

**QUIZ WEBSITE WITH LEADERBORD AND TIMER**

**Software Requirements Specification**

**INT-219**

**Front End Web Developer**

**INT-220**

**Server-Side Scripting**

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# 1. Introduction

*The introduction to the Software Requirement Specification (SRS) document provides a complete overview of the QUIZ WEBSITE WITH LEADERBOARD AND TIMER, explaining purpose, scope, and context of Quiz Hosting and competing in it.*

## 1.1 Purpose

*This Software Requirements Specification (SRS) outlines the requirements for the development of a web-based Quiz Website. The website is intended to allow users to attempt quizzes across various subjects and levels, while also enabling administrators to manage quizzes and track user performance. It is targeted at developers, testers, and stakeholders involved in the project.*

## 1.2 Scope

*The Quiz Website is a web application designed to facilitate interactive learning and self-assessment through quizzes. It offers a platform for users to register, participate in quizzes, and track their performance, while also enabling administrators to manage quiz content and user activity efficiently.*

*(1) The software product to be developed is a web application titled the Quiz Website.*

*(2) The platform's scope consists of the following key features:*

- User Authentication: Provides secure user account management, including registration, login, and password recovery to ensure data integrity and personalized access.*
- Quiz Participation: Allows users to browse available quizzes, attempt them within specified time limits, and submit their responses for evaluation.*
- Result and Performance Analytics: Displays user-specific performance reports after quiz submission, helping users track their progress over time.*
- Support for Multiple Choice Questions (MCQs): Includes functionality for designing and presenting quizzes with MCQ formats, including single or multiple correct answers.*

*The platform's scope excludes:*

- Real-time multiplayer or competitive quiz functionality.*
- Integration with external learning management systems (LMS).*
- Monetization or subscription-based access models.*
- Native mobile applications for iOS and Android platforms.*

*(3) The application of this software aims to provide a centralized and engaging platform for knowledge testing and educational reinforcement. It seeks to:*

- Support learners in assessing their knowledge through well-structured quizzes.*

- Offer administrators the tools to efficiently manage quiz content and monitor engagement.
- Promote a learning-oriented community through accessible and insightful assessment tools.

### 1.3 Definitions, Acronyms, and Abbreviations

The following section lists all terms, acronyms, and abbreviations used in this SRS to ensure clarity and consistency.

- SRS: Software Requirements Specification
- UI: User Interface
- SQL: Structured Query Language
- PHP: Hypertext Preprocessor
- HTTP: Hypertext Transfer Protocol
- HTTPS: Hypertext Transfer Protocol Secure

### 1.4 References

- IEEE Recommended Practice for Software Requirements Specifications (IEEE Std 830-1998)
- PHP Documentation – <https://www.php.net>
- MySQL Documentation – <https://dev.mysql.com/doc/>
- JavaScript and AJAX resources

### 1.5 Overview

This SRS document delivers a complete breakdown of the system's requirements, design environment, functionalities, and user interactions. It is organized as follows:

- Section 2, "General Description," provides a general overview of the project like its functions, user characteristics, constraints, and assumptions.
- Section 3, "Specific Requirements," delivers the specific functional and non-functional requirements that the software must adhere to strictly.
- Section 4, "Analysis Models," consists of the analysis models, like Data Flow Diagrams, used to show the system's requirements.
- The Appendices provide additional information to support the requirements.

## 2. General Description

This section of the SRS describes the general aspects that affect the product and its requirements.

### 2.1 Product Perspective

The Quiz Website is a standalone web application with backend logic written in PHP and a MySQL database. It interacts with the client via HTML, CSS, and JavaScript and supports form submissions, data visualization, and email notifications via SMTP.

## 2.2 Product Functions

*The software will provide the following functions:*

- *User sign-up and sign-out*
- *Quiz display and real-time scoring*
- *Result calculation and report generation*
- *Admin interface for CRUD operations on quizzes and users*

## 2.3 User Characteristics

- *General Users: Students or learners attempting quizzes*
- *Admin Users: Site administrators managing the platform*

## 2.4 General Constraints

- *Developed using PHP and SQL*
- *Requires a web server (XAMPP)*
- *Must be responsive*
- *Compatible with modern browsers*

## 2.5 Assumptions and Dependencies

- *Users should have internet access*
- *It is assumed that for PHP and SQL is supported, the server infrastructure will be available and configured.*
- *It is also assumed that third-party APIs for social media integration will be available.*
- *Relies on SMTP for email notifications (e.g., Gmail SMTP)*
- *JavaScript must be enabled for interactive features.*

# 3. Specific Requirements

## 3.1 External Interface Requirements

### 3.1.1 User Interfaces

- *A responsive and user friendly platform with navigation menus for creators and listeners.*
- *Login/Sign up page with input validation.*
- *Home page for podcast creators to manage episodes.*
- *Explore page with search through categories.*
- *Analytics page with charts/graphs to show user engagement.*
- *Social impact section with linked campaigns.*

### 3.1.2 Hardware Interfaces

- *Server hosting the application must have at least:*
  - *4 GB RAM*
  - *2-core CPU*

- PHP & MySQL support
- End-user devices require:
- A modern browser (Chrome, Firefox, Safari)

### 3.1.3 Software Interfaces

- PHP for server-side scripting.
- MySQL for database storage.
- HTML/tailwind CSS/JavaScript for frontend.
- Optional integration with social media APIs.

