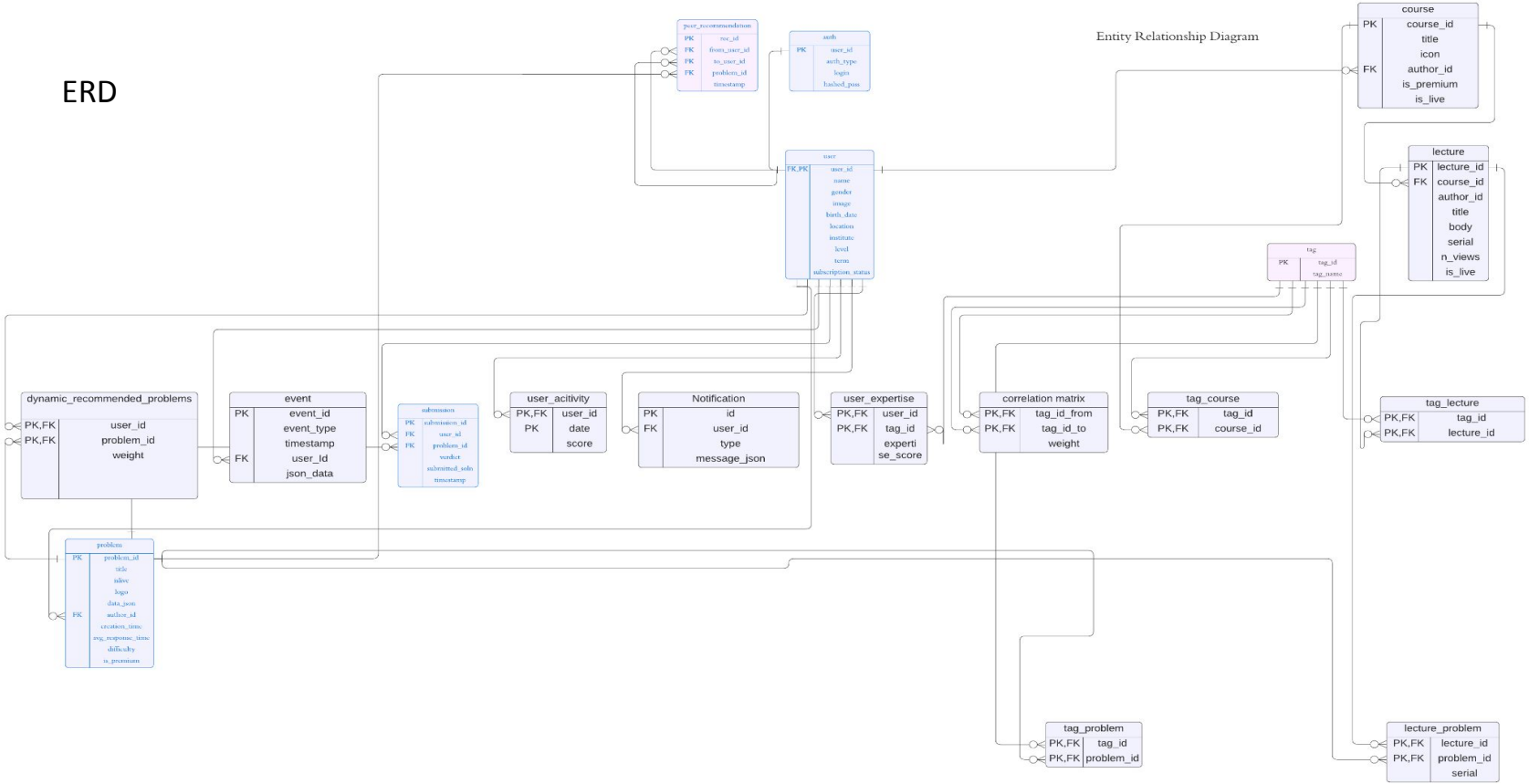
CSE - 326
Information System Design Sessional

Class Diagram + ER Diagram

1805001 - Md. Mehrab Haque
1805003 - Rabib Jahin Ibn Momin
1805009 - MD. Zarzees Uddin Shah
1805015 - Ahmed Mahir Sultan Rumi
1805021 - Abdus Samee
1805024 - Zannatul Naim

ERD


Entity Relationship Diagram
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PK course_id
title
icon
FK author_id
is_premium
is_live
lecture
PK lecture_id
FK course_id
author_id
title
body
serial
n_views
is_live
tag
PK tag_id
tag_name
dynamic_recommended_problems
PK,FK user_id
PK,FK problem_id
weight
event
PK event_id
event_type
timestamp
FK user_Id
json_data
user_acitivity
PK,FK user_id
PK date
score
Notification
PK id
FK user_id
type
message_json
user_expertise
PK,FK user_id
PK,FK tag_id
experti
se_score
correlation matrix
PK,FK tag_id_from
PK,FK tag_id_to
weight
tag_course
PK,FK tag_id
PK,FK course_id
tag_lecture
PK,FK tag_id
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tag_problem
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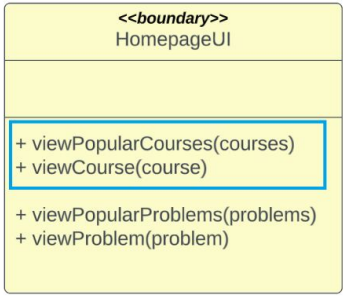
lecture_problem
PK,FK lecture_id
PK,FK problem_id
serial

