**SWE316: Software Design and Architecture**

**Semester 2 - 2019/2020**

**Assignment II**

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**Total Marks: 10**

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**Task 1**

(Total Marks = 05)

List and Explain the Principle of Cost Estimation for Software Project Management.

Principle 1: Divide and conquer.

Explain: it Will be divided the project up into individual subsystems. Then divide each subsystem further into the activities that will be required to develop it. Next, you make a series of detailed estimates for each individual activity. And sum the results to arrive at the grand total estimate for the project.

Principle 2: Include all activities when making estimates.

Once you have specified tasks and jobs for each typical process/activity in your project, now it is time to evaluate the tasks considering two scales: Complexity and Work Size and the the time required for *all* development activities must be taken into account, and Include all activities

- Prototyping

- Design

- Inspecting

- Testing

- Debugging

- Writing user documentation

- Deployment.

Principle 3: Base your estimates on past experience combined with knowledge of the current project.

If you are developing a project that has many similarities with a past project You can expect it to take a similar amount of work.Based your estimates on the personal judgement of your experts

Principle 4: Be sure to account for differences when extrapolating from other projects.

when you extrapolating from other projects you must Be sure to account for differences between the projects such as

Different software developers

Different development processes and maturity

levels

Different types of customers and users

Different schedule demands

Different technology

Different technical complexity of the requirements

Different domains

Different levels of requirement

Principle 5: Anticipate the worst case and plan for contingencies.

you should anticipate the worst case potential risks or uncertainties surrounding the project. This way will also allow considering risks by producing accurate contingencies plan in cost estimates that may be used later.

Principle 6: Combine multiple independent estimates.

The expert and unbiased team should validate cost predictions. First, the project manger develops initial estimates and submits them to the team for validation. A second independent judgment will help then make the estimates more correct and capture different perspectives on the estimating process. Each individual repeatedly adjusts his orher estimates until a consensus is reached.

Principle 7: Revise and refine estimates as work progresses

reviewed the estimates and validated their content, these estimates shouldn’t be released to the project team and stakeholders in order to avoid misuse and misunderstanding. This approach allows the estimates to be consistent with the project scope and accurate indicators of the real expenses.

**Task 2**

(Total Marks = 05)

Draw the Sequence Diagram for ‘Password Reset’ Scenario for an Online Login System

