

CSE 316: Fundamentals of Software Development

Project Phase II [40 points]

Fall 2019

Due: 5-Nov-2019

Directions

- Write architecture and design documents for your group's term project

Assignment Objectives

Develop an Architecture and Design document to specify how the system will work.

Tasks

Review the materials from class on architecture and design. Your team will write one or two documents (depends on whether you split the work into a 'System Architecture Document' (SAD) and a Software Design Document (SDD) or you generate one larger document that contains both architecture and design information for the entire system.

There should be several diagrams as appropriate to describe aspects of the system including:

- **Use cases** – Show all of the identified use cases in a diagrammatic form
- **Activities** (i.e. Activity Diagrams) – These can illustrate the flow through various components like DB, application server, etc.
- **Structural** (i.e., Class diagrams) – These will show the organization of your objects
- **Sequence diagrams** – Use these to show detailed flows for at least the most significant operations

In addition to diagrams though, there should be a significant amount of text 'narrative' detailing key actions in the system.

Organize your document into sections for Architecture and Design (if you combine the documents). You should further subdivide by system(s) and module(s) to make the detail design narratives easy to follow.

I am not requiring a detailed design to the level of actual API calls (prototypes with parameters, etc) in your PHP or Javascript (or Java). [But at the same time, your team should be developing notes on this and writing it down somewhere for when you implement the various pieces of your system.

Regarding length, there is no upper length in pages for this document (or these documents). It will depend on how many diagrams and how much text description you provide. As a guideline though, I would say if you can only write 2-3 pages, that is not going to adequately document your design. On the other hand, I think 100 pages would be [way] more than you need.

Recommended Approach

The team should meet and develop a basic architecture identifying different components to the system. The design of these components should be split up among members of the team to help the writing go quicker. Pick one person on the team to be the ‘Architect’ The system architect should develop the high level diagrams and descriptions as well as helping to organize and assemble the final document(s).

Grading

Your design document(s) will be assessed and graded based on the completeness and level of detail in the diagrams and descriptions. Your team will also be graded on correct use of the various diagrams (refer to the book and the course slides for examples of proper use for these).

There is a short time frame on this phase so as you get close to submission (if your team feels the design is solid enough), go ahead and start coding. I will have a coding assignment up hopefully before this phase is due.

If there are any questions on what I am looking for, please email me for clarification or let’s discuss it in class!

Submitting the File

Place the following in a zip file:

Your group’s Architecture and/or Design document(s). I would prefer this document be in Word format. Looking back, it is harder to make comments for feedback in PDF documents.

Upload the zip file to the **Project Phase II : Architecture and Design Specification** dropbox.