

# APPLICATIONS OF SEMANTIC WEB TECHNOLOGIES TO IMPROVE THE COMPREHENSION OF TEMPORO-SPATIAL INTERRELATIONS AMONG CULTURAL HERITAGE RESOURCES AND CONTEXTS

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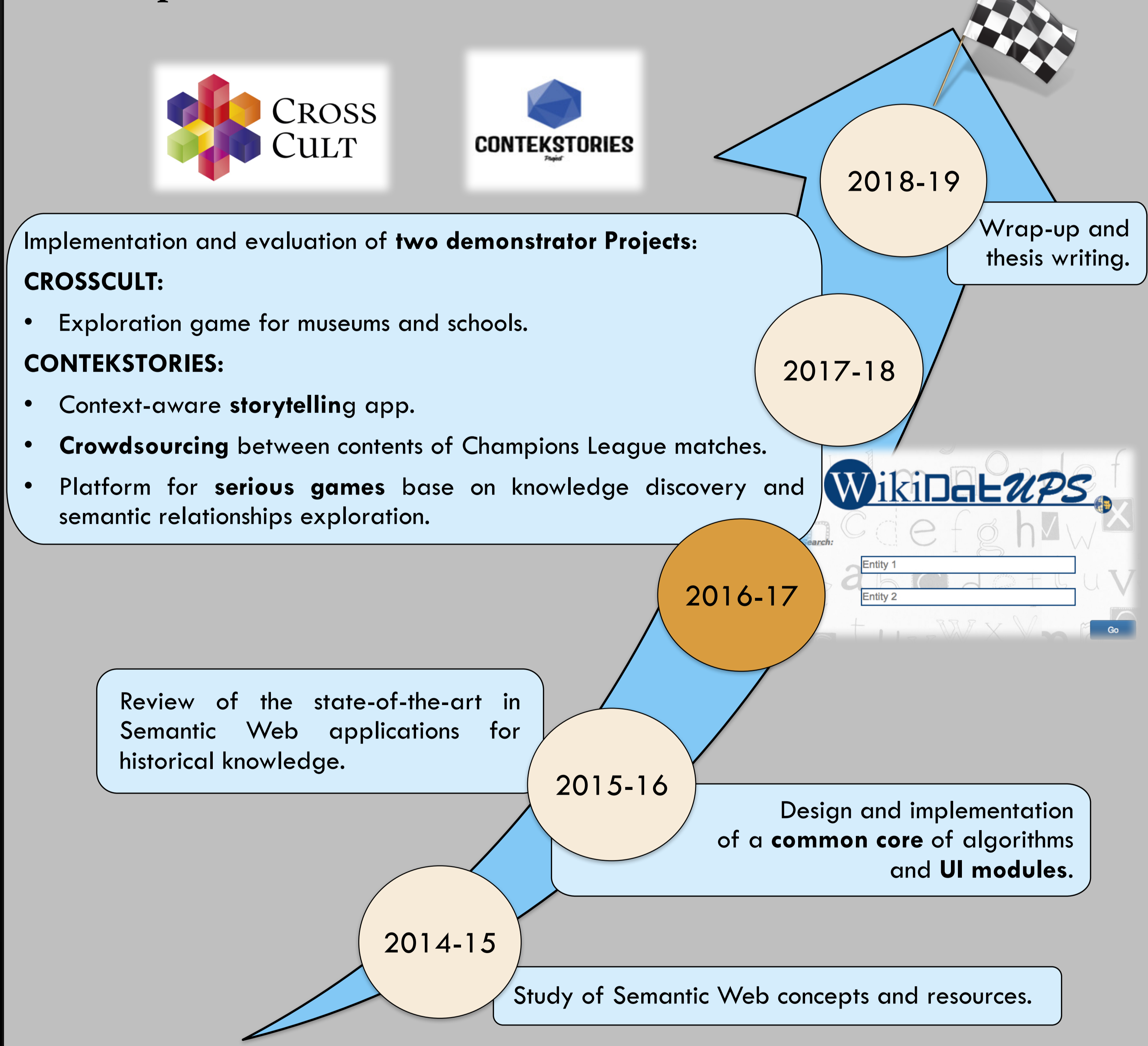
## Motivations of the work

- Educational institutions have understood History as a **great collection of related facts and concepts** intertwined with the development of all other areas of human knowledge.
- History is usually presented in the form of silos, something very simple and local that **promotes memorization rather than understanding**.
- Nowadays, **this great knowledge network is the biggest challenge for scientists and researchers**, who work to obtain information relevant to students' learning, within an academic and cultural environment.

