

# **A Project Report On**

**Quiz game**

**Developed By**

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**Msc(it) Semester -1**

**Project Guide**

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**Submitted To**



**Geetanjali Collage of Computer Science & Commerce**

**(BBA), Rajkot.**

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## Acknowledgement

I Am Happy To Submit My Idea Of "quiz game "Application In Saurashtra University, Rajkot For mscit Degree In Computer Branch.

I Also Grateful To Prof. Brijesh Shah Head of The Department And All The Faculty Members Of The Department Of Computer Science For Their Kind Support Through Out This Journey.

I Take The Privilege To Acknowledge The Elite Authors Of Numerous Books And Papers And Blogs Which We Have Referred During Progress Of This.

I Also Say The Big Thank You To My Parents For Such A Support And Without Them I Can Do Nothing Not In Just Project But Also In Life. Thankful To My Family For Their Support.

The Feeling Of Gratefulness To Any One's Help Directly Arises From The Bottom Of Heart. A Small But An Important And Timely Help Can Prove To Be A Milestone In One's Life.

Very Thankful To Almighty Of All Of "God" To Give Me Such A Best Persons And All The Thing He Provides Before I Need And I Always Feel That Without Him I Are Nothing.

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# Project Profile

Project Title	Quiz game
Development Software	VS Code
Frontend	HTML,CSS,JS,Bootstrap
Backend	laravel
Database	mysql
Academic Year	2025 - 2026
Developed By	Jay varu
Submitted To	Geetanjali Group Of Colleges
Documentation Tool	Microsoft Word
Operating System	Windows
Language	php

# **Software Development Life Cycle**

## **Waterfall Model:**

The project follows the Waterfall Model for software development, where each phase is completed before the next begins, ensuring a sequential and systematic process.

Steps:

1. Requirement Gathering
2. Project Planning
3. Design
4. Coding & Implementation
5. Testing

## **Phases Explanation:**

1. Requirement Gathering: Identified user needs and analysed similar quiz game websites.
2. Project Planning: Defined the project scope, technology stack, and task division.
3. Design: Created preliminary and final design mock-up's for user interfaces.
4. Coding & Implementation: Developed the front-end and back-end systems based on the design and requirements.
5. Testing: Ensured the platform works as intended, including usability testing and bug fixing

## **System Requirement (For Development)**

### **Hardware Requirements:**

- Processor: Intel Core i3 or equivalent (minimum)
- RAM: 4 GB
- Storage: 1 GB available space for development; more depending on the size of the database and media files.

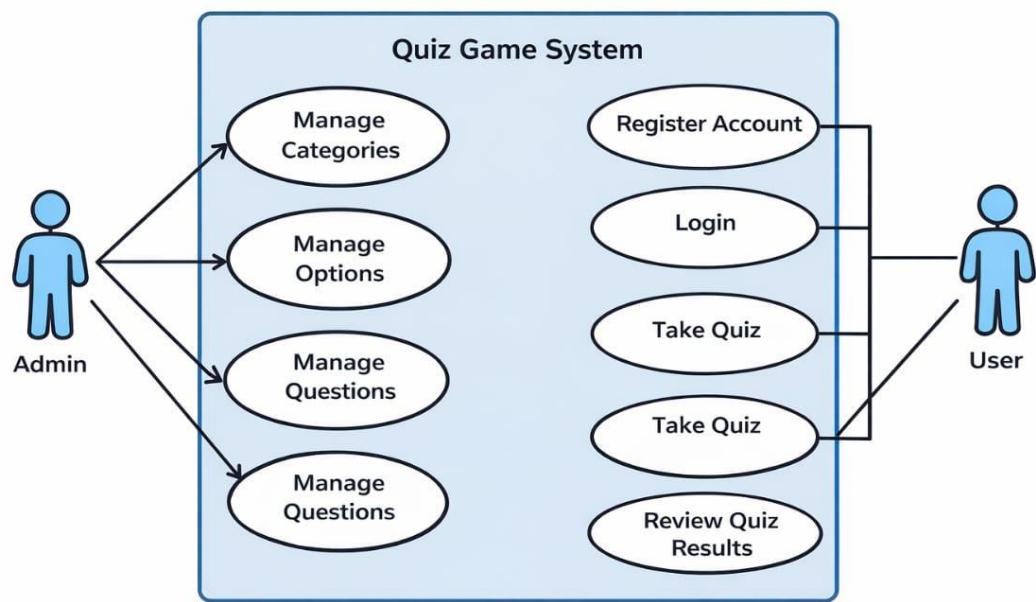
### **Software Requirements:**

- Operating System: Windows/Linux/macOS
- Database: MYSQL (for development)
- IDE: Visual Studio Code
- Programming Languages: HTML, CSS, JavaScript ,laravel

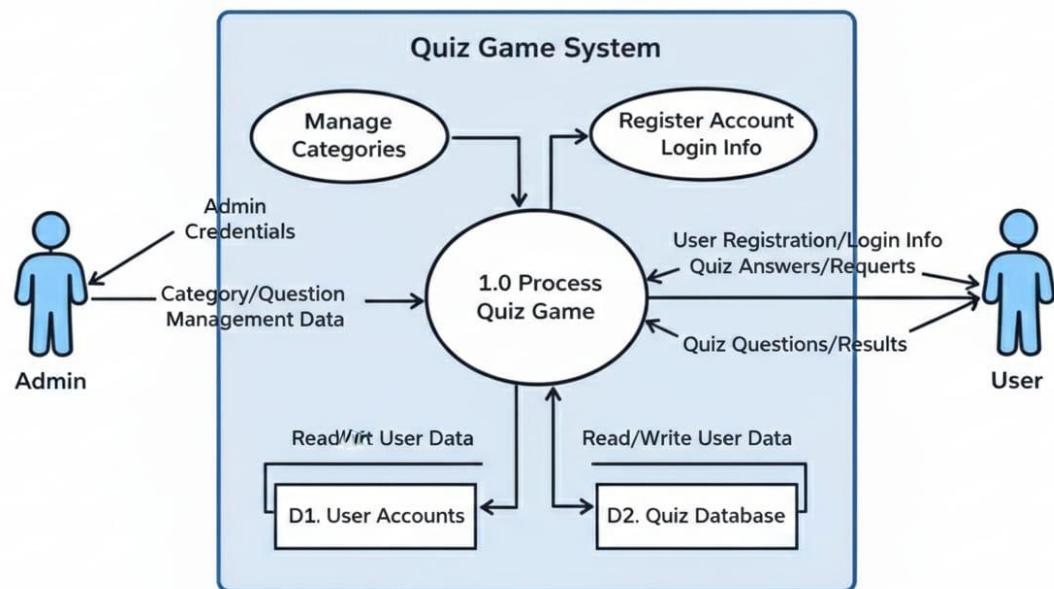
## **About the Tool (Tools & Technology Used)**

- Laravel: A PHP-based web application framework used for back-end development. It provides a robust MVC architecture, built-in authentication, routing, and security features for developing the quiz game efficiently.
- HTML/CSS/JavaScript: Used for front-end development to create a responsive, interactive, and user-friendly quiz interface. JavaScript enhances real-time interactions such as question navigation and score calculation.
- MySQL: A relational database management system used to store quiz questions, user details, scores, and game results securely and efficiently.
- Visual Studio Code: An integrated development environment (IDE) used for writing, debugging, and managing the project source code.

