

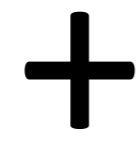
# Context-Aware Recommendations in Social Creativity Support Tools

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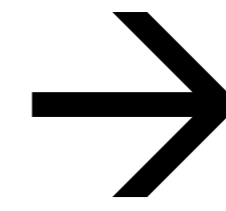
## Social Creativity Context

- Person
- Creative project
- Creative Ideas
- Background Knowledge
- Social Profile

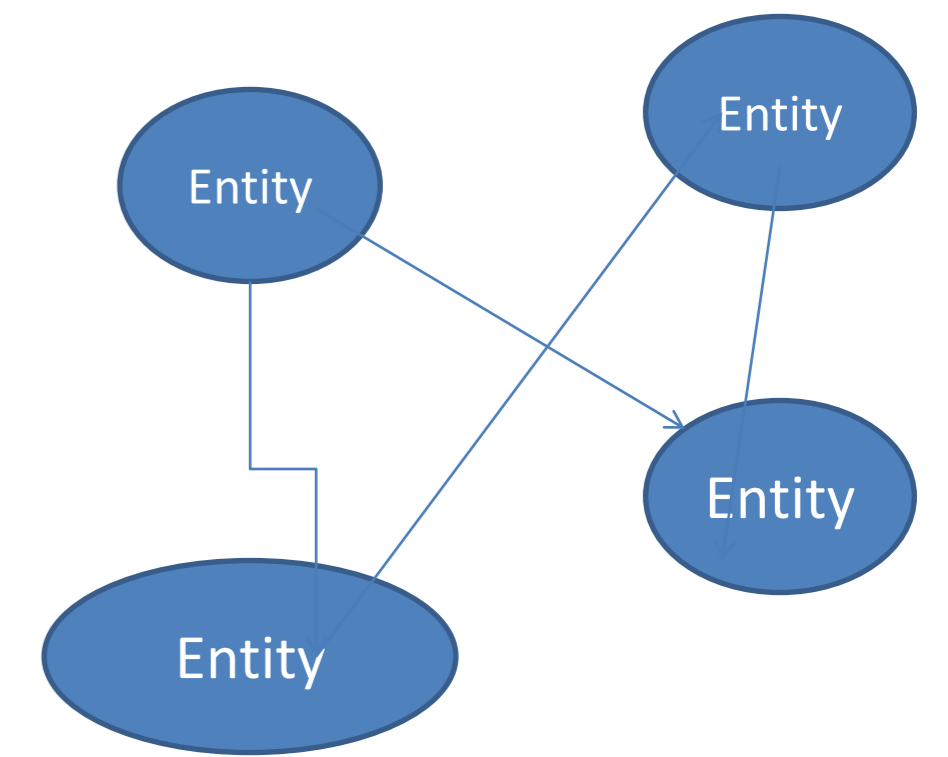


## Problem Space: Software Architecture Design

- Requirements Analysis
- Design
- Implementation
- Testing
- Etc.



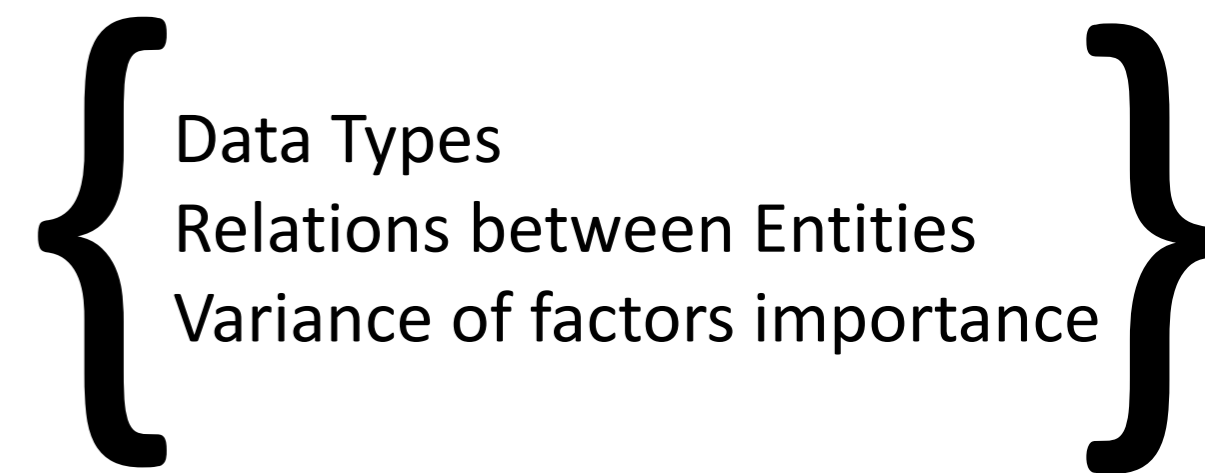
## Conceptual model



## Examples of Types of Useful Recommendations

- Recommendation of People (Collaboration Group by Experts)
- Recommendation of Related projects (Use them as reference to get ideas)
- Recommendation of Related Ideas (In case of Brainstorming session)
- Recommendation of Related Documentation and Knowledge Resources

Matching complexity because of:



## Recommendation systems - algorithms

**Content-based (CB)**, in which the user is recommended items similar to the ones he has preferred in the past.

**Collaborative filtering (CF)**, in which the user is recommended items that people with similar tastes and preferences liked in the past.

