



Personal Recommendations in Requirements Engineering: The OpenReq Approach

A Research Preview

24th International Working Conference: Foundation for Software Quality (REFSQ'18)

March 22nd, 2018



Cristina Palomares, Xavier Franch

Universitat Politècnica de Catalunya (Spain)

Davide Fucci

University of Hamburg (Germany)



Introduction



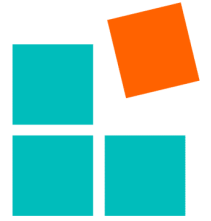
RE is critical for successful software development

High quality of RE

How to achieve it when thousands of requirements, stakeholders and feedback are involved?

- Requirements and stakeholder discovery is difficult!
- Reaching a decision is difficult!
- Requirements quality is difficult!

Introduction



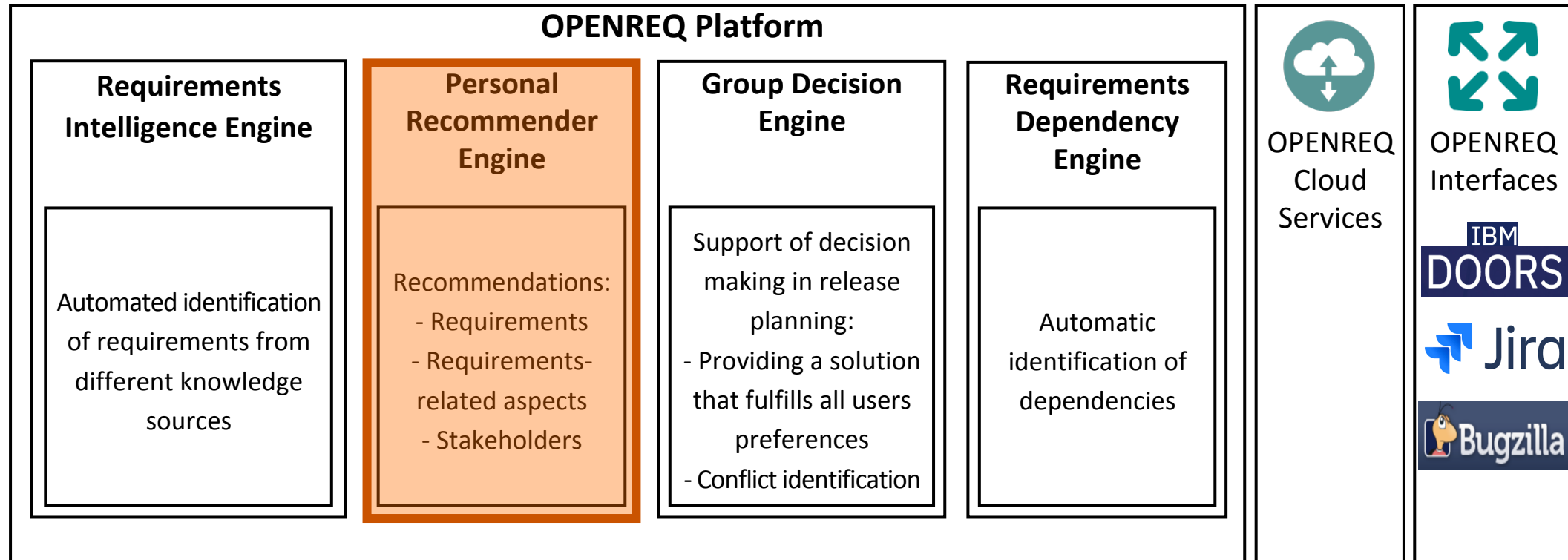
- Use of Recommender systems (RSs) to help in some of the tasks
 - Help to find information...
 - Help to make decisions...
 - ... in situations where stakeholder's lack experience
 - ... in situations where they cannot consider all the data at hand

However, the majority of RSs in RE focus on specific tasks

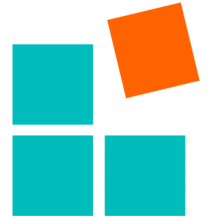
OpenReq – H2020 European Project



GOAL: Develop intelligent recommendation and decision technologies (based on AI techniques) to give support to requirement analysts during different RE stages

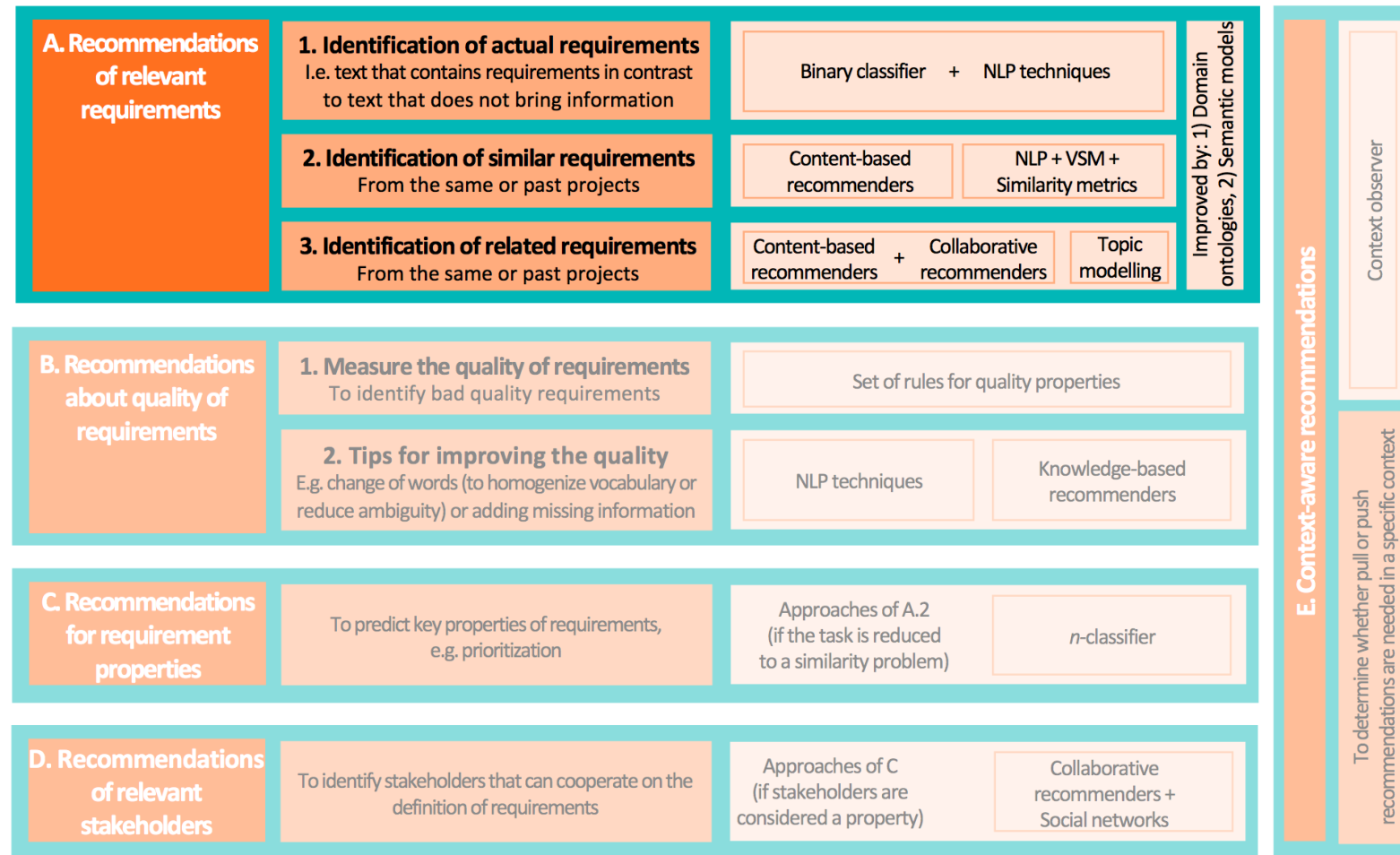


Personal Recommendations in OpenReq

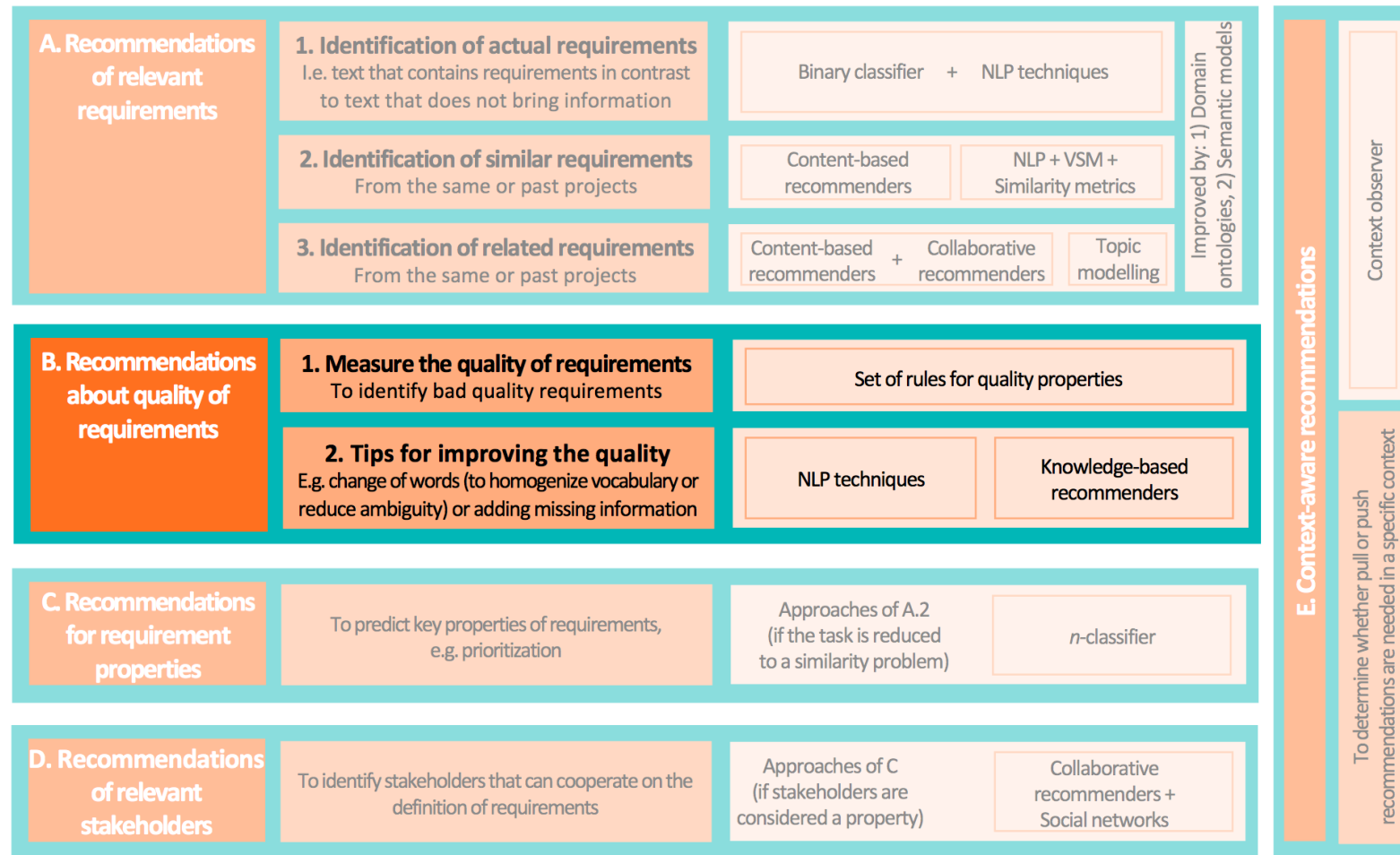
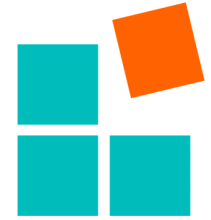


- What is a personal recommendation?
 - Consider stakeholders as individuals...
 - ...in contrast to group recommendations
- Types of personal recommendations (marked by the project!):
 - A. Recommendation of relevant requirements
 - B. Improvement of requirements quality
 - C. Prediction of requirements properties
 - D. Identification of relevant stakeholders
 - E. Context-aware recommendations

