

DESIGN JUSTIFICATION

GROUP 13

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AUTOMATED LIVE CLASSROOM PERFORMANCE EVALUATION

COHESION

Module 1 : [Authentication](#)

Functions: i) Registration
ii) Login/Logout

Both the functions have **communication cohesion** as both functions execute over the same user database.

Module 2 : [Attempt Exam](#)

Functions: i) Get Instruction
ii) Display Attempt summary
iii) Mark for review
iv) Reset chosen option
v) Next Question
vi) Answer Question
vii) Get Questions
ix) Add Doubt

All the functions have **temporal cohesion** and **communication cohesion** as all them execute during ongoing examination and act on same exam data. The functions **nextQuestion()** , **answerQuestion()** and **getQuestions()** also have **functional cohesion** as they are a part of the same procedure(attempting the question).

Module 3 : [Analysis](#)

Functions: i) Get Average
ii) Get Rank
iii) Get Exam Statistics
iv) Get Answer Key
v) Best Performers List
vi) Get Marks

All the functions have **temporal cohesion** all of them execute during the same time during analysis of an examination. The functions **getAverage()** , **getRank()** and **getMarks()** will show **functional cohesion** for being part of the same procedure (Generating an analysis report). All of them also show **communication cohesion** for acting on the same exam data.

Module 4 : [Course FeedBack](#)

Functions: i) Add FeedBack to course
ii)Get Feedback

The modules show **sequential cohesion** as **getFeedBack()** works if and only if the user uses the function **AddFeedbackToCourse()**.

All of them also show **communication cohesion** for acting on the same course data.

Module 5 - [Join/Leave course](#)

Functions: i) Enroll in Course
ii)Leave Course

The modules show **sequential cohesion** as **LeaveCourse()** if and only if the user uses the function **EnrollinCourse()**.All of them also show **communication cohesion** for acting on the same course data.

Module 6 - [Handle Course Queries](#)

Functions: i) Add Query to course
ii)View Query Response
iii) Get Query
iv) Give Query Response

The modules show **sequential cohesion** as **ViewQueryResponse()** if and only if the user uses the function **GiveQueryResponse()**.

All of them also show **communication cohesion** for acting on the same course data.All of them will show **functional cohesion** for being part of the same procedure (Doubt Solving).

Module 7 - [Evaluate Exam](#)

Functions: i) Evaluate Exam
ii) Get Result
iii) Update Answer Key
iv) Get Answer Key
v) Get Re-evaluation Request
vi) Add Re-evaluation Request

The modules show **sequential cohesion** as **AddReEvaluationRequest()** if and only if the user uses the function **EvaluateExam()**.

All of them also show **communication cohesion** for acting on the same exam data.

All of them will show **functional cohesion** for being part of the same procedure (Evaluation of exam).The last two functions also show **temporal cohesion**.

Module 8 - [Manage Question Bank](#)

Functions: i) Add Question
ii) Assign Marks to Question
iii) Remove Question
iv) Update Question

The modules show **sequential cohesion** as **RemoveQuestion()** and **UpdateQuestion()** if and only if the user uses the function **AddQuestion()**.

All of them will show **functional cohesion** for being part of the same procedure (Managing Questions). The first two functions also show **temporal cohesion**.

COUPLING

1) Control Coupling

The modules **Analysis** shows **Control coupling** with **Evaluate Exam** and **Attempt Exam** shows Control coupling with **Manage Question Bank** and **Evaluate Exam** shows Control coupling with **Manage Attempt Exam** as they completely depend on each other as the former module works if and only if the exam data flows from the later module.

2) Data Coupling

The modules **Join/Leave Course** and **Course FeedBack** show **Data Coupling** as they both communicate through the course data. Even modules **Manage QuestionBank**, **Attempt Exam**, **Evaluate Exam** and **Analysis** also communicate through exam data and question data hence they show **data coupling**.

This design shows high cohesion and less coupling hence we finalized it as a decent design.

Each module has more than one cohesion and the modules show a very minimal amount of coupling so modules can be claimed functionally independent.