**CSE 5325 – Software Project Management**

**Project Cost Estimation using COCOMO**

**Spring 2024 - Assignment #3**

**Due: Wednesday, April 10, 2024; 10:00 PM**

**Grading: 10%**

**Submission via Canvas**

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GTA E-mail is only for asking questions but not submission of assignments. Submission will be via Canvas.

**Objective:** Project Cost Estimation using COCOMO

**Deliverable:**

A detailed report estimating your project cost using COCOMO II. The report should be at least 6 pages long and must include all the COCOMO’s Scale drivers (5) and Cost drivers (17), the value allocated to each, and the rationale behind selecting these numbers. There are many free and none-for-profit COCOMO websites such as Costar: <http://www.softstarsystems.com/>

Your report must include a title, a quick executive summary, your cost structure, a conclusion, and a reference page.

**Points to Consider:**

Select the same project you used in Assignment# 1 and 2 (i.e., SRS “Service Request System”), consider the following points, and use any online COCOMO tool to complete your cost estimation report (i.e. you are estimating how long it takes to complete your project using this COCOMO tool). You can make reasonable assumptions along the way assuming they are not farfetched:

* Assume you have 6 developers to complete all your tasks, excluding yourself, remember you are the manager and in charge of scheduling and estimation (in total 7 people, 6 developers and you)
* Each developer can be used in any capacity (i.e., develop screens, draw UML diagrams, come up with requirements, database design, implement the website, design, and code the Android app, write documentation, write test plans, anything that you ask them to do since you are the manager)
* Each developer receives $5000/month after all taxes have been deducted. Assume you don’t have to consider any tax issues.
* You, the manager, will receive $10,000/month after all taxes have been deduced
* The duration of the project is 3 months: Feb. 1, 2024, to May 1, 2024.
* Each developer will receive one week of vacation during this 3-month period (i.e. you will pay them, however, they will not work; i.e. paid vacation)
* The project manager (i.e. you) will not receive a vacation during these 3 months since the delivery of the project has a tight schedule
* All tasks and activities that were entered in Assignment 2 via “Microsoft Project Professional 2016” must be accounted for in this COCOMO exercise. You can modify the tasks submitted in assignment #2 if you wish.
* All cycles of development (i.e. Requirements, Design, Development, Testing) and documentation (i.e. user manual) must be accounted for
* You could use any testing framework such as generating test cases or using Junit for the testing portion of this project. Make sure to include the cost of the testing tool if you decide to use one.
* Include the cost of getting any capital expenditure (i.e. software, hardware, network, database, etc.) that you need to purchase. Search the web to find reasonable prices for your required items
* Assume 50% of overhead cost (i.e., to cover health insurance, heating, heating & air-conditioning & electric bill, rent, etc.)
* Assume you require 50% profit on the money spent. That is, if it costs you $200K to develop this project, you should charge the client $300K to cover your cost plus your profit.
* Extensive risk analysis and mitigation should be included
* Configuration management for source code and other product artifacts (e.g. requirements, documentation, source code) storage is required
* Security (i.e., data encryption/decryption) is required to maintain the integrity of your data. Make sure to include the cost of security software packages
* Feel free to make reasonable assumptions if necessary, just document and submit it
* Explain any value you use for Scale drivers and Cost factors in COCOMO.
* Your report must be at least 6 pages long, Fonts 11, single space, and include references, 2 pages may be screenshots and tables, if more, your report should go beyond 6 pages (i.e., if you end up using 4 screenshots from COCOMO, then your report should be at least 8 pages). No upper bound on the size of your report.
* 10% penalty per each day of being late after the due date/time up to 5 days.