COMSATS University Islamabad

Abbottabad CAMPUS

Lab Midterm Exam

Class:	**BSE-4A, BSE-4B**	Date:	**23/05/2023**
Subject:	**Object Oriented Software Engineering**	Instructor:	**Mukhtiar Zamin**
Duration:	**120 Minutes**	Max Marks:	**30**

Name: _____ **Registration #: _____**

Review the use cases of "Electricity Theft Detection System" below.

Electricity Theft Detection System (ETDS) is a solution with digital meters which periodically report the number of units consumed by each output line along with input units dispersed in multiple lines. Reported data is processed by a service in such a manner that every output line is either mapped to a customer or another digital meter for splitting. In case of meters the input energy is checked against consumed and if there is more difference between two meters then a theft line is detected and reported to WAPDA line man. Line man are monitoring the lines according to allocated area in two shifts. At the end of the month bills are generated for customers and their collection is reported to SDO. WAPDA policies are enforced by the system along with warnings, notifications and then court cases for detected thefts. The system ensures a minimal loss of energy and also take care of the allowed quota system for each WAPDA employee.

Major Use cases will be:

1. Request Meter Installation (Customer)
2. Approve Meter Installation (SDO)
3. Install Meter (Line man)
4. Monitor Line (Line man)
5. Process Consumption (Electricity Meter)
6. Detect Theft (Electricity Meter, Sub Goal)
7. Confirm Theft (Line man)
8. Open Court Case(Line man)
9. Submit Fine (Customer)
10. Start Monitoring (Line man)
11. Stop Monitoring(Line man)
12. Add Meter(SDO)
13. Assign Meter (SDO)

14. Add Line (SDO)
15. Set Apps Configuration (SDO)
16. Generate Bill (System Clock)
17. Pay Bill (Customer)
18. Send Notification (Sub use case)
19. Generate Installment (sub use case)
20. Submit Fine (Customer)

Using the unit digit of your registration number, pick a use case from the list and then work on the following items:

1. On Page write the main scenario of a use case and draw its SSD along with your registration number and name.
2. Upload its snapshot to Reg_Name_Solution.docx file.
3. Draw the same SSD in starUML and past its image to the same file.
4. Draw the UI prototypes for your assigned use case in netBeans and paste their images in the file in the order of their execution.
5. Commit your file to your project repository under MidtermLab folder individually.
6. Submit its URL against this task.
7. Review the work of your class fellow.