Homepage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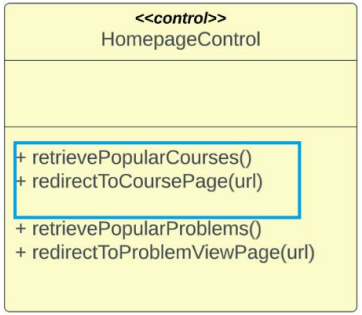
HomepageUI
+ viewPopularCourses(courses)
+ viewCourse(course)
+ viewPopularProblems(problems)
+ viewProblem(problem)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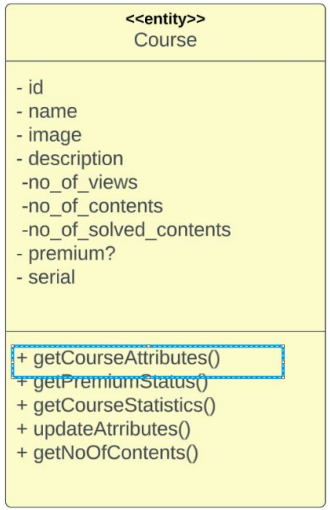
HomepageControl
+ retrievePopularCourses()
+ redirectToCoursePage(url)
+ retrievePopularProblems()
+ redirectToProblemViewPage(url)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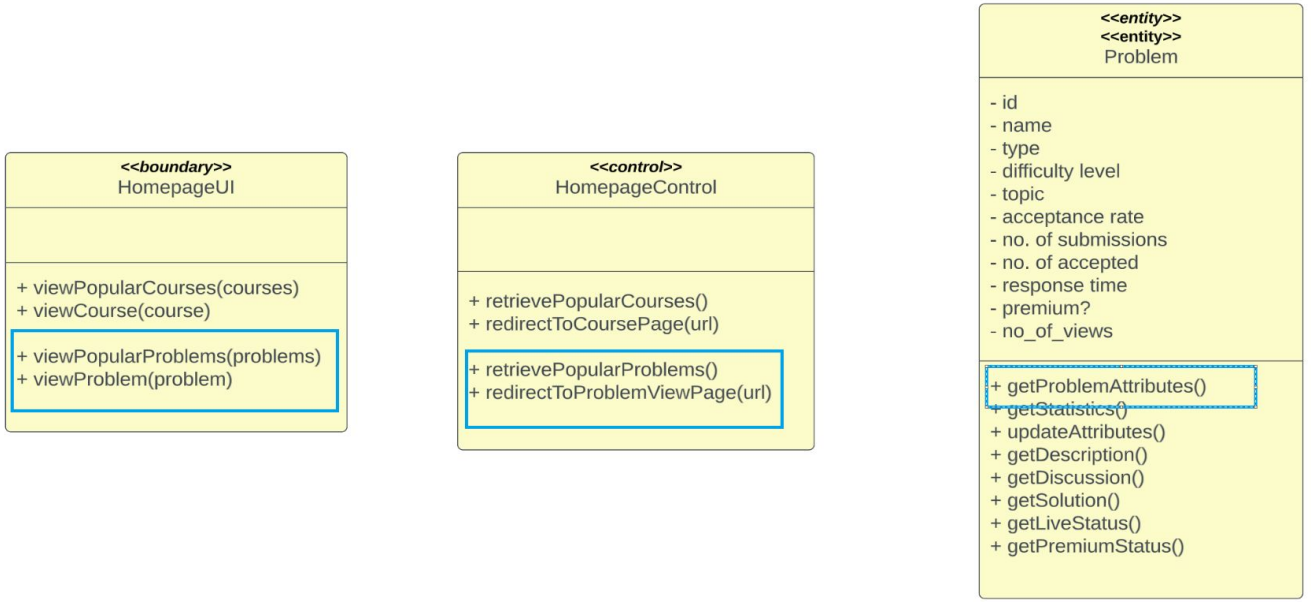
Course
- id
- name
- image
- description
-no_of_views
-no_of_contents
-no_of_solved_contents
- premium?
- serial
+ getCourseAttributes()
+ getPremiumStatus()
+ getCourseStatistics()
+ updateAtrributes()