### 3.1.4 Communications Interfaces

- HTTP/HTTPS protocols for all communications.
- Secure session handling using PHP session management.

## 3.2 Functional Requirements

*This section provides the specific features of the Quiz website with leaderboard and timer. It offers the system's behaviour and the tasks that users will be able to perform.*

### 3.2.1 User Authentication

#### 3.2.1.1 Introduction

This feature ensures user sign up, login to ensure secure and authentic access to the platform. It includes all functionalities related to user identity management.

#### 3.2.1.2 Inputs

- Registration:
  - Username (unique identifier)
  - Email address (for verification and communication)
  - Password (minimum 6 characters, including a mix of numbers and characters)
- Login:
  - Username or Email address
  - Password

#### 3.2.1.3 Processing

- Registration:
  - Validation of user input for format, authenticity, and complexity.
  - Store the user's information (including password and verification status) in the database.
  - Upon successful email verification, mark the user's account as active.
- Login:
  - Fetch the user's stored credentials (username/email) from the database.
  - If the credentials are valid and the account is active, secure session is created for the user.
  - Session information (user ID) is stored.

#### 3.2.1.4 Outputs

- Registration:
  - Successful registration:
  - Failed registration:

- In case of failure, an error message is displayed (e.g., invalid input, username already exists).
- Login:
  - Successful login:
    - user is directed to their dashboard.
  - Failed login:
    - An error message is displayed (e.g., "Invalid credentials").

#### 3.2.1.5 Error Handling

Invalid credentials, existing usernames, SQL errors.

### 3.2.2 Processing and QUIZ interaction

This feature allows user to take quiz in webpage and check their performance by comparing themselves in leaderboard.

- Checks if the user is logged in before accessing the quiz
- Retrieves a randomized set of questions from the database
- Displays questions and options in an interactive format
- On submission, compares user answers to correct ones
- Calculates score and optionally stores it for ranking
- Includes particle-based background animation for enhanced user experience

#### 3.2.2.4 Outputs

- Quiz interface with questions and options
- Final score display after submission
- Optional feedback messages (e.g., success or encouragement)
- Leaderboard update with user's score (if implemented)

#### 3.2.6.5 Error Handling

- Redirects unauthenticated users to the login page

## 3.5 Non-Functional Requirements

### 3.5.1 Performance

- The platform should respond to user quickly.
- The platform should be able to handle at least 100 concurrent users without significant performance degradation.

### 3.5.2 Reliability

- The platform should have an uptime of 99%.
- The platform should handle errors gracefully and provide suitable error messages.

### 3.5.3 Availability

- The platform should be available 24/7, except for scheduled maintenance.

### **3.5.4 Security**

- User passwords should be stored securely.
- The platform should be protected against common web vulnerabilities (e.g., SQL injection).
- User data should be protected in accordance with privacy regulations.

### **3.5.5 Maintainability**

- The codebase should be well-organized and documented to facilitate future modifications and updates.

### **3.5.6 Portability**

- The platform should be compatible with major web browsers (Chrome, Firefox, Safari, Edge).
- Fully responsive on Android and iOS devices

## **3.7 Design Constraints**

- *PHP must be used as the backend language.*
- *SQL database must store all persistent data.*
- *Web application must be deployable on XAMPP/WAMP stack.*

