Lab Assignment

Q. Create a Student Assessment Tool for E-Learning/Classroom Response System.

Create an interactive web page

Actors : Teacher / Student/ Developer/ Expert Analyzer

Minimum Requirements for this web Application:

- Login
- Student Details
- Instructor Details
- Developer Details
- Proper Analysis of student/ learner w.r.t to his performance for every subject.

Note: Use an external file in the form of excel (Sample Sheet is Shared) containing attendance, Marks scored by each student for every question in Mid Sem/End Sem etc, and this file is the source of input (if required you can create a database, dump the data from input file and use the database) and plot a graph on the web page w.r.t his performance.)

Your Web Application/Tool should address these parts during its implementation (There are many roles which cannot be addressed by this web application but you should be able to give proper justification why it cannot be incorporated).

User role Requirement

Learner: 1. Provide access to learning material

2. Provide tools to gain knowledge (learn)

3. Allow following the learning path and activities

4. Allow adapting the learning path and activities

5. Provide tools to create learning outcome, make annotations/notes to learning material

6. Provide tools to share the learning material, notes, learning outcome

7. Provide tools to get/give feedback from/to Instructor

8. Provide tools to get/give feedback from/to other learners

9. Allow collaborating with peers to perform learning activities

10. Allow applying the knowledge in real-life situations

11. Motivate the learner during learning

12. Allow monitoring and evaluating own progress

Instructor: 1. Provide tools to create learning material, learning path and learning activities

2. Allow controlling and modifying the learning path and learning activities

3. Allow monitoring learners' progress during learning activity

4. Allow analyzing the learner's progress

5. Allow observing/evaluating results of the learning activity

6. Allow evaluating the learner's progress

7. Provide tools to give/get feedback to/from learners

8. Provide tools to support learners' motivation

Developer: 1. Facilitate development of system components

2. Facilitate installation and configuration of the system

3. Facilitate monitoring the system status (e.g. performance, HW/SW components)

4. Allow evaluating system status

5. Facilitate modification and reconfiguration of the system

Expert Analyzer: 1. Facilitate setting up and modification of evaluation criteria

2. Facilitate monitoring and evaluation of the system and learning process against the set criteria

3. Allow tuning system variables and analyzing their effect

4. Provide tools to support Instructors in creation of content and learning activities.

You should consider all these factors and be able to give proper justification w.r.t your web application for these questions

i. Have you considered all human factors (ergonomics)? (Chapter 1 & 2)

ii. Which interaction styles are used and why that particular interaction style is better? (Chapter 3)

iii. What design rules you have used [standards/Guidelines/rules/patterns]? (Chapter 7)

iv. Which evaluation techniques are used? (Chapter 9)

v. Is this a universal Design? (Chapter 10)

vi. Are you using any cognitive model? (Chapter 12)

vii. If this application uses ubiquitous computing/Augmented reality/ Groupware (Chapter 19 & 20).. will it boost the performance of this application?

viii. Does it make any difference if you don't use Hypertext/Multimedia/WWW? (Chapter 21)

NOTE: 1. You can add any creative and innovative aspects (it contains 25% of the weight age).

2. Make this a generic framework w.r.t applicable user roles.

3. Those reference chapters mentioned are from Alan Dix HCI (3rd Edition) text book.

4. In that shared sample excel sheet the variables are number of students, Course Objectives, Test Types, Number of question in Mid Sem & End Sem. But the representation pattern in excel sheet remains the same.