+ getNoOfContents()

Homepage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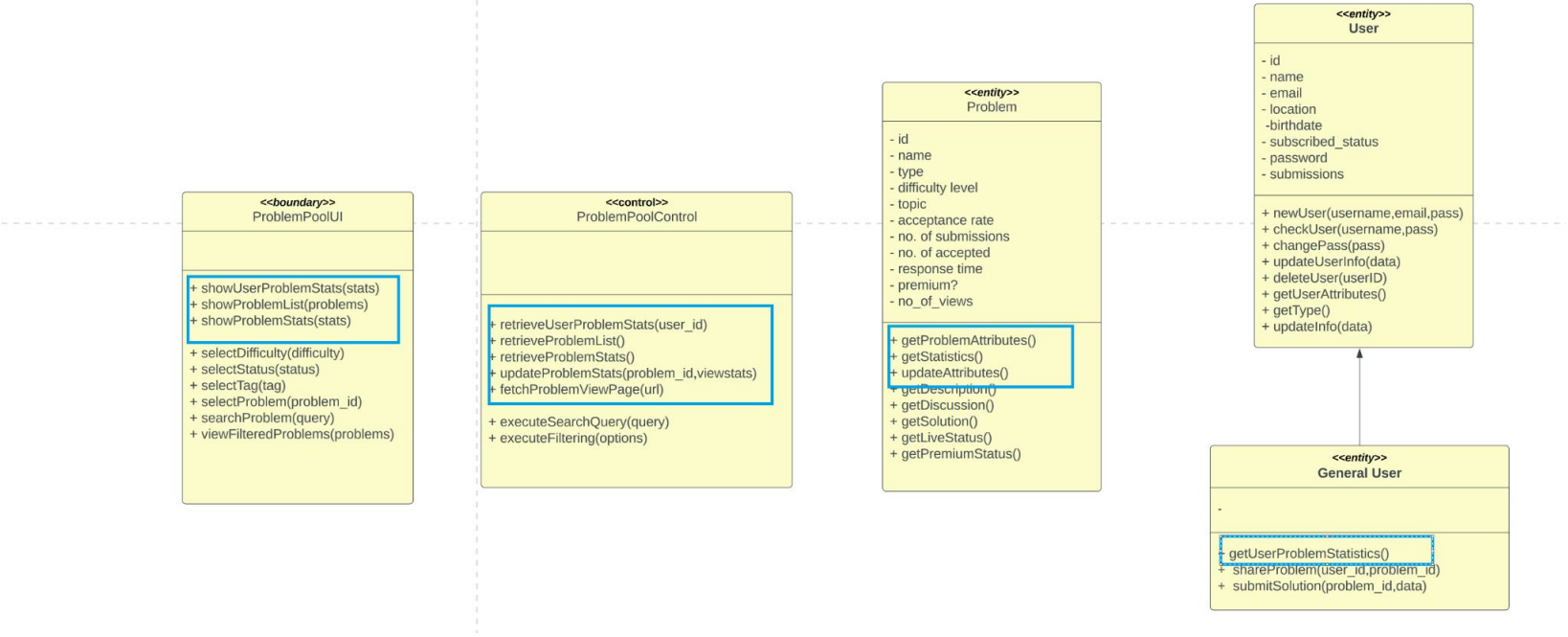
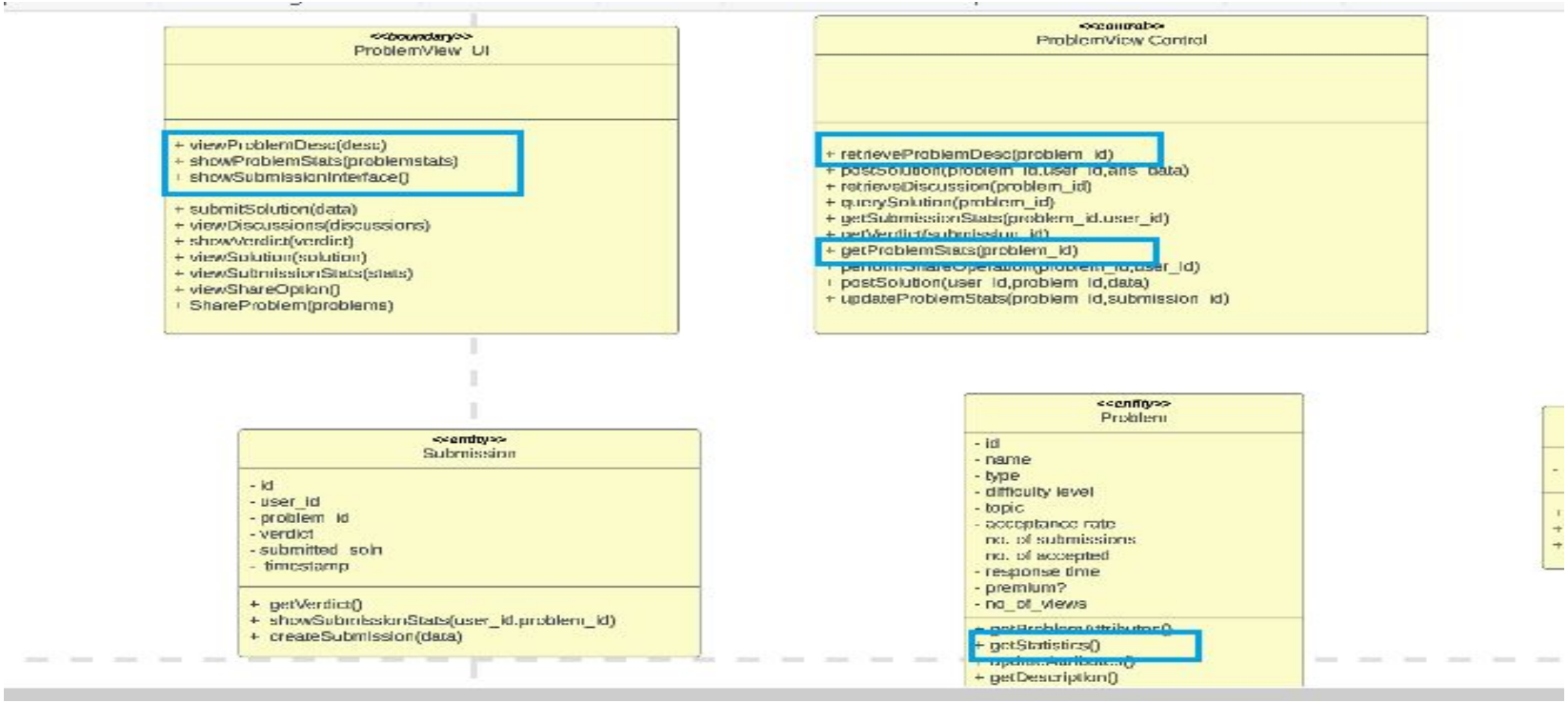
HomepageUI
+ viewPopularCourses(courses)
+ viewCourse(course)
+ viewPopularProblems(problems)
+ viewProblem(problem)
<<control>>
HomepageControl
+ retrievePopularCourses()
+ redirectToCoursePage(url)
+ retrievePopularProblems()
+ redirectToProblemViewPage(url)
<<entity>>
<<entity>>
Problem
- id
- name
- type
- difficulty level
- topic
- acceptance rate
- no. of submissions
- no. of accepted
- response time
- premium?
- no_of_views
+ getProblemAttributes()
+ getStatistics()
+ updateAttributes()
+ getDescription()
+ getDiscussion()
+ getSolution()
+ getLiveStatus()
+ getPremiumStatus()

