Project Report: PakBaat

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Abstract

PakBaat is a social media application designed to connect individuals within the Pakistani community, providing a platform for sharing experiences, creating posts, and fostering meaningful interactions. This project report presents an overview of PakBaat's objectives, the entity relationship diagram, the relational schema, technologies used, potential users, and future implementation possibilities. Screenshots of key application pages are included to offer a visual representation of the user interface.

Introduction

PakBaat is a social media application designed to connect people, share moments, and facilitate meaningful interactions within the Pakistani community. It provides users with a platform to create posts, share stories, follow others, and engage in a vibrant online community.

Problem Statement

In the era of digital communication, there is a need for a social media platform that caters to the specific needs of the Pakistani community. PakBaat aims to address this by providing a platform for individuals to connect, share experiences, and build a sense of community.

Project Usage

The primary usage of PakBaat is to offer individuals within the Pakistani community a dedicated platform for connecting, sharing experiences, and building a sense of community. Users can create posts, share stories, follow others, and participate in online discussions, creating a space that caters to the cultural nuances and preferences of the Pakistani audience.

Relational Schema following 3NF

Table 1: Users

```
CREATE TABLE Users (
    UserID INT AUTO_INCREMENT PRIMARY KEY,
    Username VARCHAR(45) NOT NULL,
    Email VARCHAR(45) UNIQUE NOT NULL,
    Password VARCHAR(200) NOT NULL,
    Name VARCHAR(45) NOT NULL,
    Coverpic VARCHAR(1000),
    Profilepic VARCHAR(1000),
    City VARCHAR(45),
    Website VARCHAR(45)
);
```

Table 2: Stories

```
CREATE TABLE Stories (
    StoryID INT AUTO_INCREMENT PRIMARY KEY,
    Img VARCHAR(255),
    UserID INT NOT NULL,
    FOREIGN KEY (UserID) REFERENCES Users(UserID)
);
```

Table 3: Relationships

```
CREATE TABLE Relationships (
    RelationshipID INT AUTO_INCREMENT PRIMARY KEY,
    FollowerUserID INT NOT NULL,
    FollowedUserID INT NOT NULL,
    FOREIGN KEY (FollowerUserID) REFERENCES Users(UserID),
    FOREIGN KEY (FollowedUserID) REFERENCES Users(UserID)
);
```

Table 4: Posts

```
CREATE TABLE Posts (
    PostID INT AUTO_INCREMENT PRIMARY KEY,
    Desc VARCHAR(10000),
    Img VARCHAR(255),
    CreatedAt DATETIME,
    UserID INT NOT NULL,
    FOREIGN KEY (UserID) REFERENCES Users(UserID)
);
```

Table 5: Likes

```
CREATE TABLE Likes (
    LikeID INT AUTO_INCREMENT PRIMARY KEY,
    UserID INT NOT NULL,
    PostID INT,
    FOREIGN KEY (UserID) REFERENCES Users(UserID),
    FOREIGN KEY (PostID) REFERENCES Posts(PostID)
);
```