**Demographic**, which classifies the users according to the attributes of their personal profile, and makes recommendations based on demographic classes.

**Utility-Based**, which makes suggestions based on a computation of the utility of each item for a user, for whom a utility function has to be stored.

**Knowledge-Based**, which suggests items based on logical inferences about user preferences.

## Techniques

- User-based (CF)
- Item-based (CF)
- Stereotype-based (CF)
- Case-based Reasoning (CB)
- Attribute-Based (CB)
- Decision Trees
- K-Nearest Neighbors
- Vector-Based Models

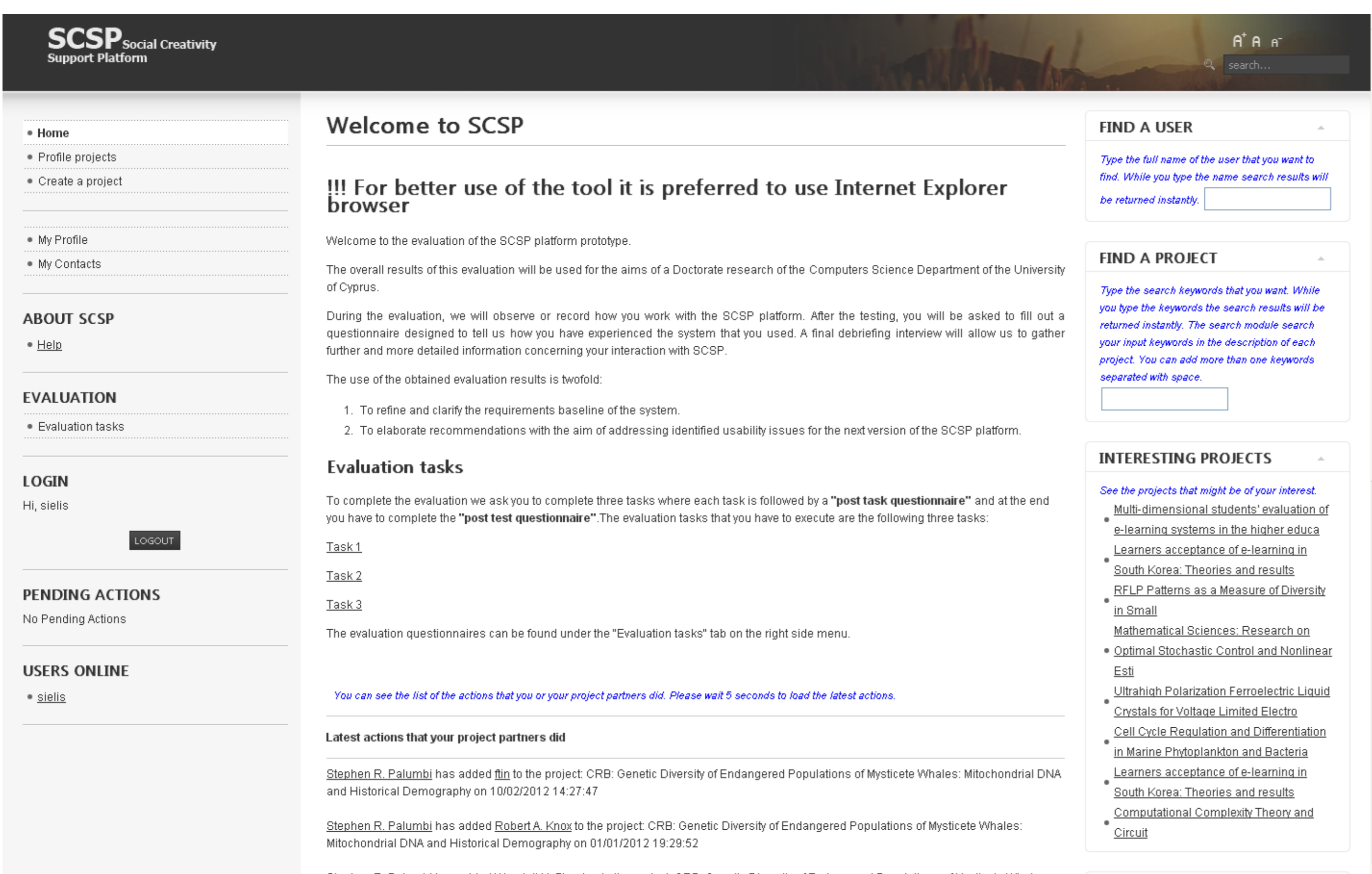
## Work in Progress: Prototype, Algorithm, Evaluation

### Social Creativity Support Platform Prototype is Available – needs adjustment to new problem space, i.e. SAD.

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### Algorithm Requirements:

1. Similarities between users. (Matching the users based on specific factors, profile analysis and relations)
2. Similarities between SAD projects. (Matching the projects based on specific factors, content analysis and relations)
3. Item based and content based filtering methods according to the recommendation type
4. Implicit and explicit recommendations
5. Efficiency
6. User experience, satisfaction



**Evaluation:** Recommender Systems and Creativity Support Tools are fairly challenging when it comes to evaluation. There are computational techniques that evaluate the algorithm, but user testing is always needed to prove the usefulness of the recommendations.