CrowdRankEval: A Ranking Function Evaluation Framework for Spatial Keyword Queries
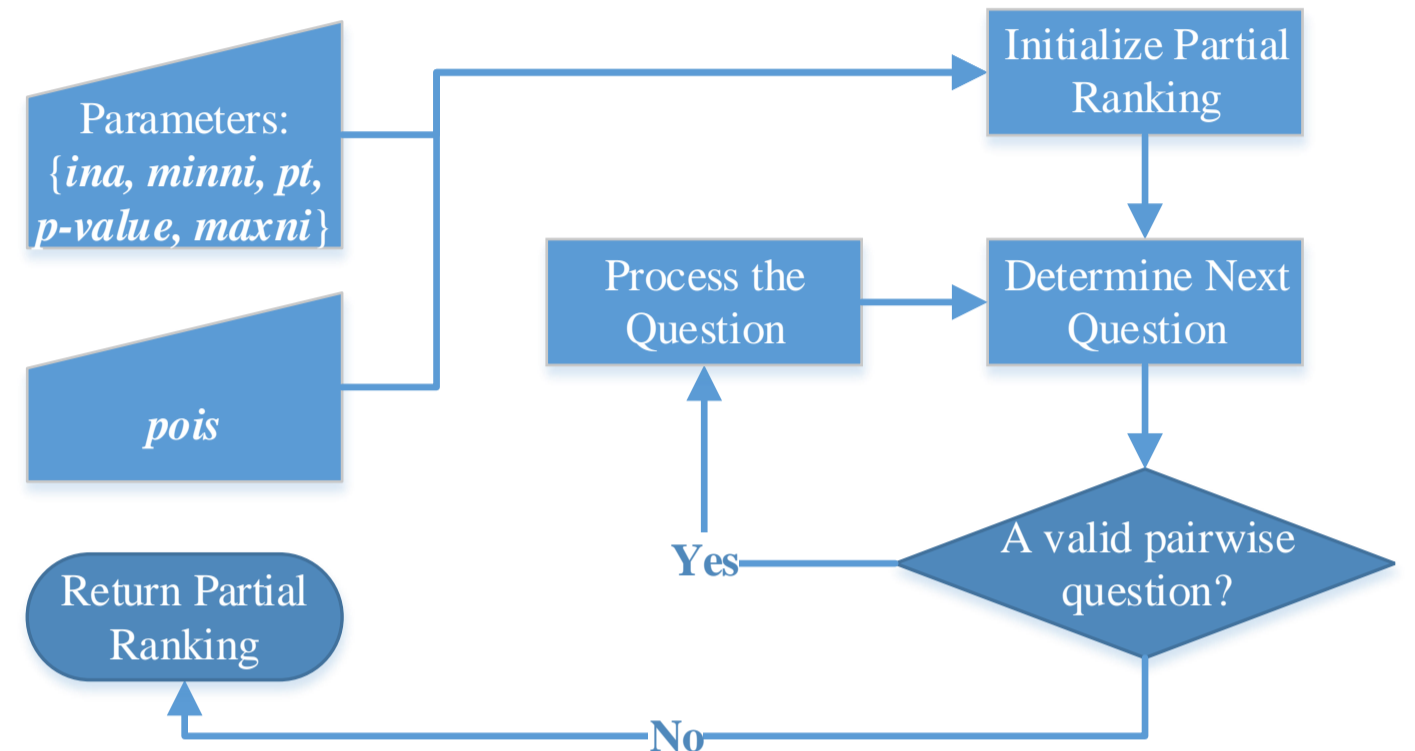
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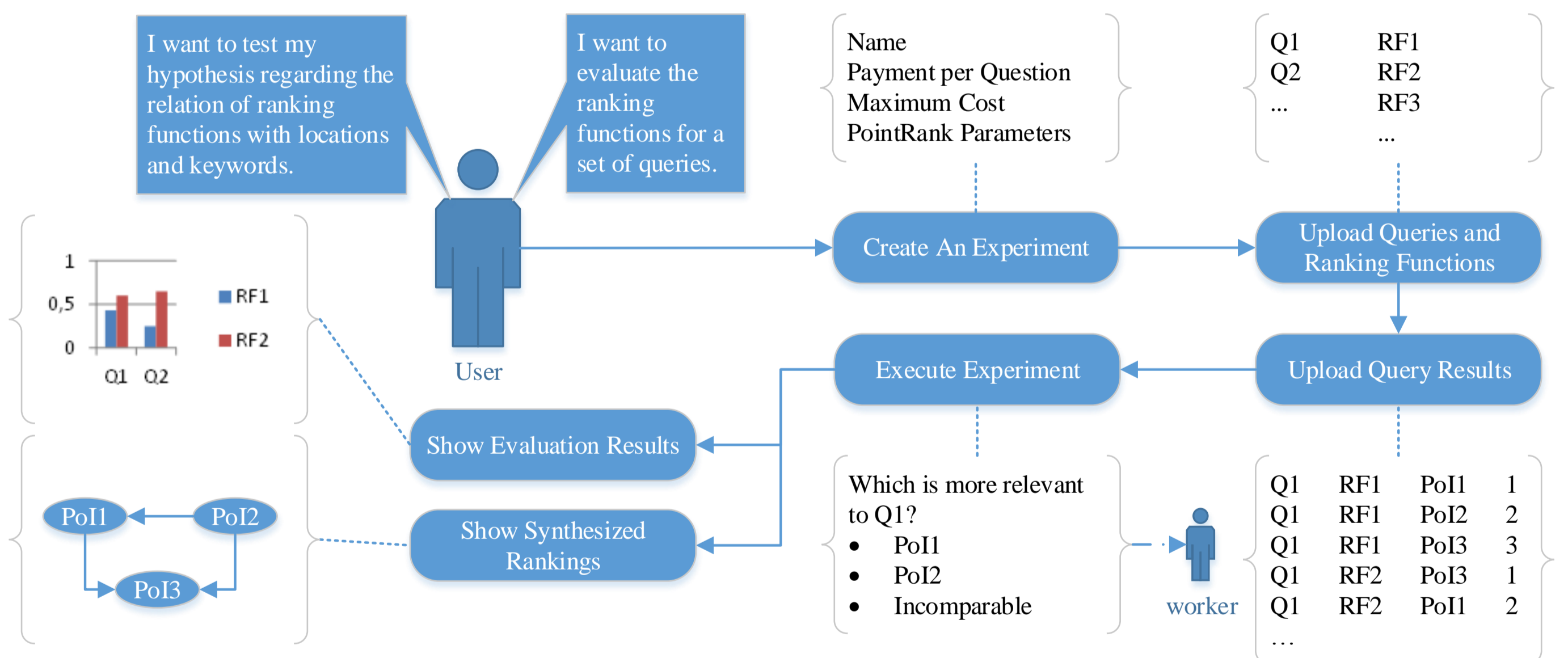{ilkcan, csj, simas}@cs.aau.dk

