Human Computer Interaction (CIS-305)	Instructor: **Huda Sarfraz**
Midterm Test No. **1**	Max Marks: **30**
Date: **11th March 2019**	Time Allowed: **1 hr**

Answers to questions 1-8 should be attempted on the question paper. Some of the multiple choice questions have more than one correct option. Make sure that you mark all the correct options as indicated for each question. The answer to question 9 should be submitted on A4 sheets of paper (only your final versions, rough work should not be submitted).

1. You are a researcher interested in finding out what times of the day people are the sleepiest. Which technique would allow you to collect the most data from the greatest number of people with the greatest accuracy? (select one)
    a. Interview
    b. Experience sampling/pager studies
    c. Survey
    d. Participant observation

(2 marks)

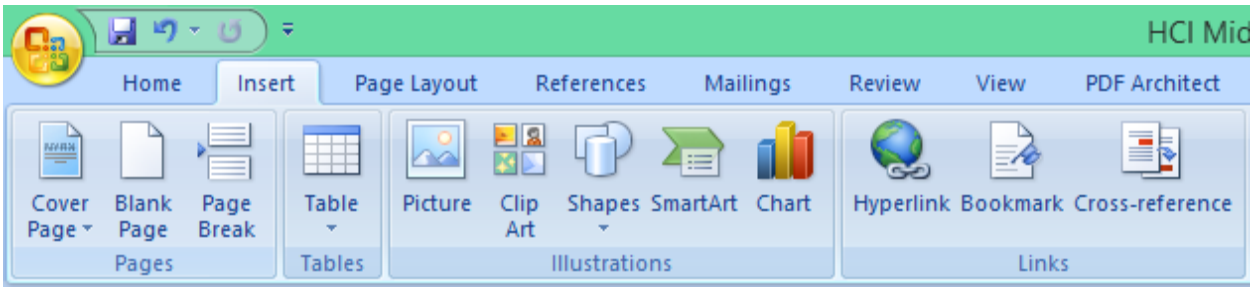
2. Imagine you're designing the world's first voice-guided navigation system for a car GPS. At this stage in the design process, you want to find out if drivers can understand and respond to your voice directions while driving a car. Which prototype would you build for this purpose? (select one)
    a. Create a video of a person driving on a route, and then add your instructions as voiceover. Show participants this video, and pause the video after each instruction, and ask what participants would do.
    b. A paper prototype of the GPS display with multiple "screens" that each shows the map at a different part of a route. The participant evaluates the prototype in a lab. For each screen, the experimenter speaks out the turn directions, and asks the participant what she would do (e.g. "I'd take the next exit").
    c. Have pre-determined turn-by-turn directions for a particular route written on a notepad. The experimenter reads out the right directions while the participant drives on the route.
    d. Create a fully functional system (with a database of routes, directions and voice-clips etc.) on a laptop, and put the laptop in the car. The participant drives the car along the route, and hears the turn directions from the laptop.

(2 marks)

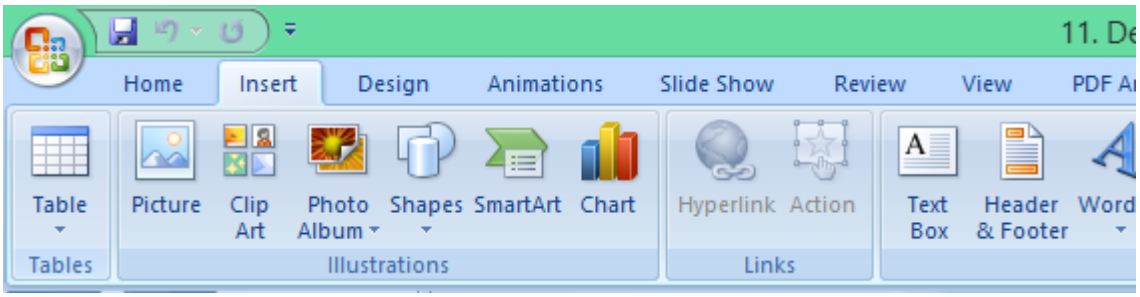
3. In some search interfaces, a rotating magnifying glass icon is shown while the search request is being processed. Which design heuristic does this fulfill? (select one)
    a. Show system status
    b. Familiar metaphors and language
    c. Consistency and standards
    d. Prevent errors

(2 marks)

4. All software in the Microsoft Office suite use the same style toolbar with the same primary options. Two examples are shown below. Which of the following design heuristics does this design fulfill? (select one)



Microsoft Word



Microsoft PowerPoint

a. Show system status
b. User control and freedom
c. Consistency and standards
d. Prevent errors

(2 marks)

5. Web links indicate to the user that they are clickable by their blue color, and by their underline (and additionally the transformation of the cursor image into a hand). Which of the following design techniques is being used here to communicate with website visitors? (select one)
   a. World in miniature
   b. Redundant coding
   c. User centric design
   d. None of the above

(2 marks)

6. This is one of the statements from the assigned reading “Speech is an inefficient output modality.” Explain/justify this statement.

(3 marks)

7. From the assigned reading, recall the issues pointed out in “skills” (the term used for voice apps in Amazon’s ecosystem) or “actions” (the term used in Google’s ecosystem). How do these issues compare to the usability issues in a command line interface?

(3 marks)

8. Imagine you have access to intelligent assistant technology which surpasses the technology that Amazon/Google/Apple have at this point. Describe the process you will use to design the user interactions for the intelligent assistant you will be developing to launch in the market (this answer to this question can be derived from lecture content, and is also hinted upon in the assigned video).

(4 marks)

9. You have conducted a need finding exercise, in which you did a pager study to observe people trying to lose weight. During your activity, you noted the following specific points which were preventing people from getting to their target weight.

    - People were setting unrealistic weight loss targets
    - People were getting demotivated because of lack of results (loss of weight)
    - People were unable to find out the number of calories in meals they were consuming
    - People were not exercising regularly (and some not at all)
    - The selection of low calorie items available seemed to be too boring for some people, and as a result they were frequently opting for high calorie items
    - People were unaware of nutritional information (amount of protein, fat etc.) of food items
    - People were unaware of their own nutritional requirements and were making food choices that were detrimental to their weight loss (e.g., picking foods with lots of carbohydrates)
    - People were having a hard time keep track of the food they were consuming on a daily basis
    - People were finding it too time consuming to cook or find healthy meals and were going for unhealthy options frequently
    - People were spending long stretches of time without eating, which was causing them to overeat when they did finally sit down to eat
    - People were not meeting their daily water intake requirement

    As a result of this exercise, you decide to develop an app to solve some (or possibly all) of these problems. **Create two diverging storyboards that illustrate two different ways in which your app will help your target audience.**

    Marking guideline for this question:

    5 marks – clearly understandable storyboard 1
    2 marks – clearly understandable storyboard 2
    3 marks – clear divergence

    (10 marks)