

Course-Selector Tool Database Design

Database Tables

User

Description: Stores basic information about system users, including credentials for authentication (username, password hash, salt, email address) and the user's role within the application (e.g., 'student', 'teacher', 'admin'). Each user is identified by a unique identifier.

Field Name	Data Type	Description
user_id	INTEGER (PK)	Unique user identifier
username	VARCHAR(50) (UNIQUE NOT NULL)	Username for login
email	VARCHAR(50) (UNIQUE NOT NULL)	Email address
password_hash	VARCHAR(128) (UNIQUE NOT NULL)	Hashed password
password_salt	VARCHAR(64) (NOT NULL)	Salt for password hashing
role	VARCHAR(20) (NOT NULL)	User's role within the application (e.g., 'student', 'teacher', 'admin')

Course

Description: Stores fundamental details about the courses offered within the system. This includes a unique identifier, the course's title, the number of credit points it carries, the optional location where it's held, the name of the instructor, the day of the week it's taught, the start time, and the duration of the class in minutes.

Field Name	Data Type	Description
course_id	VARCHAR(10) (PK)	Unique course identifier (e.g., CITS5505)
title	VARCHAR(255) (UNIQUE NOT NULL)	Course title
credit	INTEGER (NOT NULL)	Credit points
location	VARCHAR(255)	Course location (optional)
instructor	VARCHAR(100)	Instructor's name (optional)
day_of_week	VARCHAR(10) (NOT NULL)	Class day (for example, 'Mon', 'Tue', 'Wed')
start_time	TIME (NOT NULL)	Start time
duration	INTEGER (NOT NULL)	Course duration (in minutes)

User Schedule

Description: Represents the enrolment or association of users with specific courses. It uses foreign keys to link to the `Users` and `Courses` tables, identifying which user is taking which course. The optional `enrollment_status` field provides additional information about the user's standing in that course. The combination of `user_id` and `course_id` serves as the primary key, ensuring each user-course relationship is unique.

Field Name	Data Type	Description
user_id	INTEGER (PK, FK)	Foreign key referencing the <code>Users</code> table. Identifies the user associated with the schedule entry.
course_id	VARCHAR(10) (PK, FK)	Foreign key referencing the <code>Courses</code> table. Identifies the course associated with the schedule entry.
enrolment_status	VARCHAR(20)	Optional. Indicates the user's status in the course (e.g., 'Enrolled', 'Wishlisted').

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