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Software Engineering, Spring 2025

PROJECT DESCRIPTION: GUC INTERNSHIP SYSTEM
MILESTONE 1 - PART 2

Milestone 1 - Part 2 with only AI: Deadline 12 April, 2025 11:59 PM

Milestone 1 - Part 2 with Manual Improvement: Deadline 19 April, 2025 11:59 PM

Please read the following instructions carefully:

- Any case of **plagiarism or cheating** will result in a zero for the entire Milestone.

- It is **YOUR responsibility** to ensure that you have:
    - Read and understood **everything** in the project description (this document).
    - Access from your Product Manager on your GitHub repository **before the deadlines**.
    - Submitted before the deadlines stated above for each milestone and each part.
    - Submitted **ALL** the correct files for Milestone 1- Part 2 on your GitHub repository (it does not matter who submits these from the team).
    - Have NO repeated requirements from Milestone 1- Part 1.
    .

Good luck! =D

1 Theme

You need to continue building a system that handles all the GUC internship report submissions as efficiently as possible focusing on the internship application, enrollment, assessment and evaluation.

The first milestone is split into 2 parts:

- Milestone 1 - Part 2 with AI only

- Milestone 1 - Part 2 with manual improvement

Milestone 1 will focus on **Requirements Engineering**, where you are required to write a set of complete and consistent **functional and non-functional requirements** for a **web application** based on the modules and sub-modules listed previously. The requirements should be documented, actionable, measurable, testable, traceable, related to identified software needs, and **defined to a level of detail sufficient for system design**.

2 Case Description

After students submit their reports and evaluation forms, while companies evaluate student performances (from Part 1), the remainder of the process of completing an internship through the SCAD office includes the following:

- SCAD checks the evaluation forms, which include:
  - Details about the student and the company
  - Student's main supervisor at the company
  - Dates and times of the start of the internship and the end of the internship. Dates and times must reflect the type of internship (full time or part time) and the full-time dates must never intersect with a student's active semester. During an active semester (where the student is enrolled as a full-time student), internships can be part time only.
  - An official company stamp
  - The evaluation form items provided by the company.

- SCAD accepts submissions from students during fixed submission cycles.

- Once a submission cycle closes, SCAD proceeds to validate dates and times and whether a company is on a blacklist.

- Once dates and times are validated, SCAD forwards the evaluation forms and the student reports to respective faculty academics.

- Faculty academics must then check the reports to validate the tasks performed by the students and their technical relevance to the field of study.

- Faculty academics make decisions on whether to accept the internship, reject it, or flag it as pending the improvement of the report writing. They have to provide feedback as to why the report/ internship was rejected or flagged.

- SCAD informs students of the decision, and updates students' internship status for accepted internships.

- Students who have their internships rejected must redo the internship, and students with a pending status (flagged) are required to rewrite the report according to the guidelines provided.

- Students can communicate with SCAD members messages for further clarification on their internship status if required.

- After completing the 3 months internship, students can receive PRO status, which grants them access to other services on the Internship system:
    - Students can view the names of companies that viewed their profiles.
    - Students can request career guidance from the SCAD office via video or voice call.
    - Online self-assessment tests such as the Myers Briggs Type Indicator (MBTI), Strong Interest Inventory (SII), and the Big Five Personality Test.
    - Attend online career development workshops provided by the SCAD office (which can be live or pre-recorded).

3 Overview

You need to continue constructing the web application (once again, you may assume that it is connected to the university's database) to help **students, Faculty academics, companies and the SCAD office** take care of the tasks mentioned in Section 2 above, where the entire process is digitized. In addition to the features that are specific to this system, you also need to think of the following:

- The logic required to automate* this evaluation/assessment task and scale it with the number of reports per cycle. The response time for the CS department for example is not proportional at all with the number of reports submitted per regular cycle.

- Does the SCAD office really need to be a part of every step of the digitized version of the system? Can some actions done by SCAD be automated?

- Do the evaluation forms have to be exactly the same as their paper counterparts?

*Note that automation may actually involve the use of AI tools to assess the description of tasks and provide a score. However, mechanisms to verify any decision made by AI tools must be provided to Faculty Academics.

3.1 Requirements - First Submission (due 12 April, 2025 11:59 PM)

You will be required to write a **completely different set of 50 Functional Requirements** and **7 Non-functional Requirements using only AI**.

