

StudyUP

Analysis Model

Submitted to:

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Unique Reference:

The documents are stored in the [project repository](#) referenced with “Group 9 - StudyUP - Analysis Model”.

Purpose:

The purpose of this document is to derive the Analysis Model from the Use Case Model and Specifications.

Audience:

The target audience are: Prof. Solamo, University of the Philippines Diliman Computer Science students, and anyone else interested in the development process of the StudyUP application.

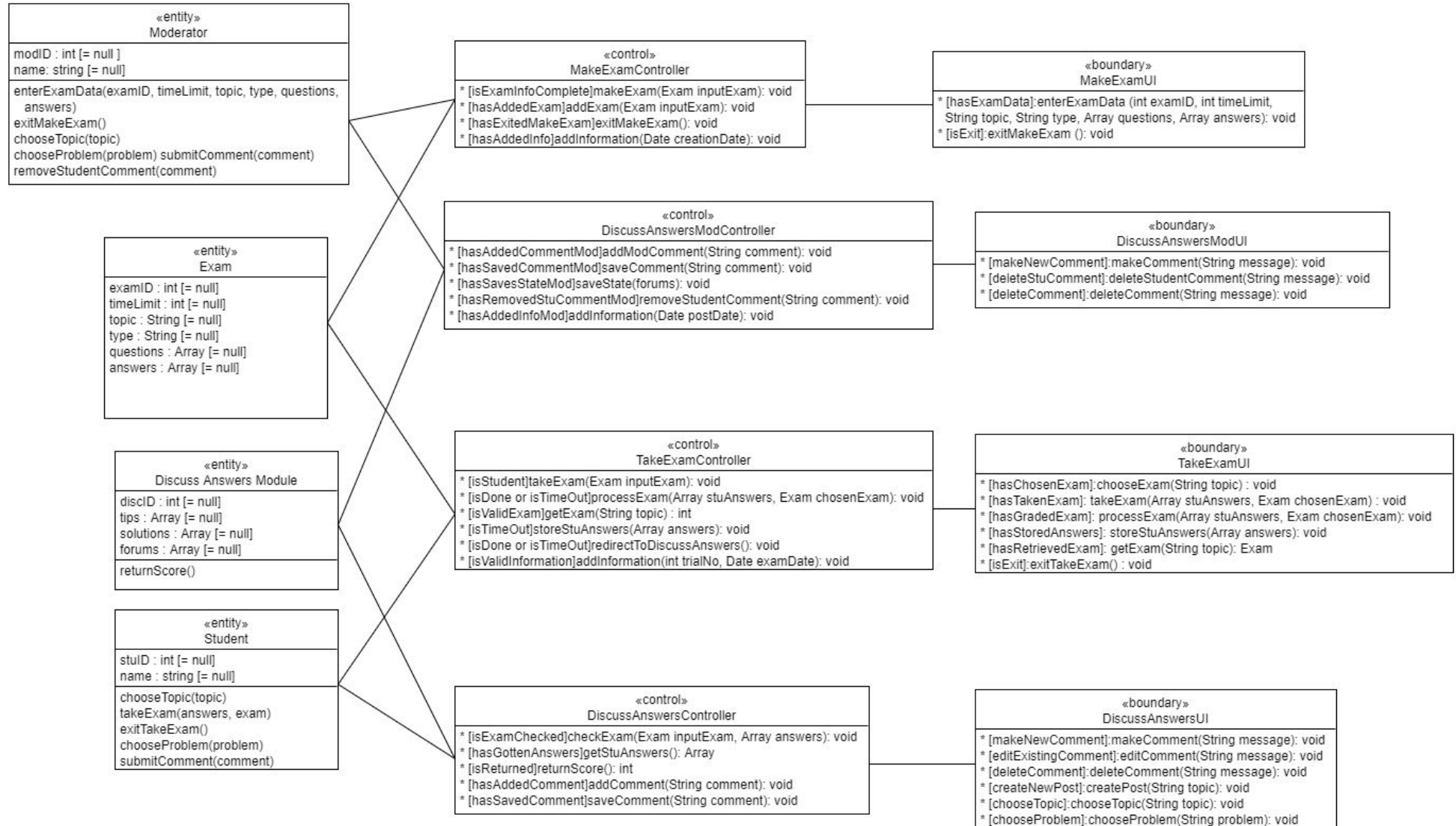
Revision Control:

| <i>Revision Date</i> | <i>Person Responsible</i> | <i>Version Number</i> | <i>Modification</i> |
|---------------------------------|--|----------------------------------|---|
| 09/26/19 | Roberto D. Principio Jr. | 1.0 | Initial Document |
| 10/1/19 | Roberto D. Principio Jr. | 1.1 | Initialized Boundary, Control, Entity Classes |
| 10/3/19 | Karina Kylene L. Ang | 1.2 | Boundary Classes and Control Classes |
| 10/3/19 | Katrina Mae D. Kopio | 1.3 | Boundary, Control, Entity Classes |
| 10/3/19 | Roberto D. Principio Jr. | 1.4 | Sequence Diagrams for UC 1,2 |
| 10/3/19 | Karina Kylene L. Ang Katrina Mae D. Kopio | 1.5 | Analysis Model |

System Name: StudyUP

Description: StudyUP is a web application made by UP students for UP students. It provides an academic repository full of review materials such as lecture slides, exercises, and sample exams. Its key feature is the testing module, where students can take timed sample exams. StudyUP also fosters a collaborative learning environment as students can discuss and share tips, hints, and clarifications with other students. Finally, students can also contribute their own resources and send it to the StudyUP moderators. The moderators will then review the contributions, adjust anything if necessary, and finally add it to the repository.

Analysis Model:



Boundary Classes:

| Class Name | Description |
|---------------------|--|
| MakeExamUI | <p>This is the interface of the moderator to the system whenever he or she needs to make an exam.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none">* [hasExamData]:enterExamData (int examID, int timeLimit, String topic, String type, Array questions, Array answers): void* [isExit]:exitMakeExam (): void |
| TakeExamUI | <p>This is the interface of the student to the system whenever he or she needs to take an exam.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none">* [hasChosenExam]:chooseExam(String topic) : void* [hasTakenExam]: takeExam(Array stuAnswers, Exam chosenExam) : void* [hasGradedExam]: processExam(Array stuAnswers, Exam chosenExam): void* [hasStoredAnswers]: storeStuAnswers(Array answers): void* [hasRetrievedExam]: getExam(String topic): Exam* [isExit]:exitTakeExam() : void |
| DiscussAnswersUI | <p>This is the interface of the student to the system whenever he or she needs to discuss answers with others.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none">* [makeNewComment]:makeComment(String message): void* [editExistingComment]:editComment(String message): void* [deleteComment]:deleteComment(String message): void* [createNewPost]:createPost(String topic): void* [chooseTopic]:chooseTopic(String topic): void* [chooseProblem]:chooseProblem(String problem): void |
| DiscussAnswersModUI | <p>This is the interface of the moderator to the system whenever he or she needs to discuss answers with others as well as perform moderator duties.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none">* [makeNewComment]:makeComment(String message): void* [deleteStuComment]:deleteStudentComment(String message): void* [deleteComment]:deleteComment(String message): void |

Control Classes:

| Class Name | Description |
|-----------------------------|---|
| MakeExamController | <p>This is the control that adds an exam to the system.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none">* [isExamInfoComplete]makeExam(Exam inputExam): void* [hasAddedExam]addExam(Exam inputExam): void* [hasExitedMakeExam]exitMakeExam(): void* [hasAddedInfo]addInformation(Date creationDate): void |
| TakeExamController | <p>This is the control that processes the student's answers to an exam.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none">* [isStudent]takeExam(Exam inputExam): void* [isDone or isTimeOut]processExam(Array stuAnswers, Exam chosenExam): void* [isValidExam]getExam(String topic) : int* [isTimeOut]storeStuAnswers(Array answers): void* [isDone or isTimeOut]redirectToDiscussAnswers(): void* [isValidInformation]addInformation(int trialNo, Date examDate): void |
| DiscussAnswersController | <p>This is the control that checks the data inputted by the student, returns their score, and lets students participate in discussion by creating and commenting on posts.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none">* [isExamChecked]checkExam(Exam inputExam, Array answers): void* [hasGottenAnswers]getStuAnswers(): Array* [isReturned]returnScore(): int* [hasAddedComment]addComment(String comment): void* [hasSavedComment]saveComment(String comment): void |
| DiscussAnswersModController | <p>This is the control that allows the moderator to remove, or comment on posts by students in the discussion forums for exams.</p> <p><u>Responsibilities:</u></p> <ul style="list-style-type: none">* [hasAddedCommentMod]addModComment(String comment): void* [hasSavedCommentMod]saveComment(String comment): void* [hasSavesStateMod]saveState(forums): void* [hasRemovedStuCommentMod]removeStudentComment(String comment): void* [hasAddedInfoMod]addInformation(Date postDate): void |

Entity Classes:

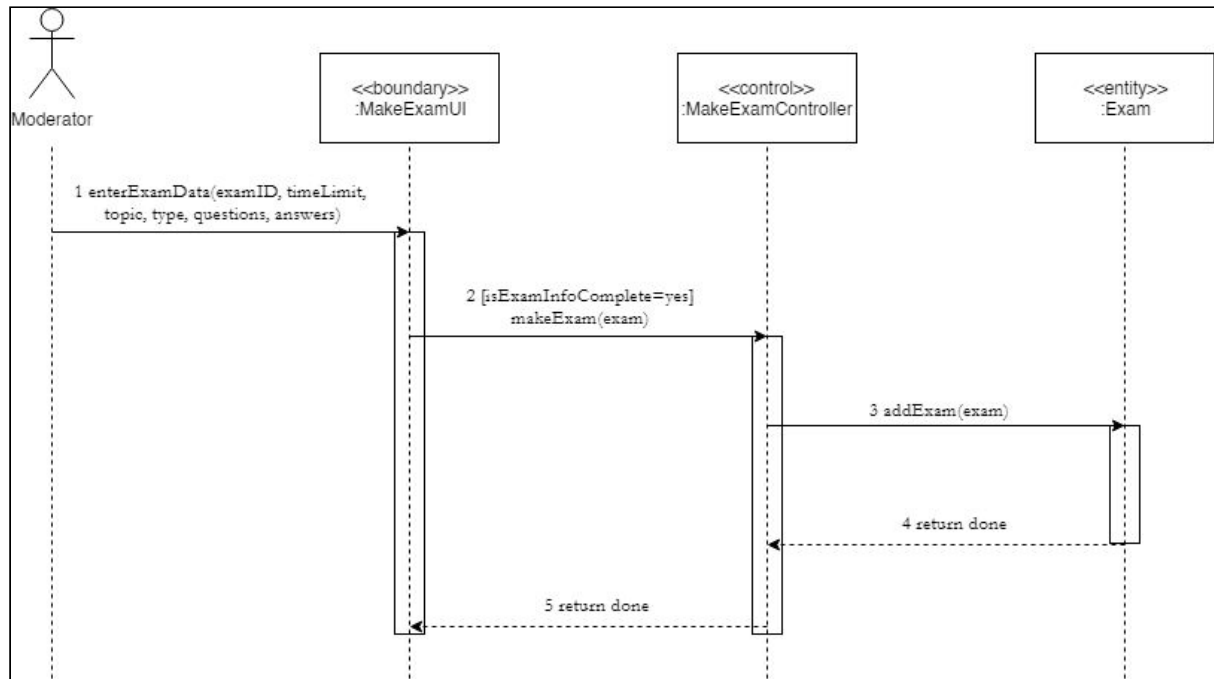
| Class Name | Description |
|------------------------|--|
| Moderator | This is the entity class <i>Moderator</i> , which contains the data about the moderator. <u>Attributes:</u> modID : int [= null] name: string [= null] |
| Student | This is the entity class <i>Student</i> , which contains the data about the student. <u>Attributes:</u> stuID : int [= null] name : string [= null] |
| Exam | This is the entity class <i>Exam</i> , which contains the data about the exam. <u>Attributes:</u> examID : int [= null] timeLimit : int [= null] topic : String [= null] type : String [= null] questions : Array [= null] answers : Array [= null] |
| Discuss Answers Module | This is the entity class <i>discussAnswersModule</i> , which contains the data about the answers of the questions in the module. <u>Attributes:</u> discID : int [= null] tips : Array [= null] solutions : Array [= null] forums : Array [= null] |

