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16550

Mid-Term Assignment

Subject: HUMAN

COMPUTER

INTERACTION

QUESTION # 1 :

Part A:

WHAT IS THE MAIN AIM OF THE DON
NORMAN'S BOOK (THE DESIGN OF
EVERYDAY THINGS)?

Answer:

The company's vision is to help designers and other companies move toward more human-centered products and internet interactions, and are pioneers in the field of usability.

Part B:

EXPLAIN DEDUCTIVE AND ABDUCTIVE REASONING WITH EXAMPLES?

ANSWER :

REASONING:

Reasoning is the process by which we use the knowledge we have to draw conclusions about the domain of interest.

TYPES:

■ There are a number of different types of reasoning:

1. *Deductive*
2. *Inductive*
3. *Abductive*

1. DEDUCTIVE REASONING :

General to particular.

Derive logically necessary conclusion from given premises.

e.g.:

If it is Friday then he will go to work

It is Friday

Therefore he will go to work.

3. ABDUCTIVE REASONING:

Reasoning from event to cause

E.g. Sam drives fast when drunk.

If I see Sam driving fast, assume drunk.

Logical conclusion not necessarily true:

E.g. Ground is wet, If it is raining.

Ground is wet

So, it is raining

QUESTION # 2:

ANSWER:

1. Forming the goal
2. Forming the intention
3. Specifying an action
4. Executing the action
5. Perceiving the state of the world
6. Interpreting the state of the world
7. Evaluating the outcome

Suppose I want to go to University, but the tyre of my car got punctured. Now I have to repair it.

Gulf Execution

1: Repair puncher of my car tyre to reach university.

2: Change the stepney (to use spare tyre)

3: uplift my car with the help of jacke open the punchred tyre nuts and remove the tyre then replace it with stepney.

4: execute the specified action and change the tyre.

Gulf Evaluation

5: performed action on by changing tyre.

6: now I have removed the punctured tyre and replaced it with stepney.

7: After changing the tyre i reach to university.

QUESTION # 3:

**A) DIFFERENTIATE SLIP AND
MISTAKE.**

ANSWER:

SLIP:

Right intention, but failed to do it right

Causes: poor physical skill, in attention etc.
(catching a ball)

Change to aspect of skilled behaviour can
cause slip (You were needed skilfully)

MISTAKE:

Wrong intention from very start.

Cause: incorrect understanding

Humans create mental models to explain behaviour.

If wrong (different from actual system) errors can occur.

B) EXPLAIN SELF PERCEPTION AND OBJECT PERCEPTION.

ANSWER:

PERCEPTION:

Perception is our sensory experience of the world around us. It refers to the interpretation of what we take in through our senses.

1. It involves both the recognition of environmental stimuli and actions in response to these stimuli.
2. We gain information about properties and elements of the environment that are critical to our survival.

1. SELF PERCEPTION :

It is developed from social interaction within different groups.

Self perception is a process by which people develop a view of themselves.

* **Self-perception has three parts:**

.Self-concept

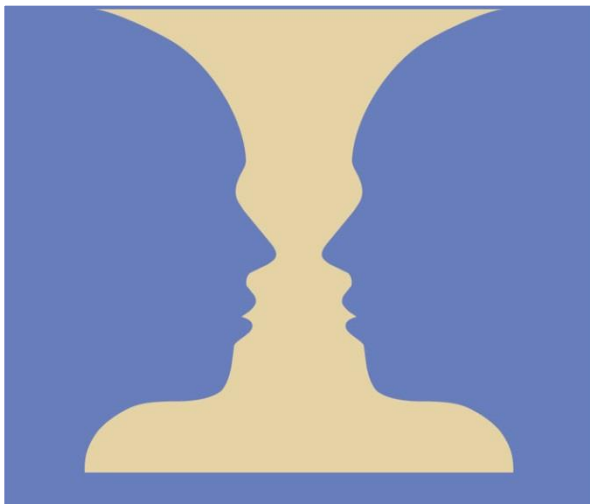
.Self-esteem

.Self-presentation

2 . OBJECT PERCEPTION :

Object perception is a process by which people develop a view of objects they see.

Perception may cause optical illusions of objects that we see



Reversible Figure: Figure and ground that can be reversed .

QUESTION # 4 :

A.

**WRITE THE STEPS INVOLVED IN
PERCEPTUAL PROCESS.**

ANSWER :

1:The Environmental Stimulus

2:The Attended Stimulus

3:The Image on the Retina

4:Transduction

5:Neural Processing

6:Perception

7:Recognition

8:Action

B)

DIFFERENTIATE BETWEEN PERCEPTION AND RECOGNITION.

ANSWER :

PERCEPTION:

Perception is our sensory experience of the world around us. It refers to the interpretation of what we take in through our senses.

1. It involves both the recognition of environmental stimuli and actions in response to these stimuli.
2. We gain information about properties and elements of the environment that are critical to our survival.

RECOGNITION:

Perception doesn't just involve becoming consciously aware of the stimuli. It is also necessary for our brain to categorize and interpret what it is we are sensing.

Our ability to interpret and give meaning to the object is the next step, known as recognition.

QUESTION # 5 :

A)

A GRAPHIC DESIGNER, WANTS TO DESIGN A 3D SHAPE USING ADOBE ILLUSTRATOR, HE SELECT A SHAPE, APPLY SOME GRADIENT ON IT AND THEN APPLY DROP SHADOW EFFECT.

IN THE GIVEN SCENARIO IN THE LIGHT OF INTERACTION IDENTIFY THE GOAL, PROBLEM DOMAIN AND THE TASK.

SOLUTION:

GOAL: Designing 3D shape is the goal.

PROBLEM DOMAIN: Selecting and masking of shape is the problem domain.

TASK: The task is selecting shape, applying gradients, applying drop shadow.

B)

**EXPLAIN GULF OF EXECUTION AND
GULF OF EVALUATION.**

ANSWER :

GULF OF EXECUTION

Gulf of execution is the degree of ease with which a user can understand the current state of a system. It is the difference between the intentions of the users and what the system allows them to do.

For example, a person can look at a light switch and easily tell what the current state of the system is (i.e., whether the light is on or off) and how to operate the switch. This means that the gulf of execution is small. Norman states that, in order to design the best interfaces, the gulf must be kept as small as possible.

GULF OF EVALUATION :

Gulf of evaluation is the degree of ease with which a user can perceive and interpret whether or not the action they

performed was successful. This gulf is small when the system provides information about its state in a form that is easy to receive, interpret, and matches the way the person thinks of the system.

Consider the same light switch example; if a person looks at a light switch, the gulf of evaluation is very small since, with one switch, the user will immediately know if their action was successful. An example of a large gulf of evaluation is when an application has a spinning wheel to show a “loading” state after the user performs an action. The wheel alone is not enough for the user to interpret the progress that the system is making in response to their action. The gulf can be shortened by having a loading bar instead.

