PEAS for Robot Soccer Player:

Performance Measure (P): To Play, Make Goals & Win the Game.

Environment (E): Soccer, Team Members, Opponents, Referee, Audience, and Soccer Field.

Actuators (A): Navigator, Legs of Robot, View Detector for Robot.

Sensors (S): Camera, Communicators, and Orientation & Touch Sensors.

Task Environment:

Observable: Partially

Deterministic: No, Stochastic

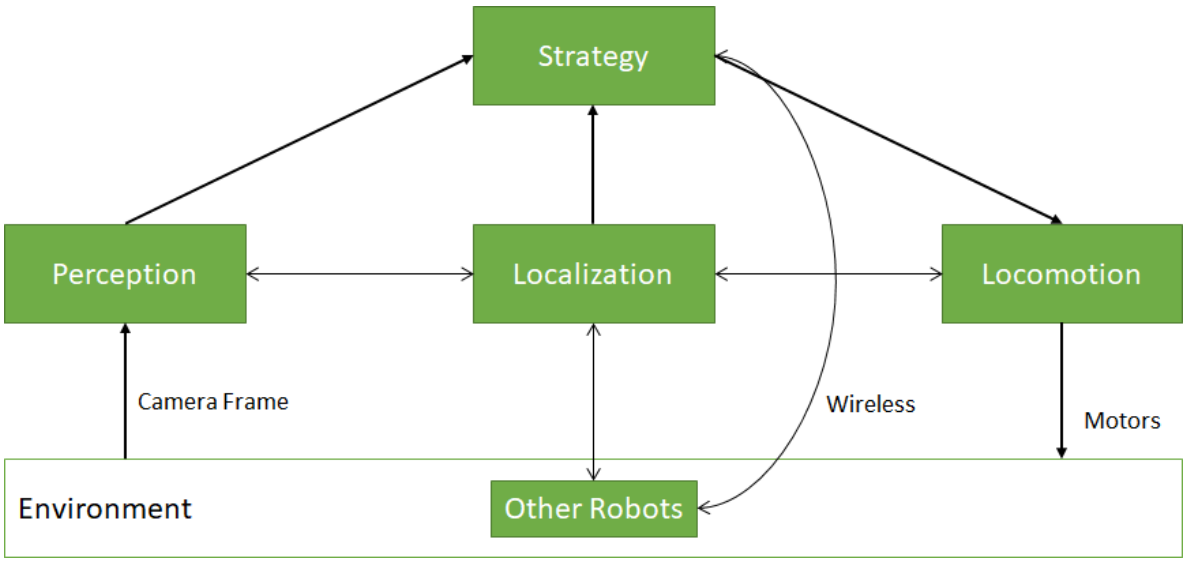
Episodic: No, Sequential

Static: No, Dynamic

Discrete: No, Continuous

Agent: Multi-agent

Suitable Design for Robot Soccer Player Agent (Model-Based Reflex Agent):



PEAS for Internet book-shop agent (Model-based Reflex Agent)

Performance Measure (P): book demand, quality, appropriateness, efficiency, availability, price, minimizing cost, information about interesting books

Environment (E): Internet browser, current, and future WWW sites, vendors, shippers, advertisement

Actuators (A): display to a user, follow URL, fill in a form, add a new order, retrieve existing order information, display information to a user

Sensors (S): HTML pages (text, graphics, scripts), buttons or hyperlinks clicked by users.

Task Environment:

Observable: Partially

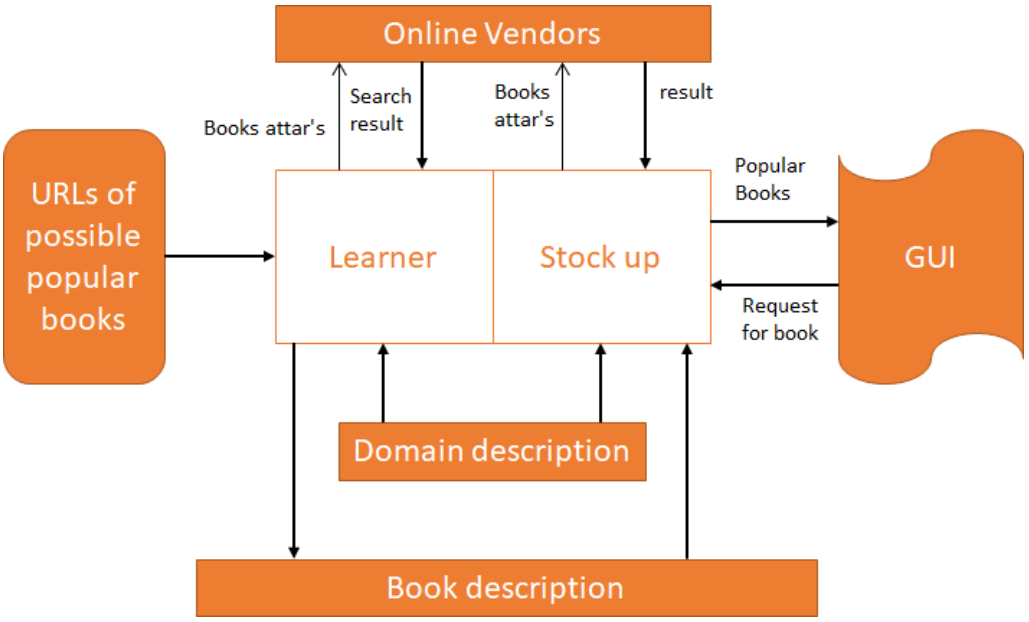
Deterministic: Yes

Episodic: No // sequential

Static: Semi // the world changes partly while the agent is thinking Discrete: Yes

Agent: Single agent

Suitable Design for Internet Book-shop Agent (Model-based Reflex Agent)



PEAS for Autonomous Mars Rover (Goal-based Agent):

Performance Measure (P): Distance the rover traverses, along with the number of collected samples or possibly finding life, or maximize lifetime, analyze and explore samples on Mars

Environment (E): Mars, vehicle

Actuators (A): wheels, robot arm, drill, motion devices, and radio transmitter

Sensors (S): Video camera, audio receivers, communication links

Task Environment:

Observable: Partially

Deterministic: Stochastic

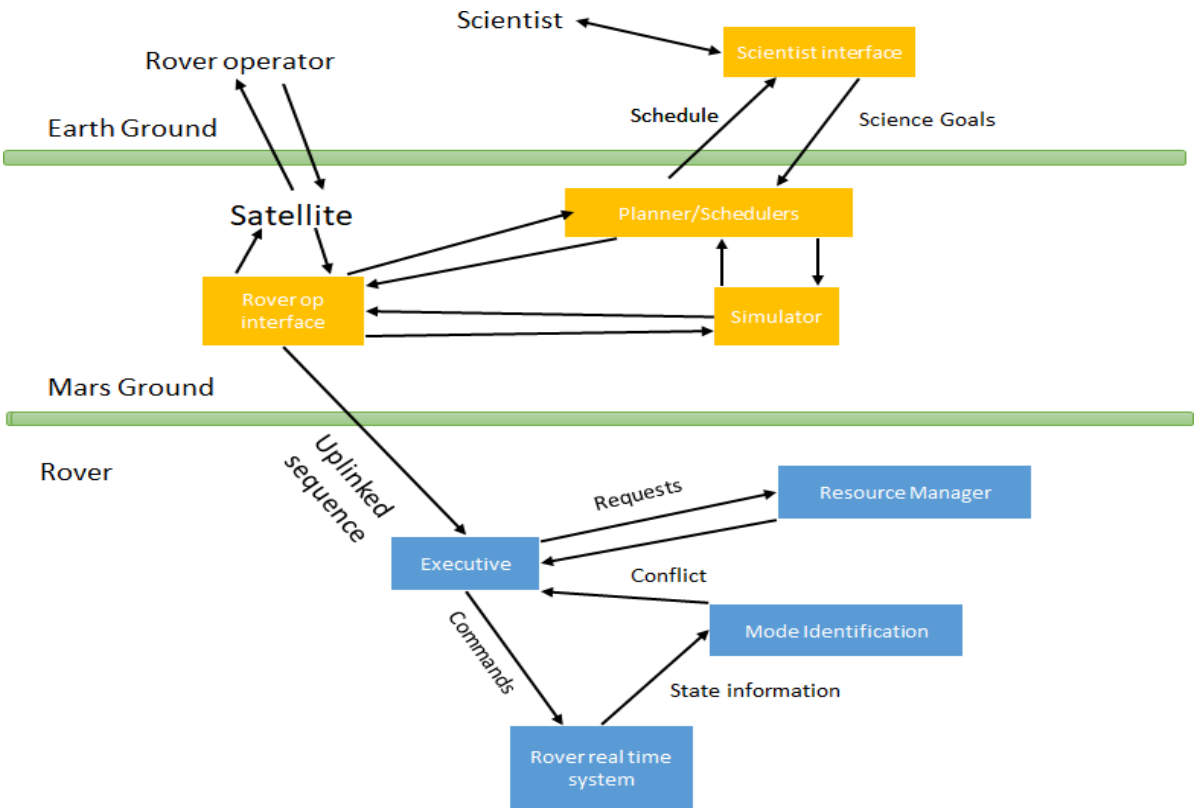
Episodic: Sequential

Static: Dynamic

Discrete: Continuous

Agent: Single agent

Suitable Design for Autonomous Mars Rover:



PEAS for Mathematical Theorem Prover (Knowledge-based Agent)

Performance Measure (P): Theorems proved good math knowledge, new theorems discovered, time requirement, and degree of correction

Environment (E): CPU, the theorem to prove, existing axioms, internet, library.

Actuators (A): Display to a user, accept the right theorem, reject the wrong theorem, infer based on axioms and facts.

Sensors (S): User input (keyboard, file system), an input device that reads the theorem to prove.

Task Environment:

Observable: Fully

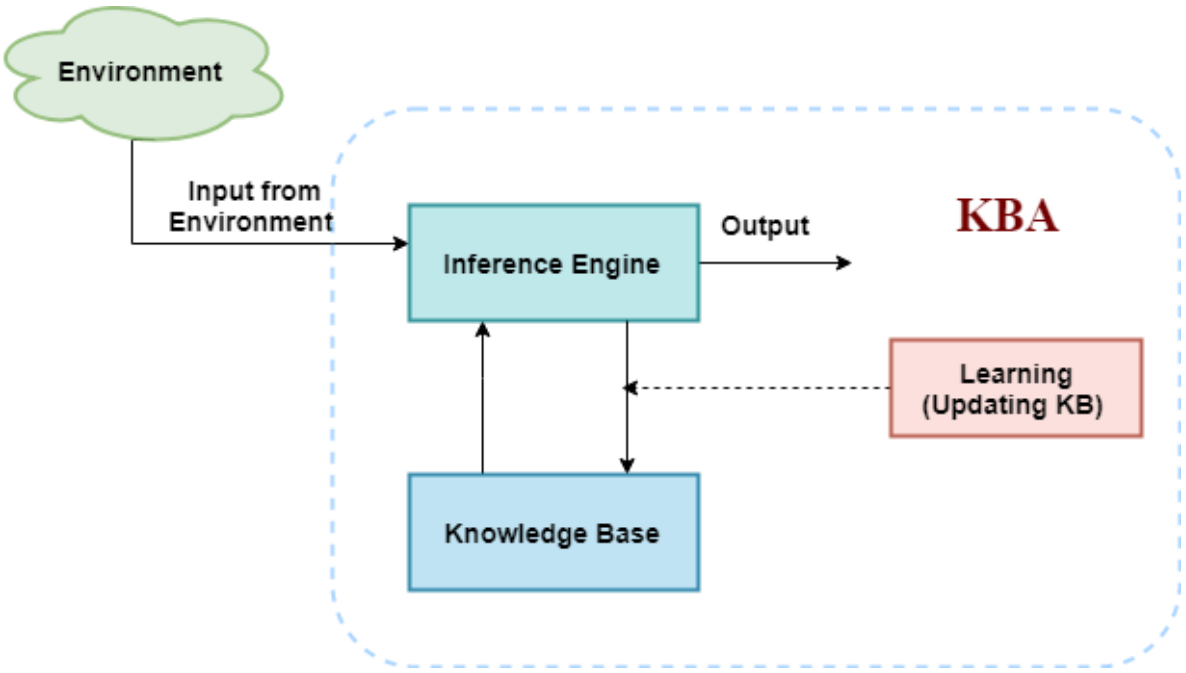
Deterministic: Yes

Episodic: No // sequential

Static: Yes

Discrete: Yes

Suitable Design for Mathematical Theorem Prover:



PEAS for First-person shooter (Goal-based Agent):

Performance Measure (P): Number of targets hit, useful techniques

Environment (E): Virtual battlegrounds

Actuators (A): Rotate the camera, shoot, and weapons.

Sensors (S): Sight, hearing, clock

Task Environment:

Observable: Fully

Deterministic: No, Stochastic

Episodic: No, Sequential

Static: No, Dynamic

Discrete: No, Continuous

Agent: Multi-agent

Suitable Design for First-person Shooter: