

Marco Kalz

Educational  
Technology  
Expertise Centre

Open University of  
the Netherlands

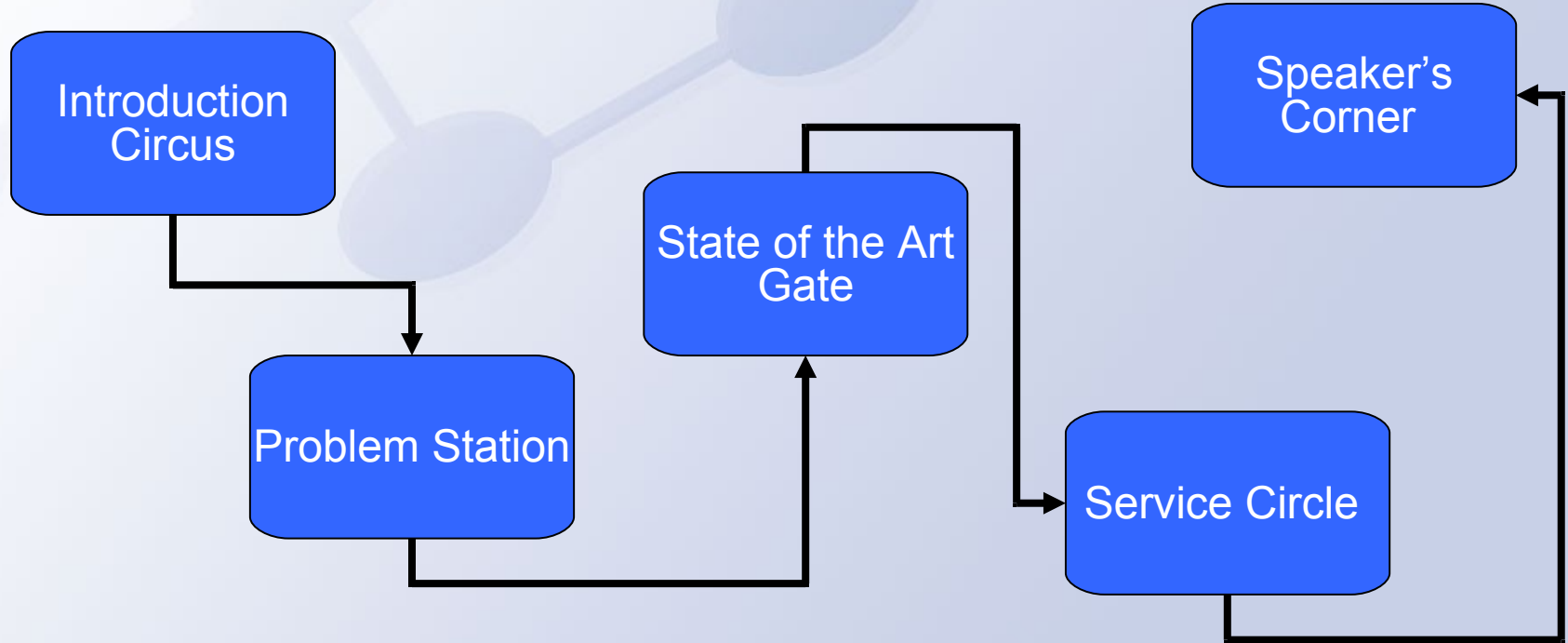
[marco.kalz@ou.nl](mailto:marco.kalz@ou.nl)

[www.marcokalz.de](http://www.marcokalz.de)



10<sup>th</sup> International Conference on Interactive  
Computer Aided Learning, Villach (Austria)  
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Special Session on Open Educational  
Resources and Practices

# Stations of my talk



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## Problem for learners using OER:

### Lack of Orientation

Which learning activities & resources fit to the learner's prior knowledge & competence development goals?

### Anonymity

What are other learners in my domain doing? How can I get in touch with them?



