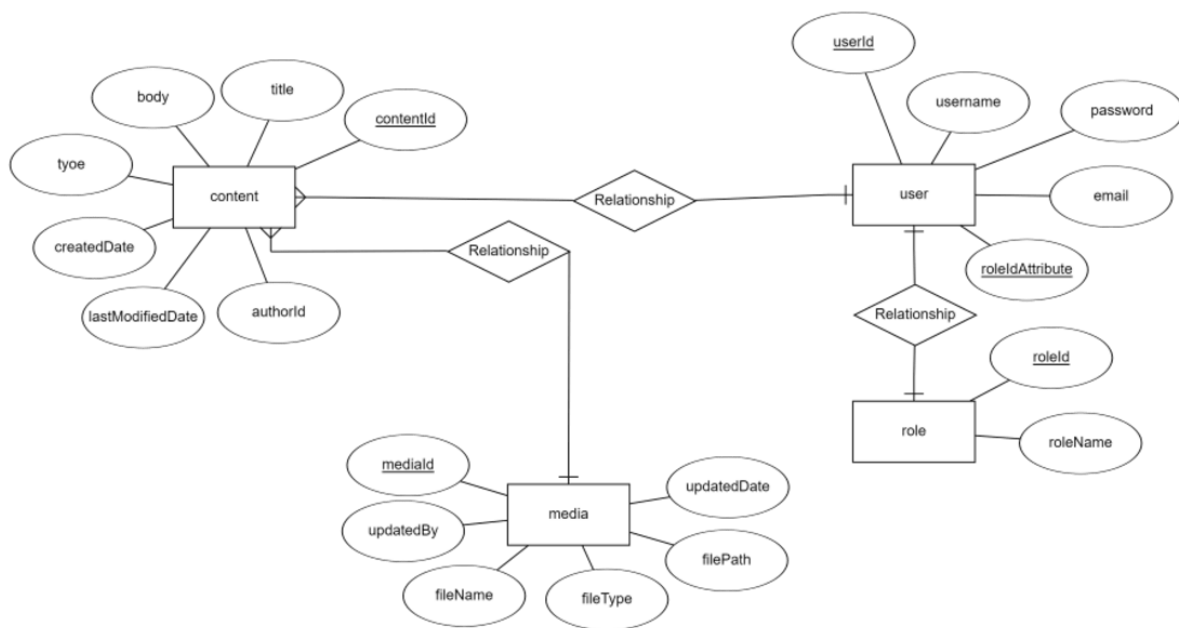


## Enterprise Content Management System

Enterprise Content Management System (ECMS) based on the detailed requirements and entities provided. It visualizes the primary entities and relationships required for the system's core modules, including Document Management, Version Control, Permission Management, Workflow Automation, Notification System, Audit Trail, and Reporting.



### Entities and Relationships

- **User:**
  - Attributes: userId, username, email, password, roleId, status, dateCreated, lastLogin
  - Relationships:
    - **Role** (many-to-one)
    - **Permission** (many-to-many via permissionId)
    - **Task** (one-to-many)
    - **Document** (one-to-many)

- **Notification** (one-to-many)
  - **AuditTrail** (one-to-many)
- **Document:**
  - Attributes: documentId, title, content, folderId, categoryId, userId, fileFormatId, versionId, metadataId, dateCreated, lastModified
  - Relationships:
    - **User** (many-to-one, createdBy)
    - **Folder** (many-to-one)
    - **Category** (many-to-one)
    - **Version** (one-to-many)
    - **FileFormat** (many-to-one)
    - **Metadata** (one-to-many)
    - **Permission** (many-to-many via permissionId)
    - **Workflow** (many-to-many via workflowId)
    - **Comment** (one-to-many)
    - **Notification** (one-to-many)
    - **AuditTrail** (one-to-many)
- **Folder:**
  - Attributes: folderId, folderName, parentFolderId, userId, dateCreated, lastModified
  - Relationships:
    - **User** (many-to-one, createdBy)
    - **Document** (one-to-many)
- **Category:**
  - Attributes: categoryId, categoryName, description
  - Relationships:
    - **Document** (one-to-many)
- **Permission:**
  - Attributes: permissionId, roleId, documentId, canView, canEdit, canDelete, canDownload, canShare
  - Relationships:
    - **Role** (many-to-one)

- **Document** (many-to-one)
- **Workflow:**
  - Attributes: workflowId, name, description, status, createdBy, dateCreated, dateModified
  - Relationships:
    - **Task** (one-to-many)
    - **User** (many-to-many via taskId, assignedTo)
    - **Document** (many-to-many)
- **Version:**
  - Attributes: versionId, documentId, versionNumber, createdBy, dateCreated
  - Relationships:
    - **Document** (many-to-one)
- **Notification:**
  - Attributes: notificationId, userId, documentId, message, type, dateSent, status
  - Relationships:
    - **User** (many-to-one)
    - **Document** (many-to-one)
- **AuditTrail:**
  - Attributes: auditId, userId, documentId, action, dateOfAction, ipAddress
  - Relationships:
    - **User** (many-to-one)
    - **Document** (many-to-one)
- **Role:**
  - Attributes: roleId, roleName, description
  - Relationships:
    - **User** (one-to-many)
    - **Permission** (one-to-many)
- **Comment:**
  - Attributes: commentId, documentId, userId, content, dateCreated
  - Relationships:
    - **User** (many-to-one)

- **Document** (many-to-one)
- **FileFormat:**
  - Attributes: fileFormatId, formatName, extension
  - Relationships:
    - **Document** (one-to-many)
- **Metadata:**
  - Attributes: metadataId, documentId, attributeName, attributeValue
  - Relationships:
    - **Document** (many-to-one)
- **Task:**
  - Attributes: taskId, workflowId, name, status, assignedTo, dateCreated, dateDue
  - Relationships:
    - **Workflow** (many-to-one)
    - **User** (many-to-one, assignedTo)
- **Report:**
  - Attributes: reportId, name, content, createdBy, dateCreated, lastModified
  - Relationships:
    - **User** (many-to-one, createdBy)