

## Requirements and Specification, ESOF 328, Spring 2021

Exam 1, Feb. 5

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: A user's manual shall be delivered with the Alumni-Connect. (4 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. Future enhancements to accommodate new types of data in Alumni-Connect and its associated webservice shall not be too difficult. (4 pts.)
  - a. Business rule
  - b. User requirement
  - c. Functional requirement
  - d. Non-functional requirement which is not also a quality attribute
  - e. Quality attribute
  
3. Administrators, graduates and seniors can create and edit the profiles in the system. (4 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. Select the identifier most likely NOT to be a project stakeholder. (4 pts.)
  - a. Users of the future system
  - b. Implementers of the system
  - c. Company lawyers
  - d. Testers
  - e. All of the above are considered project stakeholders.
  
5. Business analyst is often a role played, rather than a job title. This role goes by many different names. Which of the following is least likely to be a synonyms for business analyst? (4 pts.)
  - a. Systems analyst
  - b. Business analyst
  - c. Requirements manager
  - d. Requirements engineer
  - e. Systems engineer

6. List five distinct skills needed by the business analyst. (5 pts.)

Listening  
Communicating  
Negotiating  
Organizing  
Modeling  
Facilitating  
Analytic  
Observational  
Interviewing  
Specifying

7. Briefly describe the relation of business requirements, user requirements and functional requirements. (5 pts.)

Business requirement – Describes a company need or opportunity  
(Text includes an objective, success metric, vision statement, or scope.)

User requirement – High-level requirement from the perspective of the user  
(Text states goal or task that a class of users must be able to perform, or a desired attribute of a software system)

Functional requirement – Statement of a specific behavior or function of a software system  
(Text says description of a behavior that software will exhibit under certain conditions)

8. Say that a project is anticipated to require 5,000 person-hours to complete. Approximately how much time of that time does the text recommend be spent on requirements? Give your answer in person-hours. (5 pts.)

$5,000 \text{ person-hours} * 0.15 = 750 \text{ person-hours}$

9. Describe what is meant by risk exposure and how to calculate it. (5 pts.)

Risk exposure – probability that the risk occurs (somewhere between 0, impossible, to 1, inevitable) \* impact if risk occurs (from 1, no problem, to 10, big problem)

10. Describe the difference between a risk and an issue, and how to handle each. (5 pts.)

A risk is something that might occur, but hasn't yet. If something has occurred, it is an issue and should be dealt with using the requirements management plan.

11. Consider the business objective “Alumni-Connect will help alumni connect with the Tech family after they graduate”.

- a. Give an example of a “forward from” link, from this business objective. (5 pts.)

The system may include bulletin board functionality for alumni to post events which they think other alumni may find interesting.

A link from the business objective given to this bulletin board functionality would be an example of the “forward from” link.

- ~~b. Give an example of a “forward to” link, to this business objective. (5 pts.)~~

There may be a business rule that Tech will not sponsor racist events.

A link to this business objective would be an example of a “forward to” link.

I answered the above, but students who pointed out that business objectives come before everything else, so there is nothing that can be used as a “forward to” link to business objectives.

12. Give the four main stages in the requirements development process and for each list two tasks that we could do before our next user meeting on Feb. 11<sup>th</sup>?

(20 pts.)

Elicitation:

- We could send an email to our clients asking if they want people from industry who never attended Tech to be allowed to become users of the system.
- We could schedule an interview with each client, asking what role they expect industry members to play who never attended Tech

Analysis

- We can consider all business objectives mentioned during the meeting and try to consolidate them into one comprehensive list of business objectives.
- We can compare the data specified in the Graduate Information Tracking webservice with the discussion at the first meeting and determine what added information is needed, and what existing information wasn't directly, or indirectly, referred to.

Specification

- We can draft the first section of the SRS
- We can brainstorm on likely business rules (analysis) and document what we come up with in the SRS.

Validation

- We can consolidate the business objectives that we heard at the meeting (analysis and specification) and send these to the clients to validate if they are consistent with their views.
- We can verify that all business objectives we develop can be supported by information in the Graduate Information Tracking webservice.

13. A diagram showing the scope of Alumni-Connect will be a valuable addition to our SRS.

- a. Consider creating a context diagram versus an ecosystem map. Describe the similarities and differences of these diagrams. (10 pts.)

**Similarities:**

Both diagrams will have the Alumni-Connect system as an atomic item in the diagram, that is, as an item that is not further divided. Both diagrams are, in a sense, showing the environment of the system.

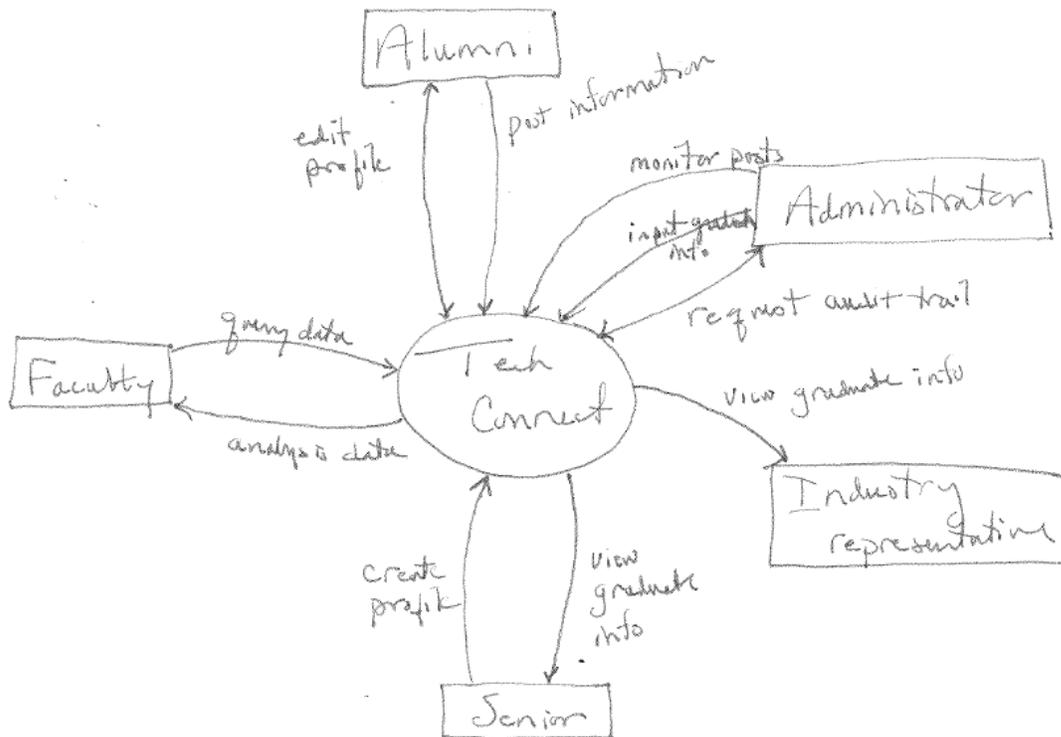
**Differences:**

Context diagrams show what will interact with the system, both roles and systems, and the purpose of those interactions.

Ecosystem maps show processes that go on outside the system and how those processes relate to the system, and potentially to each other.

- b. Develop whichever diagram you expect to be most useful. (10 pts.)

**Context Diagram**



- c. Justify why you chose the diagram (context diagram or ecosystem map) which you did. (5 pts.)

I chose a context diagram because I don't expect many processes that go on outside the Alumni-Connect system to be relevant to the development of the Alumni-Connect system.