

BINGHAM UNIVERSITY
FACULTY OF SCIENCE AND TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE
FIRST SEMESTER EXAMINATION 2021/22 SESSION

CMP 309: SYSTEMS ANALYSIS AND DESIGN
TIME ALLOWED: 3HRS
INSTRUCTION: ATTEMPT FOUR QUESTIONS ONLY

1.(a). A client has requested for an ATM simulator desktop application that uses the fingerprint of users for authentication. (Since each individual has a unique fingerprint), this method of using fingerprint as a means of authentication to access your ATM is safer and more secure than using an ATM card. Users need not carry their ATM cards with them at all times – they can use their fingerprint to access ATM services. To use the fingerprint-based ATM system, users have to log in to their account using their fingerprint. After logging in, once they provide their unique pin, they can conduct all kinds of banking transactions, from withdrawing cash to money transfer, and even viewing their account balance. Furthermore, users can also check the last five transactions from their account.

(a(i)) List the functional and Non functional Requirement of the proposed system

(a(ii)). Draw the context/level 1 diagram of the system

(a(iii)) List the entities in the proposed system and their attributes

(b) Define the following terms (i) System (ii) Systems analysis and design

(iii) Information Systems

(c) Explain Two fact finding techniques and highlight two advantages and disadvantages of the techniques

(d) List three fact finding ethics in information systems development.

2. Mr. Jovan is a system Analyst by profession in OREXX health care facility, he is saddled with the responsibility of computerizing the out-patient-department of the OREXX health care facility. Mr. Anato is a very close friend of Mr. Kres who has a brother Mr. Val who is on admission with the OREXX health care facility.

One faithful day, Mr. Anato complained to Mr. Kres about his brother's (Mr. Val) health condition, in response, Mr. Kres said "aah Mr. Val has Cancer and may not survive it, I saw the lab test and results in his file"

Mr. Anato was shocked about this discovery because the doctors have not officially disclose Mr. Val's health situation.

(a). Comment on the behaviour of Mr. ^{Jovan} Kres (the analyst) with regard to ethics of system Analyst.

(b). What are the work ethics of Systems Analyst?

(c) Differentiate between Verification and Validation Methods

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3.
 - (a) List the phases of Software Development Life cycle and explain
 - (b). What is the purpose of Systems Construction and Implementation?
 - (c) List the three levels of testing and explain two
 - (d) Explain four principles of Software Development
 4.
 - (a) Project Initiation is the first phase of Software Development Method, it involves identifying projects for information system Development. How are these projects initiated? Discuss.
 - (b) "Sure the system works, and is technically impressive but it just doesn't do what is expected to do" Describes which phase in Software Development Lifecycle? List the tasks associated with the Phase in Question.
 - (c) List four principles of Software Development
 5.
 - (a) What is (i) a model? (ii) SDLC Model
 - (b) List five Software Development Models
 - (c) Explain Two and discuss their strengths, weaknesses and scenarios for which they are applicable (use diagrams where necessary)
 6.
 - (a) Define the following:
 - (i) Functional Requirement and Non - Functional Requirement (Give two Examples)
 - (b) Why is correctly identifying requirements important?
 - (c) What are the consequences of NOT getting the Requirement right?
 - (d) Discuss the System Conversion methods
 - (e) Study the diagram on page 2 and answer questions (e(i) and (e(ii))).
 - (e (i)) Comment on the diagram with respect to requirement determination
 - (e(ii)) In your Opinion, will the client be satisfied with the final product.

CMP 309 : SYSTEMS ANALYSIS AND DESIGN
TIME ALLOWED : 1H: 30 MINS
INSTRUCTION: ALL QUESTIONS CARRY EQUAL MARKS

1. Mr. Joe is a system Analyst by profession in MAX health care facility, he is saddied with the responsibility of computerizing the out-patient-department of the health care facility. Mr. Anato a very close friend of Mr. Joe has a brother Mr. Val who is on admission at the health care facility. One day, Mr. Anato discussed with his friends about Mr. Vals' health condition, in response, Mr. Joe said "aah Mr. Val has HIV and may not survive it, I saw the lab test and results in his file" Mr. Anato was shocked about this discovery because the doctors have not officially communicated with the patient.

Comment on the behaviour of Mr. Joe (the analyst) with regard to ethics of system Analyst. What is expected of a systems analyst with respect to ethics.

2. With the aid of a diagram, briefly explain the Information system Building Blocks

3. Consider the Diagram attached.

(a) Comment on the Diagram

(b) What in your opinion is the problem? How can the problem be solved

(c) What are the quencequences of not getting the right Requirement

(d) What are Functional and Non Functional Requirements (10 marks)

4. A memo was sent from the VC's Office Directing the department to develop a software to admit and register students. You are one of the team members.

(a) Describe the admission process and registration process of Bingham university

(b) what are the functional and non-functional requirement of the system

(c) Draw the context diagram (level 0)

(d) Draw level I dataflow diagram for the proposed system

(e) Draw the ERD diagram for the proposed system

(f) Which fact finding technique will you use and why?

(10 marks)