## Thesis objectives

- Global goal:** enable new interactive experiences through games in order to promote learning and retention of historical facts using mobile and Semantic Web technologies.
- Specific goals:**
  - Develop algorithms to create brief text **Storytelling** from images without validation in which **the system trains itself** with information of users' likes and preferences obtained from social networks.
  - Develop algorithms that will **link crowdsourcing to the contents of Champions League** matches enabling more complex stories to be told.
  - Design a platform for serious games that will allow students to **explore the relationship networks between the topics of classes and topics of their interest** in specific contexts (places and/or dates).

## Research plan



## Next year planning

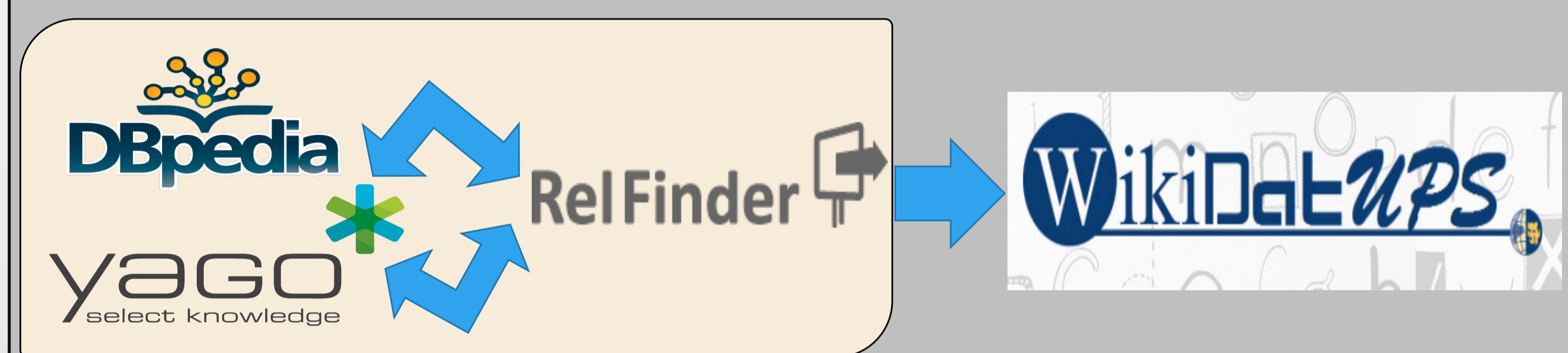
- [September 2017] Submit articles to JCR-indexed journals.
- [October 2017– February 2018] Connect the mobile applications with WikiDatUPS tool.
- [March 2018 – July 2018] Present CrossCult project V.1 and start development of ConteKStories project.

