***alphaBrains* Database Schema Specification**

**1. Introduction**

This document specifies the schema for a database that manages event organization and ticketing. The schema consists of seven tables: User, Event, Admin, Event\_Organizer, Ticket, Orders, and Payment.

**2. Tables**

**2.1 User**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Description** | **Primary Key** | **Foreign Key** |
| userID | INTEGER | Unique identifier for the user | YES |  |
| username | VARCHAR(50) | Username for login |  |  |
| password | VARCHAR(50) | Hashed password for the user |  |  |
| email | VARCHAR(255) | User's email address |  |  |

**2.2 Event**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Description** | **Primary Key** | **Foreign Key** |
| eventID | INTEGER | Unique identifier for the event | YES |  |
| eventTitle | VARCHAR(255) | Title of the event |  |  |
| eventDate | DATE | Date of the event |  |  |
| address | VARCHAR(255) | Location of the event |  |  |
| coverPhoto | BLOB | Binary data for the event cover photo (optional) |  |  |
| description | VARCHAR(500) | Description of the event |  |  |
| ticketPrice | DECIMAL(10,2) | Price of a single ticket |  |  |
| numTickets | INTEGER | Total number of tickets available for the event |  |  |

**2.3 Admin**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Description** | **Primary Key** | **Foreign Key** |
| adminID | INTEGER | Unique identifier for the admin | YES |  |

**2.4 Event\_Organizer**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Description** | **Primary Key** | **Foreign Key** |
| organizerID | INTEGER | Unique identifier for the event organizer | YES |  |
| address | VARCHAR(255) | Address of the event organizer |  |  |
| birthdate | DATE | Birthdate of the event organizer |  |  |
| phoneNumber | VARCHAR(20) | Phone number of the event organizer |  |  |

**2.5 Ticket**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Description** | **Primary Key** | **Foreign Key** |
| ticketID | INTEGER | Unique identifier for the ticket | YES |  |
| eventID | INTEGER | Foreign key referencing the event the ticket belongs to |  | FOREIGN KEY (eventID) REFERENCES Event(eventID) |

**2.6 Orders**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Description** | **Primary Key** | **Foreign Key** |
| orderID | INTEGER | Unique identifier for the order | YES |  |
| userID | INTEGER | Foreign key referencing the user who placed the order |  | FOREIGN KEY (userID) REFERENCES User(userID) |
| orderDate | DATE | Date the order was placed |  |  |
| orderTotal | DECIMAL(10,2) | Total amount paid for the order |  |  |

**2.7 Payment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column Name** | **Data Type** | **Description** | **Primary Key** | **Foreign Key** |
| paymentID | INTEGER | Unique identifier for the payment | YES |  |
| orderID | INTEGER | Foreign key referencing the order associated with the payment |  | FOREIGN KEY (orderID) REFERENCES Orders(orderID) |
| userID | INTEGER | Foreign key referencing the user who made the payment |  | FOREIGN KEY (userID) REFERENCES User(userID) |
| paymentTotal | DECIMAL(10,2) | Amount paid in this specific payment |  |  |
| paymentDate | DATE | Date the payment was made |  |  |

**DATABASE SCHEMA TESTING:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TC/ID** | **Title/Description** | **Steps** | **Expected Result** | **Actual Result** | **Test Data** | **Status** |
| TC001 | Check table presence in database schema | Show tables; | Table names should be displayed in the list | As per expected | N. A | Passed |
| TC002 | Check table name conventions | Show tables; | Table names should be single word.  Tables should not contain spaces. | As per expected | N. A | Passed |
| TC003 | Check number of columns in a table | SELECT count(\*) AS NumberOfColumns FROM information\_schema.columns WHERE table\_name = 'User'; | As mentioned in the database design | As per expected | N. A | Passed |
| TC004 | Check column names in a table | SELECT column\_name FROM information\_schema.columns WHERE table\_name = 'User'; | As mentioned in the database design | As per expected | N. A | Passed |
| TC005 | Check data types of columns in a table | SELECT column\_name, data\_type FROM information\_schema.columns WHERE table\_name = 'User'; | As mentioned in the database design | As per expected | N. A | Passed |
| TC006 | Check size of the columns in a table | SELECT *column\_name, column\_type* FROM information\_schema.columns WHERE table\_name = 'User'; | As mentioned in the database design | As per expected | N. A | Passed |
| TC007 | Check null fields in a table | SELECT *column\_name, is\_nullable* FROM information\_schema.columns WHERE table\_name = 'User'; | As mentioned in the database design | As per expected | N. A | Passed |
| TC008 | Check column keys in a table | SELECT *column\_name, column\_key* FROM information\_schema.columns WHERE table\_name = 'User'; | As mentioned in the database design | As per expected | N. A | Passed |