DATABASE SCHEMA

**Project Overview:**

The purpose is to develop a web application that facilitates posting ad viewing of hourly employment opportunities within a department. The primary entity is the "positions" table, which stores information about different job positions, including details like title, job description, department, required skills, hourly rate, application instructions, contact information, and job status. The application caters to faculty and staff who can submit job positions and mark them as "open" or "closed" based on availability. Additionally, potential employees can view all open positions on the website.

**Functional Requirements:**

- Users (only faculty/staff) should be able to create new job positions.

- Users should be able to view details of a job position.

- Users (only faculty/staff) should be able to mark a job position as open or closed.

- The system should provide functionality to retrieve job positions with specific attributes, like hourly rate or required skills.

**ERD diagram:**

A screenshot of a computer

Description automatically generated

**Table Components:**

1. ***positions*** Table:

- `*position\_id*`: An integer column with a maximum length of 11 digits, set as the primary key and set to auto-increment.

- `*title*`: A varchar column with a maximum length of 255 characters.

- `*job\_description*`: A text column for storing longer job descriptions.

- `*department*`: A varchar column with a maximum length of 255 characters.

- `*required\_skills*`: A text column for storing the required skills.

- `*hourly\_rate*`: A decimal column with a precision of 10 and scale of 2 for storing hourly rates.

- `*application\_instructions*`: A text column for storing application instructions.

- `*contact\_information*`: A varchar column with a maximum length of 255 characters for storing contact information.

- `*job\_status*`: An enum column with possible values 'Open' or 'Closed' and a default value of 'Open'.

2. ***user*** Table:

- `*user\_id*`: A unique identifier for each user, automatically incremented.

- `*username*`: A variable-length string (up to 255 characters) to store the username. It is marked as `NOT NULL` to ensure every user has a username.

- `*password*`: A variable-length string (up to 255 characters) to store the user's password. It is marked as `NOT NULL` to ensure every user has a password.

- `*user\_type*`: An enumeration ('Faculty' or 'Staff' or ‘Employee’) to specify the type of user. It is marked as `NOT NULL` to ensure every user has a user type.

**Data Types for Attributes:**

1. positions Table:

- `position\_id`: Integer (Auto-increment)

- `title`: Varchar (255)

- `job\_description`: Text

- `department`: Varchar (255)

- `required\_skills`: Text

- `hourly\_rate`: Decimal (10,2)

- `application\_instructions`: Text

- `contact\_information`: Varchar (255)

- `job\_status`: Enum ('Open', 'Closed') - Default: 'Open'

2. users Table:

- `user\_id`: Integer

- `username`: Varchar (255)

- `password`: Varchar (255)

- `user\_type`: Enum (‘Faculty’, ‘Staff’, ‘Employee’)

**Integrity Constraints:**

1. *Primary Key:*

- `position\_id` is the primary key, ensuring each job position has a unique identifier.

2*. Default Value:*

- `job\_status` has a default value of 'Open'.

3. *Auto-increment:*

- `position\_id` is set to auto-increment, ensuring a unique identifier is generated automatically for each new job position.

4. *Data Types:*

- Data types are specified for each attribute to ensure proper storage and retrieval of data.

5. *Enum Constraints:*

- `job\_status` is constrained to the values 'Open' or 'Closed'.

6. *Username constraint:*

- `UNIQUE (username)`: Ensures that each username in the table is unique.