

CS 321 – Software Engineering

Fall 2019

Assignment 3 – Software Design and Project Review

Due date: Monday, October 28, 2019, 11:55 pm

The purpose of this assignment is to help you gain significant insights into the design process and review your team's progress so far.

For this assignment, you are expected to do the following:

1. Identify the technologies that you plan to use and justify your choices.
2. Record any assumptions about the existing technology.
3. Record changes if any to the requirements and architectural style(s) based on your technology decisions.
4. Research and identify any design patterns that you might use.
5. Identify any standards or other regulations that you may have to comply with and review your technology decisions.
6. Create class diagrams and other dynamic analysis diagrams.
7. Consider the user experience of the system and determine how your design would accommodate that.
8. Reflect and document your team's experiences.
9. Meet with your GTA and discuss your team's progress

Deliverables:

1. System Overview [5 points]

Provide a high-level overview of the system. This is the product vision and should be stated in the user's vernacular. [This can be modified based on current knowledge]

2. Technology [15 points]

Describe the technologies that you will be using. Justify your choices. Also discuss the following:

- a) Any assumptions made regarding the existing systems/infrastructure (*Examples: any updates/ patches to Firebase will be handled by Google, the user will have an android device, the app will receive permission from the user to use the camera, etc.*)
- b) Changes if any to the requirements and architectural style(s) based on your technology decisions.

3. Class Diagrams [15 points]

Determine a set of classes for the system under consideration. Record those as class diagrams. For each class, provide a class description and explain the various attributes and methods. The class diagrams should include all your “**must have**” features.

Below is a good resource that provides examples of class diagrams:

<https://www.ibm.com/developerworks/rational/library/content/RationalEdge/sep04/bell/>

4. Dynamic Analysis Diagrams [10 points]

Based on the use case diagrams created previously, create sequence diagrams for two different use cases.

Below is a good resource for sequence diagrams:

<http://www.ibm.com/developerworks/rational/library/3101.html> (through Figure 10).

5. User Experience [10 points]

Discuss the user experience considerations for the system. Does it affect any of the design decisions? Include preliminary screen mockups.

6. Team Retrospective [15 points]

Reflect on your team’s experiences and document the following:

- a) What has gone well so far?
- b) What has not gone well?
- c) What steps have to be taken in order to address those issues?

7. Contributions

Include information about the following:

- Who managed the work for this deliverable?
- Individual Contributions (*Briefly describe how the work was allocated and list who worked on the different aspects of the deliverable*).

Project Review Meeting with the GTA [30 points]

You have to meet with the GTA and discuss your team’s progress with respect to the implementation and testing phases and recording meeting minutes. You will also review your project’s scope and discuss team dynamics.

The GTAs will use Piazza to schedule meeting times. If you are enrolled in section 001 or 004, please meet Bhargavi. If you are enrolled in section 002 or 005, please meet Roberto.

It is not required that every member of the team be present at the meeting. However, everyone’s progress has to be reported to the GTA. So, if you are unable to attend the meeting, report your progress to your team’s representative(s) and they will convey the same to the GTA.

Submission Instructions

The assignment should be submitted as a PDF file before the due date – October 28, 2019 at 11:55 pm. Make sure the name of the file includes the assignment number and your last name CS321-P3-<LastName1>-<LastName2>-< LastName3>-< LastName4>.