Fall 2020 Mid-Term Assignment

Human Computer Interaction

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Question 1:

a) What is the main aim of the Don Norman's Book (The Design of Everyday things)?

Ans: The main idea or aim of the Don Norman's Book (The Design of Everyday things) is that a designer has to design the things in such a perfect way that it does not need any manual for that thing for user to operate. It should be in such a way that the user do not need any manual and operate it by himself. Because no one read manual before operating any thing.

b) Explain Deductive and Abductive reasoning with examples.

Ans: Deductive Reasoning:

Deductive reasoning is a basic form of valid reasoning. Deductive reasoning, or deduction, starts out with a general statement, or hypothesis, and examines the possibilities to reach a specific, logical conclusion. In deductive inference, we hold a theory and based on it we make a prediction of its consequences.

Example 1: If there is electricity, the light will be on.

So if the light is on it means there is electricity.

Example 2: All men are mortal. Ali is a man.

So Ali is also mortal.

Abductive Reasoning:

Abductive reasoning usually starts with an incomplete set of observations and proceeds to the likeliest possible explanation for the group of observations. It is based on making and testing hypotheses using the best information available. It can be false.

Example 1: If there is no electricity, the light will be off.

So the light is off. It means there is no electricity but it can be wrong may be someone has turned the light off from the switch.

Example 2: Ground is wet, If it is raining.

Ground is wet. Therefore, it is raining but is can be wrong may be someone have putted water on the ground.

Question 2: **Suppose I want to go to University, but the tyre of my car got punctured. Now I have to repair it.**

You are required to write the seven stages of Gulf of Execution and Evaluation to solve the scenario.

Ans: To solve the given scenario first we have to identify and then apply the seven stages of Gulf of Execution and Evaluation which are as follow:

1. In the first stage we have to establish the goal.
   The goal here is that I have to reach to the university. But the tire of my car has got punctured so I have to repair the tire of my car hence the goal has established.
2. In the this second stage I have to make intention for doing the task to that what would I do to make my goal satisfy. So I would have to repair my car's tyre this will satisfy my goal to reach my university.
3. The third stage is for specifying an action that what I have to do to achieve my goal my intentions. I need to go to tyre shop to repair my car's tyre to complete my requirements in my goal.
4. In this fourth stage, I have to execute the set of actions to achieve my goals. I would repair my car to reach the university.
5. In fifth stage we have to perceive the state of the system I have to use my senses to gather the information so when I repair my car so it will sense that my repaired car would be able to reach to the university.
6. In the second last stage we will interrupt the state of system. That what has changed? So the punctured tyre of my car has been repaired and now it is able to work properly and reach to the university.
7. The last stage is to evaluate system state with respect to goal. I means did I have achieved my goal? So my car now reach to the university without any worries. So I achieved my goal.

Question 3:

a) Differentiate slip and mistake.

Ans: Slip: By slip we mean that we had understand our problem and also goal and we had formulated the correct set of actions to achieve the goal but the action we performed is incorrect so it means slip.

Mistake: But mistake is something else mistake means we didn't had understand our problem yet and the goal we had is also incorrect for that problem.

b) Explain self perception and object perception.

Ans: Self Perception: The process in which someone a view or a taught about himself

it is mostly developed by interaction with people of different background and with social interactions. Self Perception has three further parts:

1. Self-Concept
2. Self-esteem
3. Self-presentation

1. Self-concept:

1. It refers to how someone thinks about or perceives themselves.
2. You see yourself as a LOVEABLE and WORTHWHILE person.
3. You feel uncertain and uncomfortable about yourself-you fear possible rejection.
4. Self-identity is the mental and conceptual awareness of strengths and weaknesses.

2. Self-esteem

1. Emotional dimension of self-perception.
2. Positive and negative judgments people have of themselves.
3. People with low self-esteem tend to be unsuccessful; do not adapt well to stressful events.
4. Those with high self-esteem have the opposite experience.

3. Self-Presentation:

1. Behavioral strategies people use to affect how others see them.

2. Goals of self-presentation:

1. Affect other people's impressions to win their approval.

2. Increase the person's influence in a situation.

3. Ensure that others have an accurate impression of the person.

Object Perception:

In this process we develop a view or a perception about something or object on the basis of observation when we see any object.

Question 4:

a) Write the steps involved in perceptual process.

Ans: Perceptual process is the sequence of steps which begins with environment and leads to our perception and an action in response to that perception the steps are as follow:

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.

Ans: Perception: Here, we actually perceive the stimulus object in the environment. It is at this point that we become consciously aware of the stimulus.

Example: Imagine that you were out for a morning jog in the park. At the perception stage, you have become aware of that there is something out on the pond to perceive.

Recognition: Perception does not 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.

Example: It is at the recognition stage of the perceptual process that you realize that there is a duck floating on the water.

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.

Ans: In the given scenario the Goal, Problem domain and task are as follow:

Goal: Designing 3D shape is the goal in the scenario.

Problem Domain: Selecting and making of shape is the problem domain.

Task: The task is selecting a shape, applying some gradient, applying drop shadow.

b) Explain Gulf of Execution and Gulf of Evaluation.

Ans: The Gulf of Execution:

The gulf of execution is the degree to which the interaction possibilities of an artifact, a computer system or likewise correspond to the intentions of the person and what that person perceives is possible to do with the artifact/application/etc. In other words, the gulf of execution is the difference between the intentions of the users and what the system allows them to do or how well the system supports those actions.

The Gulf of Evaluation:

The gulf of evaluation is the degree to which the system/artifact provide representations that can be directly perceived and interpreted in terms of the expectations and intentions of the user. Alternatively, put differently, the gulf of evaluation is the difficulty of assessing the state of the system and how well the artifact supports the discovery and interpretation of that state.