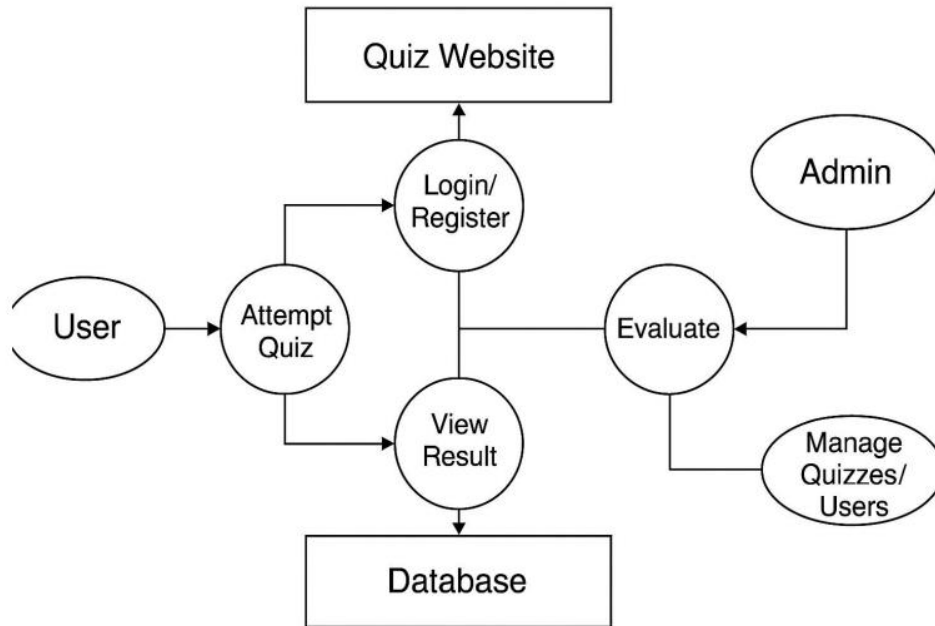
## **3.9 Other Requirements**

- *User feedback form after quiz*
- *Pagination for large question sets*



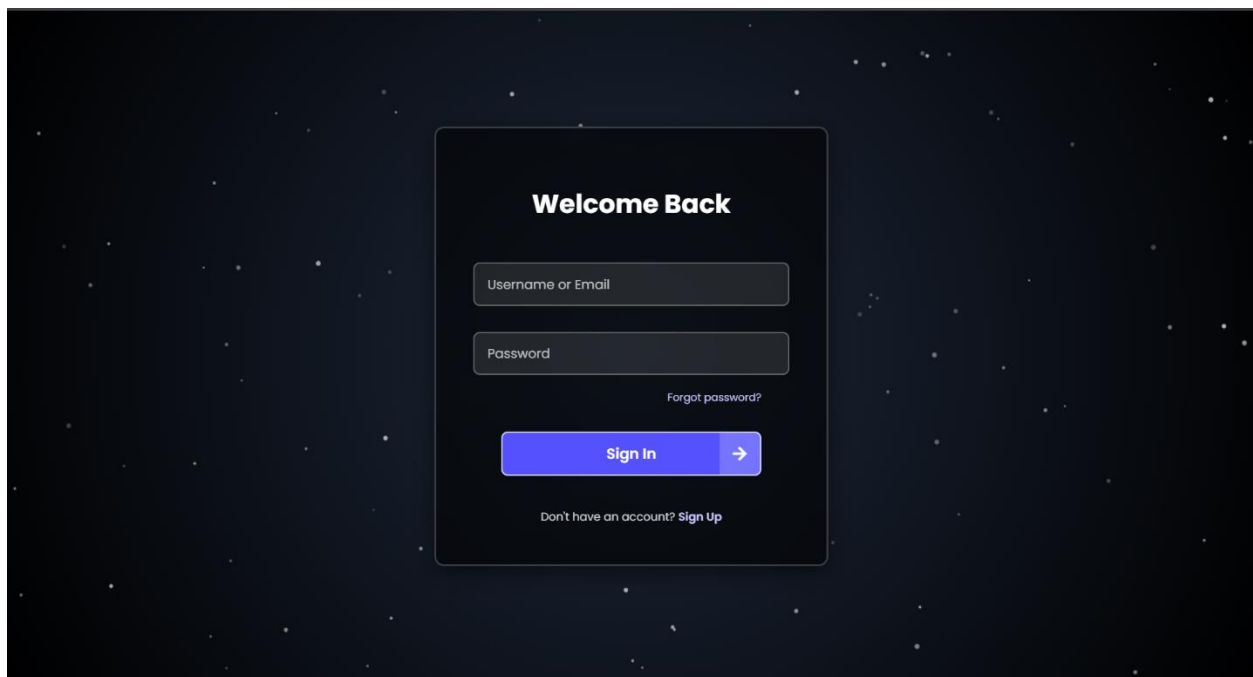
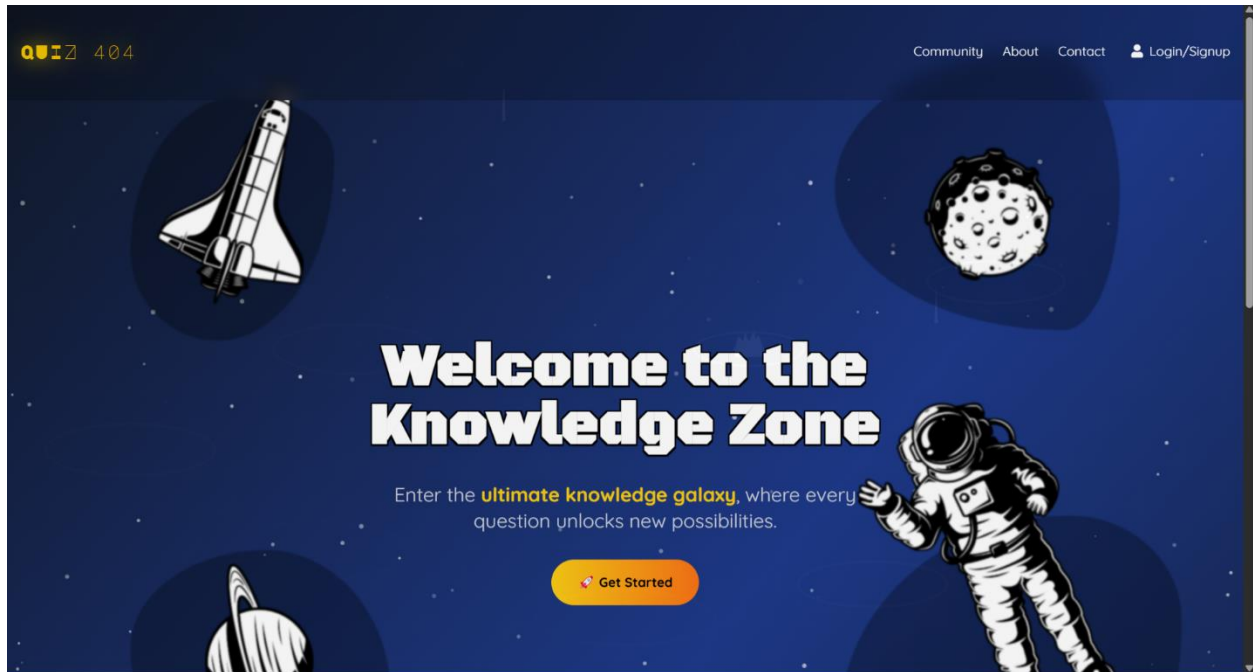
## 4. Analysis Models

