

Textual Description of Entities And Relationships

Entity Descriptions

User

- **Description:** Represents a registered individual who uses the UniCentral system. This could be a student, faculty member, or any individual with access to the system.
- **Attributes:**
 - **user_id:** The unique identifier for the user (Primary Key).
 - **username:** The user's chosen username for system access.
 - **password:** The user's chosen password, which should be stored in an encrypted format for security.
 - **email:** The user's email address, used for system notifications and password recovery.
- **Relationships:**
 - Can have multiple assignments, each representing a piece of work to be completed.
 - Can have multiple login sessions, each representing a distinct access period to the system.
 - Can access many course resources, reflecting the materials available for courses they are enrolled in.

Assignment

- **Description:** A task or piece of work assigned to a user within the context of a course.
- **Attributes:**
 - **assignment_id:** The unique identifier for the assignment (Primary Key).
 - **course_id:** A reference to the course to which the assignment belongs (Foreign Key).
 - **title:** The title or name of the assignment.
 - **description:** A detailed description of what the assignment entails.
 - **due_date:** The deadline by which the assignment should be completed and submitted.
- **Relationships:**
 - Belongs to one course, indicating which course's curriculum includes the assignment.

Course

- **Description:** An academic course that users can enroll in and for which assignments are made.
- **Attributes:**

- **course_id:** The unique identifier for the course (Primary Key).
- **course_name:** The official name of the course.
- **description:** A brief outline or description of what the course covers.
- **Relationships:**
 - Can have multiple assignments, which are tasks or projects assigned to users enrolled in the course.

Study_Resource

- **Description:** Educational materials that support the learning objectives of a course.
- **Attributes:**
 - **resource_id:** The unique identifier for the study resource (Primary Key).
 - **topic:** The main subject or area covered by the resource.
 - **description:** Details about what the resource includes or its contents.
 - **rating:** An overall rating reflecting user evaluations of the resource's usefulness or quality.
- **Relationships:**
 - Can be associated with multiple courses, indicating that a resource may be relevant to different areas of study.

Course_Resource (Junction Table)

- **Description:** Links courses to their respective study resources and vice versa.
- **Attributes:**
 - **course_id:** Identifies the course related to the resource (Foreign Key and part of Composite Primary Key).
 - **resource_id:** Identifies the study resource related to the course (Foreign Key and part of Composite Primary Key).

Login_Session

- **Description:** Represents an instance of a user logging into the system.
- **Attributes:**
 - **session_id:** A unique identifier for the login session (Primary Key).
 - **user_id:** The identifier of the user who has logged in (Foreign Key).
 - **timestamp:** The date and time when the user logged in.

Administrator

- **Description:** A user with elevated privileges who can perform administrative functions such as moderating user accounts.
- **Attributes:**
 - **admin_id:** The unique identifier for the administrator (Primary Key).
 - **admin_username:** The administrator's username for system access.
 - **admin_password:** The administrator's password, which should be stored in an encrypted format for security.

Relationships Descriptions

- **User to Assignment:** Indicates that a user can be associated with zero or many assignments, but each assignment is linked to exactly one user.
- **Course to Assignment:** Represents that a course can include zero or many assignments, but each assignment is associated with exactly one course.
- **User to Login_Session:** Shows that a user can initiate zero or many login sessions, but each login session is associated with exactly one user.
- **User to Course_Resource:** Depicts a many-to-many relationship where a user can access many course resources, and a course resource can be accessed by many users. This relationship is managed through the Course_Resource junction table.
- **Study_Resource to Course_Resource:** Indicates that study resources can be part of many course resources, and conversely, course resources can include many study resources. This is a many-to-many relationship managed by the Course_Resource junction table.
- **Administrator to User:** Illustrates that an administrator can moderate zero or many users, while each user is moderated by one and only one administrator.