

■ Project Report: Online Quiz Competition with Donation Flow

1. Introduction

This project is designed to conduct an online quiz competition where users can participate by registering with OTP verification. After completing the quiz, they will be prompted to select a donation amount and proceed with a secure payment gateway. Upon successful payment, the user's score is displayed and stored in the database. The final results will be announced on a scheduled date (e.g., Diwali).

2. System Flow

1. User views available quizzes on the homepage.
2. On clicking 'Join Now', the user enters their name and contact number.
3. OTP verification is performed for authentication.
4. User starts the quiz and submits answers.
5. The system calculates the score.
6. A modal prompts the user to select a donation amount (■11, ■21, ■51).
7. Payment gateway integration ensures secure transactions.
8. On success, donation details and quiz score are saved in the database.
9. User sees their score instantly.
10. Results are officially announced at the scheduled event.

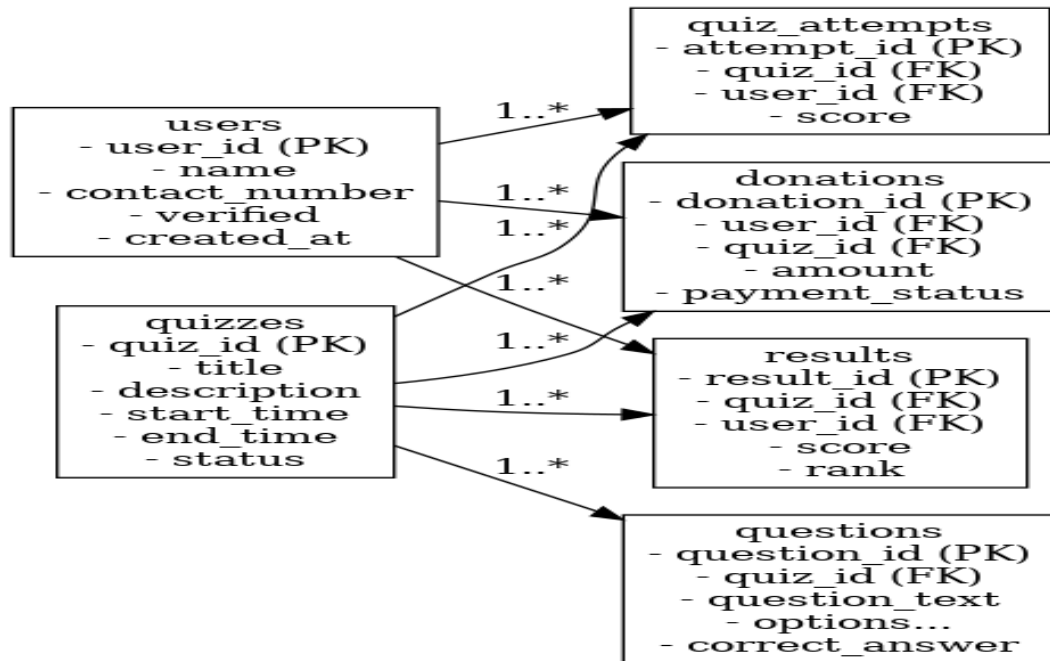
3. Database Design

The following tables are part of the database schema:

Table	Columns
users	user_id (PK), name, contact_number, otp_code, verified, created_at
quizzes	quiz_id (PK), title, description, start_time, end_time, status
questions	question_id (PK), quiz_id (FK), question_text, option_a, option_b, option_c, option_d, correct
quiz_attempts	attempt_id (PK), quiz_id (FK), user_id (FK), start_time, end_time, score
donations	donation_id (PK), user_id (FK), quiz_id (FK), amount, payment_status, transaction_id, created_at
results	result_id (PK), quiz_id (FK), user_id (FK), score, rank, announced_at

4. ER Diagram

The following diagram illustrates the entity-relationship model for the database.



5. Security & Payment Reliability

- OTP authentication ensures genuine participants.
- All sensitive data is encrypted and transmitted via HTTPS.
- Razorpay/Stripe/Paytm SDKs are used for secure payments.
- Payment verification is done through server-side webhooks.
- Retry mechanisms reduce payment failure rate.
- SQL injection prevention and hashed OTP storage are implemented.

6. Future Enhancements

- Leaderboards and badges for user engagement.
- Multiple quiz categories with difficulty levels.
- Daily quiz challenges with rewards.
- Multi-language support for wider reach.
- Push notifications for reminders and results.