Behavioral Model:

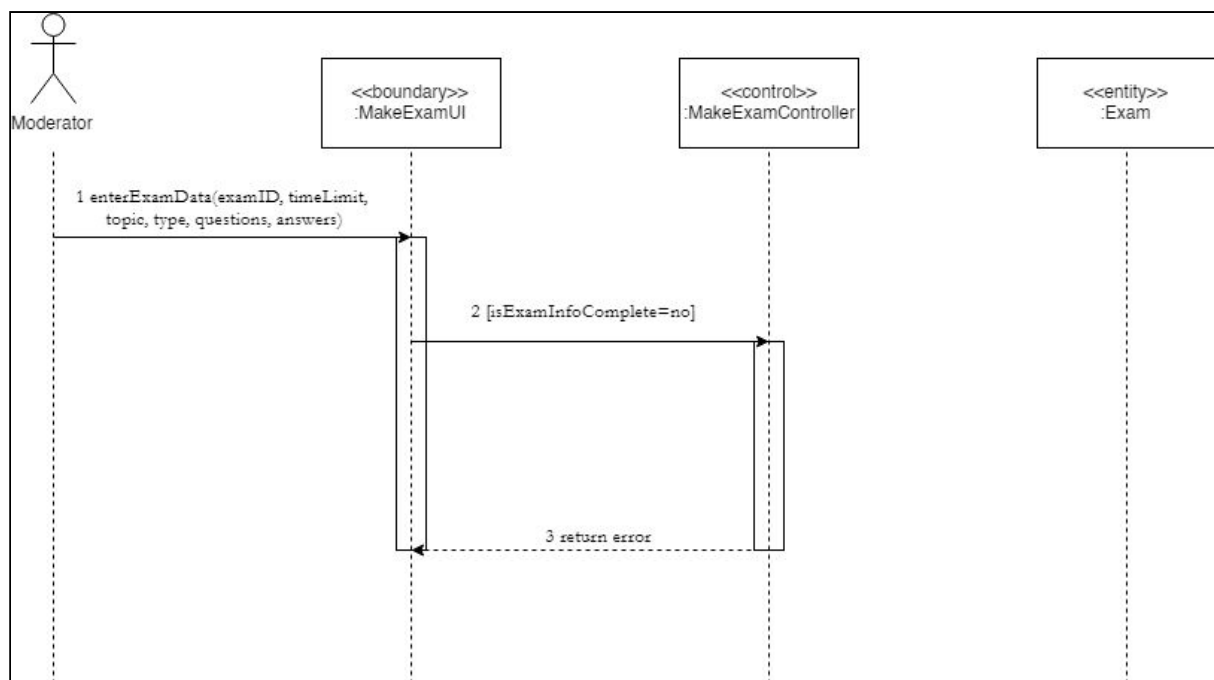
Use-Case Name: 1.0 Make Exam

Description: The moderator can have the option of making a sample exam for the students. The moderator will be able to choose between different exam types (ex. multiple choice, true or false, etc). He or she will also be able to set a time limit on the exam length.