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Photo by Jasmic@Flickr

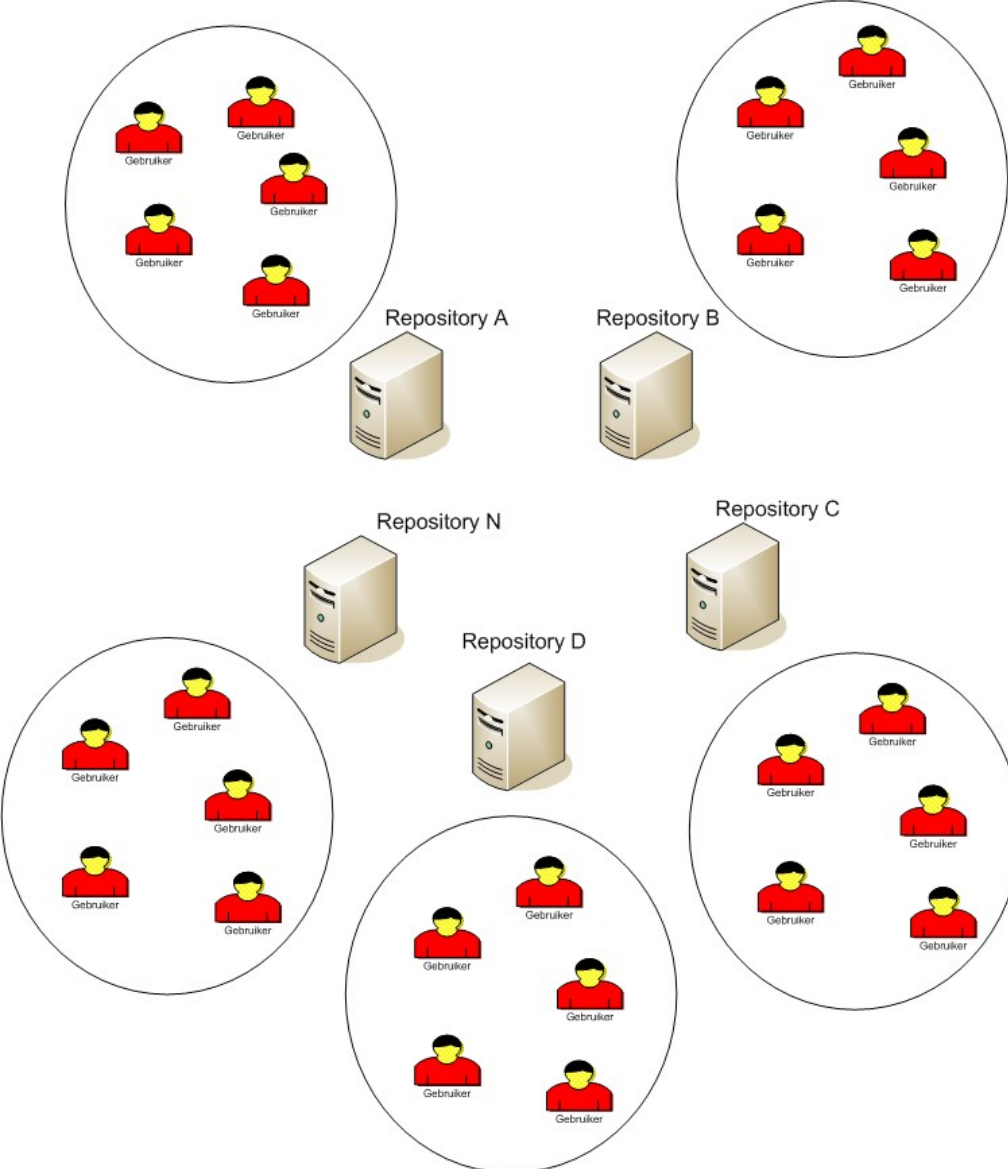
## Current Situation

Distributed, unconnected repositories

Searching for OER is complicated, because learners have to know where to search.

Unconnected learner communities

Learning communities are organized around repositories and not around topics or competence development goals.



# Research Agenda for OER

“Access is not the issue;  
*personalized access is*”

Peter Brusilovsky/Nicola Henze 2007

# Current Solutions

User Level	MOCSL-project (Utah State), Social Software (Social Bookmarking, Blogging etc.)
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Repository Level	Open Archive Protocol for Metadata Harvesting (OAIPMH), Simple Query Interface (SQI)
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Learning Object Level	IEEE LOM, Dublin Core
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# Our approach to the orientation problem for learners who use OER

## Tencompetence Wayfinding Approach

1.) Prior Knowledge Analysis with Language Technology (Kalz et al. 2007)

Latent Semantic Analysis (LSA) to compare resources in learner portfolios with resources in repositories.

2.) Personal Recommender System (Drachsler et al. 2007)

Bottom-up techniques to recommend appropriate resources and activities



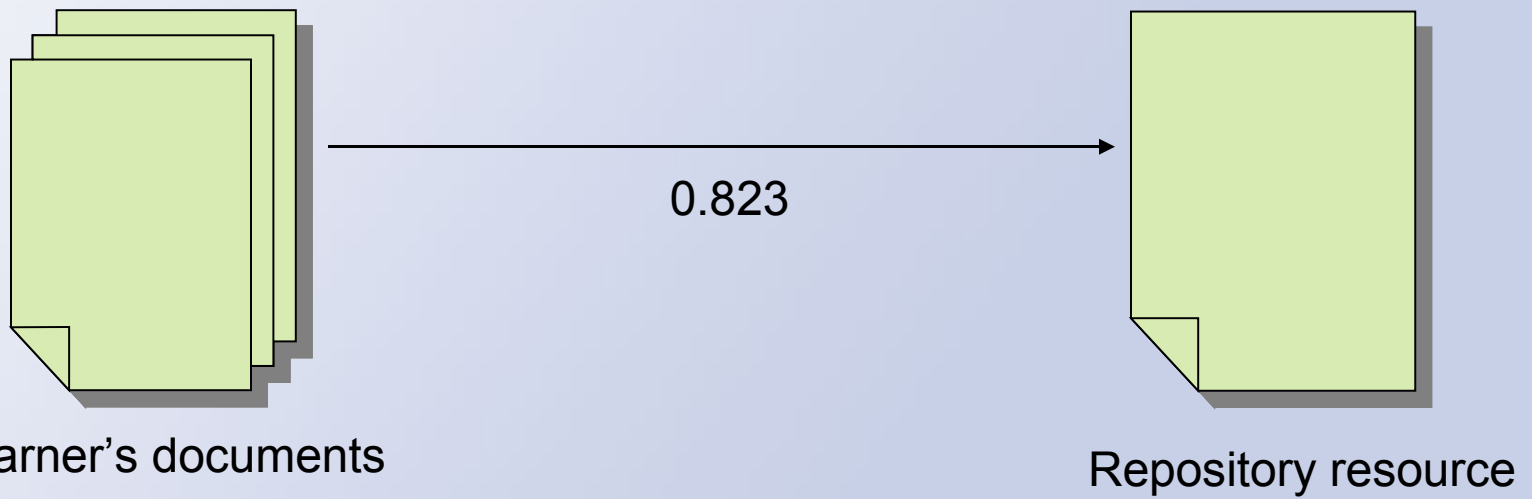
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# Prior Knowledge Analysis with LSA

- Latent Semantic Analysis (Landauer, et al. 1998) is a vector-based technique that is suited well to compare the similarity of documents

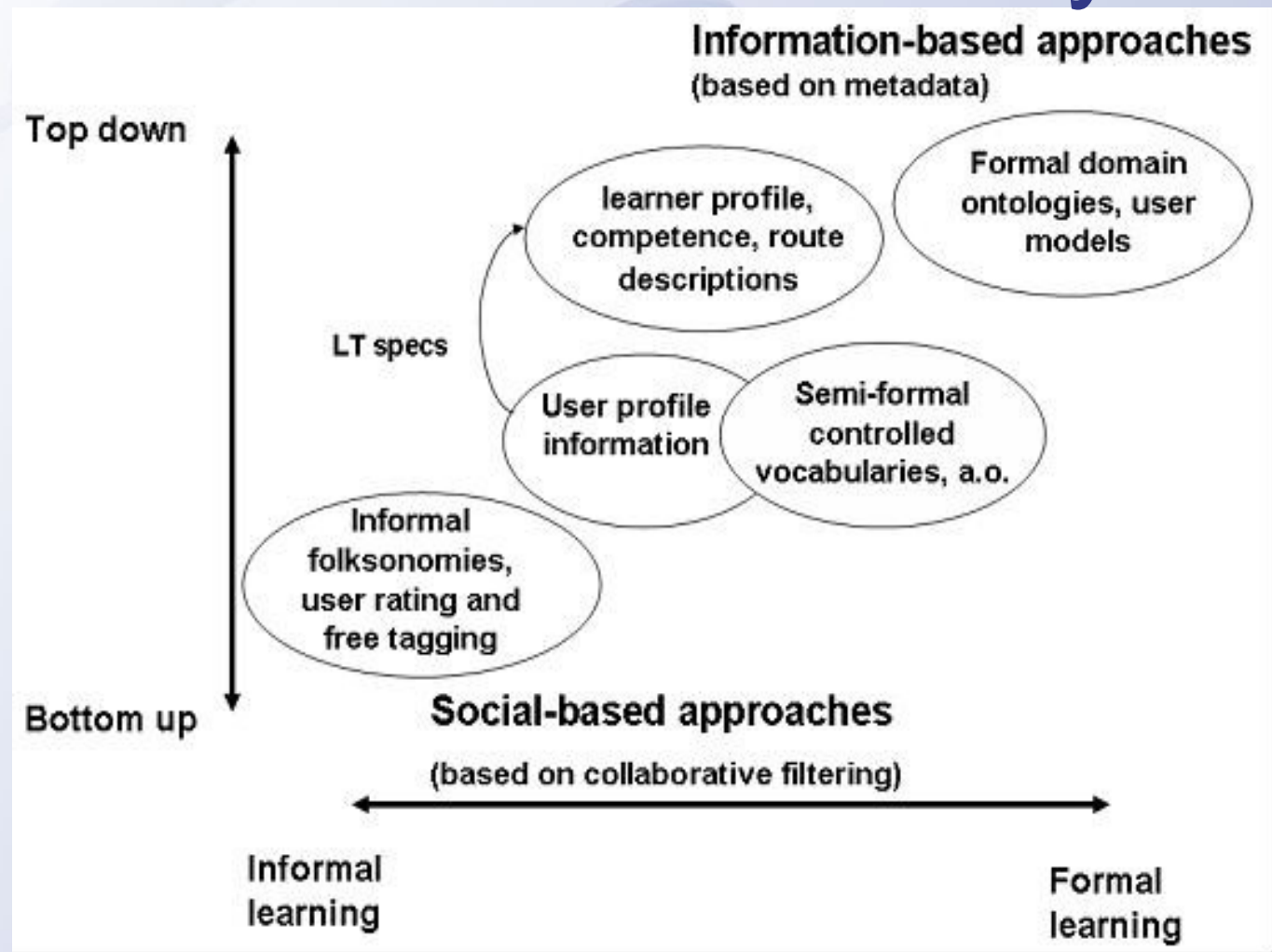




# Prior Knowledge Analysis with LSA

- We have evaluated LSA and compared results with expert opinions about prior knowledge in the psychology domain
- For a recommender system in OER, this functionality can analyze documents in the learner portfolio and present only resources on a specific “interest scale” (e.g. Between 0.4 & 0.8).
- Another implementation possibility for LSA would be the analysis of similar resources the learner would like to find.

