MQ – Dr. Mahboob Qaosar

University of Rajshahi
Department of Computer Science and Engineering
B. Sc. Engineering Part III Even Semester Examination 2020
Course: CSE3212 (Software Engineering Lab)

Marks = 17.5 (12.5 + 5.0) + 5.0 + 2.5 = 25

The CSE Company would like to build an online marketplace platform web application. The application should have the following features

1. Both vendors and customers should be able to register with the marketplace.
2. The vendors will be able to add, remove, and update their products and products features
3. A dashboard will be provided to the vendors
4. Easy Custom Search and Navigation tools will be provided to the customers
5. Customers will be capable to compare products and products' features
6. Easy booking/ordering process will be provided to the customers
7. Multiple payment gateway will be provided to the customers
8. Customers will be able to rate or review the products and vendors
9. Maintain privacy and security for both vendors and customers
10. The CSE Company is responsible for receiving order payment from the customers, collecting ordered product from the vendor, shipping order to the customers, and distributing payment to the vendors.
11. The CSE Company is also responsible for the reconciliation of unsuccessful transactions. e.g. empty product stock, damage product, delivery delay, etc.

Define different modules, draw UML diagram, and construct E-R diagram for this above web application.

UML Diagram:
1. Class diagram
2. Use case Diagram
3. Sequence Diagram
4. Collaboration Diagram
5. State Chart diagram
6. Activity Diagram
7. Component Diagram
8. Deployment Diagram

E-R Model

Theory - SAS - Dr. A.R. Shoyeb Ahmed Siddique

SP - mr. Subrata Pramanik

MSI - Dr. md. Saiful Islam

University of Rajshahi

Department of Computer Science and Engineering

B.Sc. Engineering Part III, **Even** Semester Examination **2020**

Course Code: **CSE-3222** Course Title: Computer Graphics Lab

Time: **03** Hours Full Marks: 25 (17.5(6+6+5.50) + 5.00 + 2.50)

1. Write a program for two dimensional translation, rotation and scaling. 06.00
2. Write a program to establish the properties of Bezier curve. 06.00

MMA - Mr. Md. Morshedul Arefin

University of Rajshahi
Affiliated College
Department of Computer Science and Engineering
B.Sc. (Engg.) Part-3 Even Semester Practical Examination-2020
Course: CSE-3232 (Microprocessor and Assembly Language Lab)

---

1. Write an assembly language program that will read a string and then convert the lowercase letters of the string into uppercase and vice-versa. The other non-alphabetic characters will remain be unchanged.

2. Write an assembly language program that will read two integer numbers (here the numbers will be less than 10) and then perform the following operations of the numbers:

   (i) Addition (ii) Subtraction

   Here the output value will also be less than 10.

SLD - Dr. Somlal Das
22C - Miss. Zakia Zinat Choudhury.

KJR - Mr. Kazi Jahidur Rahaman
MAS - Dr. Md. Anisuzzaman Siddique
MTI - Mr. Md. Tohidul Islam

University of Rajshahi
Dept. of Computer Science & Engineering
Lab Exam [Operating Systems & System Programming, CSE3242]
Marks: 17.5 [Viva: 5, Experiments: 12.5 = 1 + 5 + 1.5 + 5]

1. Create a process, named 'ProcessX', which takes from the terminal **[1]**
   - 'n' number of strings and create 'n' named pipes.
   - two values for two integer variables 'a' and 'b'.

2. ProcessX creates one child which has two sub threads (Thread1 and Thread2) for doing addition and subtraction on 'a' and 'b'. **[5]**
   - The main thread of the child process initializes a variable **result = 0.**
   - Thread1 does **result = result + (a + b)** and Thread2 does **result = result + (a – b).**
   - Child process waits for its sub threads to be finished.
   - ProcessX waits for its child process to be finished.
   - ProcessX's child's main thread prints values of **result**, **a** and **b** before creating its threads and before final termination.
   - ProcessX prints values of **result**, **a** and **b** before creating its child and before final termination.
   - Thread1 and Thread2 print values of **result** before and after their specific operation.

3. Take necessary steps to avoid inconsistency in values of **result displayed by ProcessX, its child and child's threads. [1.5]**

4. Create two process named 'ProcessA' and 'ProcessB' which communicates via a named pipe among the 'n' pipes created by 'ProcessX'. **[5]**
   - Both 'ProcessA' and 'ProcessB' take pipe names via terminals.
   - Both 'ProcessA' and 'ProcessB' will display its own and opposite process' PID, logical CPU info, CPU_Affinity and scheduling algorithm's information. They will use pipe to share information. **[2]**
   - ProcessB can send messages to ProcessA multiple times while ProcessA can send messages to ProcessB for two times: (a) first time its PID, logical CPU info, CPU_Affinity and scheduling algorithm's information, and (2) second time 'Thank You'.
   - Both 'ProcessA' and 'ProcessB' will terminate when they receive 'Thank You' message from the other side.
   - For 'ProcessB' , the user will type 'Thank You' message.
   - 'ProcessA' will send a static 'Thank You' message to 'ProcessB' after getting 'Thank You' message from 'ProcessB' .

UC - Mr. Utpalananda Chowdhury

University of Rajshahi

Dept. of Computer Science and Engineering

B.Sc. Engineering Part-3 (Even) Examination-2020

ICE-3262 [Communication Engineering Lab]

Time: **03** Hours Full Marks: 25 (17.5(5+5+5+2.50) + 5.00 + 2.50)

1. Implement the modulation and demodulation for the polar return to zero line coding technique where the signal level goes to zero from positive level if the next bit is 1 and the signal level goes to zero from negative level if the next bit is 0. 5
2. Implement the encoding and decoding using B8ZS scrambling technique. 5
3. Implement the modulation for digital to analog conversion where bit 0 is represented by a signal of 5Hz and bit 1 is represented by a signal of 10 Hz. 5

MRJ - Dr. Md. Rokanuj zaman

SKC - Mr. Sanjoy kumar Chakrabarty.