

Semantic and Social Media in a world 'upgrading' to Web 3.0

Research in the Learning Societies Lab

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topics

- learning societies lab: research themes and activities
- Web 2.0 promises for learning communities
- Web 3.0 expectations
- what Web 3.0?



Digital Libraries, m-learning, and Learning Objects and Repositories.

Interaction with knowledge and semantics



Initiatives such as the Semantic Web are promoting the idea that knowledge can be described and exchanged, but the descriptions that machines use are far more formal and focused than those used by people exchanging ideas and recording their everyday lives. It is therefore important to try and bridge the gap between how people and machines express information, for example by using tagging, annotation, concept mapping, semantic hypertexts, folksonomies and narratives.

Virtual communities and social systems



A new generation of social applications is changing the way in which people are organising themselves and interacting with each other. LSL is researching collaborative systems, tools for group formation, virtual environments, games and social networking.

Accessible technologies



Technology offers new possibilities for supporting accessibility. LSL is investigating how speech recognition can be used to caption multimedia to make learning more inclusive, interactive, flexible, productive and engaging, and is exploring the e-learning experiences of disabled learners including accessible e-learning, compatible assistive technologies and effective learning support.

Innovation in science, engineering and technology education



Science, Engineering and Technology have been identified amongst the strategic and vulnerable areas in UK Higher Education. LSL is looking to identify, investigate, develop and evaluate educational innovations which can impact directly and enhance the student experience.

e-learning

semantic web

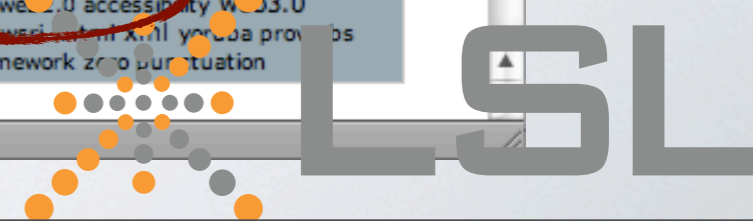
social

networking

web 2.0

web science

web services



LSL themes

- Technology enhanced learning
- Interaction with knowledge and semantics
- Virtual communities and social systems
- Accessible technologies
- Innovation in science, engineering and technology education