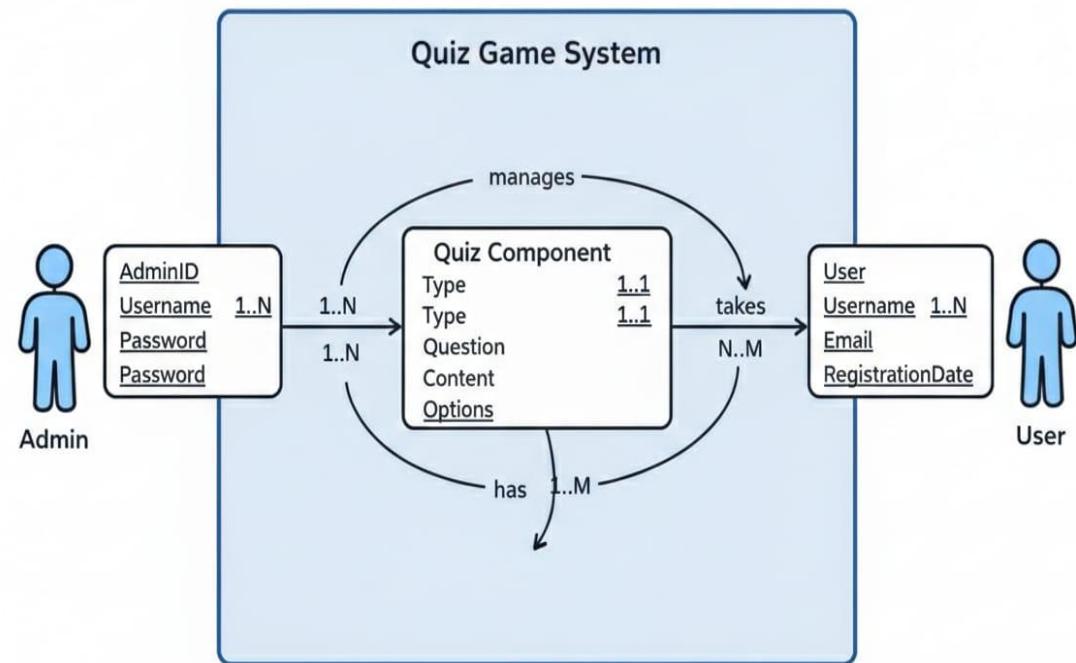
## Use Case Diagram



## DFD (Data Flow Diagram)



## ER (Entity Relationship Diagram)



## Data Dictionary

### User Login:

Sr. No	Field Name	Data Type	Size
1	Id	bigint	20
2	Name	varchar	255
3	Email	Email	-
4	Email_verified_at	varchar	255
5	password	varchar	255

## Questions:

Sr N O.	Field Name	Data Type	Size	Constraints
1	id	BIGINT	20	Primary Key, Auto Increment, Unsigned, Not Null
2	category_id	BIGINT	20	Foreign Key, Index, Unsigned, Not Null
3	question	TEXT	—	Not Null
4	points	INT	11	Not Null, Default 10
5	time_limit	INT	11	Not Null, Default 30

### **Option table**

Sr No.	Field Name	Data Type	Size	Constraints
1	id	BIGINT	20	Primary Key, Auto Increment, Unsigned, Not Null
2	question_id	BIGINT	20	Foreign Key, Index, Unsigned, Not Null
3	option_text	VARCHAR	255	Not Null
4	is_correct	TINYINT	1	Not Null, Default 0

### **Category table**

Sr No.	Field Name	Data Type	Size	Constraints
1	id	BIGINT	20	Primary Key, Auto Increment, Unsigned, Not Null
2	name	VARCHAR	255	Not Null
3	slug	VARCHAR	255	Not Null, Index
4	description	TEXT	—	Nullable
5	image	VARCHAR	255	Nullable
6	is_active	TINYINT	1	Not Null, Default 1

## Screen Shots

### Dashboard

The screenshot shows the Quiz Game dashboard for an Admin User. At the top, there's a navigation bar with links: Dashboard, Play Quiz, Leaderboard, History, Admin (which is highlighted in orange), Admin User, and Logout. Below the navigation, a welcome message says "Welcome, Admin User! 🙌". There are three summary cards: one with a game controller icon and the number 1 for quizzes played, another with a star icon and the number 50 for total score, and a third with a chart icon and 100.0% for average score. The main section is titled "Categories" and lists eight categories with their respective icons and question counts:

Category	Icon	Questions
General Knowledge	💡	15 questions
Science	🧪	15 questions
History	📜	15 questions
Geography	gMaps	15 questions
Technology	💻	15 questions
Entertainment	🎭	15 questions
Mathematics	📊	15 questions
Literature	📖	15 questions
Current Affairs	📰	15 questions
sports	⚽	10 questions

- ➔ This is the dashboard.
- ➔ User can show the all detail they can be showed here.

## Categories

 Quiz Game

Dashboard Play Quiz Leaderboard History Admin Admin User Logout

### Choose a Category

Select a topic to start your quiz

 <b>General Knowledge</b> Test your knowledge on various topics 15 Questions <a href="#">Start Quiz</a>	 <b>Science</b> Physics, Chemistry, Biology and more 15 Questions <a href="#">Start Quiz</a>	 <b>History</b> World history and historical events 15 Questions <a href="#">Start Quiz</a>
 <b>Geography</b> Countries, capitals, and landmarks <a href="#">Start Quiz</a>	 <b>Technology</b> Computers, Internet, and modern tech <a href="#">Start Quiz</a>	 <b>Entertainment</b> Movies, Music, and Pop Culture <a href="#">Start Quiz</a>

- ➔ This is the categories page user can show the all categories.
- ➔ User and admin also can show the all categories and also play a quiz.

## Leaderboard

The screenshot shows the 'Leaderboard' section of the Quiz Game application. At the top, there is a navigation bar with links: Dashboard, Play Quiz, Leaderboard, History, Admin, Admin User, and Logout. Below the navigation bar, the title 'Leaderboard' is displayed with a trophy icon. A subtitle 'Top quiz champions' follows. The main content area lists five users with their ranks, names, quiz counts, and points:

Rank	User	Quizzes Played	Points
1	kaushal	3 quizzes played	70 points
2	Admin User	1 quizzes played	50 points
3	mihir	1 quizzes played	50 points
4	Super Admin	1 quizzes played	20 points
5	sahil	1 quizzes played	10 points

- Here is the leadderboard page.
- User can also the show the results the top categories.

## history

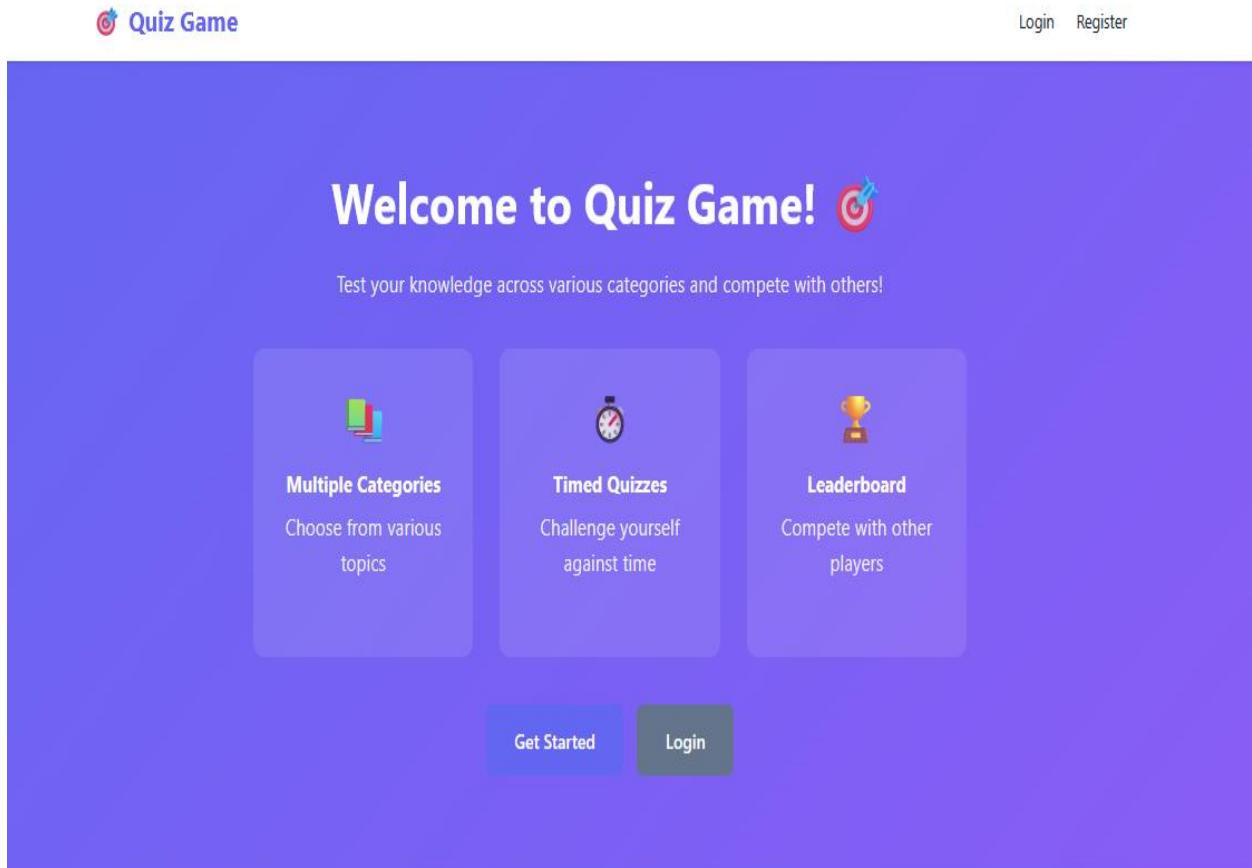
The screenshot shows a web application interface for a quiz game. At the top left is the logo 'Quiz Game'. To its right are navigation links: Dashboard, Play Quiz, Leaderboard, History, Admin (highlighted in orange), Admin User, and Logout. Below this is a large title 'Quiz History' with a small icon of a book. A subtitle says 'View all your past quiz attempts'. A table lists a single quiz attempt:

Date	Category	Score	Correct	Accuracy	Time	Action
Jan 04, 2026 08:19	sports	50	5/5	100%	59:25	<button>View</button>

➔ this is the history page.

User and admin also see the history when they are play.

## Login & register page



- ➔ Here is the login and registration page.
- ➔ New user also can register and previous user also login and enter to this page.

## Result page

The screenshot shows a quiz result page with the following details:

- Total Score: 50
- Accuracy: 50%
- Correct: 5/10
- Time Taken: 57:47

**Question Review**

Question	Answer	Status
Q1 What is the factorial of 5 (5)?	Your Answer: 100	X
	Correct Answer: 120	
Q2 What is $7 \times 8$ ?	Your Answer: 56	✓

- Here is the result page.
- It can be show the result point wise.
- And it will show the answer true or false.

## adminDashboard

The screenshot shows the Quiz Admin dashboard. On the left is a dark sidebar with the Quiz Admin logo and links for Dashboard, Categories, Questions, Users, Back to Site, and Logout. The main area has a header "Dashboard" and "Welcome, Admin User". It features four summary boxes: "6 Total Users", "10 Categories", "145 Questions", and "10 Quiz Attempts". Below is a section titled "Recent Quiz Attempts" with a table:

User	Category	Score	Accuracy	Date
Admin User	Mathematics	50	50%	11 minutes ago
Super Admin	Geography	20	40%	1 week ago
mihir	Technology	50	100%	1 week ago
Admin User	sports	50	100%	2 weeks ago
kaushal	History	10	20%	2 weeks ago
kaushal	Entertainment	10	10%	2 weeks ago
kaushal	Mathematics	50	100%	2 weeks ago

->here is the admindashboard page.

->admin can also show the all details of quiz game.

## Admin categories

The screenshot shows the 'Categories' section of the Quiz Admin interface. On the left is a dark sidebar with navigation links: Dashboard, Categories (selected), Questions, Users, Back to Site, and Logout. The main area has a header 'Categories' and a welcome message 'Welcome, Admin User'. A blue button '+ Add Category' is at the top left. Below is a table with the following data:

ID	Name	Questions	Status	Actions
1	General Knowledge	15	Active	<button>Edit</button> <button>Delete</button>
2	Science	15	Active	<button>Edit</button> <button>Delete</button>
3	History	15	Active	<button>Edit</button> <button>Delete</button>
4	Geography	15	Active	<button>Edit</button> <button>Delete</button>
5	Technology	15	Active	<button>Edit</button> <button>Delete</button>
7	Entertainment	15	Active	<button>Edit</button> <button>Delete</button>
8	Mathematics	15	Active	<button>Edit</button> <button>Delete</button>
9	Literature	15	Active	<button>Edit</button> <button>Delete</button>

->here is the admin categories page.