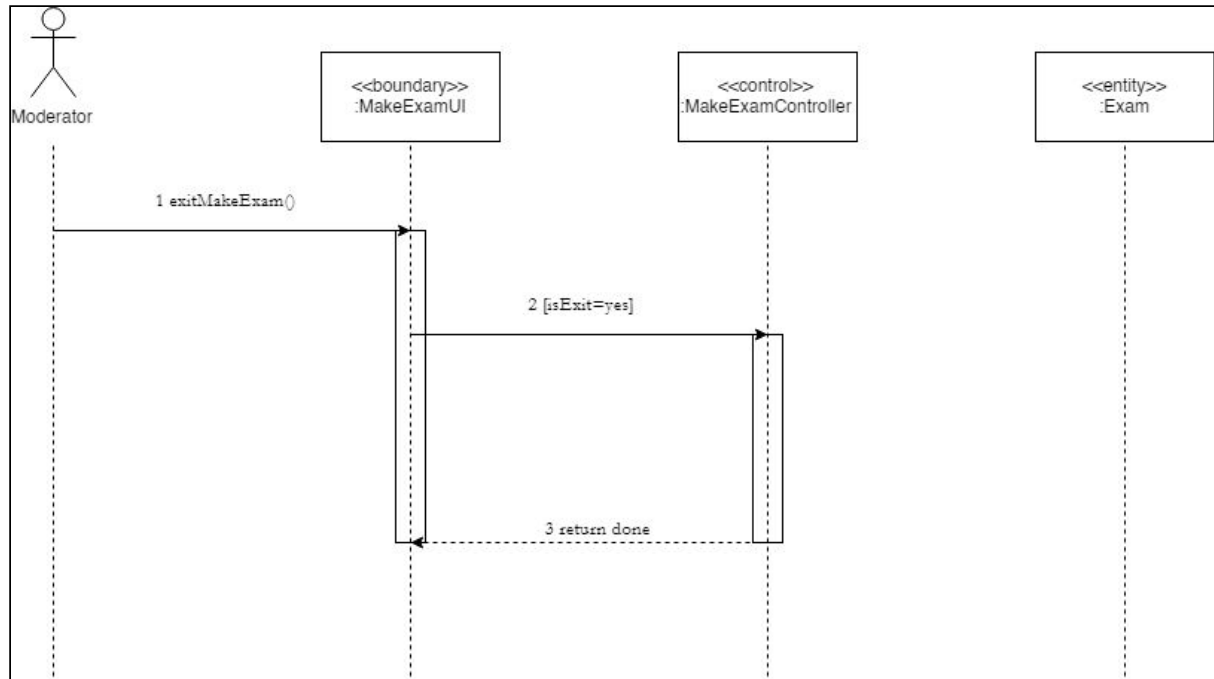
Scenario 1: Exam is successfully created. (Basic Flow)



Scenario 2: Exam is not successfully created.



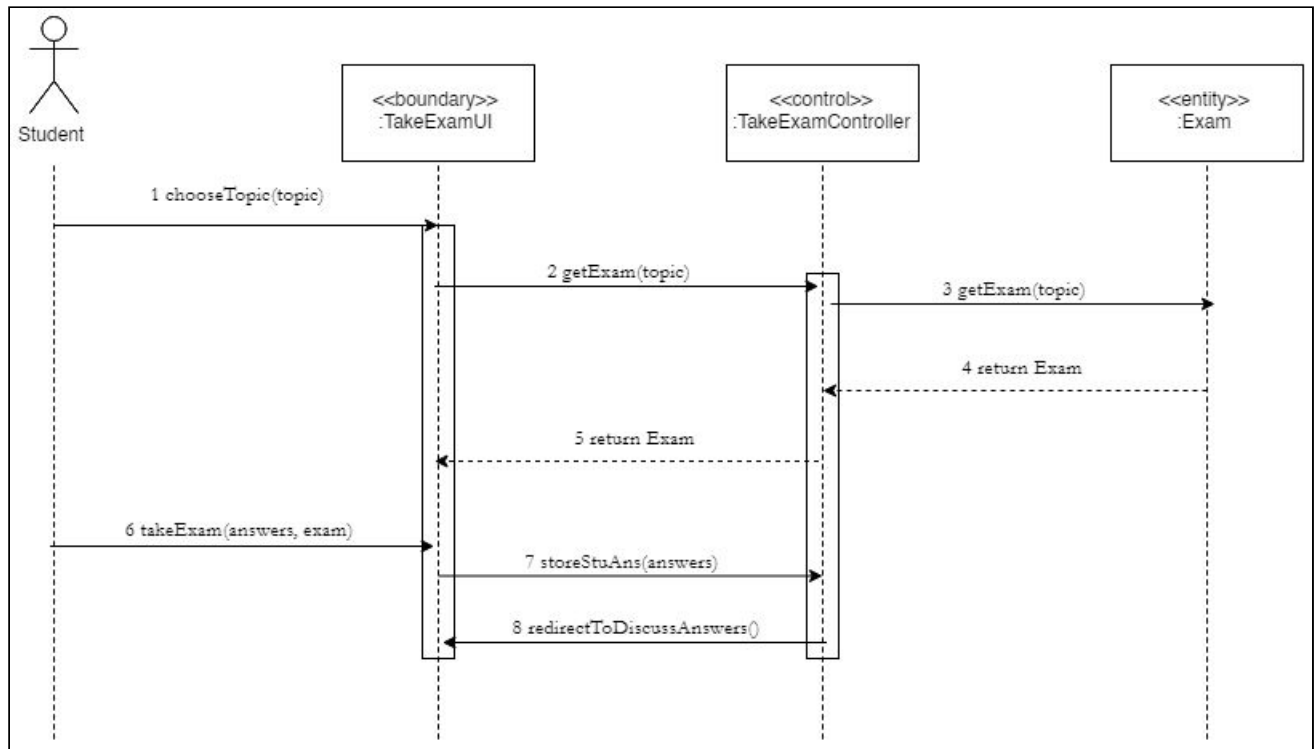
Scenario 3: Exam creation is cancelled.