User : ProblemPool

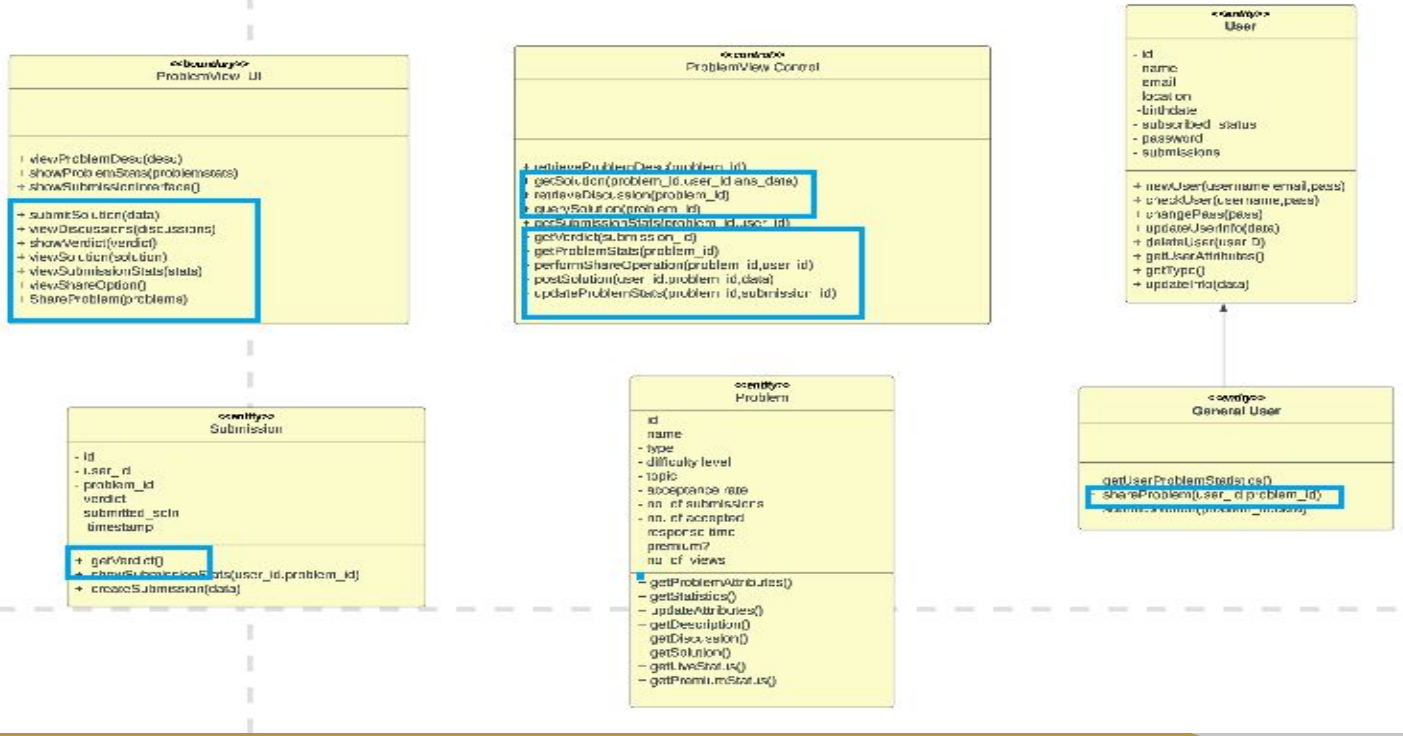


User : ProblemPool

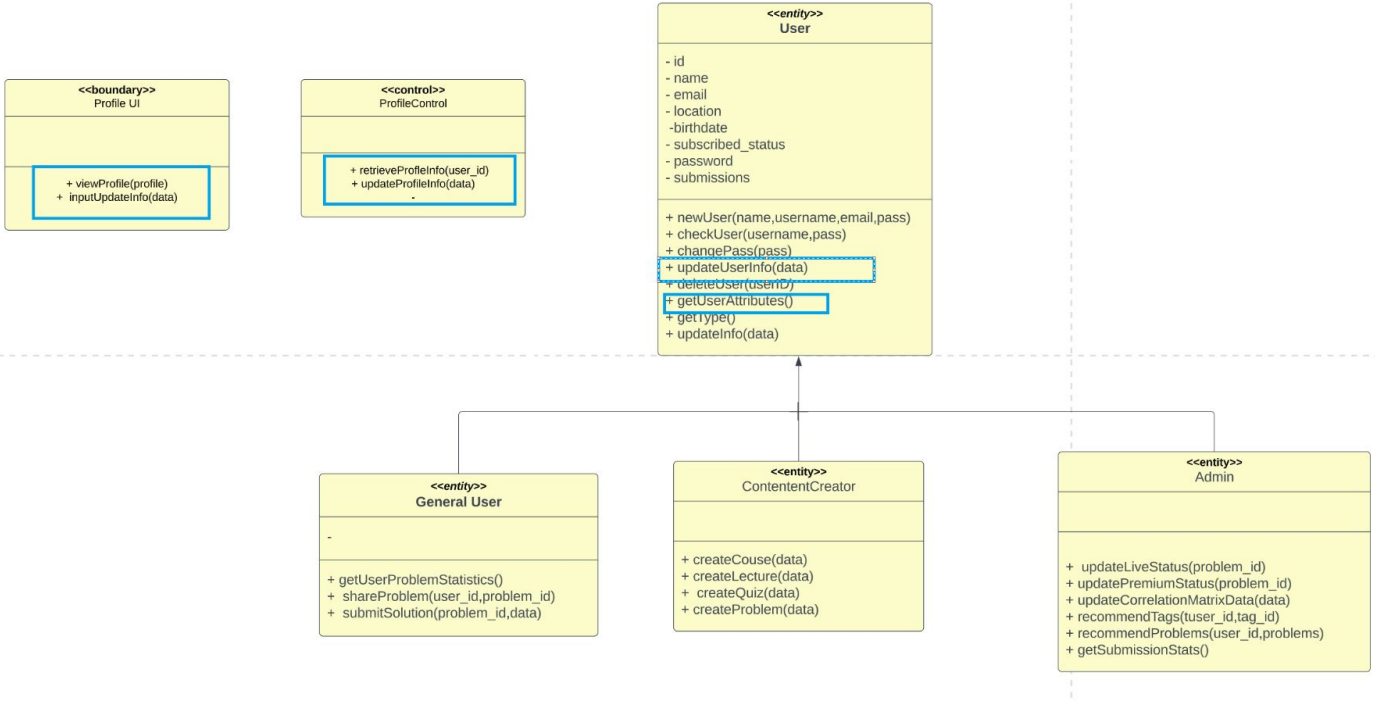
User:ProblemView



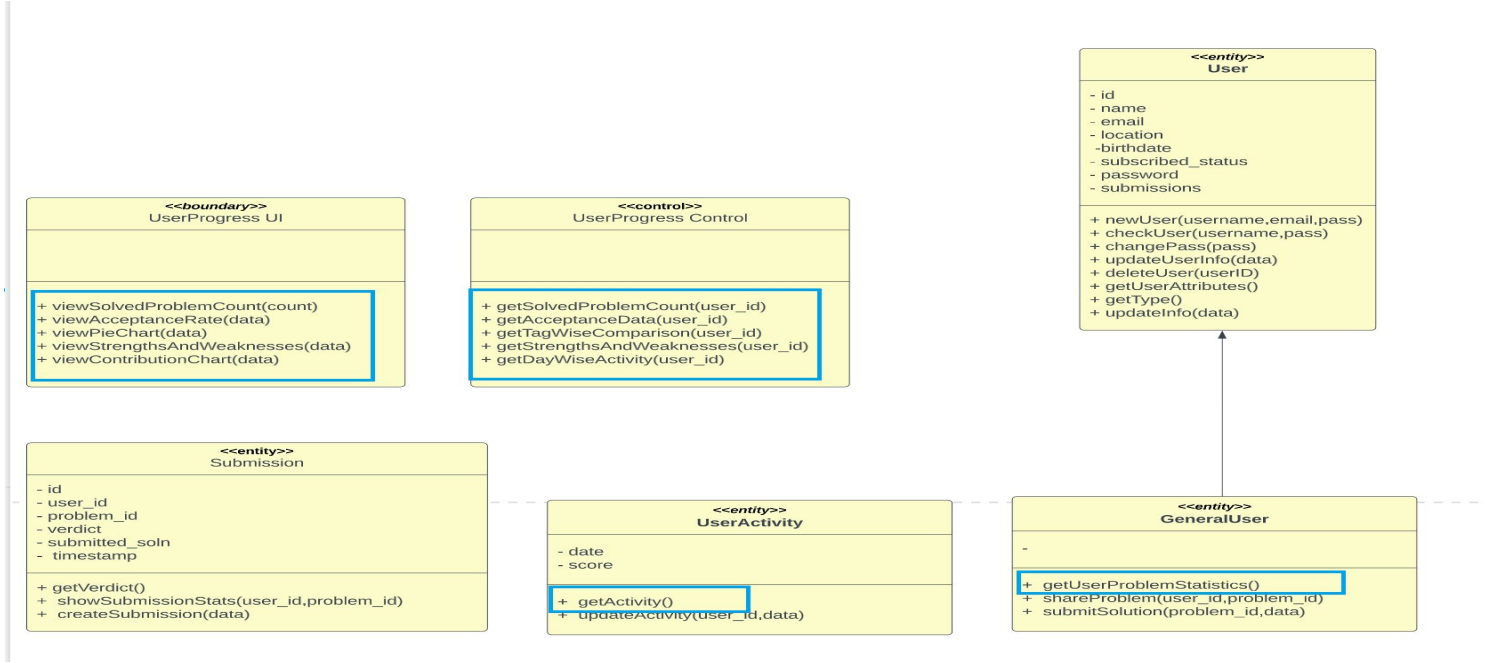
User:ProblemView



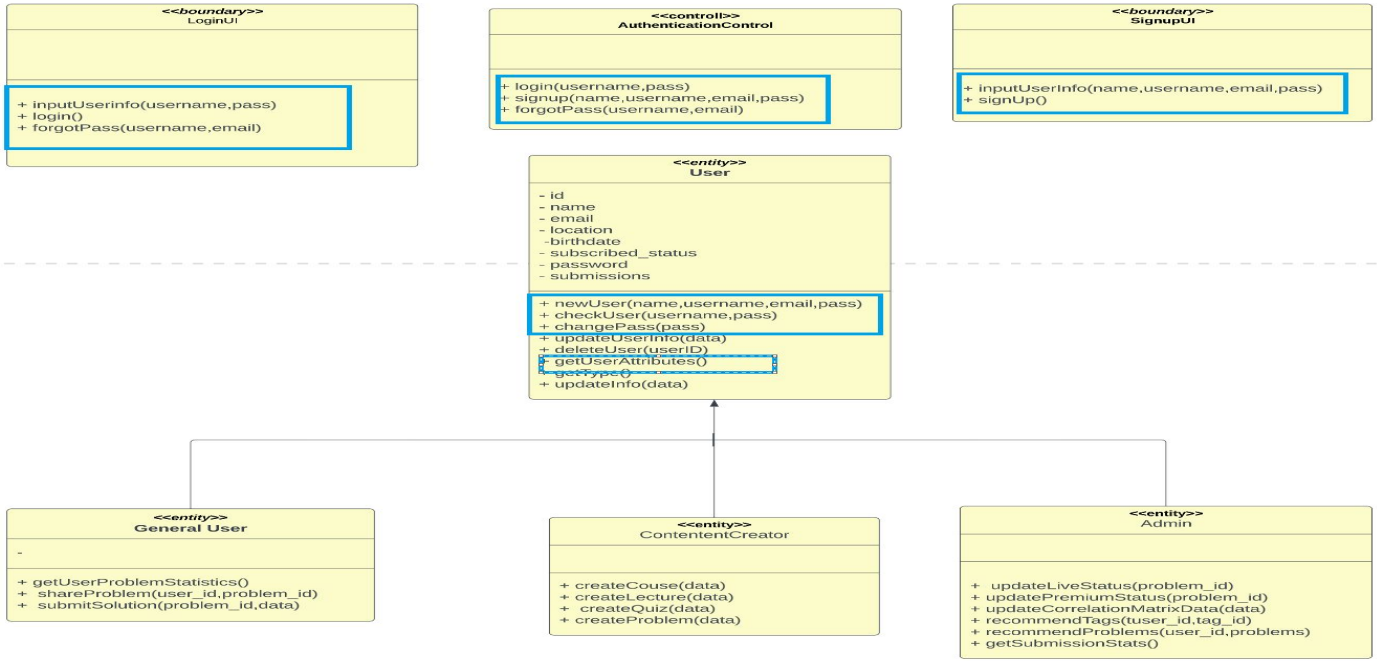
User : UserProfile



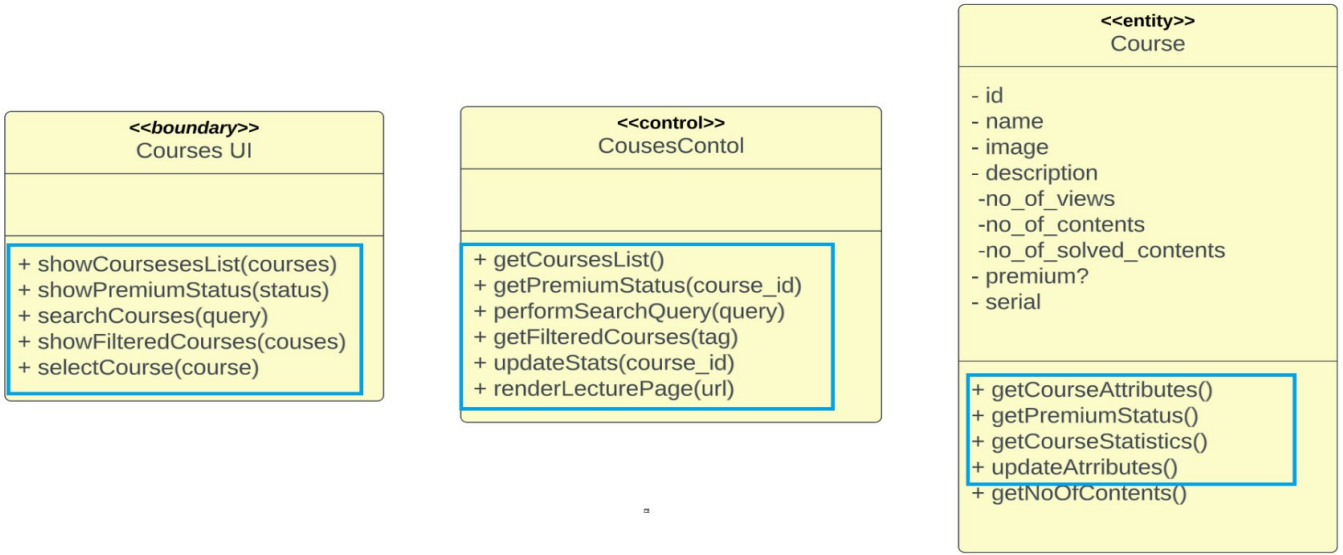
User : Progress



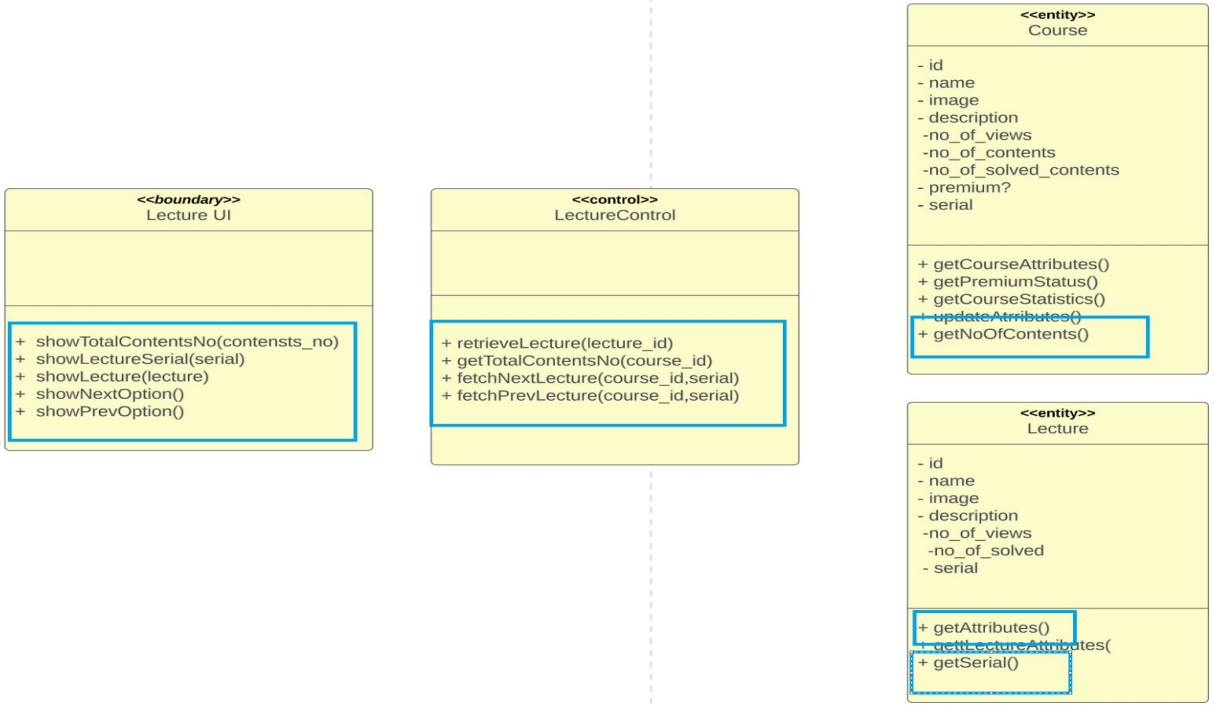
User : Authentication



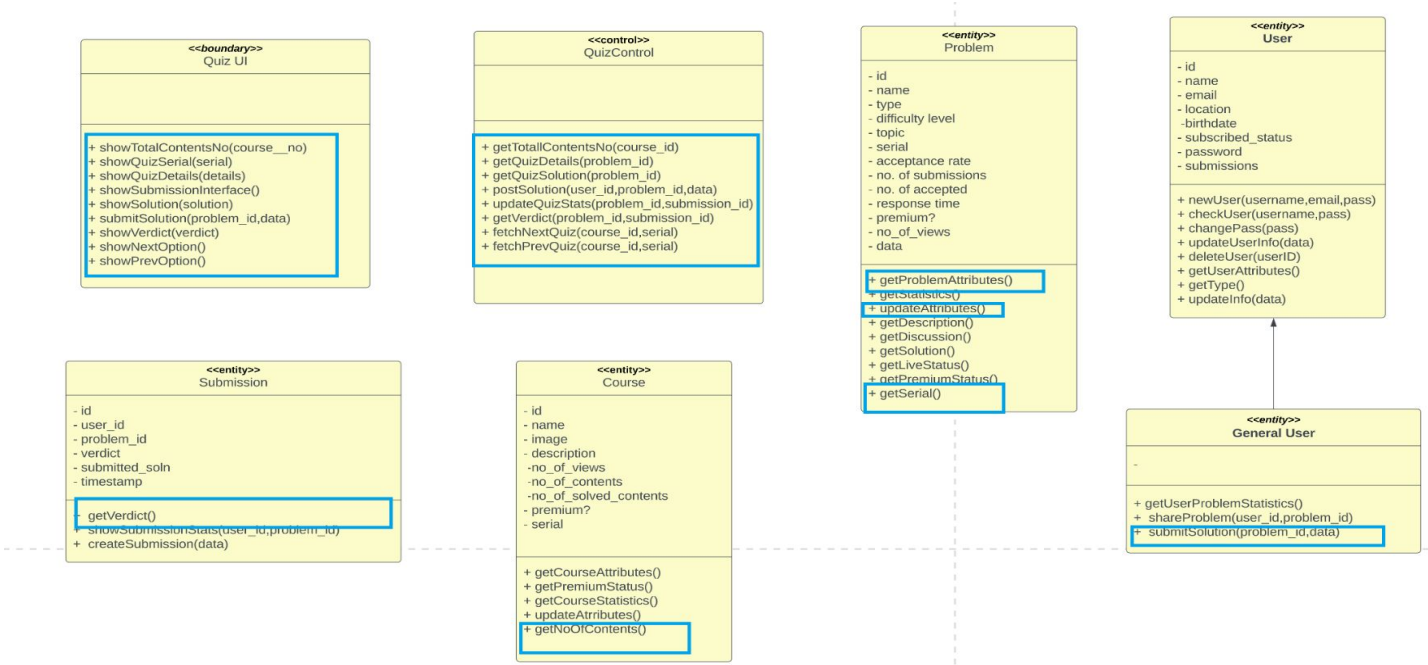
User:CoursePage



User:LecturePage

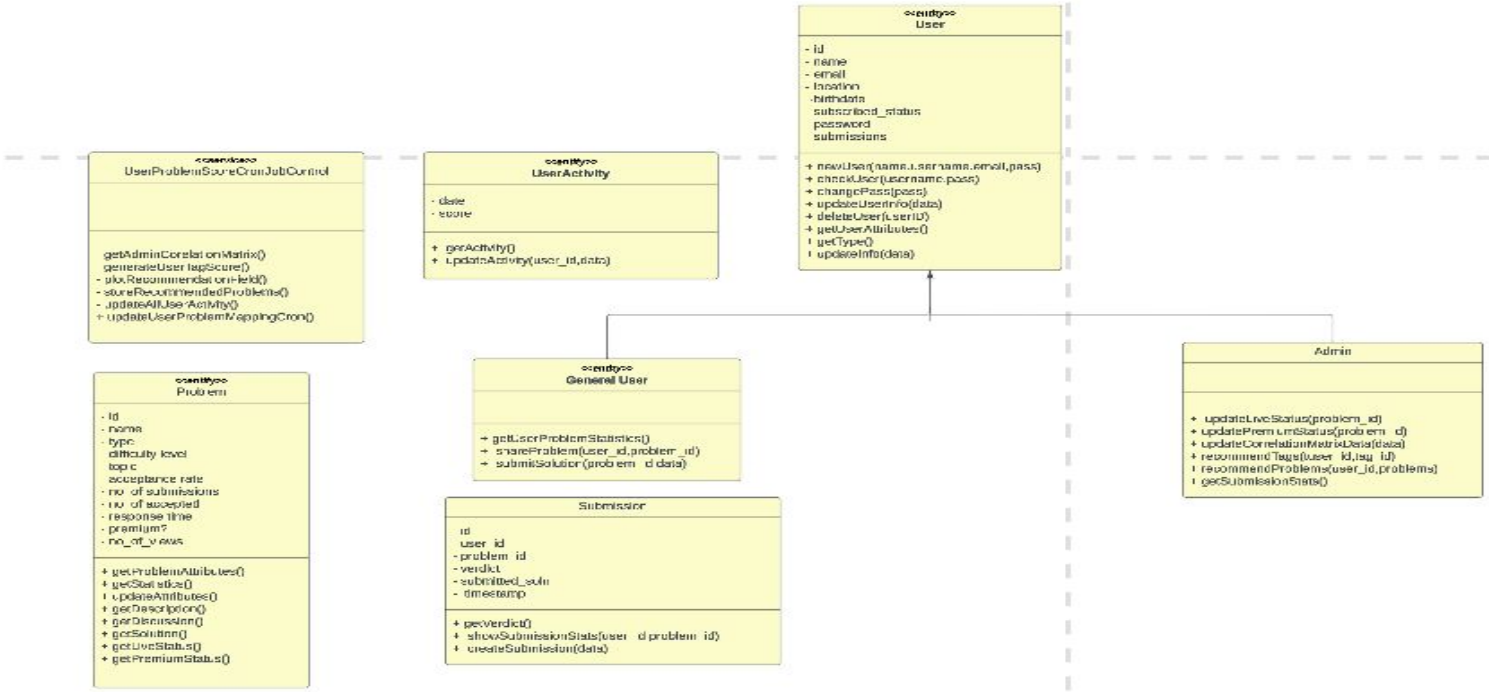


