



**BIRMINGHAM CITY**  
**University**

**ERM Proposal(individual)**  
**Database and Web Application Development**

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## ERM Review:

An Entity-Relationship Model (ERM) is an abstraction that describes a database's structure. It defines entities (things or concepts that may be associated with data), attributes (properties or characteristics about entities), and relationships. The ERM aids in visualizing and logically organizing data requirements.

## Outline of the Proposal:

This project involves building a personal blog website with a thorough database architecture for managing users, categories, and posts effectively. The website enables registered users to write and manage blog articles, which may be allocated to various categories. This project includes the design and implementation of a blog website with an emphasis on structured data management through three core entities: user, category, and post.

## Logical Schema:

### SM Update

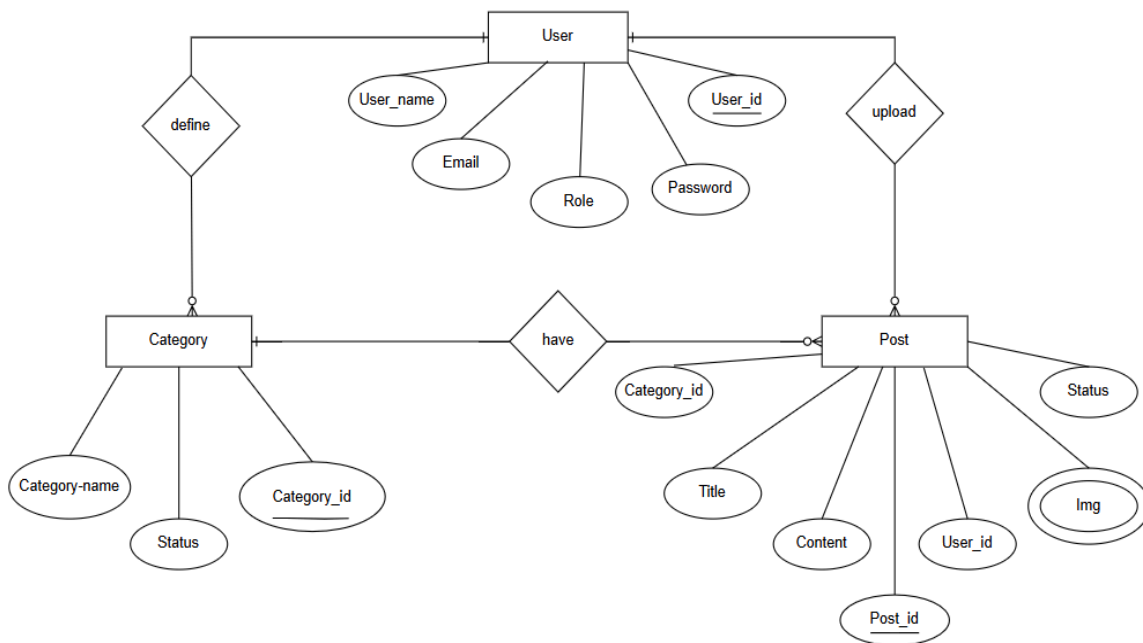


Figure 1: ERM Diagram of SM Update

## Entities:

### 1. User

- a. Users are individuals who have registered on the site.
- b. It includes attributes such as User\_id, User\_name, Email, Role and Password.

### 2. Category

- a. It shows the categories to which blog postings can be allocated are listed.
- b. It includes attributes such as Category\_id, Category\_name and Status.

### 3. Post

- a. Post is something that a user uploads.
- b. It includes attributes such as Post\_id, Category\_id, User\_id, Title, Content and Status.
- c. Users can create posts and link them to categories.

## Physical Schema:

### SM Update

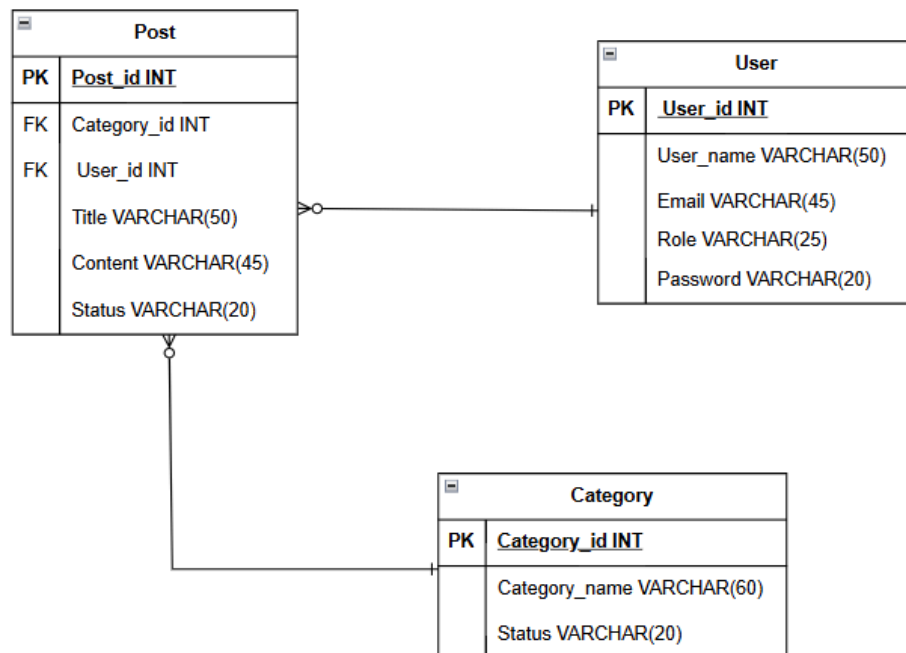


Figure 2: Database Schema

## Attributes:

### 1. User Entity

- a. User\_id: INT (Primary Key) – gives unique identification to each user.
- b. User\_name: VARCHAR(50) - a distinctive username that the user choose.
- c. Email: VARCHAR(45) – email address of a user.
- d. Role: VARCHAR(25) – specify each user's access and permission levels.
- e. Password: VARCHAR(20) - used for user authentication upon website login.

### 2. Category Entity

- a. Category\_id: INT (Primary Key) – gives unique identification to each category.
- b. Category\_name: VARCHAR(60) – name of a category.
- c. Status: VARCHAR(20) – indicate the state of a category.

### 3. Post Entity

- a. Post\_id: INT (Primary Key) – gives unique identification to each post.
- b. Category\_id: INT (Foreign Key) – id of the category to which the post belongs.
- c. User\_id: INT (Foreign Key) – id of the user who uploaded the post.
- d. Title: VARCHAR(50) – title of the post uploaded.
- e. Content: VARCHAR(45) - the post's body, or major content.
- f. Status: VARCHAR(20) – indicate the state of a post.

## Relationships:

### 1. User - Post Relationship

User and post have one-to-many relationship. Which means one user can upload zero or many posts.

### 2. User – Category Relationship

User and category have one-to-many relationship. This means one user can either many categories or does not define even one category.

### 3. Category – Post Relationship

Category and user have one-to-many relationship. Which means that one category can contain one or many posts or doesn't contain any post at all.

## Conclusion

To summarize, the Entity-Relationship Model (ERM) proposed for the SM Update website project effectively organizes data needs around three basic entities: user, category, and post. This organized method enables effective data administration, allowing for smooth interaction between users and content classification. The logical and physical schemas give a clear path for constructing a strong and scalable database framework, which is critical to the blog platform's integrity and performance.