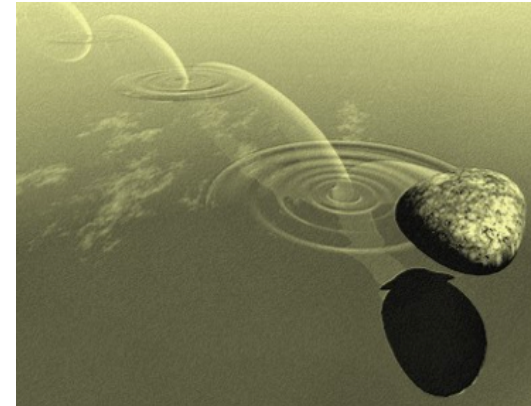


Ricochet: Context and Complementarity-Aware, Ontology-based POIs Recommender System



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Outline

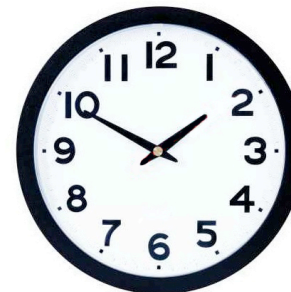
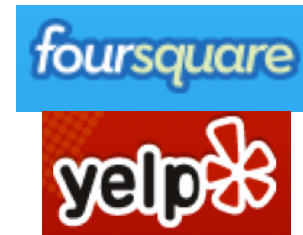
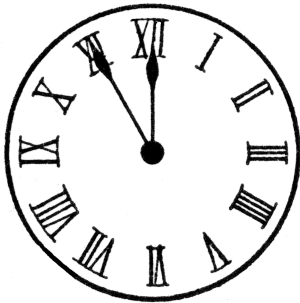
- Introduction
- Ricochet system
- Evaluation
- Conclusion

Introduction

- Point of interest (POI)
- Increasing popularity of POIs recommender systems
- Dissatisfaction with recommendations of existing systems



What's wrong?



What's wrong?

- Before & after a check-in, recommendations remain unchanged.
- Research questions
- User study



Ricochet System

Criteria

- Contextual criteria
- Intrinsic criteria
- Criteria of complementarity

Ricochet System

Criteria of complementarity

- Each POI category is mapped to a particular feeling. [Savage et al., 2012]

Arts & Entertainment = "feeling artsy"

Nightlife = "feeling like a party animal"

College & Education = "feeling nerdy"

Great Outdoors = "feeling outdoorsy"

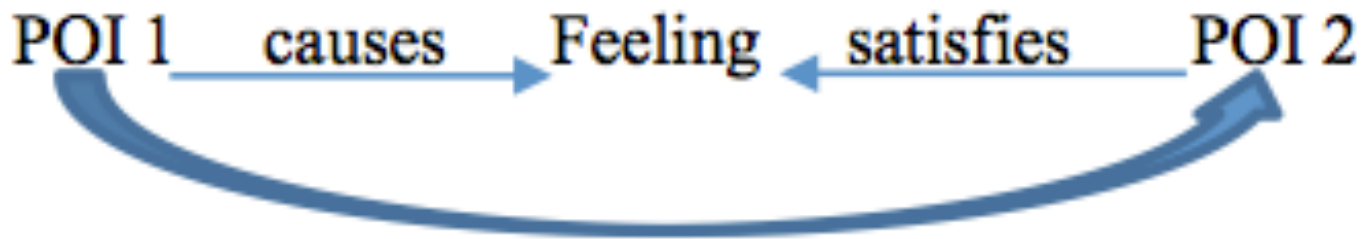
Food = "feeling hungry"

Shops = "feeling shopaholic"

