

**BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI
WORK-INTEGRATED LEARNING PROGRAMMES DIVISION**

II SEMESTER - 2 Year 2022-23 Batch

**SESAP ZG566
Secure Software Engineering**

Assignment

It is seen now a days that getting heart attack while driving has become too common and a major problem which needs immediate attention. To address this issues a Heart Monitoring System (HMS) Product is aimed to develop. HMS will have a sensor attached to the patient body and will continuously sense the heartbeat. A receiver is kept as part of system which receives the signal from sensor and diverts it to communicator, the communicator intern sends the data remotely to Guardians or Doctors to monitor the heartbeat. We should know here that this system will not stop heart attack but alters if any major changes in heartbeat. The entire system is AI based and uses Predictive Analysis for calculations.

As Project Group / Individual initial goal is to

1. Find the drawbacks in the present health monitoring system (consider any TWO). Study based on Touch points.
2. Study What are the AI and Predictive Analysis based techniques can bring in advances.
3. Find newer methods to track the heartbeat accurately and communicate in secure mode.
4. Designing a method of implementing (Doing detailed design based on secure life cycle, identifying penetration points).
5. Design a Good method of storing the data.
6. Create optimal methods and Software for Implementation
7. Good strategies for testing
8. And an efficient method of Maintaining the software product

With this understanding of case study answer following question. Assignment is you have to answer following questions.

Questions (Each question carry FIVE marks)

1. Suggest few primary parameters which need to be considered before re-structuring SDLC for the product to implement (Design an efficient methodology or life cycle to implement health monitoring system) & Design a Flow diagram or Data Flow Diagram which senses hearth attach and communicate securely to Doctors and Guardians
2. List and explain all the software and hardware components needed with detailed explanation (Need to answer why specific Software/ Hardware needed) and Discuss challenges of mass production of this product

Hint

1. Assume suitable where you find more than one correct answers is possible
2. For answering first question google for “Remote Heart Monitoring System with AI enabled” and try to check various diagrams available and come with new one may be different or combination
3. To answer second question, list all the hardware needed see that you mention hardware name also (Raspberry pi etc., are the hardware used for these purpose)

Deadlines and Technicalities

1. The document which you prepared should be 20 to 30 pages and to be submitted. Each question should go in detailed manner.
2. First page should be Name of subject, Assignment and Name of the group members (Below a template is shown)
3. Heading should be in 14 size and text should be in 12 size with times new roman as font
4. Use diagrams where ever possible. Submit in Word and Pdf format
5. There should be no incomplete answering

Grading

1. Complete TEN marks for timely submission of completed assignment (answering 2 question and formatting).
2. TWO marks will be reduced for Two-day late submission from the deadline.
3. FIVE marks deduction for submitting after TWO days from the deadline.
4. TWO marks will be reduced for unformatted submission. Template is given with this assignment
5. THREE marks will be deducted for each incomplete answer

Contact

Contact me at prof.madhubk@gmail.com or 9742696669 for any queries

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<< SEM>> << BATCH - YEAR>>

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Assignment

Submitted by

1. <ID> <Name>

<Second Page>

Content

<Third Page to till Reference>

Question 1:

Answer:

Acknowledgement

Reference

- [1].<<Examples - Xebia IT Architects “Project Management Technique for Agile Process Facing the Challenge of Distributed Development Using Agile” by on Jul 22,2009>>