

Term Project – Milestone Two

Requirement Changed

After Innovative EDucation (IED) demonstrated the prototype of UVSIm to Utah Valley University (UVU), a validation and verification meeting was held involving all the stakeholders. The followings are the meeting outcomes.

(1) (5 points) The prototype of UVSIm meets the basic needs of UVU. UVU will continue the contract with IED. However, UVU concerns the quality of UVSIm, and worries about some of the key quality issues may be ignored during the fast prototyping. UVU suggested IED to through away the current prototype and start a new design which can accommodate future functional expansion of UVSIm. IED agree to provide a one page justification to justify whether to through away or keep the current prototype.

(2) (25 points) IED will build Functional Requirement (FR) document by using Delphi Method. The RF will be put in the database as baseline. Delphi process is listed as follow.

Step 1: Every team member list their own 15 FRs. Discussion is not allowed between team members. There will be 4 separate documents. This is the first iteration, and need to be in the submission.

Step 2: Every team member send the FR to the team leader, and don't put your name on the document.

Step 3: Team leader assemble the four documents to two. Send each document to sub-group of two students. Each sub-group discuss, revise, and modify their document.

Step 4: Once the sub-group agreed upon their FR, submit to the leader. This is the second iteration. Your team should have six (4+2) documents now. Again, don't write names on the documents. You need to include these two documents in your submission as well.

Step 5: Group meeting, assemble the two documents into one. Discuss, modify, and revise to reach the final version. Include the final version in your submission as baseline.

Example of functional requirements

Requirement	Classification
The system should allow employees to update their own information, including addresses, phone numbers, emergency contact information, beneficiary information, paycheck deductions, office location, office phone number, and office e-mail address.	Functional
The system should be accessible over the web and be secure.	Non-functional
The system must provide a searchable online company directory.	Functional

(3) (25 points) IED will design Class Diagram as baseline. The Class Diagram should follow the following requirements.

- Interfaces, Abstract Classes, and Base Class are allowed.
- Apply Model View Controller (MVC) and Façade software design patterns. Use dash line box to circulate the patterns. You need to label the pattern name.
- You need to strictly follow “high cohesion and loos coupling” design guideline as follow,
 - No class can has more than 5 coupling with other classes. (hint: coupling types include Content, Common, External, Control, Stamp, and Data couplings)
 - No class can has more than 5 attributes (hint: design data structure if needed).
 - No class can has more than 10 methods. Constructor and accessors are not counted. (hint: cohesion types include Functional, Sequential, Communication, Procedural, Temporal, or Logical cohesion.)

(4) (40 points) UVU require the following modification and enhancements to UVSim simulator. Choose 30 points out of 40 points is the minimum requirement to continue the contract.

- a. Extend the UVSim memory to contain 1000 memory locations to enable UVSim to handle larger program. (10 points)
- b. Allow the simulator to perform remainder and exponentiation calculations. The modification requires additional BasicML instructions. Missing information ... (5 points)
- c. Provide user friendly GUI for UVSim. Missing information ... (5 points)
- d. Allow two programs run simultaneously on the virtual machine. Missing information ... (10 points)
- e. Implement all unfinished coding from Milestone One. (10 points)

(5) (5 points) Decompose Milestone to backlogs and sprints. Submit Meeting logs with signatures.