## References

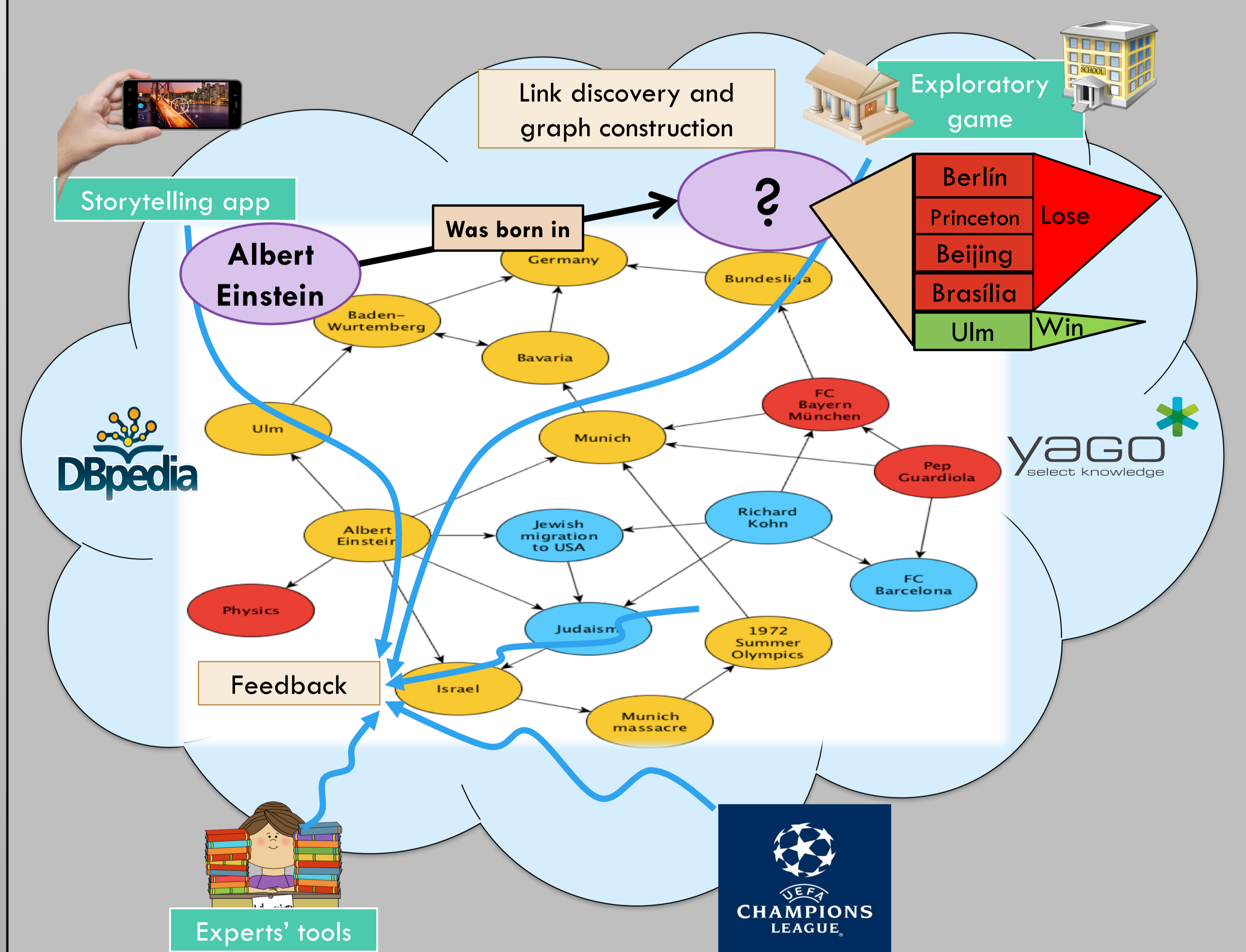
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## Results and discussions

- The design and implementation of a **common core of algorithms and UI modules** have been developed through the **WikiDatUPS** tool.
- More **semantic relationships** have been identified through the integration of DBpedia and Yago.



- We have started to **extract likes and interests of people** from social networks to personalize the Storytelling process.
- An app** is complete and will be connected to the WikiDatUPS tool to create Storytelling.



- A prototype version of the **graph visualization and manipulation modules** has practically been developed for the HTML5 platform.
- One conference paper** has been published:
  - "A semantics-based exploratory game to enrich school classes with relevant historical facts", 11th International Workshop on Semantic and Social Media Adaptation and Personalization, SMAP 2016, Thessaloniki - Greece.

- Semantic Web technologies can be applied in a number of situations and environments. We think football, which appeals to many and moves huge crowds, can also be used as a means through which children and young people can learn about historical, geographical and cultural events.