User:LecturePage

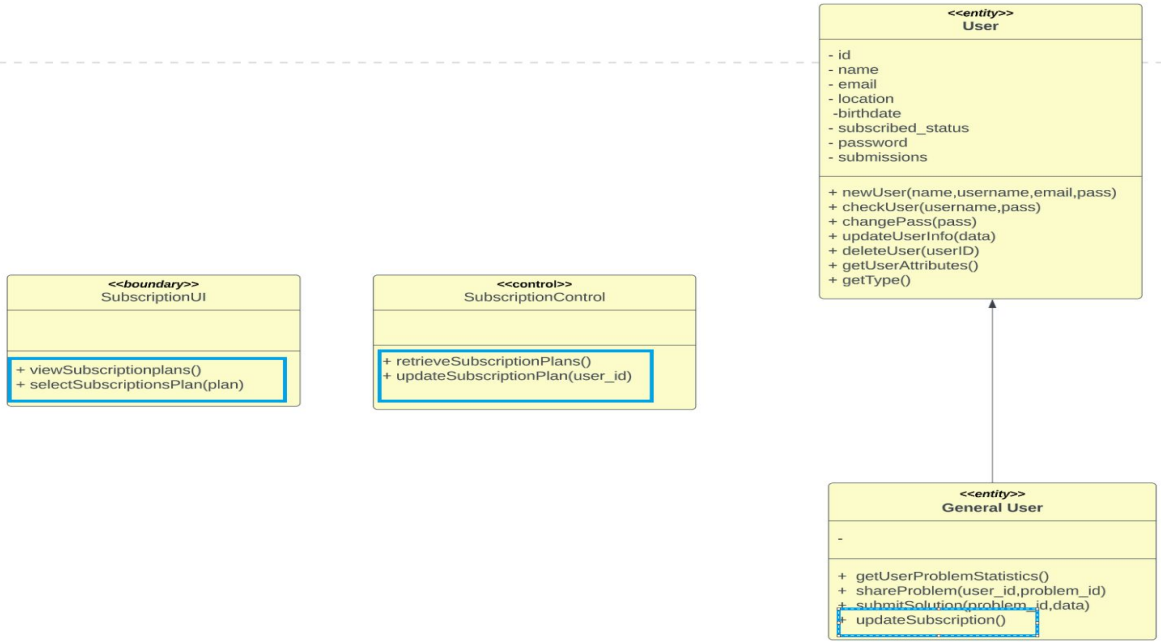


User: Recommendation

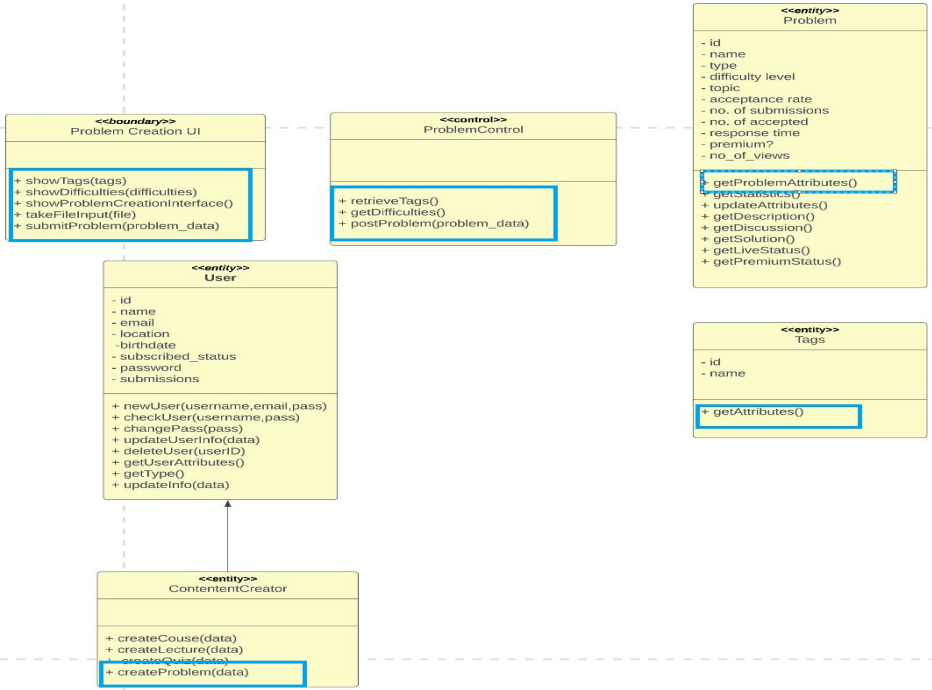
Service: CronJob



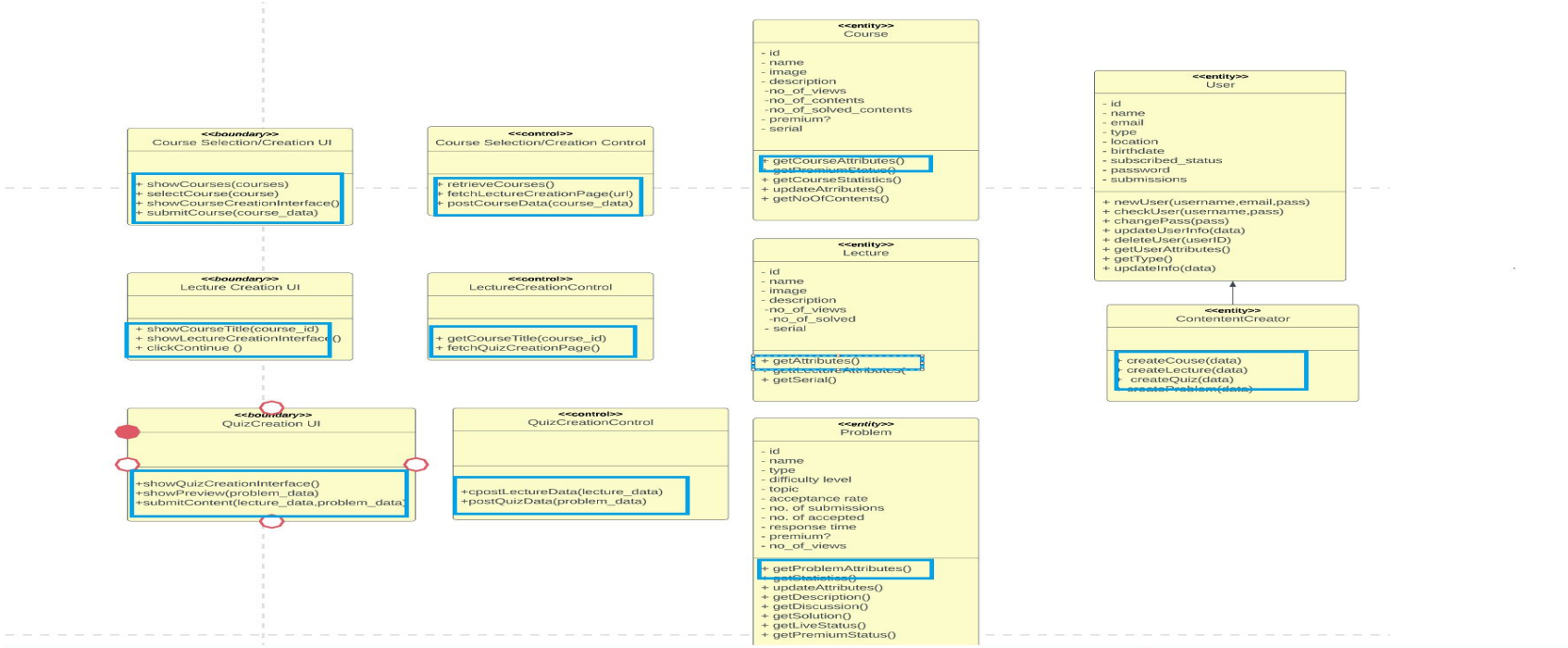
User:Subscription



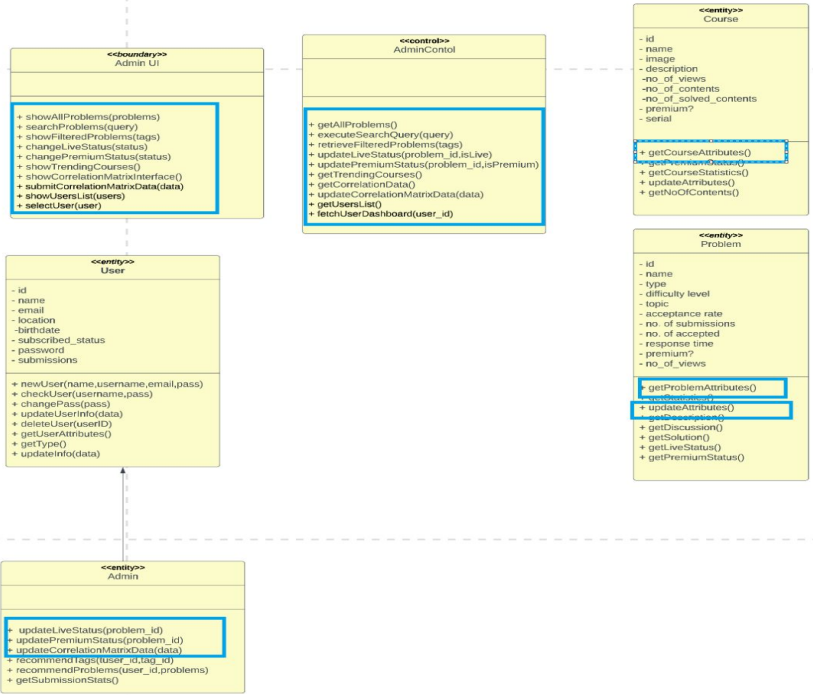
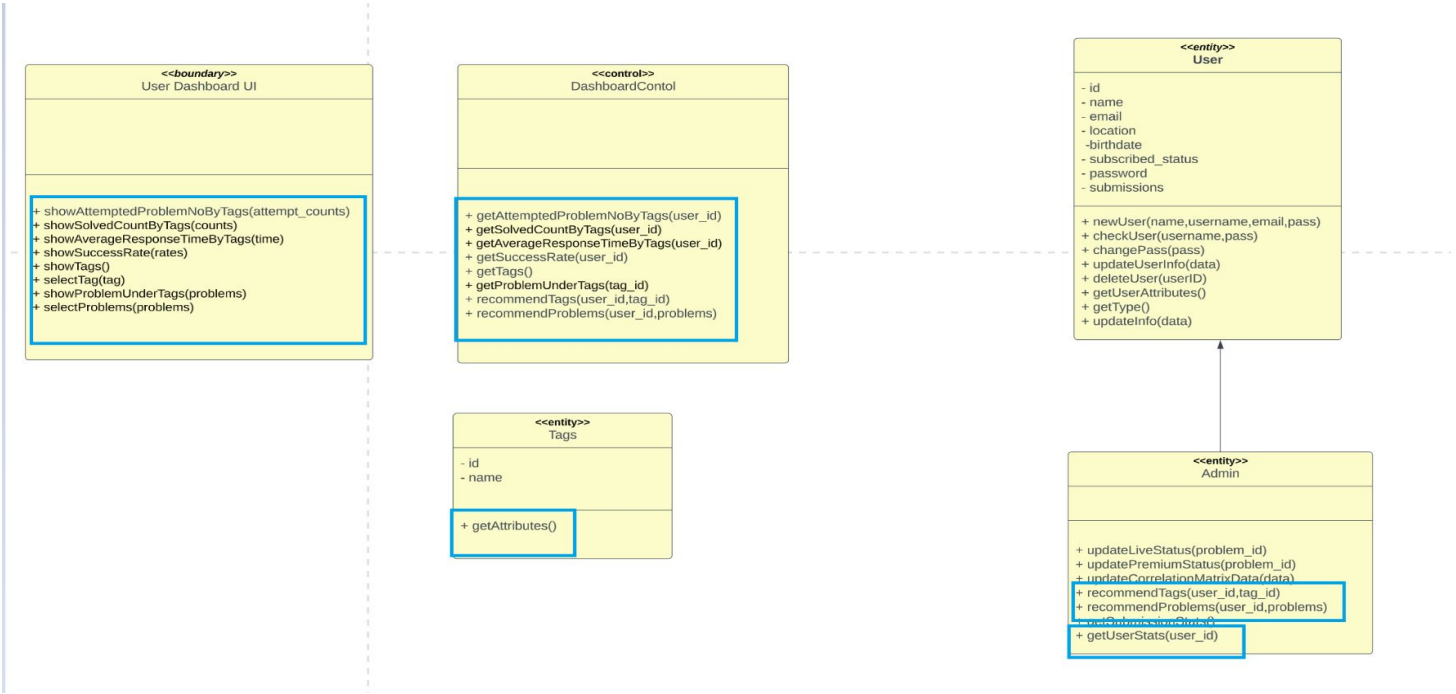
ContentCreator : CreateProblem



ContentCreator : CreateLecture



Admin


<<boundary>>
Admin UI
+ showAllProblems(problems)
+ searchProblems(query)
+ showFilteredProblems(tags)
+ changeLiveStatus(status)