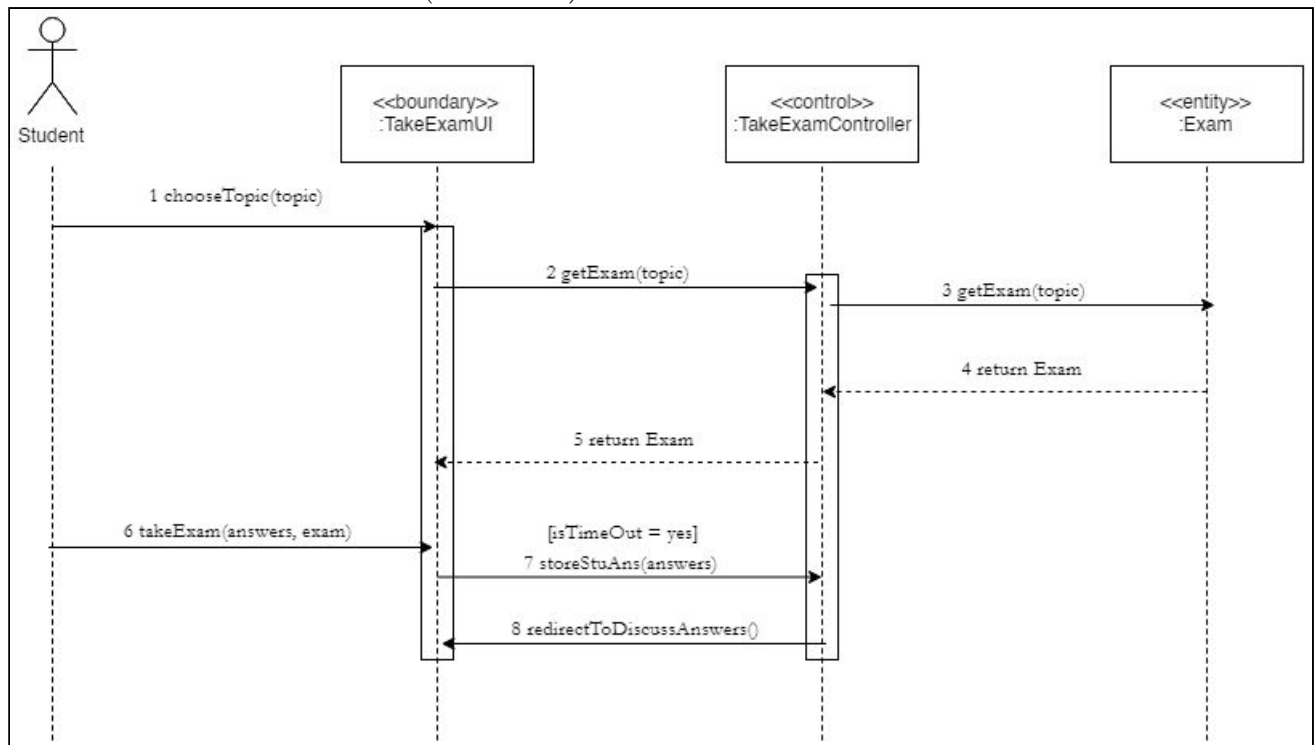
Use-Case Name: 2.0 Take Exam

Description: The student can have the option to take a sample exam in order to gauge their skill in the subject. This will be timed similarly to the