Table 6: Comments

```
CREATE TABLE Comments (
```

0.45

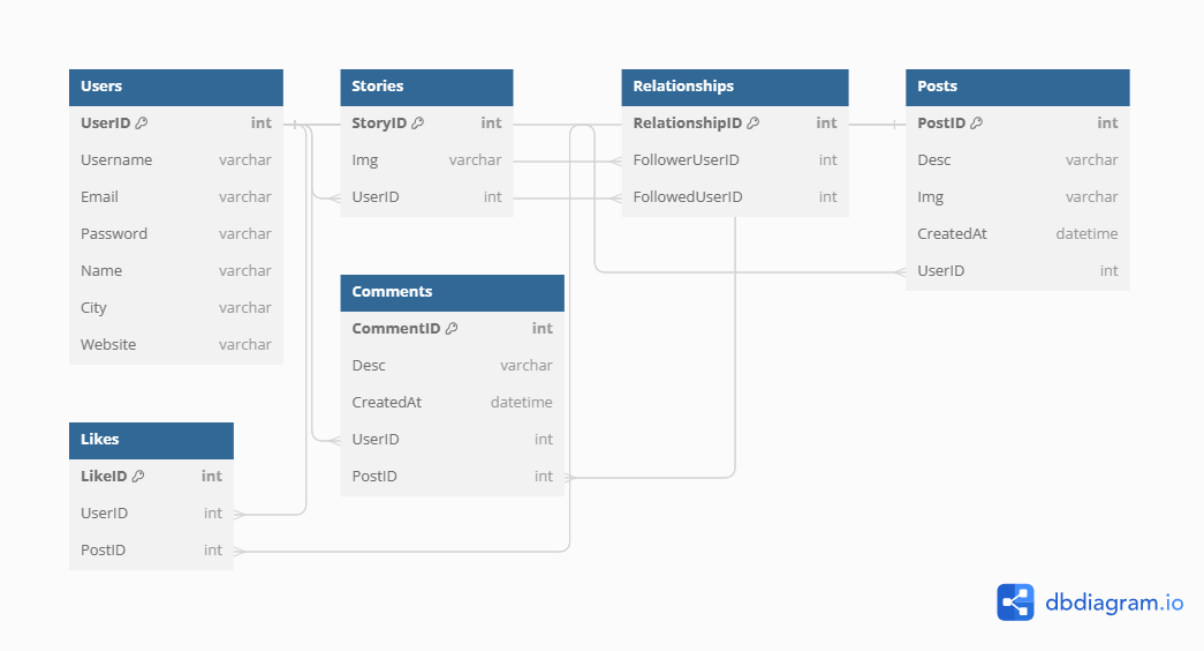


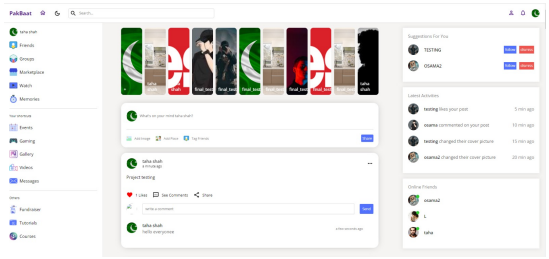
Figure 1: 3NF Table Schema

```
    CommentID INT AUTO_INCREMENT PRIMARY KEY,
    Desc VARCHAR(200),
    CreatedAt DATETIME,
    UserID INT NOT NULL,
    PostID INT,
    FOREIGN KEY (UserID) REFERENCES Users(UserID),
    FOREIGN KEY (PostID) REFERENCES Posts(PostID)
);
```

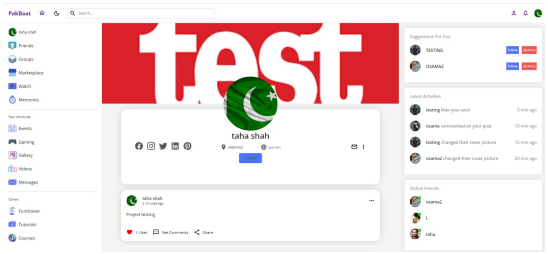
Screenshots

(a) Sign-up Page

(b) Sign-in Page



(c) Main Page



(d) Profile Page

Figure 2: Screenshots of PakBaat Application

Entity Relationship Diagram (ERD)

