Specifying the task environment PEAS

- In designing an agent, the first step must always be to specify the task environment, i.e. PEAS
- PEAS: Performance measure, Environment, Actuators, Sensors
- Consider a medical diagnosis agent

Agent Type	Performance Measure	Environment	Actuators	Sensors
Medical diagnosis system	Healthy patient, minimize costs, lawsuits	Patient, hospital, staff	Display questions, tests, diagnoses, treatments, referrals	Keyboard entry of symptoms, findings, patient's answers

PEAS: Taxi Deriver

- Consider the task of designing an automated taxi driver:
- A fully automated taxi is beyond the capabilities of existing technology
- The fully driving task is extremely open-ended

Agent Type	Performance Measure	Environment	Actuators	Sensors
Taxi driver	Safe: fast, legal, comfortable trip, maximize profits	Roads, other traffic, pedestrians, customers	Steering, accelerator, brake, signal, horn, display	Cameras, sonar, speedometer, GPS, odometer, accelerometer, engine sensors, keyboard

Figure 2.4   PEAS description of the task environment for an automated taxi.

PEAS: Tutor

- Agent: Interactive English tutor
- Performance measure: Maximize student's score on test
- Environment: Set of students
- Actuators: Screen display (exercises, suggestions, corrections)
- Sensors: Keyboard

Internet shopping agent

Performance measure?? price, quality, appropriateness, efficiency

Environment?? current and future WWW sites, vendors, shippers

Actuators?? display to user, follow URL, fill in form

Sensors?? HTML pages (text, graphics, scripts)