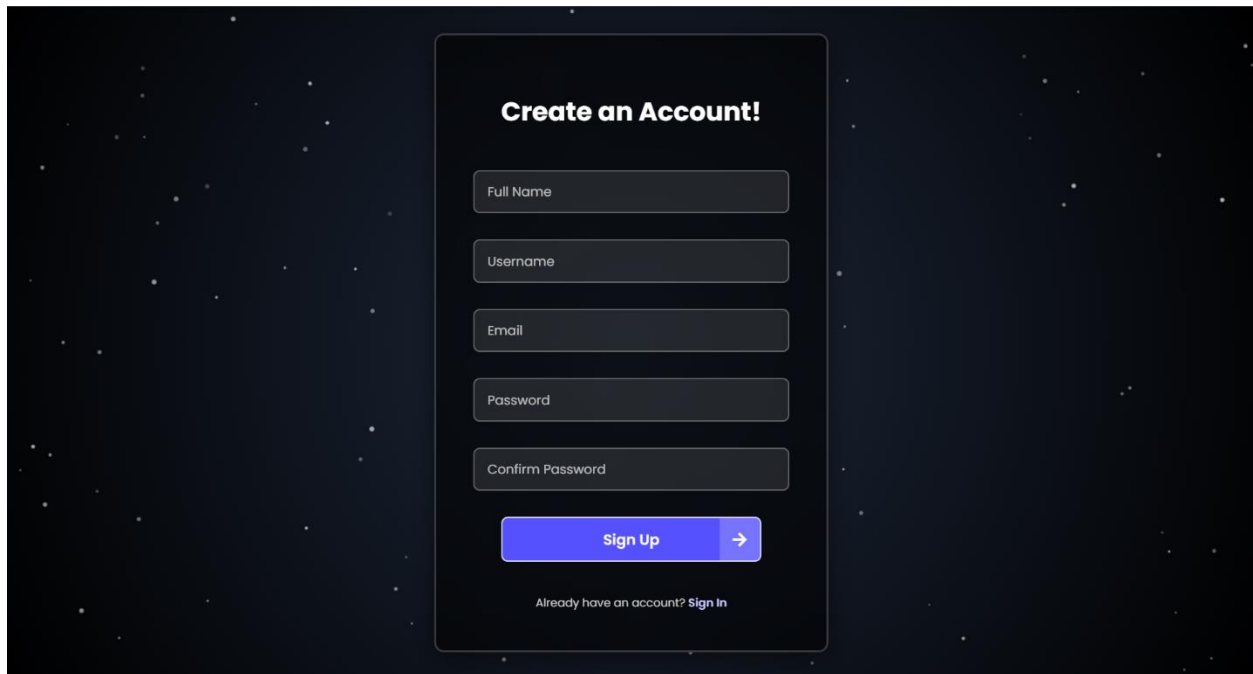
### 4.1 Data Flow Diagrams (DFD)



## A. Appendices

### A.1 Appendix



A dark-themed user registration form titled "Create an Account!". It features five input fields: "Full Name", "Username", "Email", "Password", and "Confirm Password". Below the fields is a blue "Sign Up" button with a right-pointing arrow. At the bottom, a link reads "Already have an account? Sign In". The background is a dark space with white stars.

**Create an Account!**

Full Name

Username

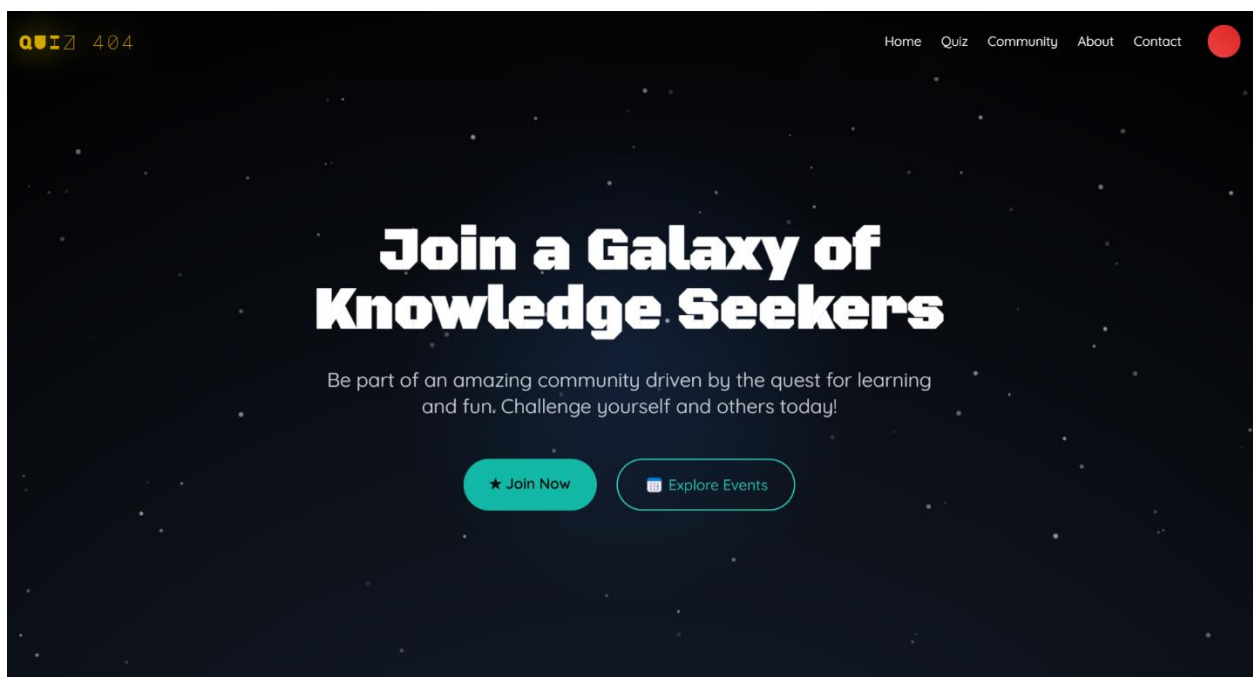
Email

Password

Confirm Password

**Sign Up** →

Already have an account? [Sign In](#)

A dark-themed banner with a starry background. In the top left is a logo "QUIZ 404" in yellow and white. In the top right is a navigation menu with links "Home", "Quiz", "Community", "About", and "Contact", followed by a red circular profile icon. The main text "Join a Galaxy of Knowledge Seekers" is in large white font. Below it is a subtitle: "Be part of an amazing community driven by the quest for learning and fun. Challenge yourself and others today!". At the bottom are two buttons: a teal "★ Join Now" button and a teal-outlined "📅 Explore Events" button.

QUIZ 404

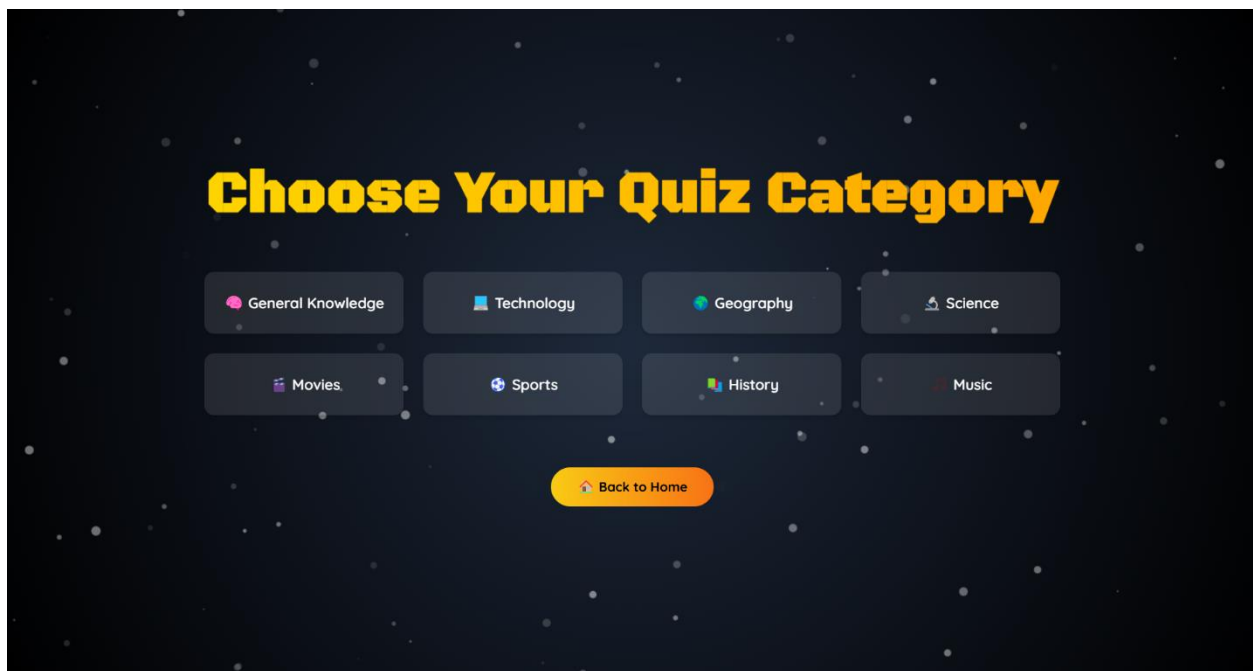
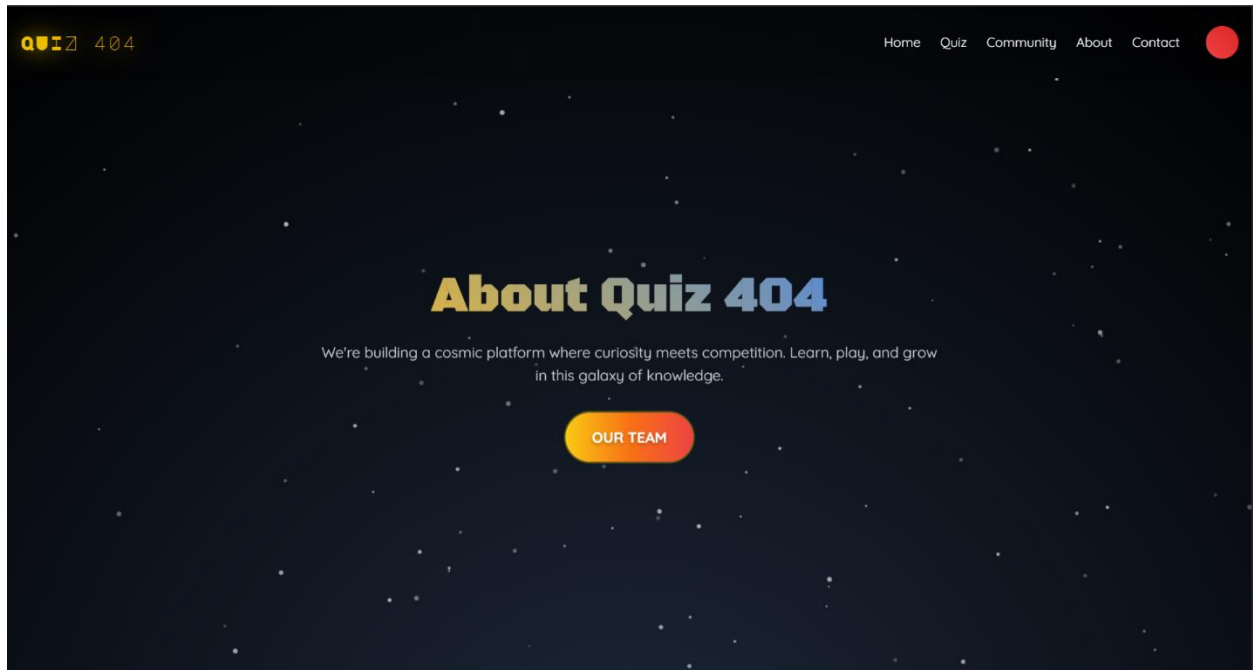
[Home](#) [Quiz](#) [Community](#) [About](#) [Contact](#)