Ricochet System

Criteria of complementarity

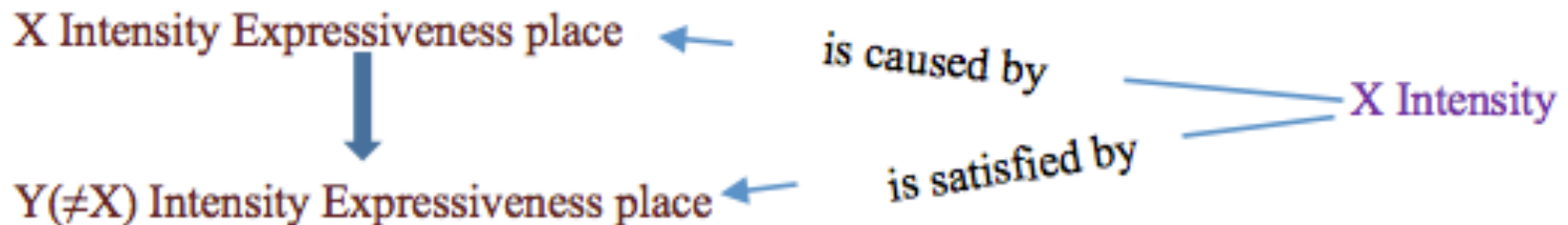
- Having a certain feeling → Go to a certain POI
- Visit a POI → Having a certain feeling
- Just-visited POI causes a feeling
- Going-to POI satisfies it



Ricochet System

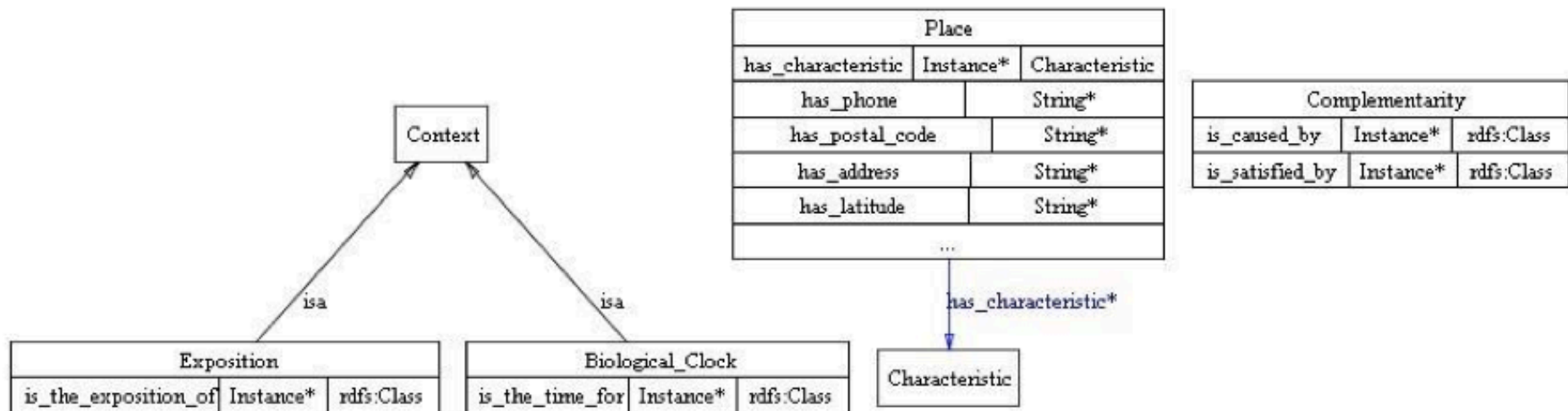
Criteria of complementarity

- Physical activities possess a specific assessable intensity. [Tapia et al., 2007]
- Intensity of expressiveness
- Cognitive, emotional, physical
- POIs classified into four intensity levels
- Daily life = alternation of different intensities