Introduction

- Motivation
  - No evaluation framework for ranking functions for top-k spatial keyword queries
- Ranking Function Evaluation
  - Given:
    - A set of top-k spatial keyword queries
    - A set of ranking functions
    - Results for the queries with respect to the ranking functions
  - Evaluate the quality of ranking functions:
    - Based on query
    - Based on keyword
    - Based on location
- System: http://sr388107.cs.aau.dk/crowdRankEval/

CrowdRankEval Framework
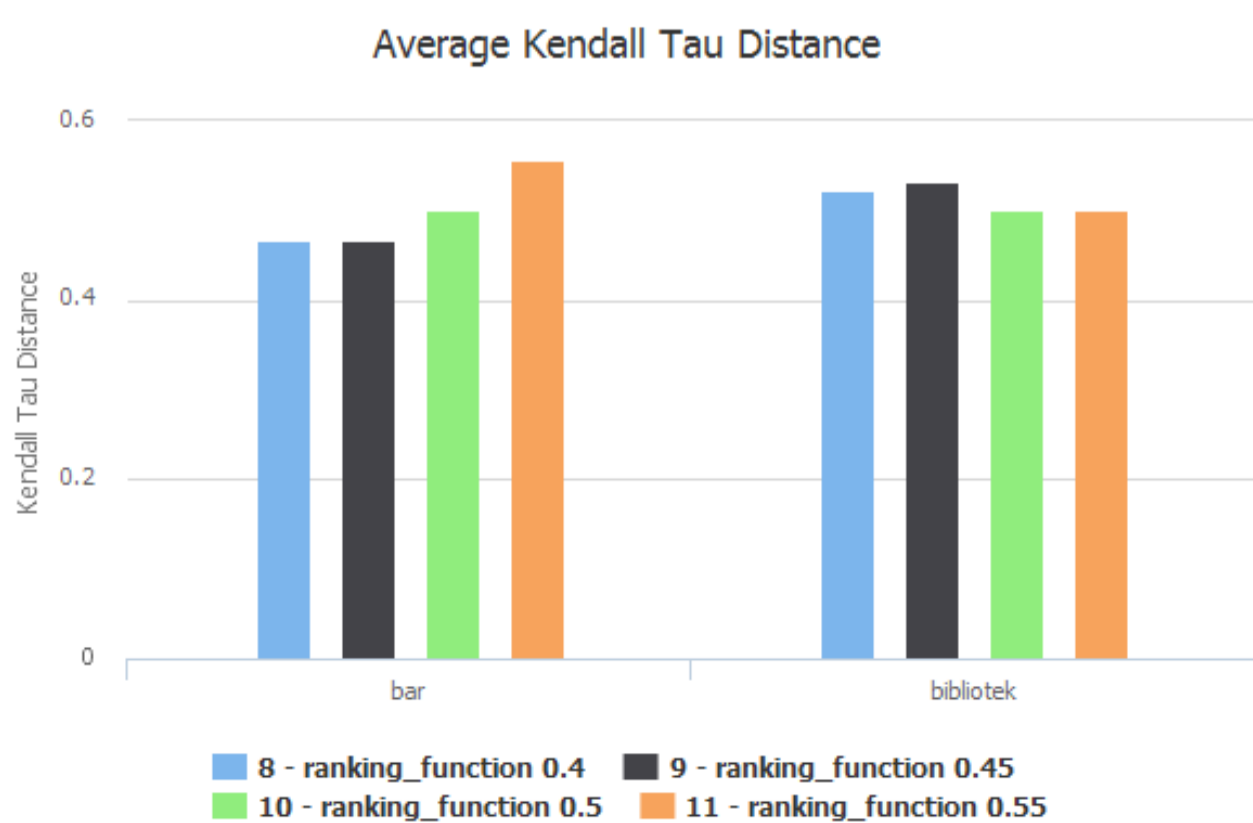
- User Interface Module
- Data Preparation Module
- PointRank Module
- Evaluation Module

Workflow

Ranking Evaluation

Average Kendall Tau Distance

- 8 - ranking_function 0.4
- 9 - ranking_function 0.45
- 10 - ranking_function 0.5
- 11 - ranking_function 0.55

Highcharts.com

Conclusion

- Demonstrated a novel ranking function evaluation framework for spatial top-k queries
  - Implementation of PointRank
  - Visualization of synthesized rankings
  - Comparison and evaluation of ranking functions

Acknowledgments