

WP7

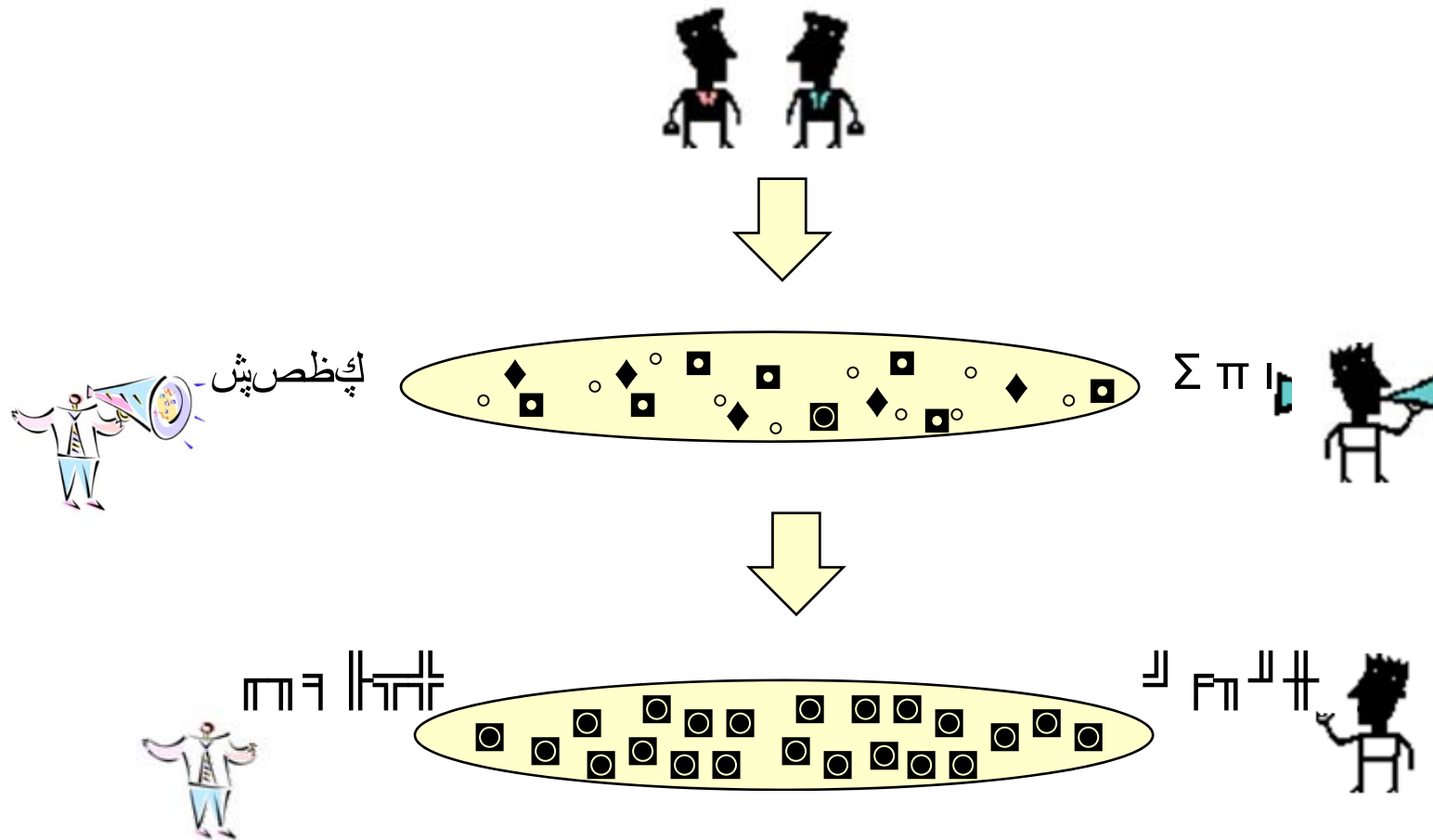
Ontological Infrastructure for Business Processes and Data



