Assignment 3 Systems Architectures Semester 2 2022-2023 Worth 30% of overall Assessment mark

Submission time & date: 11:59 p.m. Mon 8h May 2023 (Provisional Subject to Exam Schedule)

Submission done via Brightspace Acceptable file formats.docx, .doc, .pdf, .odt

If Zipped use a common standard Zip file format

If file will not open - resubmission will be requested.

File name to be used: SYSARCHASS320222023 *YourName.doc eg*

SYSARCHASS320222023 *JohnGilligan.Doc*

*Make sure to have your student number on the hand-up*

Assignment:

Take the scenario in Assignment 1

A Document Management System (DMS) for Health Insurance. The insurance company now wants to offer customers discounts for reaching health goals as measured by wearable technologies such as smart watched.

1: Produce a **referenced** two page report which gives an overview of Wearables and the Health Insurance Industry. It should also consider how AI and ML can be used in conjunction with wearables to calculate risk and segment customers into different discount classes.

(25 Marks)

2: Design a system architecture for a Health Insurance document management system which supports the use of wearables in offering discounts. Note this will have a smart component for assessing risk. Present a system diagram. Describe what processing, what data storage, what system processes and control structures reside on each system node. Describe the role each system component plays.

Note you may include cloud based services

(25 marks)

3 Justify your proposed system architecture in terms of System performance.

System Reliability

Data Storage Requirements Scalability

Security

(20 Marks)

4: Are the benefits of using cloud services with respect to DMS, outweighed by the threats involved with respect to privacy and security.

Support your answer with three appropriate examples.

(15 Marks)

5 What is meant by the internet of things.

Using your proposed system for illustration, show how IOT technology could contribute to the evolution of Wearable Technologies in health Insurance going forward.

(15 Marks)

Usual standards of referencing apply

Some References

Wearables and the health insurance Industry

<https://bmcmedinformdecismak.biomedcentral.com/articles/10.1186/s12911-022-01851-4>

<https://www.munichre.com/content/dam/munichre/contentlounge/website-pieces/documents/The_Future_is_Now_Wearables_for_insurance_risk_assessment.pdf>

<https://www.rgare.com/knowledge-center/media/articles/wearable-data-and-health-insurance>