Name: _____
Score: _____ / _____

First hourly

This assessment has 2 sections. It is not long but will require some thought. You can submit this assessment twice. Only restart the assessment if you have made an error in the first submission

Part 1: MCQs and Fill in the Blanks

_____ is concerned with the practicalities of developing and delivering useful software.

- A. Computer Science
- B. Computer Engineering
- C. Requirements Engineering
- D. Software Engineering

_____ is defined as a structured set of activities required for the development of a software system

- A. Software Engineering
- B. Software process
- C. Software Modelling
- D. Requirements Engineering

In waterfall process, planning is incremental and it is easier to change the process to reflect changing customer requirements

- True
- False

The main drawback of the waterfall model is the difficulty of accommodating change after the process is underway.

- True
- False

In the Incremental model it is not easy to get customer feedback on the development work that has been done.

- True
- False

In Incremental model more rapid delivery and deployment of useful software to the customer is possible.

- True
- False

In incremental development, the process is not visible to the managers

- True
- False

As you add more increments, the system structure does not degrade in an incremental model.

- True
- False

In Scrum, once the first sprint is planned, we can easily throw away the project backlog.

- True
- False

Another name of the Scrum Master is Project Manager

- True
- False

Which one of these is not a stakeholder type?

- A. End user
- B. System managers
- C. System owners
- D. External Stakeholders
- E. System Developers

The Scrum term _____ means the estimate of how much product backlog effort that a team can cover in a single sprint.

- A. Speed
- B. Velocity
- C. Progress
- D. Update

A use case in UML is drawn as _____with a name that describes the interaction that it represents

- A. A rectangle
- B. A rounded rectangle
- C. A circle
- D. An oval

Use-cases are supposed to explain all the steps that must be taken in order to fulfill a requirement

- True
- False

The straight lines in use cases exhibit data transfer between the actor and the use case

- True
- False

In a use-case diagram, the actors must be placed inside the system’s boundary

- True
- False

The <<extend>> relationship shows that a use-case is a type of another use-case.

- True
- False

Use cases define a system's functional and non-functional requirements

- True
- False

The speed with which an answer should be found by an algorithm is considered to be a functional requirement

- True
- False

The straight line that connects an actor with a use case is called a _____

- A. data line
- B. communication line
- C. relationship line
- D. connection line

The _____ relationship declares that the use case at the head of the dotted arrow completely reuses all of the steps from the use case being included

- A. include
- B. extend
- C. inheritance

While using _____ requirements compromises are inevitable and this may lead to a system that does not meet the real needs of users

- A. waterfall model
- B. incremental model
- C. reuse oriented software development

During _____ An estimate is made of whether the identified user needs may be satisfied using current software and hardware technologies.

- A. designing
- B. requirements elicitation
- C. feasibility study
- D. prototyping

During incremental development, the aim is to create throwable prototypes continuously till the customer is satisfied as to what kind of software he/she wants

- True
- False

Agile methodology emphasizes creation of well structured documentation.

- True
- False

Part 2: Requirements Allocation Section

A client has come to you with a proposal about a doorbell system that he wants to get made. The client has a few peculiar requirements that need to be ironed out before you get down to developing the system. The explanation is given below followed by questions relating to the extracted requirements.

Explanation:

I want a doorbell to be made that is non-intrusive. Whenever someone presses the doorbell, a sound is heard at his end but inside the house, no sound is heard Inside the house by default. We will have blinking flashing lights that will indicate that someone is at the door.

The user will also have the option to turn the sound on or off and also the intensity of the sound itself. The user should be able to change the color of the flashing lights and also to turn them off. All this should be done with an app in a mobile phone. The should be both Android and iOS based.

Whenever someone rings the bell, his photo is taken and sent to the user on his/her mobile phone. A small video is also recorded that is uploaded on a server. The video should not be bigger than 20 MBs. The picture should be sent to the user's phone instantly.

The user must have a few default messages that he/she can select once the door is rung to send to the person at the door. When the user selects one of the messages, the doorbell should say the message with a 2 second delay.

The user must also have the option to open the door from the mobile phone. Whenever the user chooses this option, the system should ask the user again if the door should be opened.

Select from a list of requirements below which you think are functional requirements

- [ ] A. Req1: When the doorbell is pressed, the person pressing the doorbell hears a sound
- [ ] B. Req2: When the doorbell is pressed sound is heard
- [ ] C. Req3: When the doorbell is pressed lights within the house blink
- [ ] D. Req4: User will have the option to turn the sound on or off
- [ ] E. Req5: User will have the option to change the intensity of the sound
- [ ] F. Req6: User will have the option to turn the lights on or off
- [ ] G. Req7: User will have the option to change the color of the lights
- [ ] H. Req8: There should be a mobile app to control all the sound and light controls
- [ ] I. Req9: The app should be made for Android or iOS
- [ ] J. Req10: Whenever the doorbell is pressed, the photo of the person pressing the bell should be taken
- [ ] K. Req11: A small video should be recorded and uploaded to a server

- [ ] L. Req12: The size of the video should not be bigger than 20 MBs
- [ ] M. Req13: to facilitate small size of the videos, they will be recorded as mpeg files
- [ ] N. Req14: The picture should be sent to the user’s mobile phone
- [ ] O. Req15: The user can play default messages from his/her mobile phone that will be played at the bell to inform the person at the door
- [ ] P. Req16: The messages should be transferred with a 2 second delay
- [ ] Q. Req17: The user should be able to open the door from the mobile app
- [ ] R. Req18: The app should ask the user to confirm if the door should be opened or not

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Choose all the non-functional requirements from the list below

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Select all the domain requirements from the list below

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