

WID2001
KNOWLEDGE REPRESENTATION AND
REASONING

Semester 2, Session 2024/2025

A Group Project (20%)

AN EXPERT SYSTEM DEVELOPMENT PROJECT

The plan is to work in small groups (e.g. of about 4 or 5 people) containing the 'domain experts' (DE), the 'knowledge engineer' (KE), the programmer (Pr), the expected 'End User' (EU) and a 'Project Manager' (PM).

The KE and the Pr will use their knowledge elicitation skills to extract knowledge/expertise from the DE (must refer to the 'real' DE), and build up, via an appropriate intermediate representation, an Expert System to serve an EU. The overall system will be managed by the PM, whom able to communicate and audit the whole development processes.

Based on the selected domain area of an appropriate * Sustainable Development Goal, SDG (and refer to the reviewed ES tutorial of each group members), assign each member a role and each group must develop a prototype of the proposed ES by carry out the following tasks:

Task 1: A video proposal slide report with the following contents: **(5%)** – Submit by **Week 9**

1. Introduction
2. Objective
3. Literature Review: Related available ES
4. Specific Domain (Unique use-case)
5. Subject Matter Expert from the field/ Industry (to support the knowledge of the 'DE')
6. ES Software & Tools
7. ES Framework (at least with the 3 components)
8. ES Architecture (the KB and IE structure)
9. ES project planner (Gantt chart & roles)
10. References

Task 2: A Group Presentation and a demonstration of the ES Prototype (10%) – **Week 13**

Task 3: A report using an infographic poster, which summarize the final version of the ES Prototype; and also **provide the user manual (5%)** – Submit by **Week 13**

Only **One submission (for task 1 and task 3) per group** and during presentation each member must be available.

The total mark is **20%** of the overall coursework assessment marks.

* **SDG** reference: <https://sdgs.un.org/goals>