exam, and will have similar test types. After the exam, a score will be given to the student to grade their proficiency in the subject.

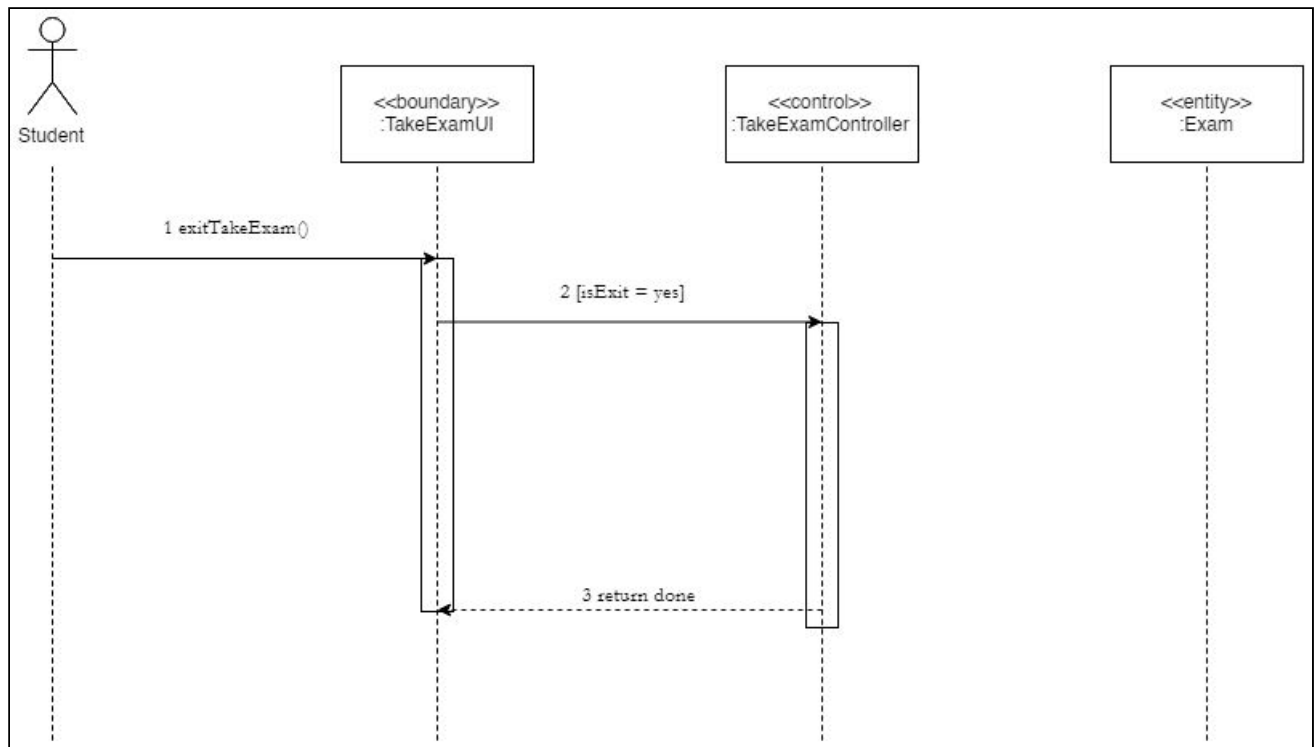
Scenario 1: Student finishes exam. (Basic Flow)