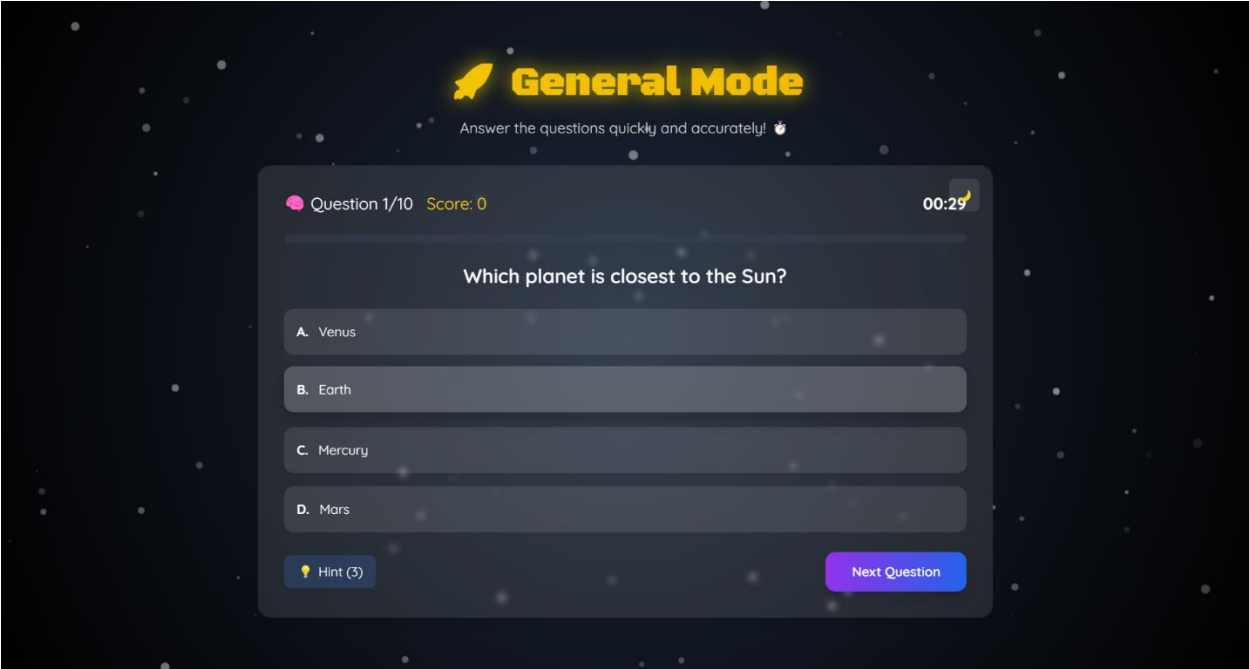
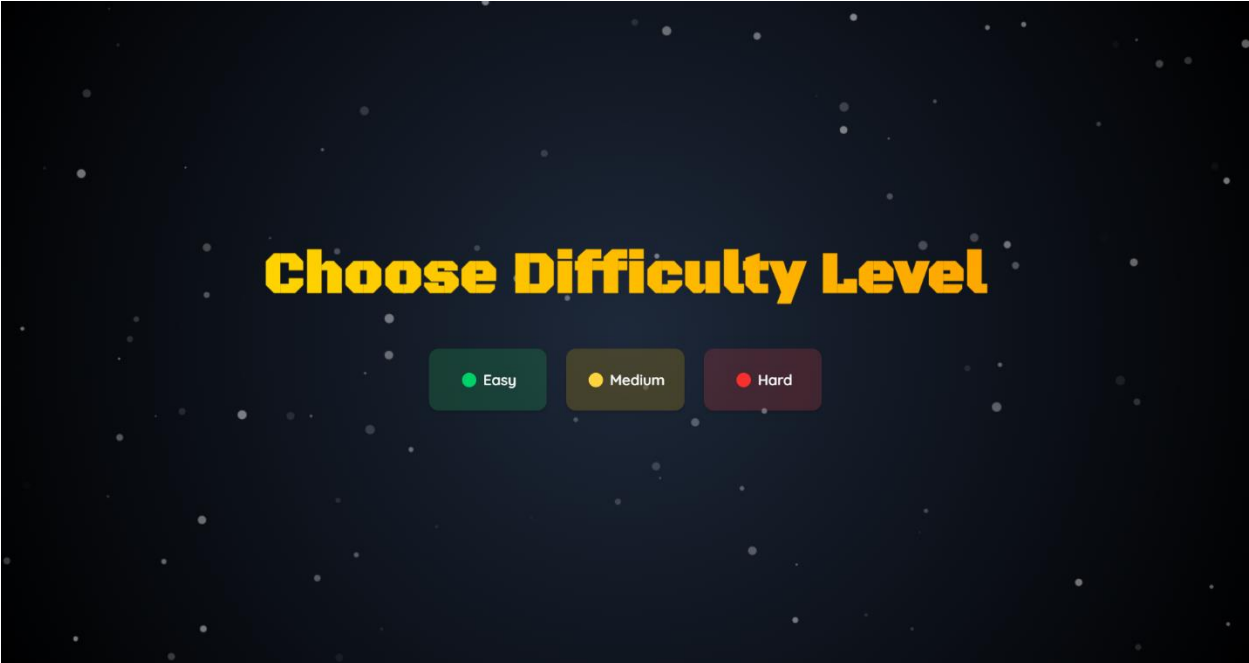
# Join a Galaxy of Knowledge Seekers

