SEN3304 HUMAN COMPUTER INTERACTION
MIDTERM EXAM – TAKE HOME

Note: Deadline for submission is on 12th of May, Thursday at 1 pm. Answer the following questions with your own handwriting (Check the note on Q6). You are required to submit a pdf (one file). Preparing a well-structured and organized file is important. Late submissions will not be accepted.

Q1. (5 pts) Sketch Norman's Cycle of Action, and define each step. Explain both gulf of evaluation and gulf of execution.

Q2. (5 pts) Investigate a web browser you commonly use. Describe the metaphors that have been incorporated into its design.

Q3. (45 pts) Nowadays, wearables as timepieces (clocks, wristwatches, etc.) provide a variety of functions. They not only tell the time and date but they can speak to you, remind you when it's time to do something, and provide a light in the dark, etc. In this question, I want you to design an innovative device for your own use. This could be in the form of a wristwatch, a mantelpiece clock, an electronic clock, or any kind you fancy. You goal is to be inventive and exploratory. This is an assumption-free question. The user profile (might be for people with disabilities, kids, elderly and so on) and the specified purpose of the device is totally up to you.

    a. (5 pts) Write a list of some usability criteria and user experience criteria for your device.
    b. (5 pts) Present similar devices with photos and seek out other sources of inspiration that you might find helpful. Make a note of any findings that are interesting, useful or insightful.
    c. (10 pts) Make a list of user requirements.
    d. (15 pts) Generate a user profile and produce one persona and one main scenario, capture how the user is expected to interact with the system. Update your requirements if needed.
    e. (10 pts) Sketch out some initial designs for the clock. Try to design at least two distinct alternatives that both meet your set of requirements.

Q4. (5 pts) Do you think that it is important to use standards and guidelines while designing an interactive system? Reason your answer. What are the well-known principles used in interaction design?

Q5. (20 pts) List and explain Nielsen's ten heuristics. Provide an example (usability error) currently on the web for each heuristic. You are allowed to use different web sites for sure. Use screenshots to clarify your answer. Noticing interaction problems even in our daily routine is very common. Suggest some solutions to overcome each identified usability problem.

Q6. (20 pts) Keywords: Early years' education, social interaction, collaborative games, face-to-face collaborative activities, tangible interfaces, kids.

Find a research article, published after 2018, indexed in SCOPUS, covering all or some of the keywords provided above. Read the article carefully and write a summary including the research purpose, methodology, and results. Discuss the findings in terms of contribution and limitations, and finally suggest a further research topic. Maximum 800 words are allowed in your report.

Note that **ONLY for Q6**, handwriting is not mandatory. It is allowed to type if you like. Use your own words and do not copy/paste. Plagiarism will be checked.