# Personal Recommender System



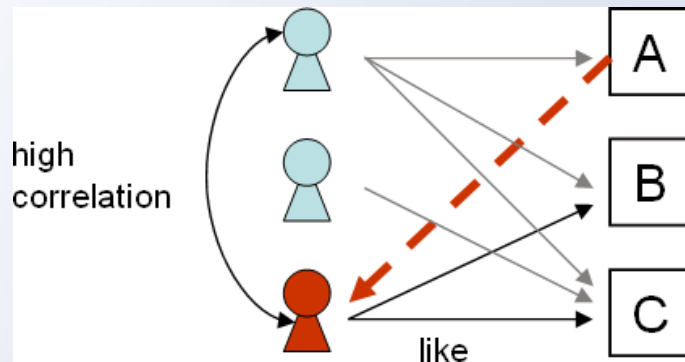
# Personal Recommender System

## Collaborative Filtering

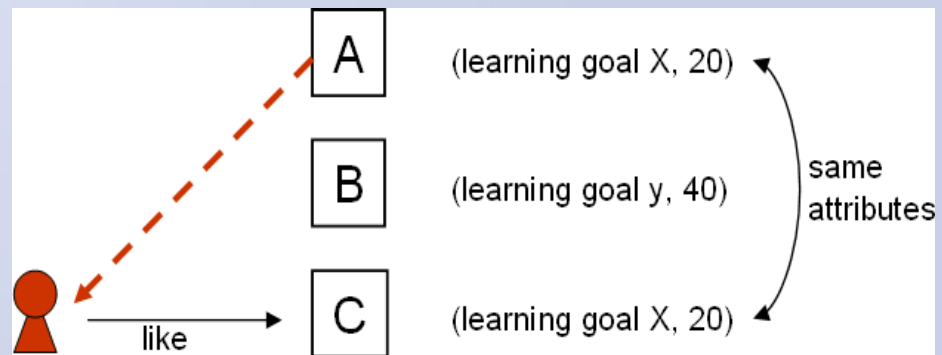
- User-based
- Item-based
