**ASSIGNMENT 2**  FALL 2021

Course Title: Software Design and Analysis

Course Code: CS 3004

Credit Hours: 03

**Due Date: 02:00 PM, 05 October 2021**

**Assignment Type: Group of 2-3**

|  |  |  |
| --- | --- | --- |
| Instructors: | Dr. Muhammad Bilal | Dr. Uzair Iqbal |
| Office: | Room# 215, Second Floor, Main Building | Room# 206, Second Floor, Main Building |
| Email: | bilal.m@nu.edu.pk | uzair.Iqbal@nu.edu.pk |

LEARNING OUTCOME

At the end of this assignment, you should be able to compile a modified version of the SRS (Software Requirements Specification) document that serves as the base of next assignments.

ASSIGNMENT DESCRIPTION

You are now at the stage of documenting the basic overview and functional requirement of the selected project.

Based on the groundwork completed in Assignment I, you are to document the following:

1. Introduction
2. Project Title
3. Project Overview Statement
4. Project Goals and Objectives
5. Functional Requirements \*Note: At least 10 core functional requirements.
6. Tools and Technologies used with reasoning

The following details out elements required for this assignment:

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Topic** | **Description** | **Marks** |
| 1 | Introduction | This guide will tell you how to prepare and submit the final project proposal that is the documented work for the Project. A good project proposal must define the functional and non-functional requirements in unambiguous statements, Scope of the Project, Development Schedule, Development Process, Techniques, Tools, Platform with reasoning. However, a professional and well-defined proposal should be composed under the following headings | **10** |
| 2 | Project Title | The title should be clear and unambiguous (do not make it "cute"). Think of your title as a mini-abstract. A good title should paint a quick picture for the reader of the key idea(s) of your project. The words you use in your title should clearly reflect the focus of your proposal. The most important words should come first, then the less important words. Try to remove words from your title that really are not necessary for understanding. Try and use only a single sentence for your title. If the sentence is getting too long try removing some words. When all else fails try using a two-part title with the parts separated by a colon (use only as a last resort!). Do not attempt to use the title as an abstract of your entire proposal. If your proposal is built on collaborating with other groups/organizations it is usually a good idea to include their names on the Title/Cover Page. |
| 3 | Project Overview Statement | Think of the Project Overview as an Executive Summary (the busy executive probably only has enough time to read your Overview - not the entire proposal). Be specific and concise. Do not go into detail on aspects of your proposal that are further clarified at a later point in your proposal. The Project Overview should "paint a picture" of your proposal in the mind of the reader. It should establish the framework so that the rest of the proposal has a frame of reference. Use the Project Overview to begin to show your knowledge of the organization from which you are requesting funds. Key concerns of the funding organization can be briefly identified in relation to your proposed project. If you will be collaborating with other organizations make sure some of their interests are also highlighted in the Project Overview. This can assist in strengthening the collaboration by recognizing them at the very beginning of your proposal. The best time to prepare the Project Overview is after you have completed the entire proposal (and you understand all aspects of your proposal very well). Let the Overview be your last piece of writing and then insert it at the beginning of your proposal. Try to keep in mind that someone will be reviewing your proposal and you would like to have this person be very positive about what you have written. The Project Overview will probably form a strong impression in the mind of the reviewer. Work on your Project Overview so that you can avoid giving this person the opportunity to say things like:  1. Not an original idea  2. Rationale is weak  3. Writing is vague  4. Uncertain outcomes  5. Does not have relevant experience  6. Problem is not important  7. Proposal is unfocused  8. Project is too large. |
| 4 | Project Goals and Objectives | Try and differentiate between your goals and your objectives - and include both. Goals are the large statements of what you hope to accomplish but usually aren't very measurable. They create the setting for what you are proposing. Objectives are operational, describe specific things you will be accomplishing in your project, and are very measurable. Your objectives will form the basis for the activities of your project and will also serve as the basis for the evaluation of your project. Try to insure that there is considerable overlap between the goals and objectives for your proposal and the goals and objectives of the funding organization. If there is not a strong overlap of goals and objectives then it might be best to identify a different funding organization. Measurable objectives for your project should be presented. If you are dealing with "things" it is easier for them to be measured than if you are dealing with abstract ideas. Your proposal is easier for a prospective funding organization to understand (and the outcomes are much more clear) if you describe your objectives in measurable ways. |
| 5 | Functional Requirements | list down the functional requirements of your project | **10** |
| 6 | Tools & technologies used with reasoning | The application tools, which are to be used on front and back end of the system to be developed, should be listed. The reasons for these tools should also be enlisted. Identify what the needs for tool support are, and what the constraints are, by looking at the following:  • The development process. What tool support is required to effectively work? For example, if the organization decide to employ an iterative development process, it is necessary to automate the tests, since you will be testing several times during the project.  • Host (or development) platform(s).  • Target platform(s).  • The programming language(s) to be used.  • Existing tools. Evaluate any existing and proven tools and decide whether they can continue to be used.  • The distribution of the development organization. Is the organization physically distributed?  • The size of the development effort. Tools support large organizations more or less well.  • Budget and time constraints | **5** |

ASSESSMENT CRITERIA

Your efforts will be assessed based on the following criteria:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Element** | **Outstanding: Very clear and well written**  **(9-10)** | **Mastering: Clear and mostly**  **complete**  **(7-8)** | **Developing:**  **Adequate but not thorough**  **(5-6)** | **Beginning: Missing vital information**  **or not provided (0-4)** |
| Introduction, Project title, Project Overview Statement, Project Goals and Objectives | All elements are well written and clearly explains the details of the chosen project. | All elements are reasonably clear and mostly complete, and is adequate to understand. | All elements are adequate, but not well written or thorough; information is minimal. | All elements are missing vital section or No documentation is provided |
| Functional Requirements | Excellent representation of requirements which seamlessly integrates all important requirement documentation concepts. | Clear narrative which integrates most requirement documentation concepts. | Clear narrative that integrates some requirement documentation concepts. | Little or no clear narrative or demonstration of requirement documentation concepts. |
| **Element** | **Outstanding: Very clear and well written**  **(5)** | **Mastering: Clear and mostly**  **complete**  **(4)** | **Developing:**  **Adequate but not thorough**  **(3)** | **Beginning: Missing vital information**  **or not provided (0-2)** |
| Tools and Technologies with Reasoning | Tools and Technologies are well written and clearly explains the reason why they are chosen. | Tools and Technologies are reasonably clear and mostly complete, and are adequate to understand. | Tools and Technologies are adequate, but not well written or thorough; information is minimal. | Tools and Technologies are missing vital section or No reasoning is provided |

SUBMISSION

* **Soft copy**: The documents should be neatly organized with table of contents and cover page included.
* Soft copy submission via Google Classroom in Assignment Submission Folder: Assignment 2 (**02:00 PM, 05 October 2021**)
* **Plagiarism or copied material is strictly not allowed; 0 mark would be awarded in this case.**