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REG# 16550

SEMESTER : 6TH

**PAPER :- SOFTWARE DESIGN &
ARCHITECTURE**

**SUBMITTED TO:
MADAM ASMA KHAN**

Question No: 01

MCQs

Answer :

1.(d) Scenario based elements

2.(d) both a and b

3.(c) both a and b

4.(d) a, b and c

5.(d) b and c

6.(d) All of above

7.(b) False

8.(a) True

9.(b) that its components can be easily reused in the development of other software systems

10.(b) focuses on just one thing

11.(d) measures the interconnection among modules in a software structure

12.(c) is inaccessible to other modules

13.(a) process lots of data

14.(d) uses mathematical notation

15.(c) is used for the large systems that can be modularized

Question#2

Case Study: Fire Alarm

The owner of a large multi-stored building wants to have a computerized fire alarm system for his building. Smoke detectors and fire alarms would be placed in each room of the building. The fire alarm system would monitor the status of these smoke detectors. Whenever a fire condition is reported by any of the smoke detectors, the fire alarm system should determine the location at which the fire condition is reported by any of the smoke detectors, the fire alarm system should determine the location at which the fire condition has occurred and then sound the alarms only in the neighbouring locations. The fire alarm system should also flash an alarm message on the computer console. Fire fighting personnel man the console round the clock. After a fire condition has been successfully handled, the fire alarm system should support resetting the alarms by the fire fighting personnel.

- Identify the functionalities of above fire alarm system.
- Describe how the user employs the system and how the system provides services to the users i.e. give a scenario view using use case diagram.
- Give a process view of the above scenario using an activity diagram.

Part A:-

Answer:

The function of the fire alarm system is to protect the building from the incident. The above fire system is used for the to monitor the status of smoke and when it detects the smoke by the smoke detector which is placed in each room of the building. It also determines the location when smoke or fire been detected. The fire system sends message or alert to the

computer console. The fire fighter personnel reset the alarms when they finally handle the situation.

Functionality of Fire Alarm System:

- 1.Smoke detector and fire alarm system
- 2.Alarm System flash message to system
- 3.fire alarm system determine the location
- 4.computer which can received alert message which is reported
5. fire fighter personnel which can handle the situation.

Part B:-

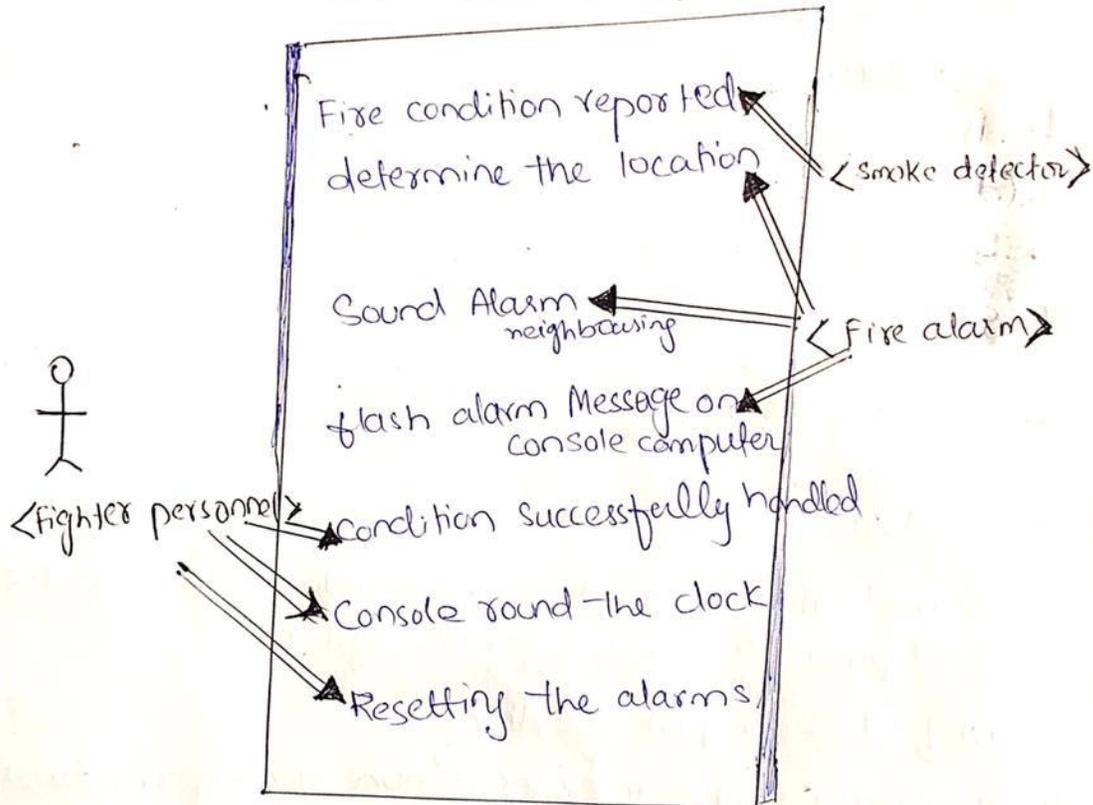
Describe how the user employs the system and how the system provides services to the users i.e. give a scenario view using use case diagram.