doug foxvog – NUIG
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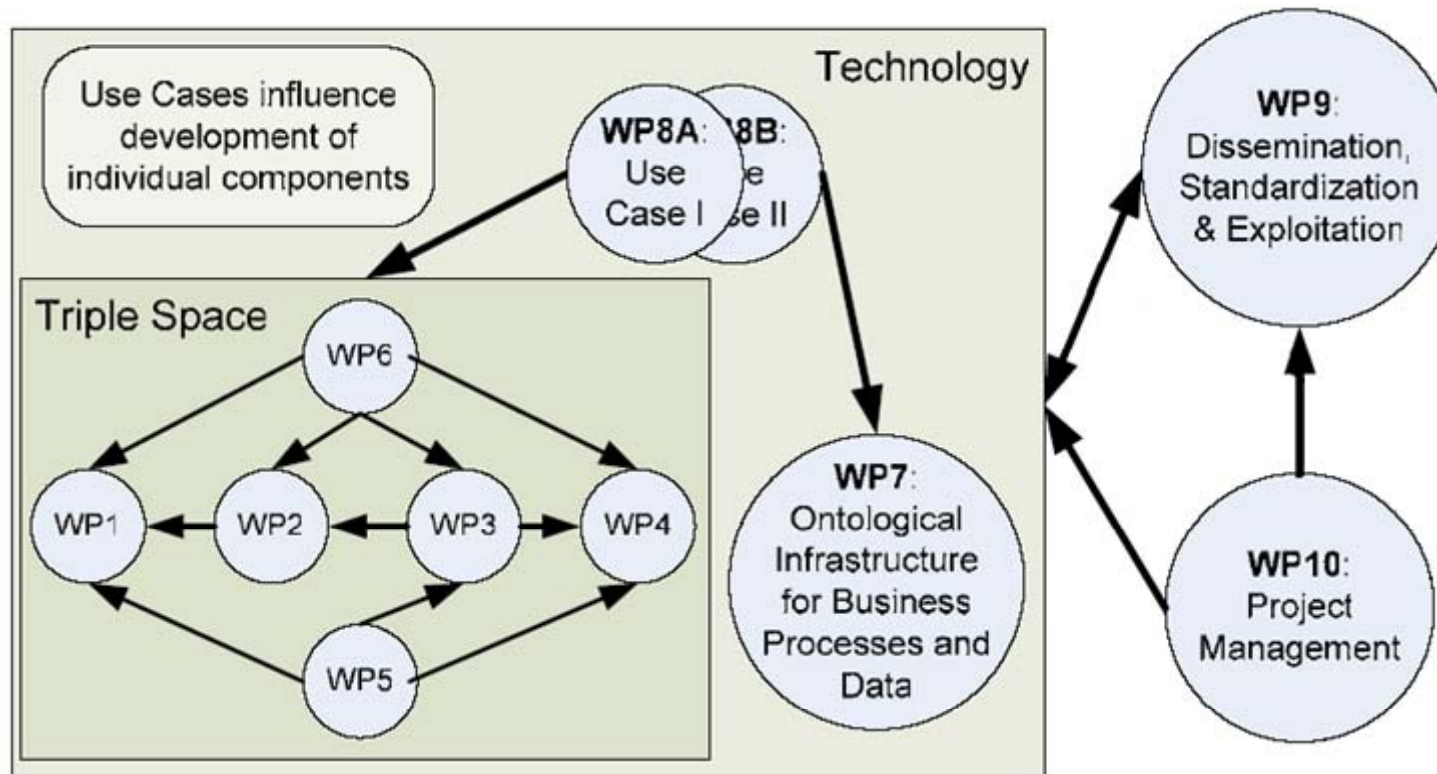
Ontologies in Triple Space



- Offer means for semantically rich definition of business processes
- Create formal ontologies
- Overcome heterogeneity problems
 - By providing standard all Triple Space users can use
 - Covering basic business concepts & relations
- Rich enough vocabulary to allow mutually unaware parties to communicate
- Encode significant portion of EDIFACT
 - So that messages formerly transmitted in EDIFACT can be transmitted using Triple Space

- Main task
 - Create ontologies based on EDIFACT messages.
 - Provide standard for multiple users of Triple Space.
 - Cover far more material than use cases.
- Secondary task
 - Provide knowledge base describing EDIFACT message formats.
 - Provide mappings between EDIFACT components and meanings.
- Third task
 - Support use cases.
 - Provide ontologies which can be used by EAI use case.
 - Potentially provide utility for eHealth use case.

