**Weight:** 10%

**Marks:** /30

# Project: Phase 1 – Project Selection and Preliminary Analysis

## Introduction

In this phase, you will create a software system design document for an external client, which will be the foundation for a capstone project. Phase 1 is the first of three project phases, each requiring the submission of documentation.

While some class time will be allocated to work on this project, most of the work will be done outside of the classroom. Your instructor will periodically review your work as you progress and will provide guidance. You have approximately three weeks to complete this phase of the project. Refer to Brightspace for exact due dates.

## Equipment and Materials

For this project, you will need:

* Diagramming software such as Software Ideas Modeler (SIM)
* Word processing software such as MS Word

## Instructions

1. Read through the detailed instructions and marking criteria contained in this document.
2. Before starting the project, form a development team of four to six students (four is ideal).
3. Work with your team to select a project.
4. Obtain your instructor’s approval of your project selection before you begin the preliminary analysis.
5. Perform a preliminary analysis of the project. Document your work according to the *Preliminary Analysis Documentation Requirements* section of this document.
6. Develop a team constitution.
7. Submit your completed preliminary analysis document to Brightspace by the posted due date.

### Project Selection

Your project can be almost anything: some past projects included e-commerce sites, delivery and subscription applications, and independent research projects through Applied Research and Innovation Services (ARIS). Your sponsor must be external to your team.

**Note:** Video games or cryptocurrency projects are **not** allowed.

Ensure that you get approval from your instructor before you start preparing the preliminary analysis. Your instructor will communicate how and when to obtain approval.

### Preliminary Analysis Documentation Requirements

Your preliminary analysis document will serve as the basis for the next phases of the project and is therefore vital to your project’s success. You will revise this document and add to it as you progress through the course. Your document should include the following information and meet the formatting requirements outlined below.

#### Statement of the Project and Project Sponsor

* Identify your project.
* Name your project sponsor and, where applicable, the name of their organization.
* Describe the sponsor’s current system, where applicable.
  + For example, the sponsor could be using Facebook Marketplace to buy and sell items, but their current system involves running everything through Excel spreadsheets.
* Detail your team’s proposed solution.
  + For example: You will transition your client from Facebook Marketplace to an e-commerce system that organizes the inventory, allows clients to order items, and allows the sponsor to process the order and payments.

**Note:** It is vital that you understand the business process and how the work flows through the system. Be as detailed as possible. Ask your instructor for guidance.

#### Use Case Diagram and Use Case Descriptions

* Based on your preliminary analysis, complete the Use Case Diagram and descriptions according to the UML standards listed in the course textbook and as described by your instructor. You may require more than one Use Case Diagram. Ask your instructor for guidance.
* Create your diagrams in a program such as Software Ideas Modeler (SIM). Then, export the diagrams as PNG files and incorporate them into your preliminary analysis document according to IEEE or APP guidelines.
* Your Use Case Diagrams should include the following elements:
  + Actors: who is expected to interact with the system
  + Individual use cases: to be described as actions
    - Example: Create user account.
  + Brief description: each use case will require a description in brief format
    - Example: “The Administrator will enter the required information for a user and save it to a file.”

#### Class Diagram

* Create an analysis-level Class Diagram using the techniques described in class. Each class has a name, attributes and methods (e.g., getters and setters).

**Note:** You will revise this diagram in future documents to include more detail. Your diagram *may* include elements of inheritance, composition and aggregation.

* Create the diagram in a program such as Software Ideas Modeler (SIM). Then, export it as a PNG file and incorporate it into your preliminary analysis document following IEEE or APP guidelines.

#### Team Constitution

* Write a team constitution for your project using the guidelines provided in class.
* Include your team constitution in the Appendix of your preliminary analysis document.
* Ensure that the team constitution is listed in your table of contents.

### Submission Requirements

Ensure that your document conforms to the IEEE or APA writing standards that were covered in your communication course and includes the following elements:

* Title page – includes the project name and the names of all team members in alphabetical order by last name
* Table of Contents
* Diagrams – incorporated into the document as needed
* Appendix – contains your team constitution

Only one submission is required per group. Submit the document as a single **.docx** or **.pdf** file. The submission must be received by the due date posted in Brightspace.

## Marking Criteria

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Categories** | **0 marks** | **3 Marks** | **5 Marks** | **Marks** |
| **Spelling and Grammar** | Spelling and/or grammatical errors are significant enough to interfere with understanding | Some spelling and/or grammatical errors | Document is free from spelling and grammatical errors | /5 |
| **IEEE or APA Style** | Missing in-text citations, image captions and table of contents | Missing some of the required formatting elements | Adheres to IEEE or APA style guidelines | /5 |
| **Use Case Diagram** | Missing or incorrect information (e.g., using incorrect symbols) | Minor errors (e.g., missing one symbol or incorrect use of <<include>> or <<extend>>) | Fully complies with UML guidelines | /5 |
| **Use Case Descriptions** | Missing descriptions | Minor errors or incomplete descriptions | All use cases listed in the Use Case Diagram are described in the ‘Brief Format’ | /5 |
| **Class Diagram** | Missing classes listed in the Use Case Descriptions or incorrect use of UML symbols | Minor errors (e.g., missing or incorrect relationship between classes) | Fully complies with UML guidelines | /5 |
| **Team Constitution** | Incomplete or poorly written document | Minor spelling and/or grammatical errors  OR  Some information provided is incomplete | Document is complete and complies with the guidelines provided  Document is free from spelling and grammatical errors | /5 |
| **Total** | | | | **/30** |