Answer:

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Use Case Diagram

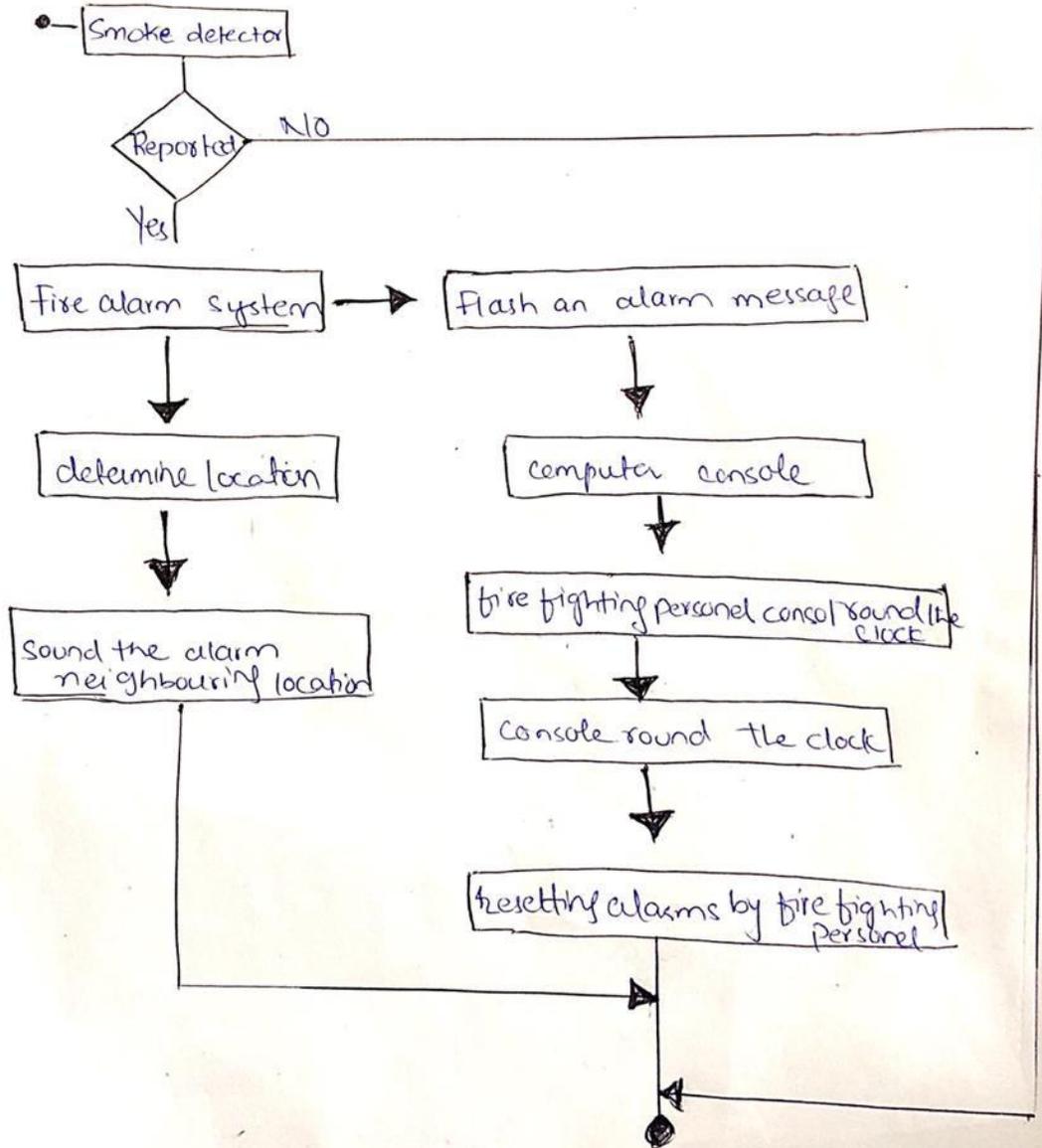


Part C:- Give a process view of the above scenario using an activity diagram.

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Activity Diagram



Question : 1

MCQS KEY:

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Assignment: Software design and Architecture

Question 1:

Solution.

1. (d) Scenario based elements
2. (d) both a and b
3. (C) both a and b
4. (d) a, b and c
5. (d) b and c
6. (d) All of above
7. (b) False
8. (a) True
9. (b) That its component can be easily reused in the development of other software systems
10. (b) focuses on just one thing
11. (d) measure the interconnection among modules in software structure
12. (c) is in-accessible to other modules
13. (a) process lots of data
14. (d) uses mathematical notation
15. (c) is used for the large systems that can be modularized