Position of WP 7 in TripCom



- Implementation Work Packages – WP 1-6
- Use Cases – WP 8A & 8B
- Ontological Infrastructure – WP 7
- Dissemination & Management – WP 9 & 10

■ Implementation Work Packages

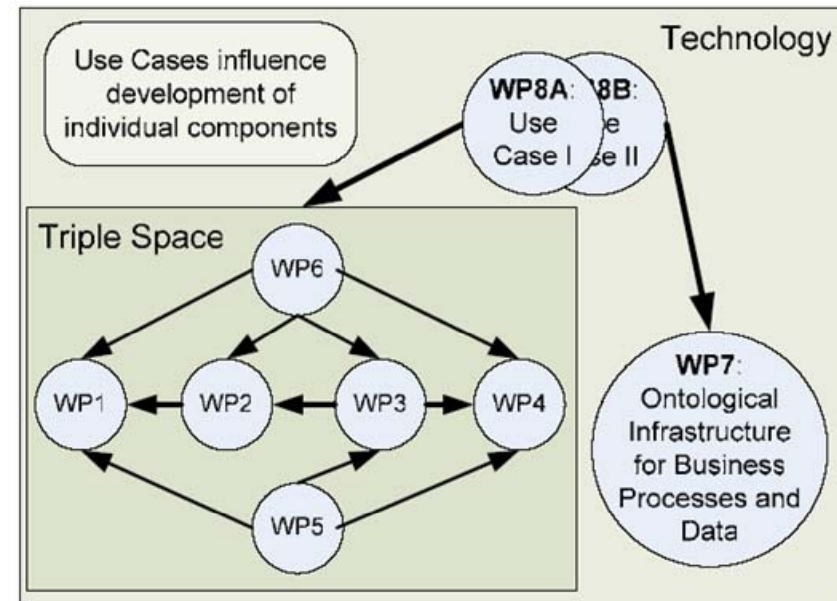
- Design Triple Space
- Implement Triple Space
- Integrate Use Case requirements

■ Use Cases – WP 8A & 8B

- Exercise Triple Space
- Provide requirements for WP 1-7

■ Ontological Infrastructure – WP 7

- Define & provide ontologies for users of Triple Space
- Use EDIFACT as basis for ontologies
- Integrate Use Case requirements



Completed Deliverables



- Analyzed EDI versions (M6) D 7.1
- Selected subsets to encode (M6)
- Encoded selected EDIFACT subsets' formats semantically (M12) D 7.2
- Encoded selected EDIFACT subsets' components' meanings (M24)
- Relationships among ontology modules within EDIFACT and with external ontologies (M30) D 7.3
- Ontology evaluation and cleanup (M33) D 7.4

- **Ontology Evaluation and Cleanup**
 - Evaluating based on ontologizing standard used
 - Not evaluating coverage of EDI standard
 - Ensuring coverage of EDI standard
 - **Standardizing form of ontologies**
 - Treat relationships as relations, not classes.
 - E.g., seller, parent
 - Avoid defining meta-classes (in WSML)
 - Make related classes subclass of superclass.
 - Meanings in triplespace to use these as classes, not individuals.
 - Ensuring superclasses defined
 - **Merging ontologies**
 - Based on conceptual overlap and similarity
 - 80 resultant ontologies
 - **Conversion of new terms to CycL for distribution**

- Resultant ontologies put online
 - <http://tripcom.org/ontologies/generic> for list of ontologies
 - <http://tripcom.org/ontologies/EDIFACT> for EDIFACT-specific knowledge bases
 - EDIFACT syntax KBs by component type
 - Subset-specific KBs for message type by subset
 - Code set mappings

- To Standards Bodies
 - Contacted EANCOM, EDIFICE, ETIS, EDIFACT.
 - EDIFICE “looking into” possibility of using our work.
 - EANCON relaying matter internally.
 - No response yet from ETIS or EDIFACT.
- To Cyc Foundation
 - Ontologies offered
 - Putting the ontology set through their review process.
- Publication
 - Y1 “Ontologizing EDI Semantics” article
 - Discussions with *International Journal on Semantic Web and Information Systems*