Project Title:

Review Rating System with Fake Review Detection

Introduction:

The **Review Rating System with Fake Review Detection** is a Python-powered web application designed to collect, analyze, and display user feedback on products or services. It ensures transparency by detecting fake reviews using predefined patterns and dynamically calculating ratings. The system provides a reliable platform for users to submit reviews while maintaining the integrity of the feedback through automated detection of fraudulent submissions. This project demonstrates Python's capabilities in building real-time, interactive web applications with an emphasis on data integrity and user experience.

Methodology:

1. **Review Submission and Rating Calculation:**
   Users submit their reviews through an interactive form, which is processed to assign ratings dynamically based on sentiment analysis of the review content. Positive and negative keywords are used to generate star ratings automatically.

2. **Fake Review Detection:**
   The system utilizes predefined patterns to identify fake or suspicious reviews, such as gibberish or repetitive phrases. Suspicious reviews are flagged and rejected.

3. **Dynamic Rating System:**
   The system calculates real-time updates of the overall average rating and provides a breakdown of ratings across different star levels (1 to 5 stars). It uses progress bars to visually represent the rating distribution.

4. **Critical Review Notifications:**
   Reviews with particularly low ratings or negative keywords trigger email notifications to the product owner for immediate attention, ensuring critical feedback is addressed promptly.

5. **Frontend Design:**
   The user interface is designed with HTML, CSS, and Jinja2 to allow users to submit reviews and view real-time feedback. Flask is used to manage the backend logic, including form validation and routing.

Applications:

- **E-commerce Platforms:** Enhances credibility by filtering fake reviews and displaying reliable customer feedback.
- **Service Providers:** Enables businesses like hotels, restaurants, and educational institutions to collect and analyze customer feedback.
- **Educational Use:** Demonstrates the capabilities of Python in building web applications and handling data, making it suitable for academic purposes and learning exercises.
- **General Feedback Systems:** Can be adapted for any platform requiring authentic feedback collection and review analysis.