**Activity**

**Individual (50pts)**

* 1. What is the meaning of “analysis”? What is the purpose of the analysis phase of the SDLC?

Analysis is the breaking of a whole into its parts with the intention of understanding the part’s nature, function, and interrelationships. The purpose of the analysis phase is to work extensively to fully understand what is needed from the new system to be implemented.

* 1. A system development may be approached in one of two ways: as a single, monolithic project in which all requirements are considered at once or as a series of smaller projects focusing on smaller sets of requirements. Which approach seems to be more successful? Why do you suppose that this is true?

Typically, breaking a large project into smaller manageable projects has a higher rate of success. One reason for this is that it is difficult to determine requirements for a „monolithic‟ project, the scope is simply too large to conceptualize. Breaking it down into smaller component projects allows for ease of understanding of functionality and processes.

* 1. What is meant by a non-functional requirement? What are two types of functional requirements? Give at least three examples each.

A nonfunctional requirement refers to behavioral properties that the system must exhibit. Types of nonfunctional requirements include: Performance and Usability; examples of performance are Response Time, Throughput, and Utilization; while usability are Accessibility, User Friendliness, and Error Tolerance.

* 1. The analysis technique of BPA, BPI or BPR, is selected based on several characteristics and how do they influence the choice of analysis technique?

One factor is the potential value to the business. BPA and BPI both will add low to moderate value to the business because they strive to make incremental changes to the as-is system. BPR, on the other hand, has the potential to add significant value to the business because it will make sweeping changes to the business’s processes.

The strategies also differ in terms of cost. BPR will probably have significant costs associated with it, while the costs of BPA and BPI will be much more modest.

The breadth of the analysis will also vary between the strategies. BPR will tackle a much broader piece of the organization, while BPA and BPI are narrower in scope.

Finally, risk is a factor that distinguishes the strategies. BPR, because it attempts more broad, significant changes, is far riskier than the narrower, more limited BPA or BPI strategies.

To select an appropriate strategy, the project sponsor needs to evaluate his/her goals for the project. If the problems being experienced suggest that radical redesign of business processes is necessary and the organization has the funding and can tolerate the risk, then a BPR project may be called for. If more moderate changes are required, or funding is limited, or high risks cannot be tolerated, then BPI is recommended. When only minor changes are needed because the existing business processes are acceptable, then BPA is the strategy of choice.

* 1. Pretend that you are going to build a new system that automates or improves the interview process for the career services department of PUPSJ. Develop a requirements definition for the new system. Include both functional and non-functional system requirements. Pretend that you will release the system in three different versions. Prioritize the requirements accordingly.

Functional Requirements

Version 1:

1. Career Services personnel post each company's interview schedule on the system.

2. Students may reserve one and only one interview slot per company.

3. Students may change their interview reservation until the day before the interview.

4. Confirmation of interview reservation is sent to student by email 24 hours prior to interview.

Version 2:

1. If an interview schedule is full, student may register on a waiting list.

2. If openings appear on an interview schedule, students on waiting list are notified by email.

Version 3:

1. Students may register their specific qualifications and when a company seeking those qualifications opens an interview schedule, the student is notified by email.

Non-functional Requirements

Performance:

1. System is accessible via a web browser

2. System integrates with the resume-posting system and the job listings system

Operational:

1. System is real-time; interview reservations are immediately reflected in the interview schedules

2. System is available 24 hours a day whenever university is in session.

Security:

1. Only students registered with Career Services have access to system

2. Students can choose to be identified by name on the schedule or by some other identifier

Cultural and Political:

1. Students can make only two changes to their interview reservation per company

2. If a student fails to appear for a scheduled interview, he/she will be dropped from any other scheduled interviews they may have.