Assignment #2

Deadline: Saturday 03/03/2018 @ 23:59

**[Total Marks for this Assignment are 4]**

***System Integration***

***IT440***

**Instructions:**

* This Assignment must be submitted on Blackboard (**WORD format only**) via the allocated folder.
* Email submission will not be accepted.
* You are advised to make your work clear and well-presented, marks may be reduced for poor presentation. This includes filling your information on the cover page.
* You MUST show all your work, and text must not be converted into an image, unless specified otherwise by the question.
* Late submission will result in ZERO marks being awarded.
* The work should be your own, copying from students or other resources will result in ZERO marks.
* Use **Times New Roman** font for all your answers.

Student Details:

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| --- | --- | --- |
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| **Name:** ###**CRN:** ### |  | **ID:** ### |
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# Question One

***1 Mark***

*Learning Outcome(s):*

*Define the importance of the Software Requirement Specifications*

Discuss at least 4 benefits of writing a good Software Requirements in your own words.

* Reduces rework:
	+ Reduce the development effort. The preparation of the SRS forces the various concerned groups in the customers organization to consider rigorously all of the requirements before design begins and reduces later redesign, recoding, and retesting. Careful review of the requirements in the SRS can reveal omissions, misunderstandings, and inconsistencies early in the development cycle when these problems are easier to correct.
* Increases productivity:
	+ The usage of SRS can eliminate and prevent errors in the design phase since any contradicting requirements and functions that need validation can be fixed at this point and stakeholders can be contacted for reevaluation. This way, no requirement errors can creep into our code and there is no need for countless of hours, energy, and resources to be spent on the code testing, modification, and debugging.
* Ensures that requirements lead directly to program and project success and effective software delivery:
	+ Establish the basis for agreement between the customers and the suppliers on what the software product is to do. The complete description of the functions to be performed by the software specified in the SRS will assist the potential users to determine if the software specified meets their needs or how the software must be modified to meet their needs.
* Provide a basis for estimating costs and schedules. The description of the product to be developed as given in the SRS is a realistic basis for estimating project costs and can be used to obtain approval for bids or price estimates.
* Provide a baseline for validation and verification. Organizations can develop their validation and Verification plans much more productively from a good SRS. As a part of the development contract, the SRS provides a baseline against which compliance can be measured.

# Question Two

***1 Mark***

*Learning Outcome(s):*

*Define how to* create clean software work products and provides assurance that issues or errors are discovered and resolved.

What is the purpose of Peer Review? Give and explain one example of the peer review methods.

The purpose of the peer review is to find and correct as many errors as possible before test team integration or customers find problems.

Example: Pair programming, which is a software development technique in which two programmers work together at one workstation. One, the driver, writes code while the other, the observer or navigator, reviews each line of code as it is typed in. The two programmers switch roles frequently.

# Question Three

***1.5 Marks***

*Learning Outcome(s):*

*Adopt a systems perspective when making integration and test decisions that affect the determination of performance, development time, or total ownership cost of the system.*

Complete the two columns “**Example**” and “**Usage in your Final Year Project**” in the table below. In “**Usage in your Final Year Project**” column, please mention (using at least 15 to 20 words) how you may use the tool (you mentioned in the table) in your Final Year Project. An example has already been filled in column 2 with “Red Color” to give you a hint.

In case of you need more space for your answer, you may extend the space by pressing “enter” in table.

**(0.5 marks for Examples and 1 mark for description)**

|  |  |  |
| --- | --- | --- |
| Software Tool | Example  | Usage in your Final Year Project |
| Requirement analysis and design tools | Enterprise Architect(Or any related tool for making data flow diagrams) | Students own response.  |
| Code development tools | Javascript, simple JS (or any relevant) | Students own response.  |
| CM tools | * VSS: Visual Source Safe.
* CVS: Concurrent Version System.
* (or any relevant)
 | Students own response.  |
| COTS documentation tools | IBM Rational Performance Tester (or any relevant) | Students own response.  |

# Question Four

***0.5 Marks***

*Learning Outcome(s):*

*Understand the system requirements and architecture.*

Explain the “Change Request Process” shown below in your own words. Also, give a real-life example of a change request.



**Note: Students answer may vary.**

The process starts by initiating a change request (CR). This request is normally done by the team members involved in software design and development process and it includes any change in project artifacts. CR is analyzed step-by-step and fed into the Peer Review Phase where it is checked for possible errors. The data from peer review block is sent to SRB (software review board) which identifies the changes that affect controlled software and related documentation. In certain cases, the CR needs a total restructuring, therefore it is sent back to analysis phase with a “No approval” tag by the SRB. In other case, SRB forwards the CR (with certain modifications and approval) to the implementation facility where the CR request is implemented according to the project needs.

**Real Life Example of CR:**

A bank's customer service team discovers that customers are accidentally paying the wrong bill. The business team responsible for the site investigates and finds that two companies have similar descriptions and billing account formats. They submit a change request that the merchant descriptions be changed in the database reference table to make a clear distinction between the two companies.