Daffodil International University

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Midterm Exam Examination, Fall 2021 @ DIU Blended Learning Center
Course Code: CSE334 (Day), Course Title: Pervasive Computing
Level: 3   Term: 3   Section: L, M, N
Instructor: ANS   Modality: Open Book Exam
Date: Wednesday, 17 November, 2021   Time: 09:00am-11:30am
Two and half hours (2:30), Marks: 25

1. It was a close match for Bangladesh cricket team in the match vs Srilanka in the T20 world cup 2021. The main problem that was identified after the match finished is fielding misses. Now the BCB president Mr. Nazmul Hassan Papon is thinking about applying AI to identify specific problems in the field and showing the best approach with a robotic character.   **4+6**

   a. What are the uses of sensors and actuators here in this robot?
   b. Why do we call it smart? Describe the internal structure and also describe each component's activity for this control system from the scenario.

2. Mr. Abul is the owner of the "Kabul" Software company. In his company the employees are very irregular. They don't come to the office in time. Mr. Abul wants to solve the problem. Mr. Babul is the CTO of the "ABCD" company. Mr. Abul calls Mr. Babul to find a way to solve the problem. Mr. Babul is an intelligent engineer. He proposes a smart system. He wants to introduce smart ID cards and smart lock systems.   **1+4+3**

   a. What is Smart Card?
   b. From this scenario which card system will you use (Contact or Contactless)? Give a proper reason for that.
   c. Explain how the lock system can be integrated with smart ID cards.

3. a. Differentiate between Pervasive Computing and the Internet of Things.   **2+5**
   b. Why Pervasive computing is needed in our day to day life? - Explain using a scenario.