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## Smartwatch Analyzer App

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### Description:

- The Smartwatch Analyzer App is designed to analyze customer reviews of smartwatches to derive insightful information about various brands and products. The app leverages Natural Language Processing (NLP) techniques using spaCy to extract key elements from reviews, such as brand names, product names, and relevant keywords, in order to provide a summary of user sentiments and opinions about different smartwatch models.
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### Features:

- Loading Data:
  1. The app can load review data from a CSV file into a Pandas DataFrame for further analysis.
  2. The data includes information such as the review text, platform, and rating for various smartwatches.
- Extracting Brand and Product Information:
  3. The app extracts brand names and product names from the review text using regular expressions.
  4. The extracted information is stored in additional columns, making it easier to filter and analyze reviews by specific brands or products.
- Keyword Extraction:
  5. The app uses spaCy to tokenize, lemmatize, and extract important keywords from each review.
  6. The keywords help in identifying the most discussed features of a smartwatch, such as battery life, screen quality, etc.
- Review Filtering and Summary Statistics:
  7. The app provides the ability to filter reviews based on specific keywords and a rating threshold.
  8. It calculates the average rating, number of platforms with reviews, total number of reviews, and unique keywords for each brand and product.

9. This allows users to understand the strengths and weaknesses of different smartwatch models based on user feedback.

- Summary Generation:

10. The app generates summary statistics for each brand and product, including average ratings, number of platforms with reviews, and unique keywords.

11. This information helps in making informed decisions for both consumers and manufacturers, improving product quality and user satisfaction.

- Web-based Frontend:

12. The app includes a user-friendly web interface built using Flask.

13. Users can upload CSV files containing review data, enter a keyword, and specify a rating threshold to analyze the reviews.

14. The results are displayed in a formatted HTML table, making it easy to interpret the output.

- How It Works:

15. Load Review Data: The app starts by loading the review data from a CSV file into a Pandas DataFrame.

16. Derive Additional Columns: It then extracts brand names, product names, and keywords from the reviews and stores them in separate columns.

17. Generate Summary: Finally, users can filter reviews based on keywords and rating thresholds to generate summaries containing insights about specific smartwatch models.

18. Web Interface: Users interact with the app through a web page where they can upload data and view analysis results.

19. Overall, the Smartwatch Analyzer App helps understand customer sentiments and provides valuable insights to both consumers looking to make informed purchase decisions and manufacturers looking to improve their products.