K.G.C Karjat - Ra	.E. Tutorial-01.	Page No. :
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	Name- Paerom Sunil Patil.	
	cbss- BE·IT	
	Roll No-46. Subject :- AI	
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K.G.C.E. Intorial-1 Page No.: Karjat - Raigad Date: Module - I Jutomal 1: Design of Tatelligent Agents To understand the concept of agent abstraction by studying definition of Rational Agent. Agent environment, Task environment Discriptions. Aim environment types. Theory! AT System is composed of an agent and it's environment. The agents acts a in their environment. An agent is anything that can percieu it's environment through Sensors & acts upon that environment through percepts Sensors. Effectors Envisonment Actions Human agent has sensory organs such as eyes, ears, nose tourge & skin parallel to the Sensors & other organs such as hands legs, mouth for effectors.

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	Robolic agent replaces comeras & inframed range finders for the sensors & various motors & actuators for effectors.  Software agent has ended bit strings as it's
	Agent structures can be Viewed as a Combination and agent program.
	Agent Architecture refers to the machinery that an agent executes an whomea's agent program is an implementation of an agent function.  Agent Architecture refers to the machinery agent Program is an implementation of an agent function.  Agent Architecture refers to the machinery Agent Agent Agent Architecture refers to the machinery
	E How world  E How world  I like you Condin - O what artifle Action  S need todo? K Action S to do? Rule  List Effectors rule List Effectors  (Model based Rater (Simple Reflex Agent)  Bear Agent)
	Sensors the State    Sensors the State   Sensor   State     How world   How world     Ilkenow!   How world     Ilkenow!   What my   C   If I do   Cubat action     Oction A   Cubat action     Oction
	( unal based agent): (utility based agent)

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Processon.	1 11	Simple Reflex agents chaose actions only
	110	based on the current percept only. They are
2 . O. lais	> 5 4	mational only if a Cornect decision is made
- t1 3	1.0	only on the basis of current percept.
- 14 100	• **	Agent envisorment for such agents is fully
-		Observable. Model based Reflex Agents as
	n.	I buse a model of the world to choose
	<b>\</b>	their actions. They maintain an internal
)———	-	state as a pensistent infor. Agent take into
h 117.1	11	account how it's actions affect the world.
- N	- 21-	Groat based agents choose Heir actions
		in order to achieve goals. Goal-based appro-
	-	ach is more flexible than reflex agent
ji -	1 .	Since the knowledge Supporting a decision
		Is explicity modeled. Finally Utility based
-	115 0	agents choose actions based on willing
		For each state was are indequate when
	#	there are conflicting goals, out of which
9	1	only few can be achieved, goals have some
,		hand utility function objectively map how
1		much being in a perticular state is desirable.
1	adl	An AT agent is reffered to as Rational Agent.
	,	Thalways performs night action where
5 3.14	4.9	the right action means the action that causes
	-	· He agents to be most successful in given
		percept Sequence.
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		Us solves is characterized
2.3	F.	by performance measure, Environment,
	190	by performance measure, and pros descriptors
10/00	. 13	by performance measure, enough descriptors Actualors & Sensors (PEAS). PEAS descriptors
	4 4 3	provide important insight into agent & the
4		to ski animonment it operates in
200		and a second second in agent design.
		The agent anchitect needs to consider
		following properties:
1	. 1	FOURTH 19 PROPORTION IN 11 11 .
2 /	1.	Discrete or Continuous: IF there are a limited
1-	1	number of distinct clearly defined istates of
1	* 1 *	number of distinct citating extrines prise as ale
on Orks		the environment, the environment is disorde.
1	. C. 1	otterwise it's continuous
	• • •	a - Landard Xatalxati Aleganie
<u> </u>	2.	Observable or partially observable: IF it is
1.1	7.	possible to determine the complete state of
. 7	1.	environment at each time point from the
1.		percepts it is observable -
		the state of the s
	ຊ.	Static or Dynamic: IF the environment does
		not change while an agent is acting then it's
· ·	1	Statical minimum and a minimum
	2,	Determination Non-Determination IF the next
	17.	, v
		State of the environment is completely
-13.616	100	determined by the Current State & The actions
	3 10	Of the agent other the environment is
		determinatic.
	_	

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	5.	<b>Q</b> .	Episodic on # Soquential To an episodic environ
	91		ment , each episode of events consist of the
	11	1	
2			agent perceiving & then acting. The quality
	71	-	of it's action depends just on the episode
			itself.
			in the example is a land or some of
	<u> </u>	6	. Single agent or Multiple agents: The environment
			may contain single agent or other agents which
			may be of the same or different kind as that
		-	of the agent.
			or the agent
,			7. Accessible or Inaccessible: IF the agent's Senson
			apparatus on have access to the complete
			state of the environment then the environment
			is a cressible to that agent.
19.4			15 a cressible to that agent
-45-	7		Taking Search for AI based applications in
			Following Scenarios & identify who is agent
			for that applications. Further list out PEAS
			for that applications runner horour the
	-		descriptors for agent environment in each of
			the case.
-			- list of 7 task environment properties:
	· · ·		1. Autonomous Lurar Rover.
	1		2. Deep blue chess playing Computer program.
-		_	3. Fliza the natural language Processing Computer
· · ·			program Created from 1964 to 1966 at the MITT
		-	Antificial Intelligence Laboratory by Joseph
1			Weizen boum.
		-	
elt .			

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and the state of t	4	Automatic Partifolia management.
	5.	Sophia is a social humanoid mobal developed
AND AND ASSESSMENT OF THE PARTY		by hong kong bosed company Honson Robotics
	6.	Hippa (40 is a Computer Program that plays
Charles and the second	1-1	the board game (40.
	1	Apples Vintual assistance Sini.
-	Ø.	Endumance: A Companion for Dementia patients
	9.	Casper helping Insomniacs Cuet Through
account of the second section of the second section of	- Andrews	the Might.
	10	Marriel: Cowarding the Galancy with Comic-
The second second	1.1	Book Crossavers
1		Automated Cross word Solver.
	iai esta. Les	the first part of the state of
		Pasouroes: The above diagrams and laken
		From tutorial available at Jutorials point.
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	9	and the state of t
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