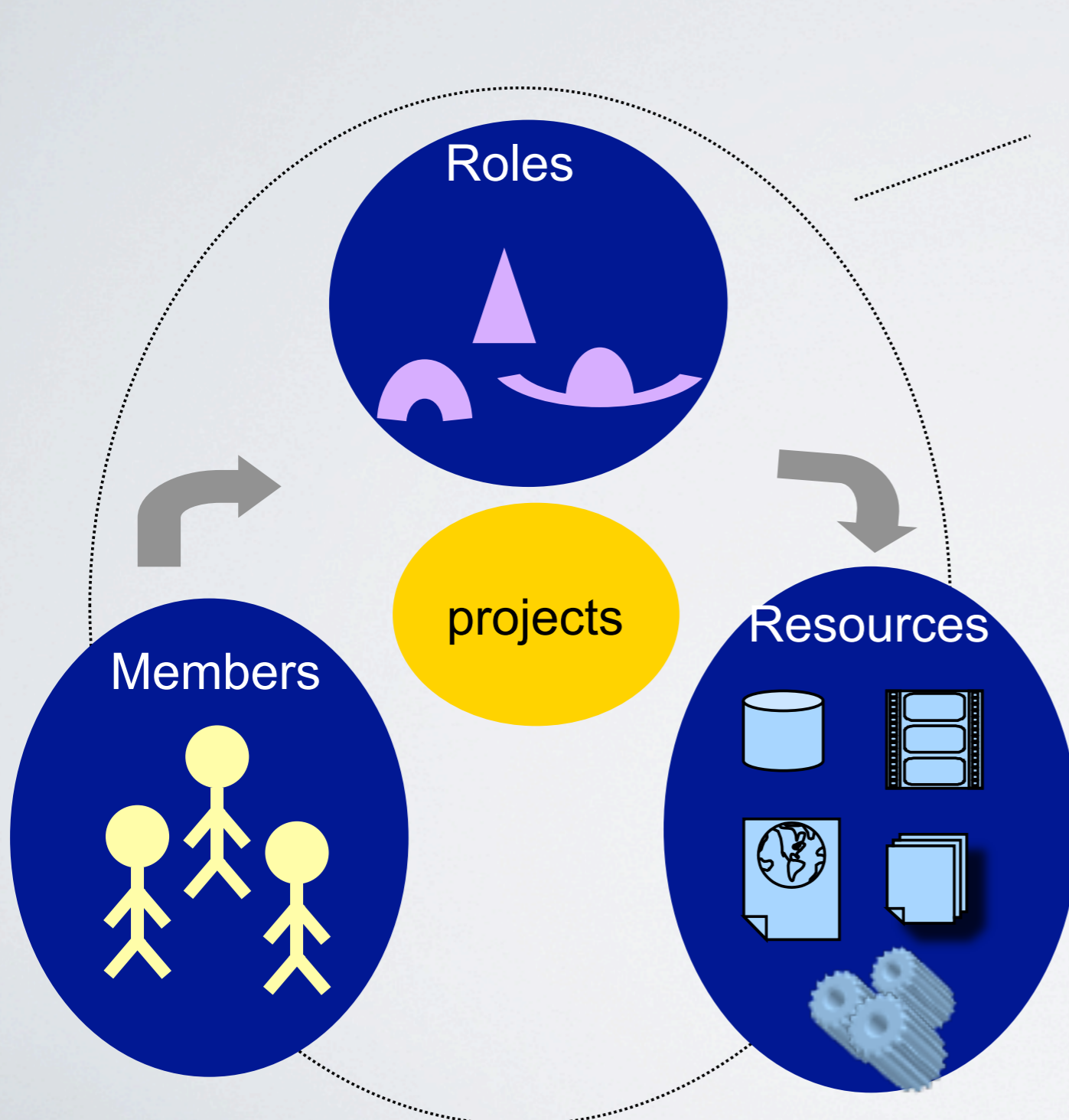


everyone is learning & participating in learning societies

- engaging in formal or informal learning
- interacting with co-learners, colleagues, friends
- fulfilling their roles as members of communities or social groups
- having different accessibility requirements depending on abilities, preferences, modi operandi
- wishing to learn more using tools with innovative interaction, pedagogy, knowledge organisation