- Stereotype

## Content based techniques

- Case-based reasoning
- Attribute-based recommendation

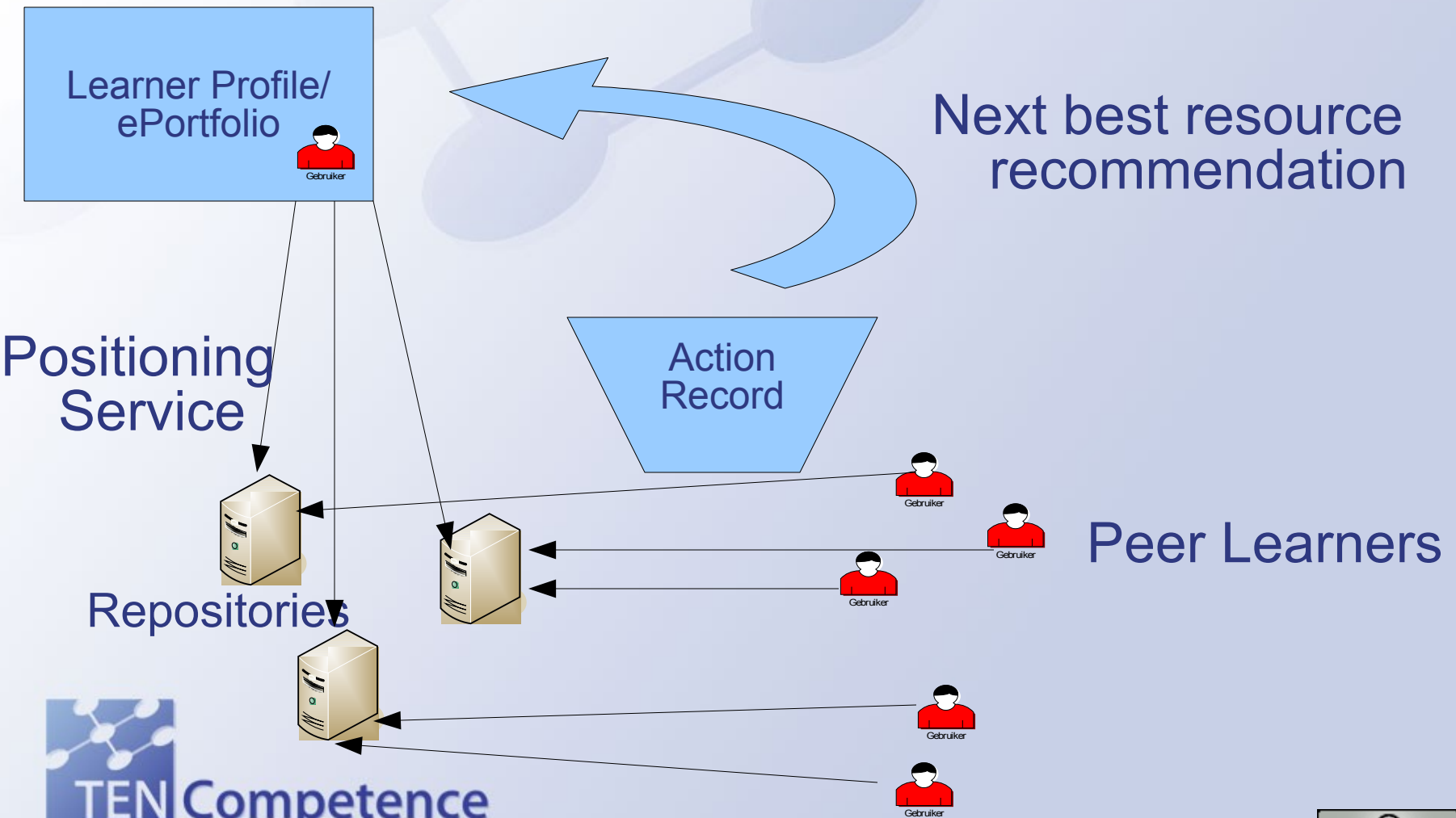


(Kim, 2006)

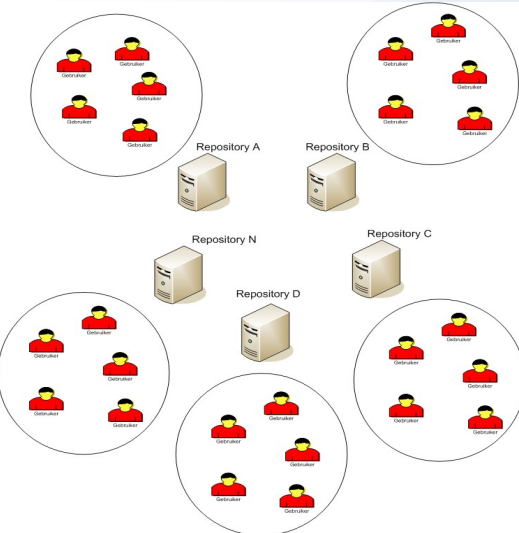


(Kim, 2006)

