Detailed Comments

Major Contributions

• Novelty of idea :- The concept of Bipolar satisfaction degree is a very novel idea. The concept of Positive query not having the probability of \((1 - \text{Negative query})\) is a practical idea and the implementation of it using BSD is very thoughtful.

• The concept of aggregation of BSDs are a very important idea for this paper in particular and for querying fuzzy datasets as a whole.

• Moreover the ranking system introduced at the end of the paper is something which have the potential for further research. Although here the weights of the degree of satisfaction and dissatisfaction is awarded manually, but further research can be done to automate the assignment of weights in rankings for use along with the BSDs.

Major Drawbacks

• Lack of practical application :- The research paper although introduces a fair theory lacks in practical application. The paper may be good for a tutorial in a graduate class, but it lacks in a few aspects in respect to introducing some novelty in the field.

• Lack of experimental results :- Although the authors have introduced a new idea in the field, but they have not substantiated their claim by testing their theory on a dataset. What has been presented as “An illustrative example” is an over-simple dataset. The association of weights in the fuzzy areas needs clarification. Like why “who would prefer a car which can be 4 years old would not prefer a car which is 2 years old”.

• Length of the paper :- The length of the paper is too big for the idea that has been introduced.

• Lack of mathematical proofs :- Although in aggregation of fuzzy queries, the concepts of conjunction, disjunction and negation are used, but the formulas for it are derived without the slightest of mathematical proofs. This claim can be extended for the rest of the paper too.

• Organization of the paper :- The organization of the paper leaves a lot to be questioned. Since aggregation of bipolar queries is a very important point, therefore, it should have received more attention from the authors. The example and the results are receiving very minor importance in the paper. Moreover the paper is not in the
standard IEEE format for publication in conference proceeding, which should as follows:-

- Paper formatting: double column, single spaced, 10pt font.
- Margins: Left, Right, and Bottom: 0.75" (19mm). The top margin must be 0.75" in (19 mm), except for the title page where it must be 1" (25 mm).

- In section “4.2 Query Evaluation”, although the crisp condition is described in detail, the fuzzy conditions are not described at all. Since the paper stresses on Fuzzy Database Querying, thus the stress should be on fuzzy conditions. They have not provided an individual expression for bipolar query condition.

- Lack of diagrams :- The paper has significant absence of diagrams throughout.

**Revisions**

- The authors should test their theory on an experimental dataset. The test results can be documented which will prove the soundness of their claims. They can document it in graphs, which is readily understood by the readers.

- The Bipolar query conditions and their evaluations are lacking in the paper. The evaluations for the fuzzy conditions which are more important from this paper’s perspective should be provided in more details than the crisp conditions.

- Detailed and elaborative proofs mathematical proofs for the aggregation of BSDs should be provided.

- The length of the paper should be substantially reduced. The sections like 1, 2 and 6 should be reduced to a great extent, whereas the sections like 5 should receive much more importance.

- As mentioned above, the paper should be re-submitted in standard IEEE format.

- If possible, the authors are to provide a few diagrams to elucidate the theory, to increase the readability of their paper.