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PROJECT ON

Code Refactoring and Bug Fixing

About me

- **Background: Bachelors of Data Science and Artificial Intelligence Honours**
- **Why you want to learn Data Science: I want to learn Data Science to become a Data Scientist and secure a better job.**
- **Work Experience: MedTourEasy-**
  - **Machine Learning Intern (May 2023 - June 2023)**
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Agenda

- **Scenario**

- **Objective of the Project**

- **Bug Analysis and Fix**

- **Conclusion**

Introduction

Scenario:

- A team of enthusiastic data scientists embarked on a mission to develop a Note Taking Application using Python, Flask, and HTML. However, their lack of experience in backend development has led to challenges in making the application fully functional.

Objective of the Project:

- Refactor the existing codebase and ensure the proper functioning of the Note Taking Application.

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Bug-1: Method Not Allowed Error

- **Error:**
  - 127.0.0.1 - - [28/Feb/2024 11:07:28] "GET / HTTP/1.1" 405 -
- **Browser Result:**

Method Not Allowed

The method is not allowed for the requested URL.

- **What is the error?**

  - The main issue in the code is that its specifying only the POST method for route, but it's trying to access the route via a GET request when initially the page is loaded. This results in the "Method Not Allowed" error because the route '/' does not support GET requests.

- **Fix Description:**

  - To resolve this, we need to allow both GET and POST requests for the '/' route.

  - Also specify the method as POST in the form tag to submit the form data properly.

Bug-2: Note Not Added Issue

- **Bug:**
  - None automatically gets added when loading the page also after submission of a note it reflects none.

- **Root Cause:**
  - The issue here is due to the way its trying to access form data in Flask. In Flask, when we submit a form with the POST method, we need to access the form data using request.form, not request.args.get().

- **Fix Description:**
  - To resolve this we need to change request.args.get() to request.form.get().

| Enter a note | Add Note |

- None
- None
- None

Bug-3: Duplicate Note Addition

- **Bug:**
  - When reloading the page after we submit a value it automatically adds previously added value.

- **Root Cause:**
  - This bug is due to browser behavior, where refreshing the page after submitting a form resends the last request, causing the form to be resubmitted and the previous value to be added again. This is a common problem with form submissions and can be resolved using the "Post/Redirect/Get" pattern.

- **Fix Description:**
  - To implement the Post/Redirect/Get pattern in our Flask application, we can redirect the user to another route after processing the form data, so that refreshing the page won't resubmit the form.

  - **So we will add redirect(url_for('index'))** so that after processing the form data and adding the note to the list, it redirects the user back to the same route using redirect(url_for('index')). This way, if the user refreshes the page, they're actually refreshing the redirected page, not the page where the form was submitted.

  - With this implementation, even if the user refreshes the page, the form won't be resubmitted, and the previous value won't be added again.

Conclusion

- **Method Not Allowed Error:**
  - **Description:** Initially, the application returned a "Method Not Allowed" error when attempting to access the '/' route with a GET request.
  - **Fix:** Modified the route definition to allow both GET and POST requests.
  - **Outcome:** Users can now access the '/' route with both GET and POST requests without encountering errors.

- **Note Not Added Issue:**
  - **Description:** After submitting a note via the form, the note was not being added to the list of notes displayed on the page.
  - **Fix:** Updated the code to retrieve form data using request.form.get("note") instead of request.args.get("note").
  - **Outcome:** Notes submitted via the form are now correctly added to the list and displayed on the page.

- **Duplicate Note Addition:**
  - **Description:** Reloading the page after submitting a note caused the previous note to be added again, resulting in duplicate entries.
  - **Fix:** Implemented the Post/Redirect/Get pattern by redirecting to the same route after processing form submissions.
  - **Outcome:** Prevented the resubmission of form data on page refresh, eliminating duplicate note additions.

Enter a note | Add Note

- Apple
- Banana
- Orange