->admin can also add new categories ,edit and delete the all categories.

## Admin questions

Welcome, Admin User

ID	Question	Category	Points	Options	Actions
1	What is the capital of France?	General Knowledge	10	4	<button>Edit</button> <button>Delete</button>
2	Which planet is known as the Red Planet?	General Knowledge	10	4	<button>Edit</button> <button>Delete</button>
3	What is the largest ocean on Earth?	General Knowledge	10	4	<button>Edit</button> <button>Delete</button>
4	How many continents are there on Earth?	General Knowledge	10	4	<button>Edit</button> <button>Delete</button>
5	What is the chemical symbol for gold?	General Knowledge	10	4	<button>Edit</button> <button>Delete</button>
6	Which country is known as the Land of the Rising Sun?	General Knowledge	10	4	<button>Edit</button> <button>Delete</button>
7	What is the largest mammal in the world?	General Knowledge	10	4	<button>Edit</button> <button>Delete</button>
8	How many colors are there in a rainbow?	General Knowledge	10	4	<button>Edit</button> <button>Delete</button>

->this is the admin panel question page

-> in this page admin can view update and delete the questions.

## User history

The screenshot shows the Quiz Admin application interface. On the left is a dark sidebar with navigation links: Dashboard, Categories, Questions, Users (which is the active link, highlighted in blue), Back to Site, and Logout. The main content area has a header "Users" and a welcome message "Welcome, Admin User". Below is a table listing user information:

ID	Name	Email	Quizzes	Admin	Joined
1	Super Admin	superadmin@quiz.com	1	Yes	Dec 20, 2025
2	Admin User	admin@quiz.com	2	Yes	Dec 20, 2025
3	sahil	sahil@gmail.com	4	No	Dec 20, 2025
4	jay	jay@gmail.com	2	No	Dec 20, 2025
5	kaushal	kaushal@gmail.com	3	No	Dec 29, 2025
6	mihir	mihir@gmail.com	1	No	Jan 12, 2026

->here is the admin user history.

->admin can show the all user performance.

## Test Cases

Test Case	Description	Actual Output	Test Result
Home screen	Display quiz categories, start quiz button, and navigation menu	All quiz categories and navigation options are displayed correctly	Pass
User registration screen	Allow new users to register with valid details	. User registration is completed successfully	Pass
Login screen	Allow registered users to log in using valid credentials	User is logged in and redirected to dashboard	Pass
Quiz category screen	show all available quiz categories	All quiz categories are displayed correctly	Pass
Quiz Question Screen	Display quiz questions with multiple-choice options	Questions and options load correctly	Pass

## Limitation

### Limited Scalability

The application is designed for a small to moderate number of users. Performance may degrade when a large number of users attempt to play quizzes simultaneously, as advanced load balancing and caching mechanisms are not implemented.

### Basic Security Features

While standard Laravel authentication is used, the system does not include advanced security measures such as two-factor authentication, encrypted quiz content, or protection against sophisticated cheating techniques.

### Restricted Question Management

Quiz questions are manually added by the administrator. The system does not support automatic question generation, question difficulty balancing, or integration with external question banks.

## **Future Enhancement**

### **Real-Time Multiplayer and Leaderboards**

Implement real-time multiplayer quizzes and live leaderboards using WebSockets or Laravel Echo to enhance user engagement and competition.

### **Advanced Analytics and Reporting**

Add detailed performance analytics for users and administrators, including score trends, topic-wise performance, and downloadable reports.

### **Enhanced Security and Anti-Cheating Measures**

Introduce features such as question randomization, timed sessions, IP-based monitoring, and two-factor authentication to reduce cheating and improve system security.

## **Webliography**

- [Stack Overflow](#)
- [W3Schools](#)
- [TutorialsPoint](#)
- [Laravel documentation](#)