+ changePremiumStatus(status)
+ showTrendingCourses()
+ showCorrelationMatrixInterface()
+ submitCorrelationMatrixData(data)
+ showUsersList(users)
+ selectUser(user)
<<control>>
AdminContol
+ getAllProblems()
+ executeSearchQuery(query)
+ retrieveFilteredProblems(tags)
+ updateLiveStatus(problem_id,isLive)
+ updatePremiumStatus(problem_id,isPremium)
+ getTrendingCourses()
+ getCorrelationData()
+ updateCorrelationMatrixData(data)
+ getUsersList()
+ fetchUserDashboard(user_id)
<<entity>>
Course
- id
- name
- image
- description
-no_of_views
-no_of_contents
-no_of_solved_contents
- premium?
- serial
+ getCourseAttributes()
+ getCourseStatistics()
+ updateAttributes()
+ getNoOfContents()
<<entity>>
User
- id
- name
- email
- location
-birthdate
- subscribed_status
- password
- submissions
+ newUser(name,username,email,pass)
+ checkUser(username,pass)
+ changePass(pass)
+ updateUserInfo(data)
+ deleteUser(userID)
+ getUserAttributes()
+ getType()
+ updateInfo(data)
<<entity>>
Problem
- id
- name
- type
- difficulty level
- topic
- acceptance rate
- no. of submissions
- no. of accepted
- response time
- premium?
- no_of_views
+ getProblemAttributes()
+ updateAttributes()
+ getDiscussion()
+ getSolution()
+ getLiveStatus()
+ getPremiumStatus()
<<entity>>
Admin
+ updateLiveStatus(problem_id)
+ updatePremiumStatus(problem_id)
+ updateCorrelationMatrixData(data)
+ recommendTags(user_id,tag_id)
+ recommendProblems(user_id,problems)
+ getSubmissionStats()

Admin:User Dashboard