Sentiment Analysis on User Reviews of Android Apps with Expert System
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INTRODUCTION
- Project builds a rule based expert system which will classify user sentiments about an android app.
- The classification will be done based on polarity and subjectivity of the comments.
- Subjectivity and polarity scores will be calculated for each user comment.
- The expert system will be incorporated in the form of an android app which will display results.

ARCHITECTURE
- Data Cleaning
- Input to Python code for Sentiment Analysis
- Data set from multiple sources
- CSV file of dataset
- CSV copied on Android device
- Classify the result scores using rule based system on android device
- Output as CSV file consisting of sentiment scores as positive and negative along with Subjectivity and Rating of user comments
- Display the results on the device

REFERENCES
- Sebastiano Panichella, Andrea Di Sorbo, Emitza Guzman - How can I improve my app. Classifying user reviews for software maintenance and evolution

GOALS
- Perform sentiment analysis of the user comments on different applications.
- Build a rule based expert system which evaluates the application based upon the sentiment analysis performed.
- Incorporating of the the rule based system into an android app for displaying the results.

IMPLEMENTATION
- Perform sentiment analysis and assign sentiment scores to user reviews.
- Sentiment scores are calculated for subjectivity and polarity of each comment using text blob library.
- Rules are built on following range :
  - polarity :
    - If >=0.5 then Excellent
    - If >0 & & <0.5 then Good
    - If >-0.4 & & <=0 then Bad
    - If <0.4 then Worst
  - subjectivity: {objective} to 1(subjective).
    - If >0.4 then Subjective
    - If <0.4 then Objective
  - Hybrid Rules (sample example)
    - If Rating >=4 & Subjectivity >0.4 then high subjective content for high ratings

RESULTS

FUTURE WORK
- Apps which involve device sensors are used for testing.
- The greater the Polarity which implies that user has commented positive.

CONCLUSION
- Making a client-server based approach for getting the results directly from the server & using real-time comments for analysis.
- Looking for a specific set of keywords which can be useful for analyzing comments.
- The expert system in the form of android application was able analyze the user reviews.
- User Interface enables easy understanding of the results.