Motivation

Virtual Learning Environments (VLEs) are widely used in both distance learning and on-campus learning providing supporting tools which allow students to access learning materials, activities and assignments.

VLEs usually lack assistive feedbacks and assume static student profiles. As a result, students are presented with the same learning materials regardless of their learning needs. A VLE itself is not an automated system that cannot provide an intelligent response to students.

How to improve VLEs to become intelligent systems...?

Provide an agent-based system to support intelligent responses in VLEs.

Aims

Intelligence  Adapativity

Collaboration  Personalisation

Intelligent Learning Environment (I–LE)

Orientation Data

- **Teachers’ Views**
  - Interactive lesson that allows teachers to incorporate formative assessments into course materials.
  - Dynamic web modules for observing student assignments, performances, and easing up grading processes.

- **Students’ Views**
  - More functions for supporting collaborative tasks such as group project.
  - Students have different backgrounds, profiles, learning styles and knowledge about their subjects.
  - Some subjects are difficult to explain in lectures. Other learning activities could make them easier.

Proposed Method

- Introduce an agent-based system into a Virtual Learning Environment
- Personalise and adapt learning materials based on student profiles
- Monitor tasks by using state changes e.g. Student A has completed a Report B.

Overview of I–LE

Student  Teacher

Moodle (VLE Interface)  VLE Database

Profile Agent  Store and update student profile

Student Agent  Recommend tasks, learning materials

Task Monitor Agent  Track and record students’ activities

Teacher Agent  Notify a teacher about student progress

Recycling Profiles  Generating recommendations  Sending Activities  Generating reports by a teacher

Recycling Tasks