Ricochet System

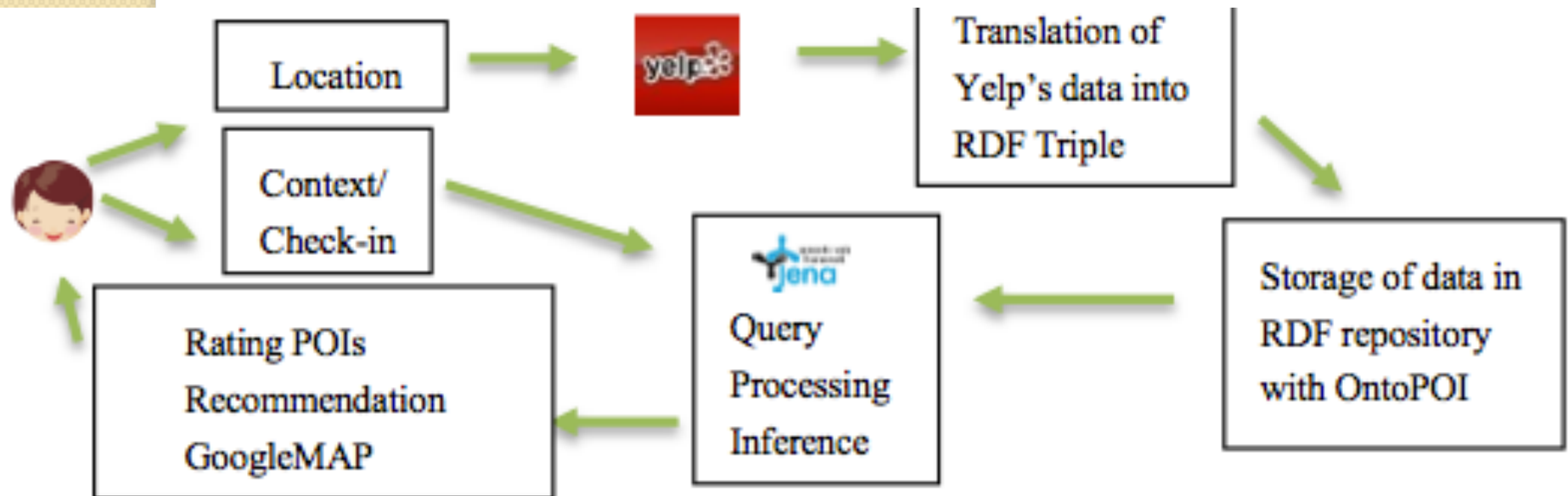
Sample of OntoPOI



Ricochet System

Recommendation engine

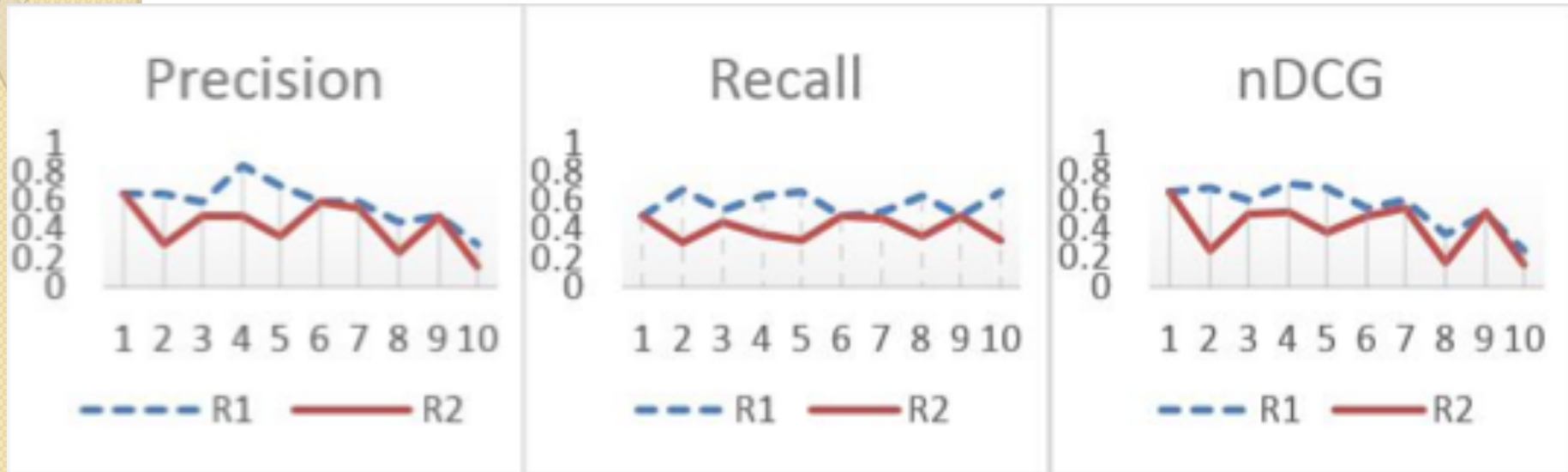
- API : Yelp & Jena & Google Maps



Evaluation

- Two versions of Ricochet
- Process
- Metrics: precision, recall, normalized Discounted Cumulative Gain

Results



- The complementarity improves the relevance of the recommendations.

Conclusion & Future work

- Ricochet : improve the relevance by considering the complementarity
- Refine the complementarity
- Integrate to existing systems

Questions & Answers

Thanks for your attention!

Any questions?

