**Quiz Bot using Langchain and Next.js**

**Environment Requirements:**

- Node.js and npm

- Next.js

- (Other dependencies specified in `package.json`)

**Installation**:

1. Clone the repository:

bash git clone https://github.com/your-username/quiz-bot.git

1. Change into the project directory:

cd quiz-bot

1. Install dependencies:

npm install

1. Create a **.env** file in the root of the project and add your OpenAI API key:

NEXT\_PUBLIC\_OPENAI\_API\_KEY=your\_openai\_api\_key

**Running the Application:**

**npm run dev**

The application will be accessible at.

[http://localhost:3000](http://localhost:3000/)

**Flow of Execution:**

1. Select a question type from the dropdown.
2. Click "Generate Question" to get a trivia question based on the selected category.
3. Enter your answer in the text input.
4. Click "Submit" to evaluate your answer and receive feedback.

**Issues and Solutions:**

* **Known Issues:**
  1. *Infinite Loop Bug:*
     + **Issue:** Sometimes, the bot gets stuck in an infinite loop while generating questions.
     + **Solution:** To break the loop, try refreshing the page or restarting the application.
  2. *OpenAI API Rate Limiting:*
     + **Issue:** Experiencing rate-limiting issues with the OpenAI API.
     + **Solution:** Implement a caching mechanism to store previous responses and reduce API calls. Also, check OpenAI API documentation for rate-limiting guidelines.
* **Solutions in Progress:**
  1. *Enhancing Question Variety:*
     + **Issue:** Limited variety in generated questions.
     + **Solution:** Currently working on expanding the question generation algorithm to provide a more diverse set of questions.
  2. *Feedback Clarity:*
     + **Issue:** User feedback is sometimes unclear or generic.
     + **Solution:** Refining the feedback generation logic to offer more specific and helpful insights to users.

**Suggestions and Feedback:**

* **User Feedback:**
  1. *Engaging User Interface:*
     + **Feedback:** The UI is clean but could be more visually engaging.
     + **Suggestion:** Consider adding animations or themed visuals to enhance the overall user experience.
* **Future Enhancements:**
  1. *Integration with Learning Resources:*
     + **Feedback:** Linking to external learning resources would be beneficial.
     + **Suggestion:** Integrate links to relevant articles, tutorials, or documentation to provide users with additional learning opportunities.