Continuous Assessment for Enterprise .NET II (2016)

Background Scenario (based on ENET I CA)

J-Learn is a training institution. The institution teaches many courses. And most of the courses are taught in a traditional approach where learning happens didactically. As a result, some students have shown symptoms of spurning on the traditional approach, i.e. short attention span, disinterested and set their focus on other matters during lessons.

J-Learn 's directors have decided to invest and focus on enhancing its courses to make it more engaging and interactive to the students. This is to increase the interest of the students on the courses. At the same time, making learning more interesting, engaging and interactive through the use of technology. This is aligned with the nation's initiative to bring about active learning.

The curriculum development team has come up with an idea to advocate active learning to the use of technology. The team has discussed and decided to initiate an IT project titled – Active Blended Study. The team are tasked to form one or more teams to do a feasibility study through creating an Active Blended Learning System to be demonstrated to the directors in a month's time.

In the first iteration, the curriculum development team have proposed to come out with some basic features as listed:

- Live Forum
- Live Quiz
- Self-Directed Learning through the use of videos and slides

In the second iteration of the project, the development team manages to get a team of mobile developer interns who is going to write a mobile app prototype for the learning system. As such, the development team need to support the mobile development team with API to access some of the functionality of the learning system.

The services to be developed:

- Authentication of User ID and password
- List of courses taken by the student
- List of material for a particular course
- Services to allow quiz taking

The other thing that the team have to develop in the second iteration is support for workflows. There are 2 workflows identified to be done in this iterations:

Workflow for class enrolment

- Each student can apply to enrol to a course. Each course has a maximum limit of students (if there isn't, add into the course detail)
- If the student apply before this limit is reached, then the system will immediately enrol this student into the class
- Otherwise, the application is marked as pending and the lecturer needs to make a decision whether to accept the application (effectively overriding the limit) or reject the student.
- (Optional) Handle cases where 2 people apply at the same time and there's only 1 seat left.

Workflow for upload of course material

- The lecturer upload the material for review
- Reviewer can then either accept or provide a review comment for the lecturer to address
- Only upon satisfactory revision by the reviewer, the material will be accepted and listed as the material for the course

Deliverables

- URL to the Git repository of the source code of the project. Please give read-only access for yunghans@hotmail.com and darryl1975@gmail.com
- Zip file containing the latest source code uploaded to project workbin in IVLE
- Presentation and demo
- You need to be able to demonstrate the functionality of the services and workflow that you have created. You can do that by:
    - Using some generic web service test client like WCF Test Client to invoke the web service and simulate request from the users. Just make sure that you have prepared the necessary data to make the request for the demo in some text file.
    - Create some simple test application to trigger the service/workflow and run the test case. This will make it easier to do the demo since you have full control over test application UI.
    - Integrate the workflow into the UI that you've build for ENET1 CA. This is probably the hardest to do and is not necessary although if you do that I would give you some extra marks.

Timeline

Suggested progress

End of week 2: have started working on the services and have a confirmed design decision such as the protocol, security, etc.

End of week 3: started on the workflow project

End of week 4: polishing the work and preparing the test scenario for the demo

Marking Scheme

The maximum marks that can be awarded to this CA is 40 marks which covers the following areas:

WCF (20 marks)

- Service design decision and the justifications
- Service interface
- Service model
- Security
- Presentation and demonstration
- Functionality of the service compared with the requirement

WF (20 marks)

- Design of the workflow
- Integration with the application data

- The way the workflow can be integrated with the application UI
- Presentation and demonstration
- Handling of edge cases
- Functionality of the services compared with the requirement

Presentation Guideline

- WCF Presentation should contains:
    - Short definitions of your service
    - Design decision and justification for the design decisions that you made
    - Application demonstration
    - Code walkthrough
- WF Presentation should contains:
    - Code walkthrough of the workflow that you've created
    - Application demonstration
    - Elaboration on how this workflow will be integrated to the UI
- Each team will have a maximum of 30 minutes presentation and 15 minutes of Q&A
- The presentation will be done on the 5th week (11 June). Tentative schedule for the presentation is:

Time	**Team**
9.30-10.15 am	1PT
10.20-10.55 am	2PT
11.00-11.45 am	3PT
11.50am – 12.35pm	4PT
1.50 – 2.35 pm	5FT
2.40 – 3.25 pm	6FT
3.30 – 4.15 pm	7FT