

Requirements and Specification, ESOF 328, Spring 2022

Exam 1, Feb. 4

Name _____

This exam is to be completed individually without the use of the text, notes, the Internet, or any other items.

1. Select the best category for the information: The Conflict of Interest System must use an MS SQLServer database. (3 pts.)
 - a. Business rule
 - b. User requirement
 - c. Functional requirement
 - d. Non-functional requirement which is not also a quality attribute
 - e. Quality attribute

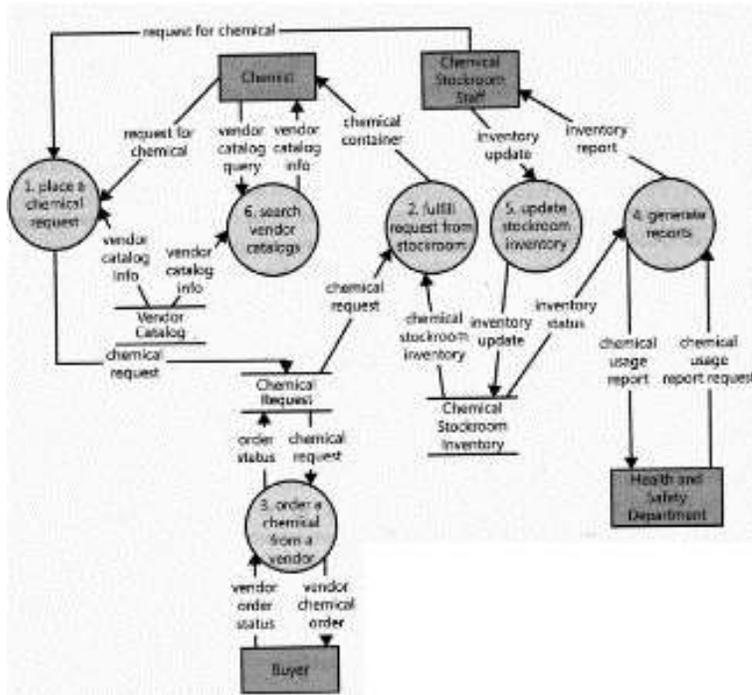
2. The information that all website images must include alternative text to be used by electronic reading devices to meet accessibility requirements of visually impaired users can best be categorized as a: (3 pts.)
 - a. Constraint
 - b. User requirement
 - c. Functional requirement
 - d. Feature
 - e. Quality attribute

3. Select the best category for the information: ABET requires a mapping between student outcomes and courses. (3 pts.)
 - a. Business rule
 - b. User requirement
 - c. Functional requirement
 - d. Non-functional requirement which is not also a quality attribute
 - e. Quality attribute

4. When creating course and activity offerings, a user shall be able to select a semester for which the offerings will be created. This shall not modify the default semester. (3 pts.)
 - a. User requirement
 - b. Functional requirement
 - c. Non-functional requirement which is not also a quality attribute
 - d. Quality attribute
 - e. Design constraint

5. Select the best category for the information: Clients are typically not allowed to receive boxes before 30 days have lapsed since their last box. (3 pts.)
- Business rule
 - User requirement
 - Functional requirement
 - Non-functional requirement which is not also a quality attribute
 - Quality attribute
6. Select the best category for the information: Users with the administration role can create course offerings for courses within their programs. (3 pts.)
- Business rule
 - User requirement
 - Functional requirement
 - Non-functional requirement which is not also a quality attribute
 - Quality attribute
7. Which of the following is least likely to be a task of a business analyst? (3 pts.)
- Identify project stakeholders
 - Elicit requirements
 - Document requirements
 - Develop user interfaces
 - Manage requirements
8. Which of the following is least likely to be a skill needed by the business analyst? (3 pts.)
- Listening skills
 - Facilitation skills
 - Analytical skills
 - Modeling skills
 - Project management skills
9. Select the most common role of a product champion. (3 pts.)
- Help provide system requirements
 - Manage requirements elicitation
 - Manage system development
 - Lead elicitation meetings
 - Document system requirements

10. Consider the following diagram.



This diagram can most accurately be described as a:

(3 pts.)

- a.) Context diagram
- b.) Sequence diagram
- c.) Entity-Relationship diagram
- d.) State transition diagram
- e.) Data flow diagram

11. List five distinct ways to solicit information from users. (5 pts.)

12. Five activities are given. Tell the phase: elicitation, analysis, specification, validation or management, to which this activity most likely belongs. (10 pts.)

- a. Tracing individual requirements to their corresponding designs, source code, and tests
- b. Deriving functional requirements from other requirements information
- c. Identifying the product's expected user classes and other stakeholders
- d. Looking for user feedback on a prototype of aspects of a proposed system
- e. Documenting use cases.

13. Imagine that you have become a business analyst for a software development company. A new business analyst was hired. Since you are a senior member of the staff, you are to help this new person get “on board”. Describe to this person how to write good use cases. (10 pts.)

14. Describe the use of “includes” and “extends” in a use case diagram. (5 pts.)

15. Evaluate the following requirements and write new requirements if necessary.
(15 pts.)

R01. Create a relation between two CEs

When working within a DSM, the user can create a relation by:

1. Selecting directed or non-directed
2. Selecting the first CE (the source for directed CEs)
3. Selecting the second CE (the destination for directed CEs)
4. Pushing the “create relation” button.

Rationale: Relations are needed within DSMs

Priority: Imperative

Requirements checklist:

	Satisfied?	Why or why not?
Identified by a number		
Identified by a short phrase		
Prioritized (imperative, important, desired)		
Rationale is given		
Tells what is required		
Tells under what situation		
Clearly written, unambiguous		
Avoids premature design		
Can't be broken into multiple more clear requirements		
Necessary requirement (also check that it wouldn't be better expressed as a non-functional requirement)		
Realistic		
Testable		
Stands on its own – other requirements don't need to be examined to understand what this means		
Uses terms/approach consistent with the rest of the document		

16. When writing requirements the terms “should”, “will” and “shall” all have different meanings. Define each in such a way that the difference is clear. (10 pts.)

17. Imagine developing a hotel reservation system. This system will facilitate making reservations, the check-in and checkout processes, customer information, and room information for a hotel.

- a. Create a state transition diagram for a reservation and explain what the diagram is showing. (5pts.)

- b. Create an activity diagram for the process of a customer checking into a room. This customer may, or may not, have an existing reservation, and explain what the diagram is showing. (5 pts.)

- c. Create a feature tree for this hotel system and explain what the diagram is showing. (5 pts.)