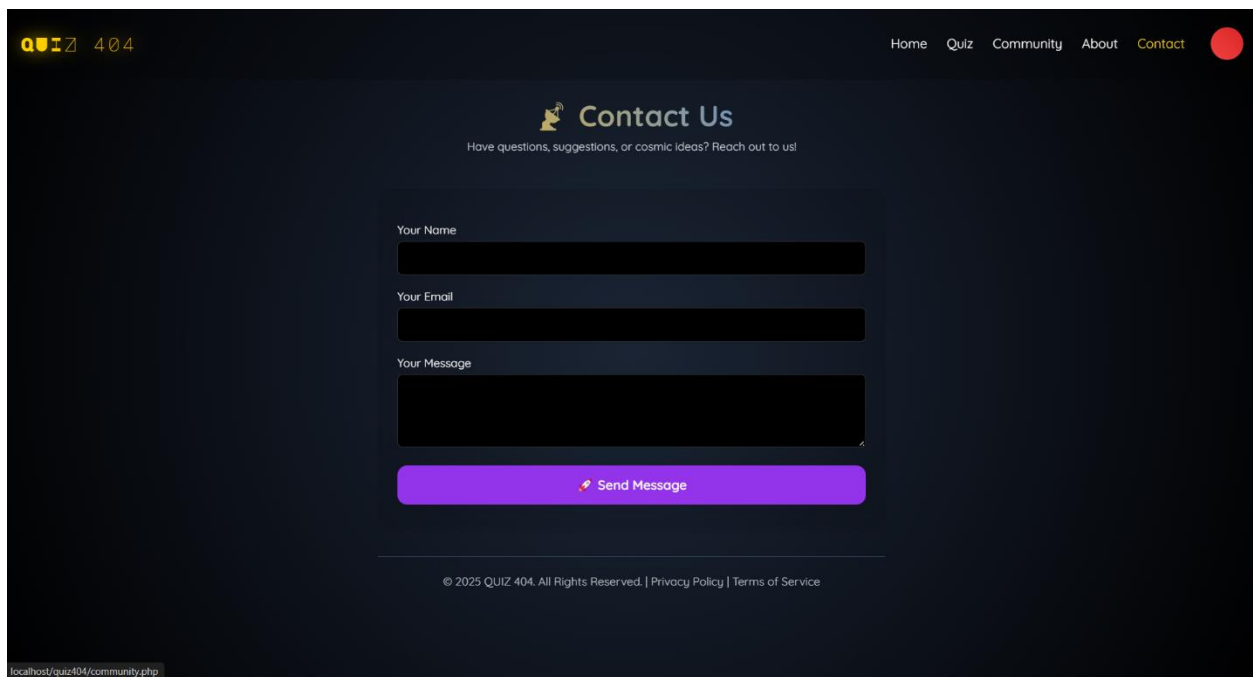
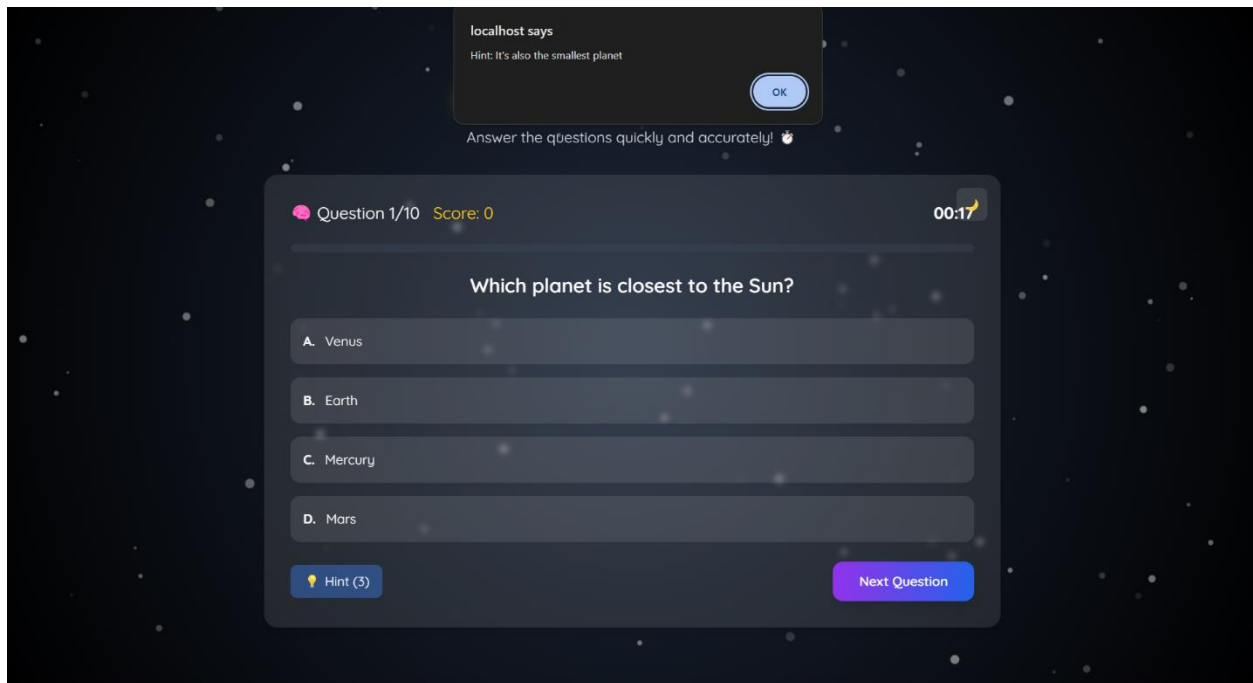
Be part of an amazing community driven by the quest for learning and fun. Challenge yourself and others today!

