Group 7: Graph indexing of road networks for shortest path queries with label restrictions

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(Reviewed by Akash Agrawal and Atanu Roy)

Review

This group has captured the technical details of the paper on “Graph indexing of road networks for shortest path queries with label restrictions” in their review. The reviewers have identified the problem, author is trying to solve in this paper and the challenges involved in it. The reviewers have presented the importance of this problem by some good real life examples related to logistics and travel (some taken from paper and some of reviewers own). The reviewers have missed some points while highlighting contributions in this paper (please see Improvements section). The explanation of the presented concepts such as kleene language and contaction hierarchies are explained well. Also reviewers are successful in explaining the approach with the help of working example. Overall this review is good and captures the essence of the paper but it needs few improvement/modification in writing and analysis of the paper. The specific improvements are listed in next section.

Improvements

1. Improve contribution section according to the authors
   - this is the first work done to address this variant of shortest path query.
   - Authors have formulated and presented this variant of shortest path query.

So it is also a big contribution.

2. Revise the assumption section with better argument for why do you think its not valid. The reason being using or not using a particular type of edge while finding shortest path in graph is part of input query. So author can always argue that with new government policies some new constraints will be applied implicitly and graph restructuring is not required in this case.

3. Review/revise the last section (“If I were to rewrite this paper, what changes would I do?”) for the suggestion to improve the algorithm to include traffic condition. As per the paper, authors have given example of applying constraint by considering the road type. You can also use traffic data as a constraint in the same algorithm. Please list the issues, proposed approach will have in using past traffic data for preprocessing and current traffic data during query.

4. In section “How is this paper related to spatial databases?”, please note that graph is an abstract data type. Please explain what is graph ADT (which is used multiple times in this paragraph)?

5. Break down long sentences into smaller ones and run spell check.