

Recent advances in technology have caused a proliferation of data and knowledge sources on a global scale. The ability to access and integrate these knowledge sources is crucial for critical decision making, and to facilitate this, knowledge-based intelligent applications (agents) need to resolve the differences between their knowledge models (ontologies). Research into ontology alignment has typically relied on the use of an external system such as an oracle that takes as input two ontologies and produces the most plausible alignment between the entities (classes, properties and instances), given some pre-defined similarity models. However, such approaches are used irrespectively of whether the intended models underlying the ontologies overlap, and hence without any indication as to whether an alignment representing this overlap can be meaningfully computed. Furthermore, traditional alignment methods usually require the disclosure of the full ontological model, even in those situations in which only a few concepts or a module is needed. In this talk, we present preliminary work that allows two agents to jointly determine a single correspondence between two concepts in their respective ontologies. The agents engage in a dialogue that permits the participants to exchange information about the concepts to support the assertion or rejection of a correspondence. The agents reason over the plausibility of the correspondence by considering information related to the ontological context of a concept (expressed in terms of properties) and the partial knowledge acquired during the dialogue about the other agent's ontology. Thus, the approach does not require the full disclosure of both ontologies prior to the reconciliation phase, but supports knowledge sharing in an incremental and opportunistic fashion.