Shri Vile Parle Kelavani Mandal's
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
(Autonomous College Affiliated to the University of Mumbai)
NAAC Accredited with "A" Grade (CGPA : 3.18)

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ARTIFICIAL INTELLIGENCE

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COMPUTER ENGINEERING | TE – B2 | 60004200132

EXPERIMENT – 1

Aim: Identify PEAS for different Application.

PROBLEMS:

1. Satellite image analysis system:

Description: It consists of the images of earth and satellites taken by the means of artificial satellites.

Performance Measure: Correct image categorization

Environment: Downlink from orbiting satellite

Actuators: Display categorization of scene

Sensors: Colour pixel arrays

Environment type:

- Partially Observable
- Collaborative
- Multi-agent
- Dynamic
- Continuous
- Stochastic

2. Chatbot

Description: A chatbot is software that simulates human-like conversations with users via text messages on chat.

Performance Measure: Learning ability, Accuracy, Contextual reply

Environment: Google assistant, AppleSiri etc

Actuators: Databases, query searches

Sensors: Hardware like keyboard, user inputs

Environment type:

- Partially Observable
- Single-agent
- Dynamic
- Continuous
- Stochastic

3. An Essay Evaluator:

Description: It grades automatically grades the essay given to the software, and checks plagiarism and evaluates according to language and proper grammar.

Performance Measures: awards scores for quality, penalizes crap, detection of plagiarism, impartiality, usefulness of explanation of grading

Environment: Pdf, word file

Actuator: None, this can be a pure softbot

Sensors: File reading software, (perhaps even OCR)

Environment type:

- Partially Observable
- Single-agent
- Static
- Discrete
- Deterministic

4. Shopping for used books on the internet:

Description: This system gives the information of the second hand books available on the internet according to the preferences given by us.

Performance measure: Price, quality

Environment: Web, vendors, shippers

Actuators: Fill-in the form, follow URL, display to the user

Sensors: HTML

Environment type:

- Partially Observable
- Multi-agent
- Dynamic
- Continuous
- Stochastic

5. Refinery controller:

Description: It makes the labour work less by calculating the purity and improve it.

Performance measure: Maximize purity, yield, safety

Environment: Refinery, operators

Actuators: Valves, pumps, heaters, displays

Sensors: Temperature, pressure, chemical sensors.

Environment type:

- Fully Observable
- Single-agent
- Static
- Continuous
- Deterministic

6. Spam/ham classifier:

Description: It classifies all the spam and important mails properly.

Performance measure: Correct classification

Environment: Text, numbers, Alphanumeric-characters

Actuators: Screen display (Form)

Sensors: Keyboard.

Environment type:

- Fully Observable
- Multi-agent
- Dynamic
- Continuous
- Deterministic

7. Bidding on an item in the auction:

Description: It helps the bidders by automatically bidding for the required items given to the software.

Performance measure: Cost of the item, quality of the item, value of the item, necessity of the item

Environment: Auctioneer, bidders, items which are to be bid

Actuators: Speakers, microphones, display items, budget

Sensors: Camera, price monitor, eyes, ears of the attendees.

Environment type:

- Fully Observable
- Single-agent
- Static
- Discrete
- Deterministic

8. Chess player:

Description: It helps improve the other persons skills, and kill their boredom of being alone.

Performance measure: Once reached a terminal state (draw, win): -1 for losing, 0 for draw, 1 for winning

Environment: Chess board, and opponent

Actuators: Pairs of coordinates: (x1,y1) -> (x2, y2). Specify the source piece and the target position (for castling, the king's move is specified)

Sensors: Board perceived as a 8x8 matrix. Each element in the matrix can take one of the following values: E, BP, WP, BB, WB, BK, WN, BR, WN, BQ, WK, BK, WK

Environment type:

- Fully Observable
- Single-agent
- Dynamic
- Discrete
- Deterministic

9. Exploring the subsurface oceans of Titan:

Description: It helps to discover many unknown facts about the oceans by clicking quality pictures.

Performance measure: Safety, image quality, video quality

Environment: Ocean, water

Actuators: Mobile diver, steering, brake, accelerator

Sensors: Video, accelerometers, depth sensor, GPS

Environment type:

- Fully Observable
- Single-agent
- Dynamic
- Discrete
- Deterministic

10. Interactive English tutor:

Description: It teaches the student grammar, takes regular test, helps increase the fluency of speaking English by showing relevant videos.

Performance measure: Maximize students score in test

Environment: Set of students, testing agency

Actuators: Display exercises, suggestions, corrections

Sensors: Keyboard entry.

Environment type:

- Fully Observable
- Single-agent
- Static
- Discrete
- Deterministic

Conclusion: Thus, we have successfully studied the various case studies along with their PEAS description.