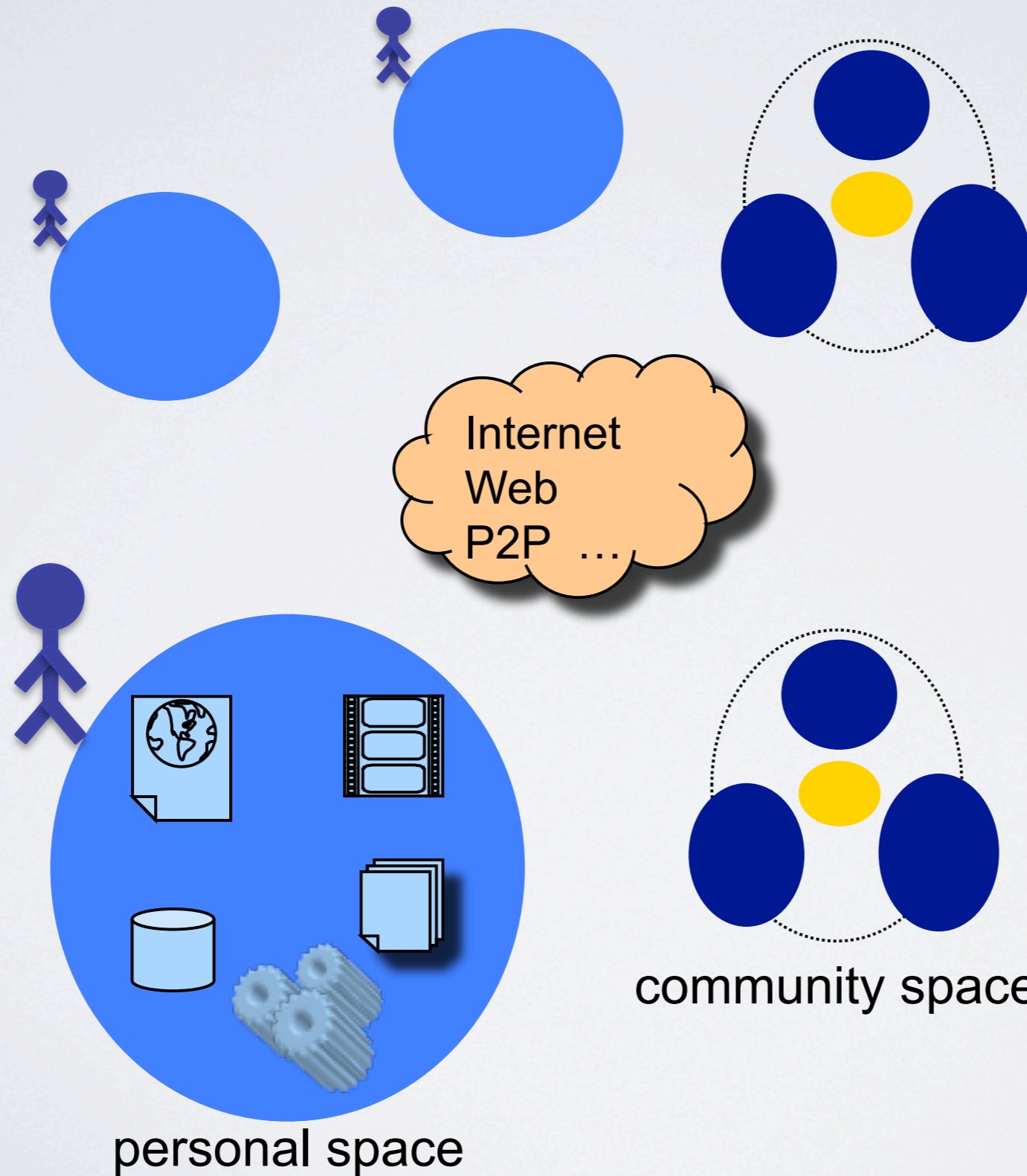


concepts in learning communities



- formal and informal learning processes
- collaboration
- accessibility
- content management
- infrastructure

learning community infrastructure



LSL

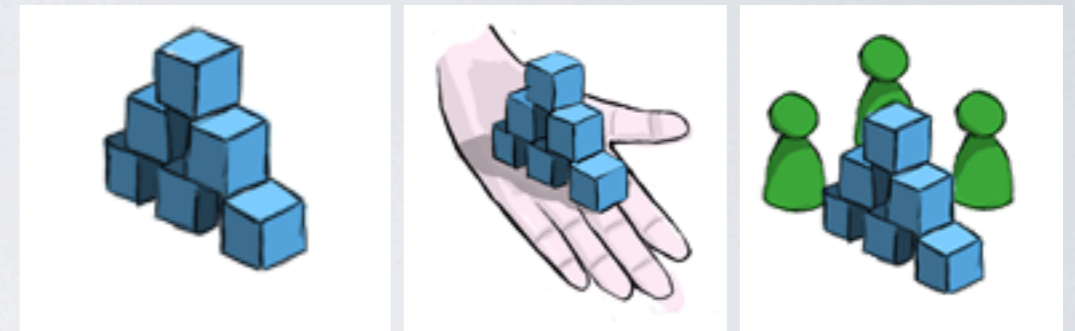
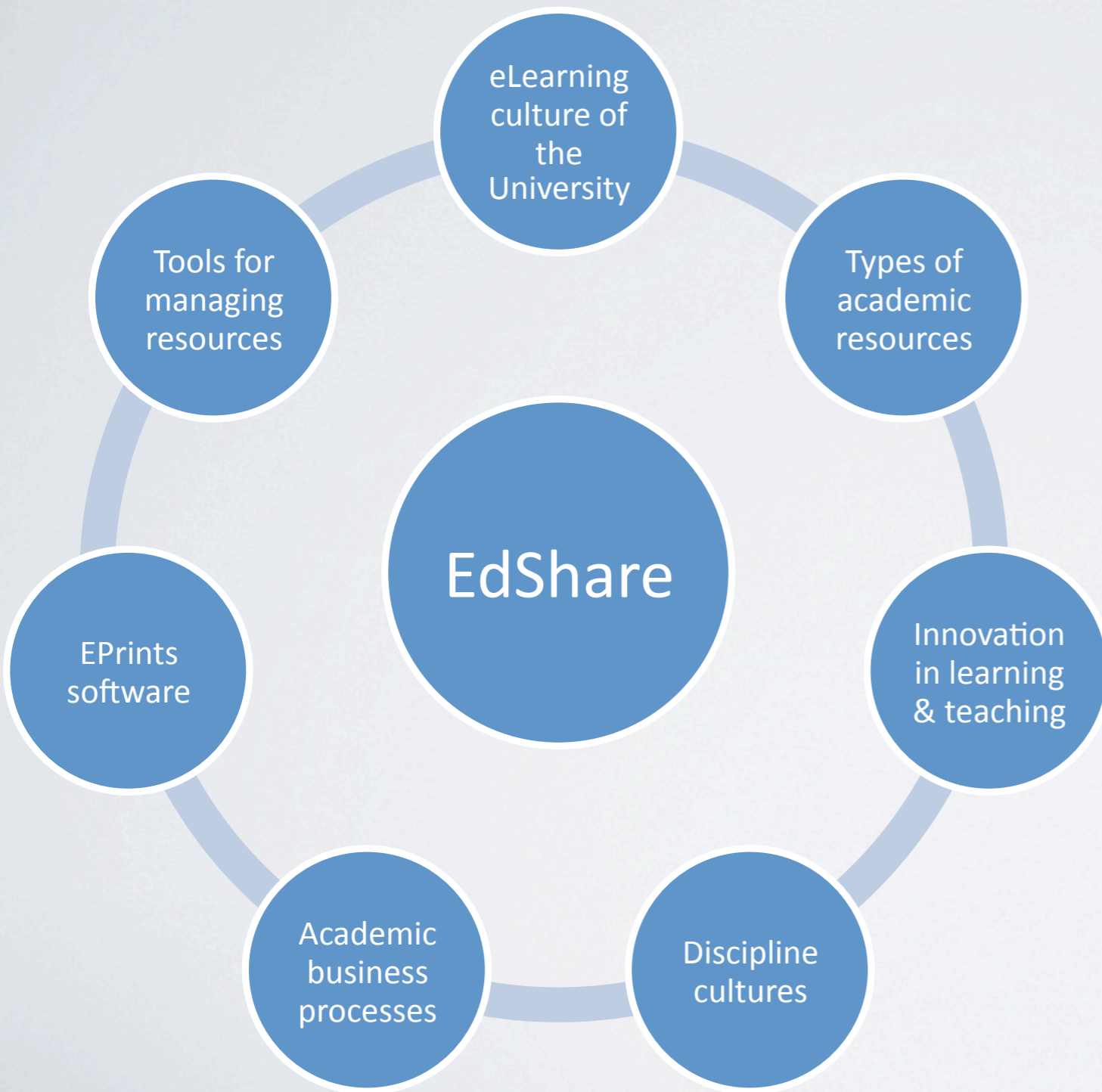
Web 2.0 potential for learning communities

- Web pages as interactive applications
- The Web as a knowledge repository
- The Web as a platform for collaboration
- The Web as a platform for social networking
- The Web as middleware





EdShare



- Organise, share, collaborate in Education
- Visibility of contributed resources on different levels
- Description and tagging of resources



OneShare

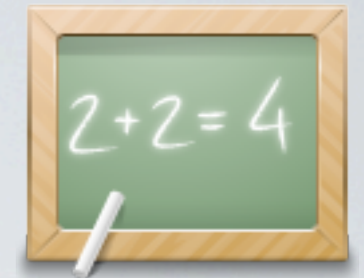


- Supporting the Deposit Once model
- Working with VLEs and HE institutional repositories
 - Deposit once in a VLE - propagate to Edu repositories
- A cloud-computing architecture, where community-repositories are application views on the institutional repositories that have been integrated with a VLE





Web2Access.org.uk



- There are so many Web 2.0 services out there that we cannot find what is really relevant
- Can we know what each toolkit does? What modes of collaboration are supported?
- Web2Access evaluated a number of Web 2.0 toolkits based on their support for accessibility and their teaching and learning potential



Semantics in a web 2.0 world?

- **TAGS, TAG CLOUDS, HIERARCHIES
in BLOGS, WIKIS, REPOSITORIES**
- *Soft semantics*
 - ▶ Meaning in formats that humans can process
 - ▶ Lightweight knowledge modelling in Web 2.0 applications
- *Hard semantics*
 - ▶ Meaning in formats that machines can process
 - ▶ Processing is independent of domain specific schemas



Web 3.0 expectations

- Transition from *soft* Web 2.0 semantics to *hard* machine processable semantics
- Meaningful and accessible discovery and interaction with people and resources on a large scale
- Collaboration and learning across disciplines
- Intelligent content organisation and management
- Pedagogy aware applications, bringing together learners and resources in formal or informal contexts



Two visions on Web 3.0

- Top-down approach
 - We design an ontology
 - We expect the rest of the world to adopt it and use it
- Bottom-up approach
 - We expose our data in interoperable linked data formats
 - Others may map linked data to ontologies for specific applications



which Web 3.0? :-)

- The Semantic Web / Web of Data / Linked Data
- Mobile Web
- Super High Broadband
- Virtual Worlds?
- Other?



SemTech

- A survey of semantic technologies for higher education
- A roadmap of semantic technology adoption in the future
- Examining the potential of a linked data infrastructure in this domain



SemTech

- *Distinction between hard and soft semantic technologies*
- *Transition for soft semantics from Web 2.0 applications to hard semantics in Web 3.0 formats*



LSL

surveyed semantic technologies

semtech-survey.ecs.soton.ac.uk

Collaborative
Authoring and
Annotation

Searching and
Matching

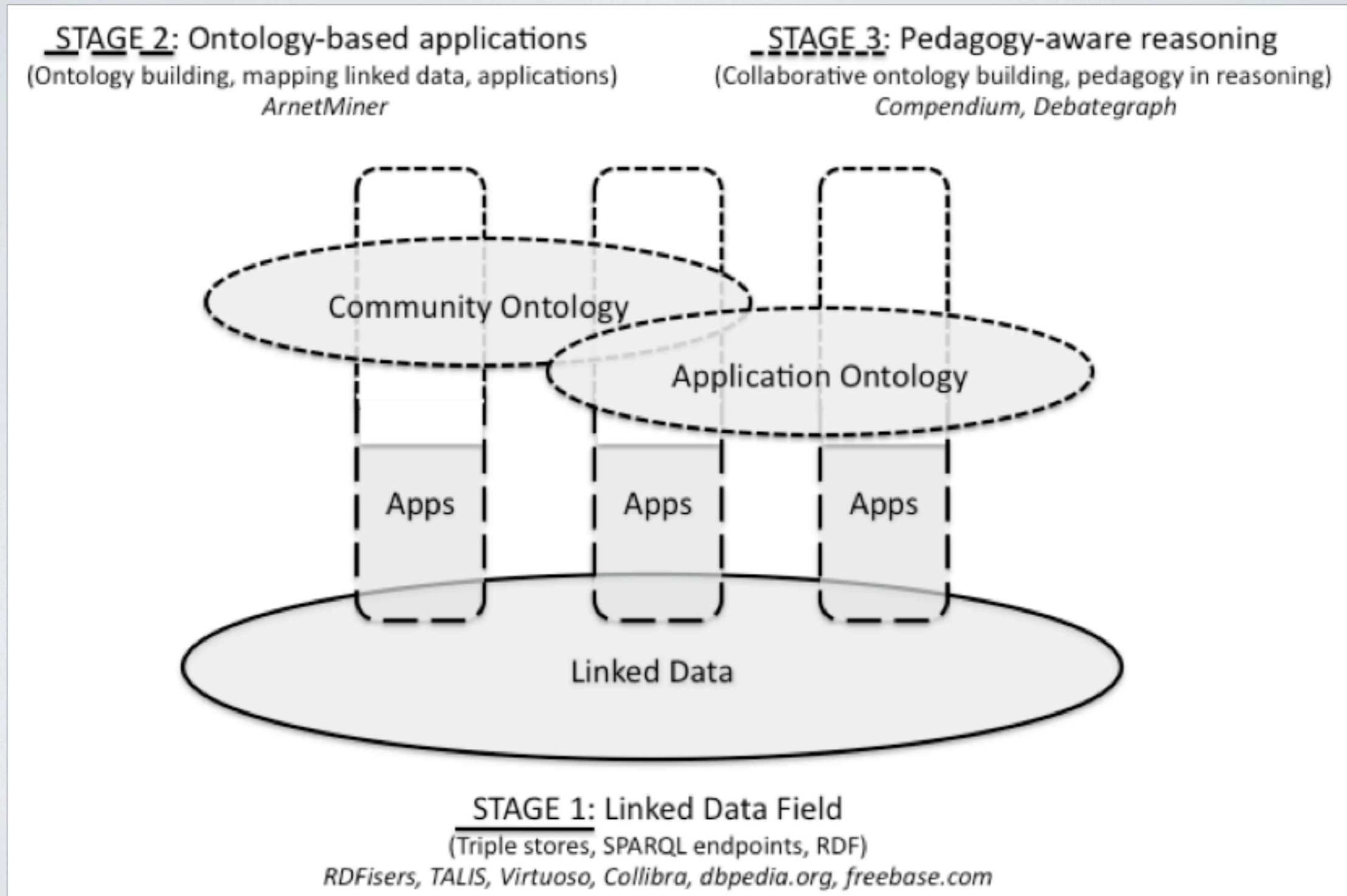
Repositories, VLEs
and Authoring tools

Infrastructural
Technologies for
Linked Data and
Semantic Enrichment



LSL

a roadmap of sem tech adoption



Thank you!

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