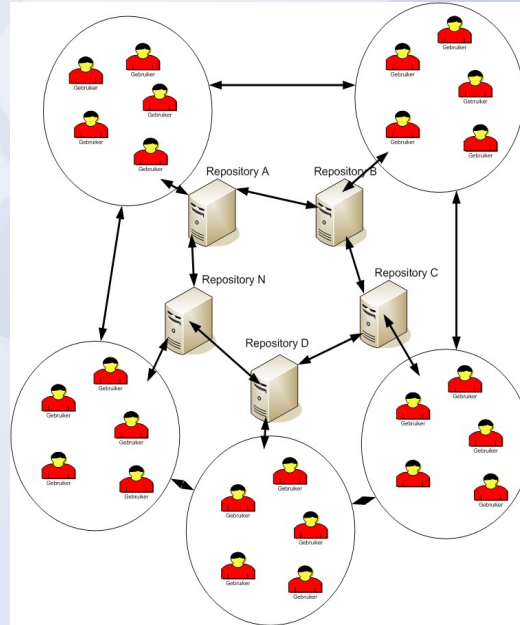
# Wayfinding Services Overview



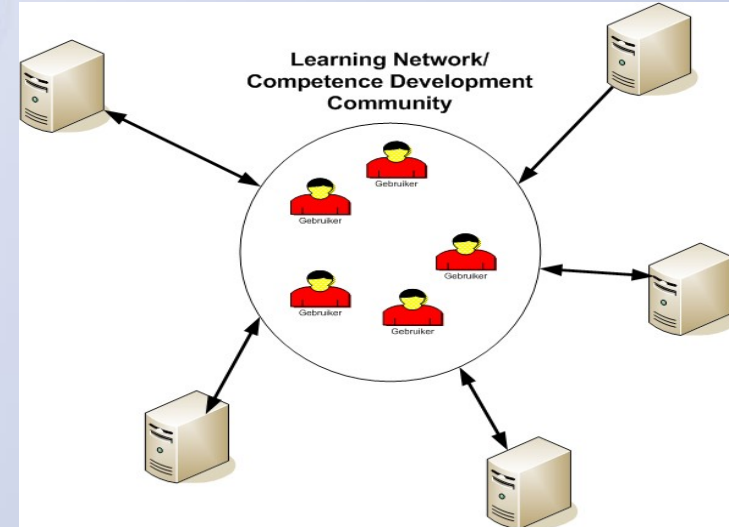
# Future Work



This is today



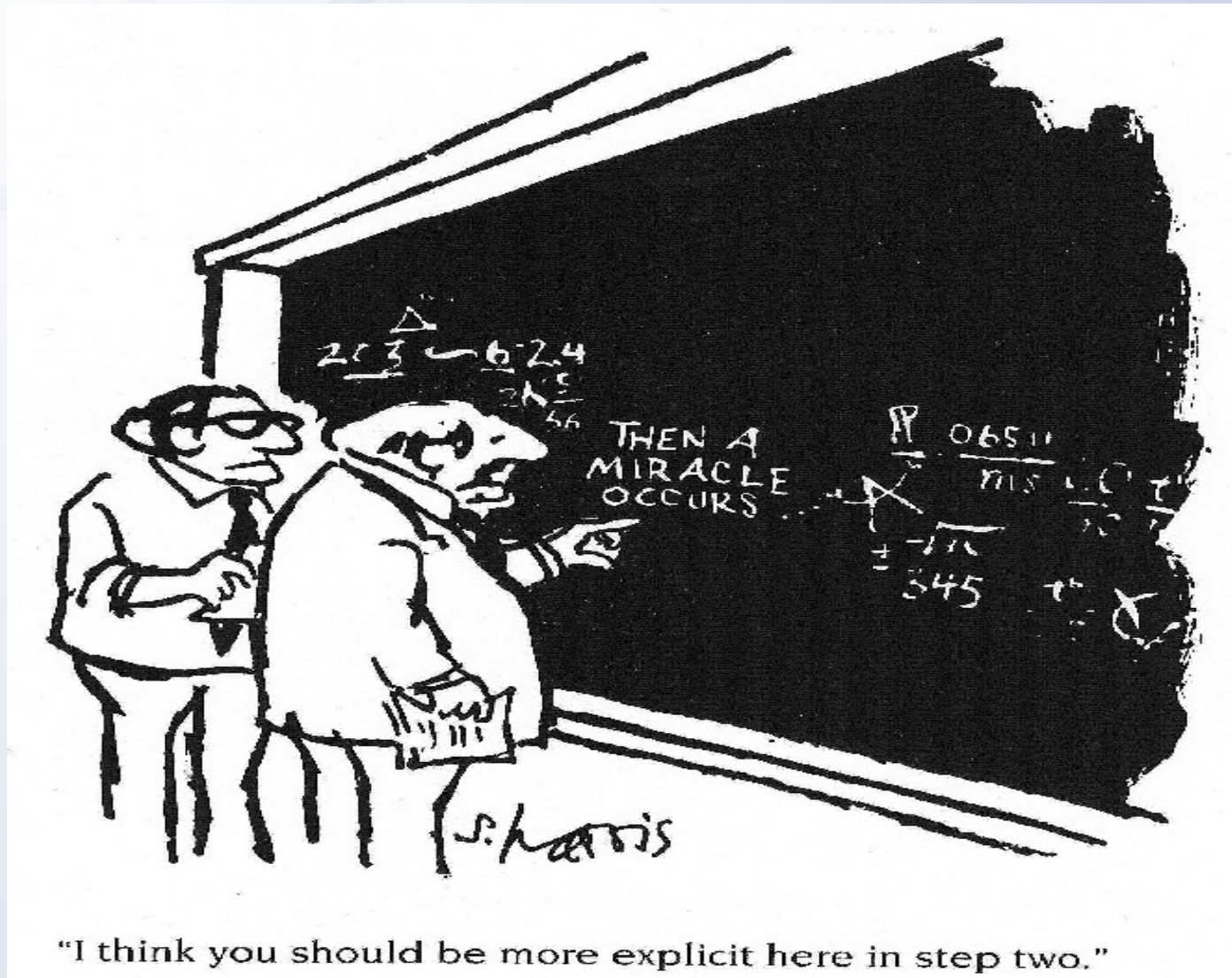
This might be the near future



...and this is our target.



# Thank you!



"I think you should be more explicit here in step two."



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