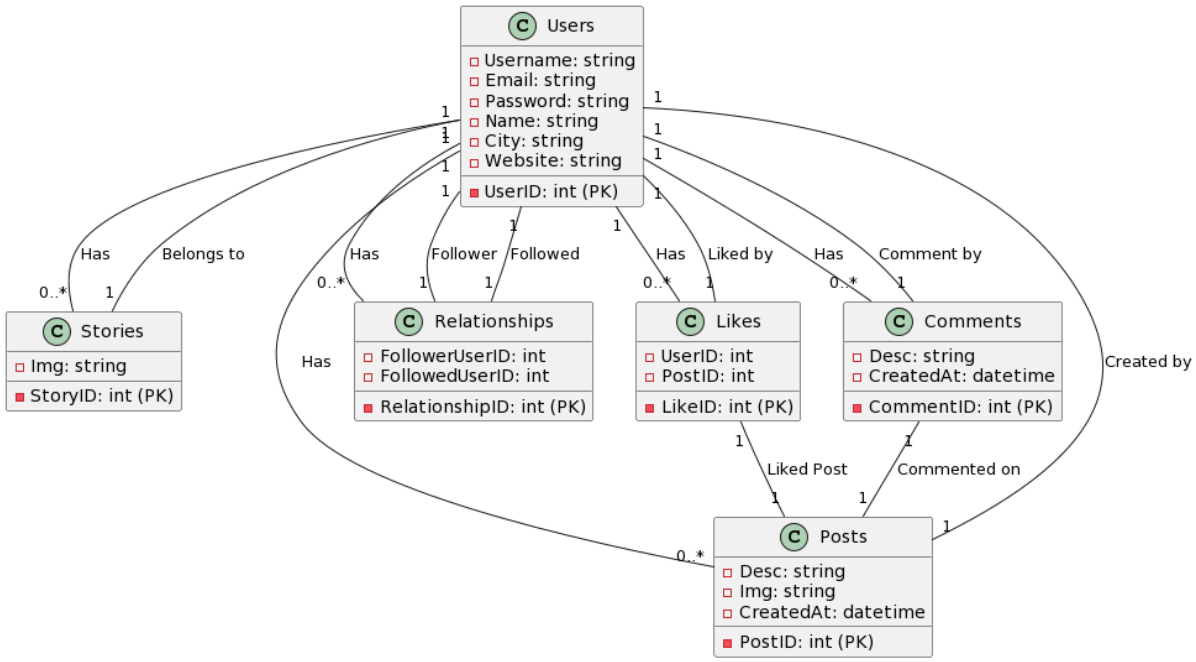


Figure 3: ERD Diagram

Technologies Used in the Project

- **Backend:** Express.js and Node.js for server-side scripting.
- **Frontend:** React.js with Tailwind CSS for dynamic and responsive user interfaces.
- **Database:** MySQL Workbench for data storage and retrieval.
- **Authentication:** JSON Web Tokens (JWT) for secure user authentication.
- **Deployment:** Docker for containerization. Kubernetes for orchestration and scaling.

Potential Users of the Project

The primary target audience for PakBaat includes individuals who identify with the Pakistani community, both within the country and the diaspora. Potential users are those seeking a platform to connect with friends, share cultural experiences, and stay updated with the latest happenings within the Pakistani social sphere.

By catering to this specific demographic, PakBaat aims to create a unique and tailored social media experience that fosters a sense of community and belonging.

Conclusion

The development of PakBaat represents a significant step towards creating a dedicated social media platform for the Pakistani community. The implementation of robust backend and frontend technologies, coupled with a well-designed database schema, provides a foundation for a seamless user experience.

Future Implementations

While PakBaat has achieved its initial goals, there are several areas for future improvement and expansion:

- **Enhanced User Features:** Introduce additional features such as private messaging, advanced user profiles, and personalized content recommendations.
- **Mobile Applications:** Develop native mobile applications for iOS and Android platforms to expand the reach and accessibility of PakBaat.
- **Community Moderation:** Implement community moderation features to ensure a safe and positive online environment for users.
- **Analytics and Insights:** Integrate analytics tools to provide users and administrators with valuable insights into user engagement and content performance.

References

1. BezKoder. (2019). React + Node.js + Express + MySQL example: Build a CRUD App. [online] BezKoder. Available at: BezKoder website.
2. freeCodeCamp.org. (2021). How to Create a React App with a Node Backend: The Complete Guide. [online] Available at: freeCodeCamp.org.