Again, the functional requirements will be written in the form of **user stories. These user stories must be COMPLETELY DIFFERENT from the ones that were written in Milestone 1- Part 1.**

Using "only AI" means you will prompt ChatGPT to produce the requirements and you will take whatever output it produces as is and add it to your Excel sheet (feel free to simply download the Excel sheet it provides you). The ChatGPT prompts and conversations you use are important and should be included in your Excel sheet submission (you can add up to 5 conversations).

A prompting guide was provided for you to help you prompt ChatGPT properly to get the best results.

You are required to include in your AI only submission:

- The Excel sheet with **50 Functional Requirements** and **7 Non-functional Requirements** with use of ChatGPT only called **"Team-name-MS1-P2-A"** following the Excel sheet template on the CMS named "RequirementsTemplate2". For example, if your team name is "The Expendables", your Excel sheet should be named "the-expendables-MS1-P2-A".

- The link(s) to the conversation(s) with ChatGPT that produced the requirements (up to 5 separate chats) to also be added in the Excel sheet template on the CMS named "RequirementsTemplate2".

Note that your submission will be compared with the prompts (chats) sent to ensure they match. If they do not match you will receive a zero in Milestone 1 - Part 2.

3.2 Requirements - Second Submission (due 19 April, 2025 11:59 PM)

After submitting the 50 functional requirements and 7 non-functional requirements, you will be required to improve your submission (if required) by going over them manually and enhancing the requirements provided by ChatGPT.
You are required to include in your improved submission:

- The Excel sheet with **50 Functional Requirements** and **7 Non-functional Requirements** after improving them called **"Team-name-MS1-P2-B"** following the Excel sheet template on the CMS named "RequirementsTemplate2". For example, if your team name is "The Expendables", your Excel sheet should be named "the-expendables-MS1-P2-B".

4 Objectives

- Learn how to analyze a problem scenario.

- Learn the process of requirements engineering and deriving requirements' specifications to an existing project.

- Learn to research the whole scope of a given task using any relevant content. For example, textbook(s), Doctors, TAs, and online resources.

- Learn how to properly prompt ChatGPT to form a cohesive set of requirements for the problem description.

- Learn how to manually improve requirements provided by ChatGPT.

5 Deliverables and Grading Criteria

In Milestone 1 - Part 2, you are required to submit 2 filled Excel sheets of well-written **user stories** that cover the following:

- You must have **7 well-defined** non-functional requirements. These non-functional requirements must be suitable for the system at hand.

- You can use the same 3 modules as the ones from Milestone 1- Part 1. You are free to add more modules if you feel the need to do so.

- You must have **exactly 50 unique user stories in each Excel sheet** covering **ALL** the modules you chose now and before. If you write more than 50 requirements, we will only look at the **first** 50 requirements in each of your submissions. Any requirements after requirement number 50 **will be ignored**. Therefore, be sure not to have any duplicated requirements.

- These 50 user stories must be **COMPLETELY DIFFERENT** from the ones that were written in Milestone 1- Part 1 as this is a continuation of Milestone 1 not a new milestone.

- For each user story to be considered valid and counted towards your requirements, it has to follow the following rules:
    - Clear

- Consistent and coherent with other requirements

- Implementable, testable, and deployable

- The CRUD (create, read, update, and delete) of any business entity will be considered as **only one** user story.

- User stories with the same action and intent but different stakeholders should be written as "As a stakeholder1/stakeholder2/stakeholder3, I should be able to [action] so that I can [intent]". This will be considered **one** requirement of the 50 requirements.

ANY SUBMISSIONS OF MS1 BY EMAIL WILL NOT BE ACCEPTED. ALL MS1 SUBMISSIONS MUST BE ON THE GITHUB REPOSITORY.

Also note that in the template, there are examples of functional and non-functional requirements to show you the format of how to write requirements. **These examples are not related to your project so please be sure to remove them in your submissions.**

The grading of this assignment will be broken down alongside the previously mentioned specifications as follows:

- Accuracy (clarity, precision and completeness of the specification)

- Presentation (organization and consistency of the document)

- Composition (format, spelling and usage of English)

Note that you will be given the higher of the 2 grades after the submission of both files.