ITMD511 Final Project Requirements and Instructions

Let's assume you are leading a new software development project and imagine yourself playing different roles during the development process.

You are free to pick any topic for this imaginary software development project, but your topic has to be appropriate to demonstrate the requirement below. If you cannot come up with a topic, you can reuse HW3, "the Tip Calculator" as your topic.

Based on what we learned in the class, specifically following The Waterfall Model and Framework Activities, You are required to create a set of articrafts for this development project:

1. Requirement Specification - can be any one (or more) of the following:
    a. A written document (Mandatory)
    b. A set of models (At least one of 4 models)
    c. A formal mathematical (not required)
    d. A collection of user scenarios (use-cases) (optional)
    e. A prototype (optional)

2. Architecture Specification – please choice one of the following "Architectural Styles" to represent the architecture of your software system:
    i. Data-centered architectures
    ii. Data flow architectures
    iii. Call and return architectures
    iv. Object-oriented architectures
    v. Layered architectures

    Your SW architecture should demonstrate some of the following Fundamental Concepts:

    vi. Abstraction—data, procedure, control
    vii. Architecture—the overall structure of the software
    viii. Patterns—"conveys the essence" of a proven design solution
    ix. Separation of concerns—any complex problem can be more easily handled if it is subdivided into pieces
    x. Modularity—compartmentalization of data and function
    xi. Hiding—controlled interfaces
    xii. Functional independence—single-minded function and low coupling
    xiii. Refinement—elaboration of detail for all abstractions
    xiv. Aspects—a mechanism for understanding how global requirements affect design
    xv. Refactoring—a reorganization technique that simplifies the design
    xvi. OO design concepts—Appendix II
    xvii. Design Classes—provide design detail that will enable analysis classes to be implemented

3. Component Level Design – Not required!
4. Coding – Implementation not required

5. Test Plan and Test cases
    a. Test cases mapping to each individual requirements.
    b. Must cover all your requirements

Due to the time limit, you are not requirement to have a complete specification for the whole project. However you must provide enough and sufficient work articrafts to demonstrate the items listed above.

Due Date April 27 2018, please send you work to me: phuang9@iit.edu

You are requirement to make a presentation for 10 minutes in class on April 30th.

All students including online students must attend the presentations.

Remote students are required to send me a video of your presentation.