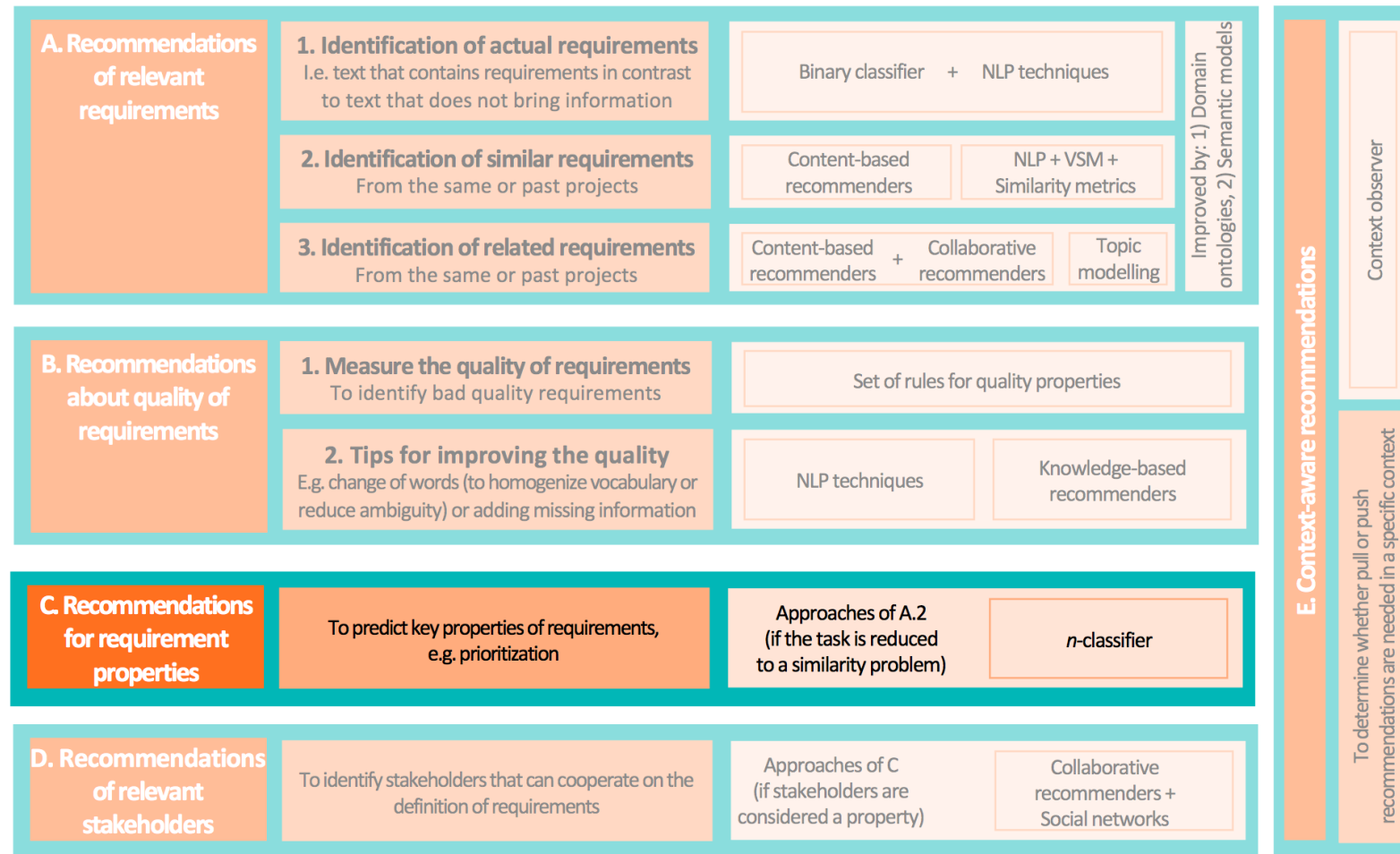
Personal Recommendations in OpenReq



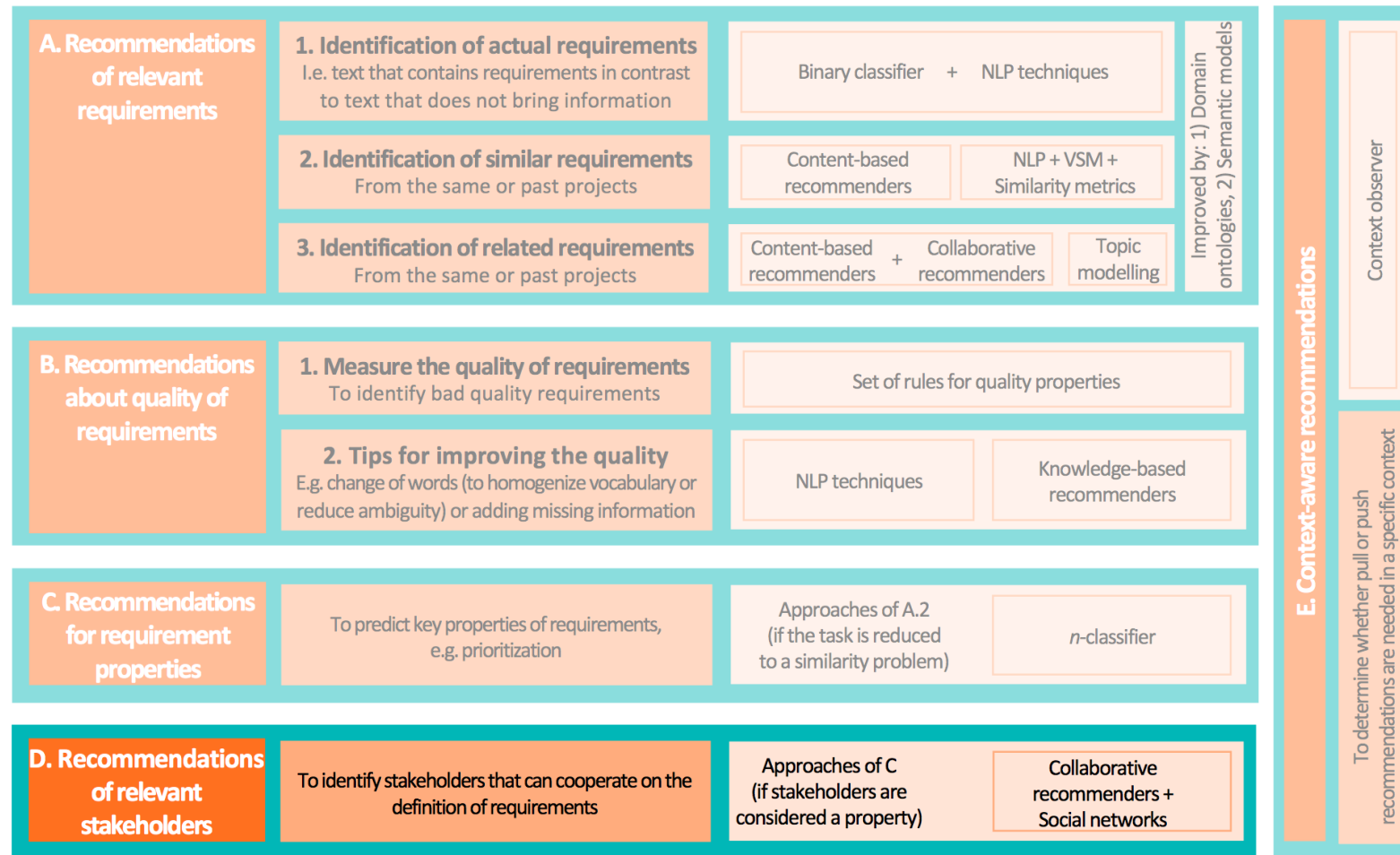
Personal Recommendations in OpenReq



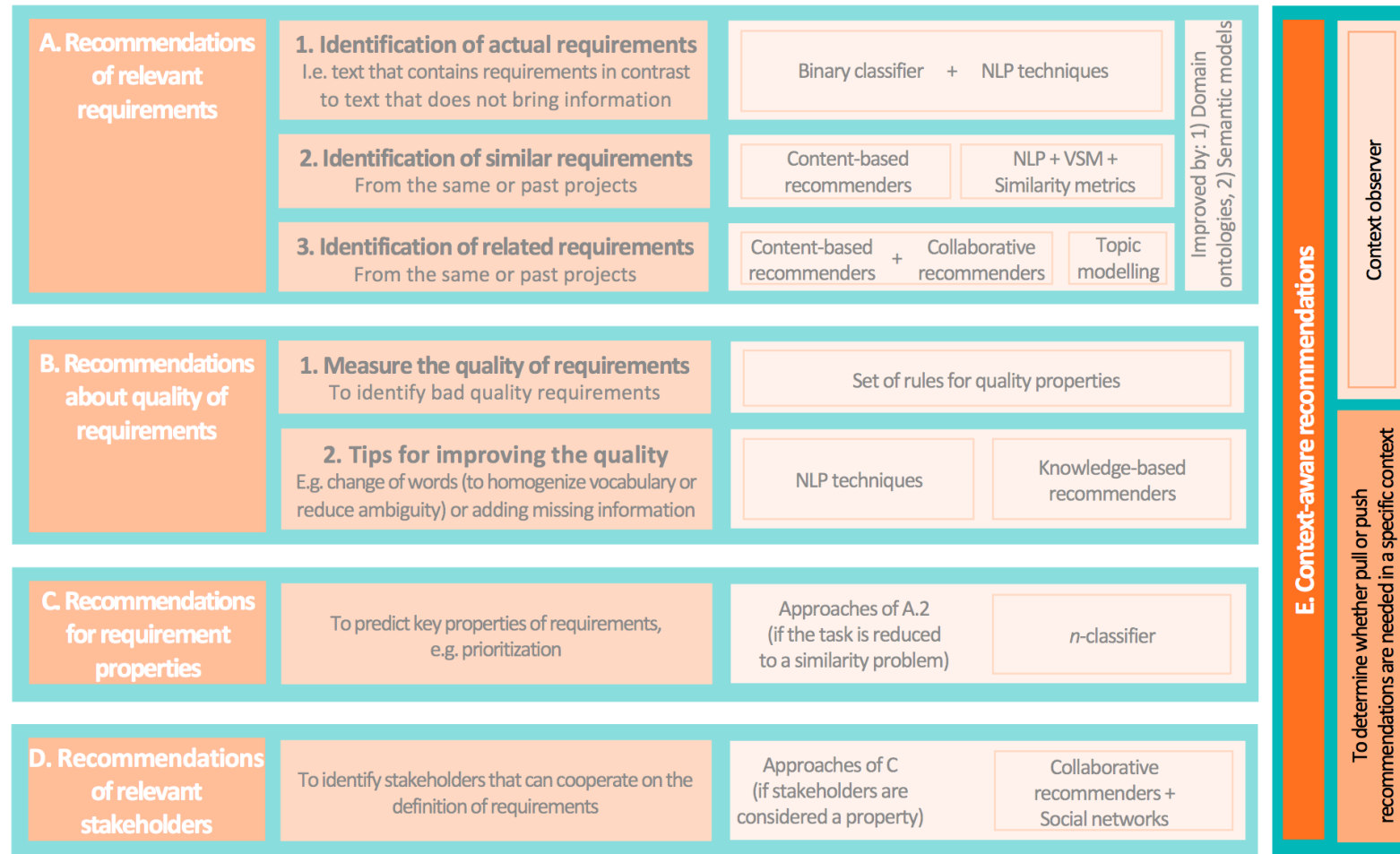
Personal Recommendations in OpenReq



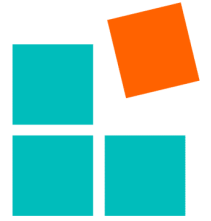
Personal Recommendations in OpenReq



Personal Recommendations in OpenReq



Conclusions



- Personal recommendations in OpenReq to improve and speed-up RE:
 - Combination of state-of-the-art RSs and NLP algorithms/techniques
- OpenReq will provide:
 - A new RE solution
 - API
 - Interfaces to existing RE tools (e.g. DOORs, Jira)
- OpenReq prototype (currently) includes:
 - Recommendation of relevant requirements
 - Group decision making
 - Conflict resolution

Thank you! Questions?



Cristina Palomares



Universitat Politècnica de Catalunya (UPC)



cpalomares@essi.upc.edu



<http://openreq.eu/>



@OpenReqEU