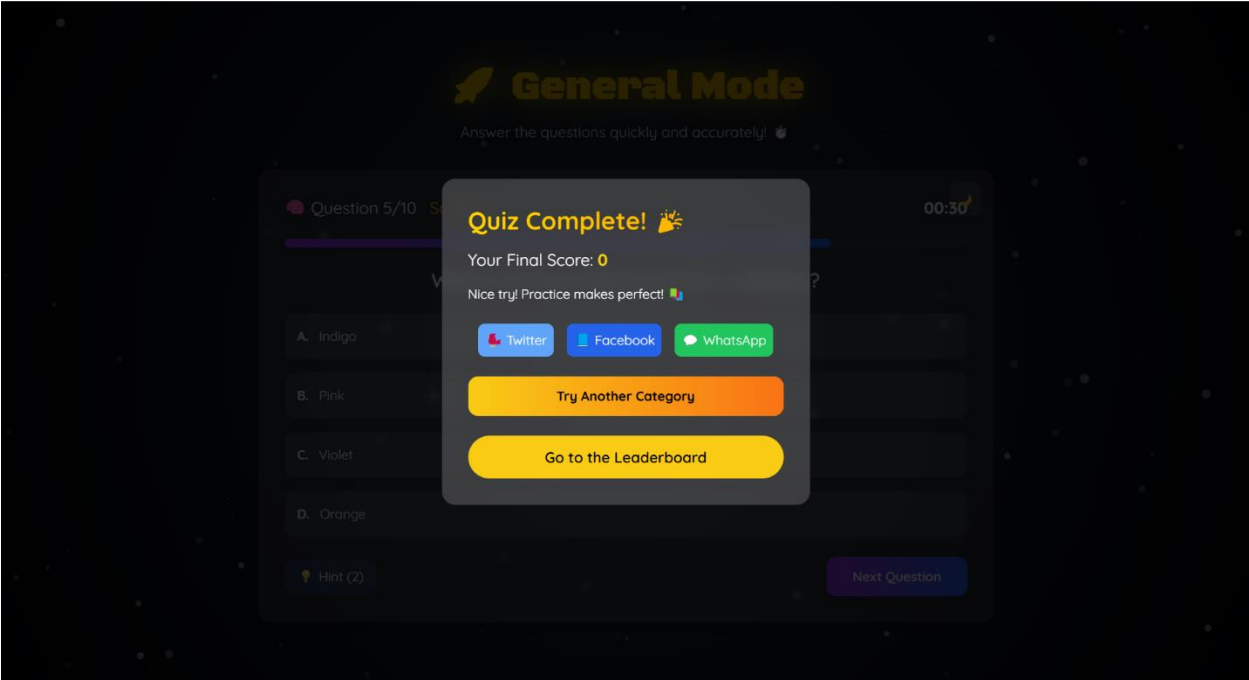
★ Join Now

📅 Explore Events









### Leaderboard

All Categories All Difficulties Filter

2	1	3
vishwa 37 pts	Eren 56 pts	Eren 37 pts

Rank	Username	Category	Difficulty	Score	Date
1	Eren	General	easy	56	Apr 18, 2025
2	Eren	Geography	easy	37	Apr 18, 2025
3	vishwa	General	easy	37	Apr 18, 2025
4	vishwa	Geography	hard	19	Apr 18, 2025
5	vishwa	Technology	medium	19	Apr 18, 2025
6	Eren	Technology	easy	19	Apr 18, 2025
7	Eren	General	easy	0	Apr 18, 2025