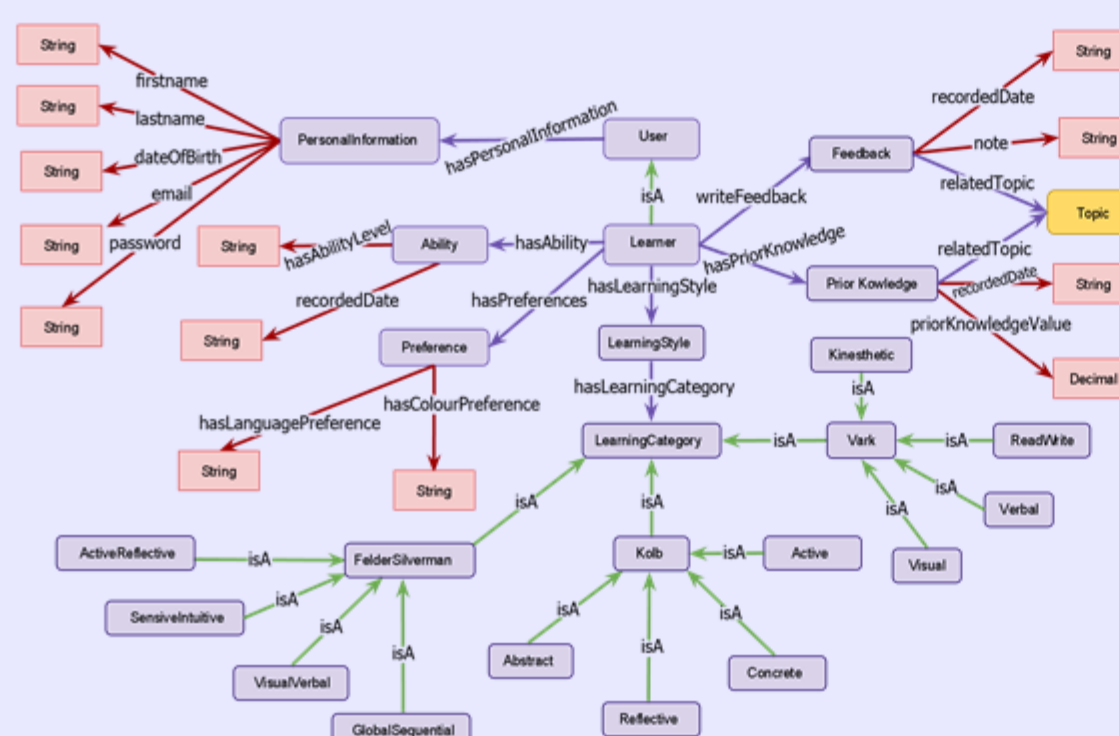


Personalised services are nowadays an important research issue in the field of e-learning as no fixed learning paths are appropriate for all learners. Typically, traditional learning systems deliver the same content to all learners, irrespective of their characteristics. This problem may be addressed by adapting the learning content toward the characteristics of particular learner. This study proposes an innovative **Ontological** approach to support a **Personalised Adaptive e-learning system (Onto-PAdel system)** which assembles dynamically instructional objects to generate tailored learning content for individual learners based on learner's characteristics and analysis of previous learning steps.



Using ontologies in our proposed approach has the benefit of building reusable modular systems capable of reflecting individual learner's needs. Other important benefit is the ability to automatically compose Instructional Objects into new lessons adapted with specific instructional design and needs for individual learners. The Onto-PAdel system is domain independent and it is a fully ontology based system.



Four ontological knowledge models namely domain, user, content and test are incorporated as part of the system to enable adaptation.

Learners are engaged in learning topics, complete activities and take tests, while the system continuously updates learners' profiles and provide learning recommendation based on the analysis of learners' progress during the learning process.