

Signature Assignment — Step 2: Articulating a Use Case and Problem Area

Requirements can be the toughest part of development, use cases are a powerful tool to understand:

- Who your users are (including interacting systems)
- What functions the system shall provide
- How these functions work at a high level

When use cases are developed into scenarios, they can be used to make designs salient to stakeholder groups and developers. For these reasons, it is very important to spend adequate time on requirements and elaborating upon descriptions, rather than building up storytelling alone. Below is an example of a very basic write-up to help you think about this task:

EXAMPLE

-Background-

Homework assignment and collection are an integral part of any educational system. Today, this task is performed manually. What we want the homework assignment distribution and collection system (HACS for short) to do is to automate this process. HACS will be used by the instructor to distribute the homework assignments, review the students' solutions, distribute suggested solutions, and distribute student grades on each assignment. HACS shall also help the students by automatically distributing the assignments to the students, provide a facility where the students can submit their solutions, remind the students when an assignment is almost due, remind the students when an assignment is overdue.

-Use Case-

Title of Use case: Distribute Assignments

Actors: Instructor (initiator), Student

Type: Primary and essential

Description: The Instructor completes an assignment and submits it to the system. The instructor will also submit the delivery date, due date, and the class the assignment is assigned for. The system will at the due date mail the assignment to the student.

Cross Ref.: Requirements [a] student database access, [b] university login, and [c] FERPA security and privacy considerations

Preconditions/Postconditions of Use-Case: *Configure HACS* must be done before any user (Instructor or Student) can use HACS

-Scenario-

Jess is an instructor at the University of Cincinnati. She hosts an online class with 40 students that are about to embark upon an exciting voyage into scenario-based design by completing an online assignment that Jess has created, but first she must distribute the assignment to them. The homework assignment distribution and collection system (HACS for short) is a tool that has been designed to automate the process of distributing assignments to students and has been configured for Jess' class. Jess loads the assignment into HACS and submits it to be distributed to students. A student in the class, Brad, receives a notification that assignment has been uploaded and can now read the details of the assignment and carefully prepares his lab assignment. When Brad has completed the assignment, he submits through HACS and Jess is able to access and grade the submission.

ASSIGNMENT DELIVERABLES

- **NARRATIVE SUMMARY** — Background necessary to understand goals of your design based on your research. Use at least 5 sources to describe a problem in the IT field that your project will address. The sources may provide # of people impacted, dollars spent, or documentation of an event that is well known.
- **USE CASES** — At least 2 use cases for your design that include:
 - *Title of use case*
 - *Actors* involved in scenario
 - *Type of action*: options include primary, secondary, or tertiary, you might also specify if designing for these use cases is essential or nonessential. You should start with a primary and essential use case — or primary and essential activity that design will focus on. This activity should achieve a goal that you outline in your narrative summary. If there is not a second primary use case you might include a secondary use case (achieves a sub-goal) or tertiary use case (might not achieve a goal, but is a way that the design could be used).

- *Description of use case* (this should be a few sentences describing the use/task)
- *Cross Reference* of system requirements required to carry out the task (in example, use case description and scenario does not cover the creation of a student database, but this cross reference acknowledges that it is a system requirement before this use case can be completed)
- *Preconditions/Postconditions*: Describe the relationship between this use case and other use cases (in the example, configuration is necessary before distribution of assignments)
- SCENARIO — Describe at least one scenario based on one of your use cases, drawing upon the actor, description, cross references, and the relationship with other use cases and includes enough background information to make the scenario clear to a reader that is unfamiliar with your project.
 - Consider using visual aids such as a storyboard (comic strip), screen capture, or video to illustrate the scenario in vivid detail

SUBMISSION

- Your submission should be 2-5 single-spaced pages in length and be of the quality that you would share with a client or employer
- At the college level, it should go without saying that you should use complete sentences, complete thoughts, correct grammar/punctuation, and you should proofread the document to be sure that it is free from typos. A document that is difficult to read and understand is extremely difficult to grade based on merit.
 - Be sure to include an introduction to each section to orient a reader who is unfamiliar with this assignment (do not include prompts as an introduction)
 - Use headers or well-formed introductory sentences to each paragraph as wayfinders to the materials you are presenting
 - Bullet points are fine for short lists and sections, but you should not submit a document that is entirely bullet-pointed notes
 - Use figures, screenshots, and other visual aids appropriate to the IT field - *the absence of figures or screenshots when necessary to communicate a thought or idea will be reflected in your grade*