Scenario 2: Student doesn't finish exam. (time runs out)



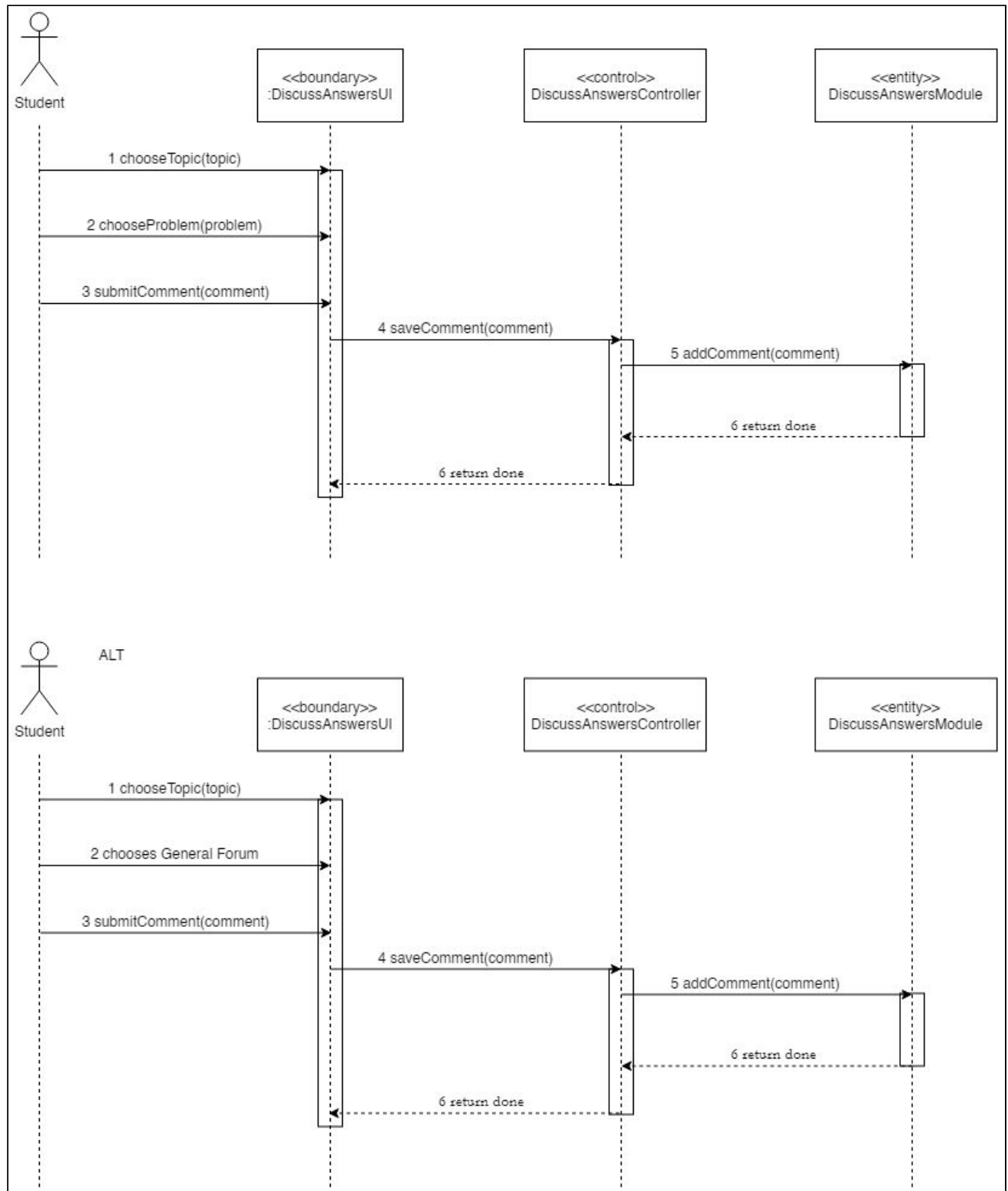
Scenario 3: Student cancels exam.



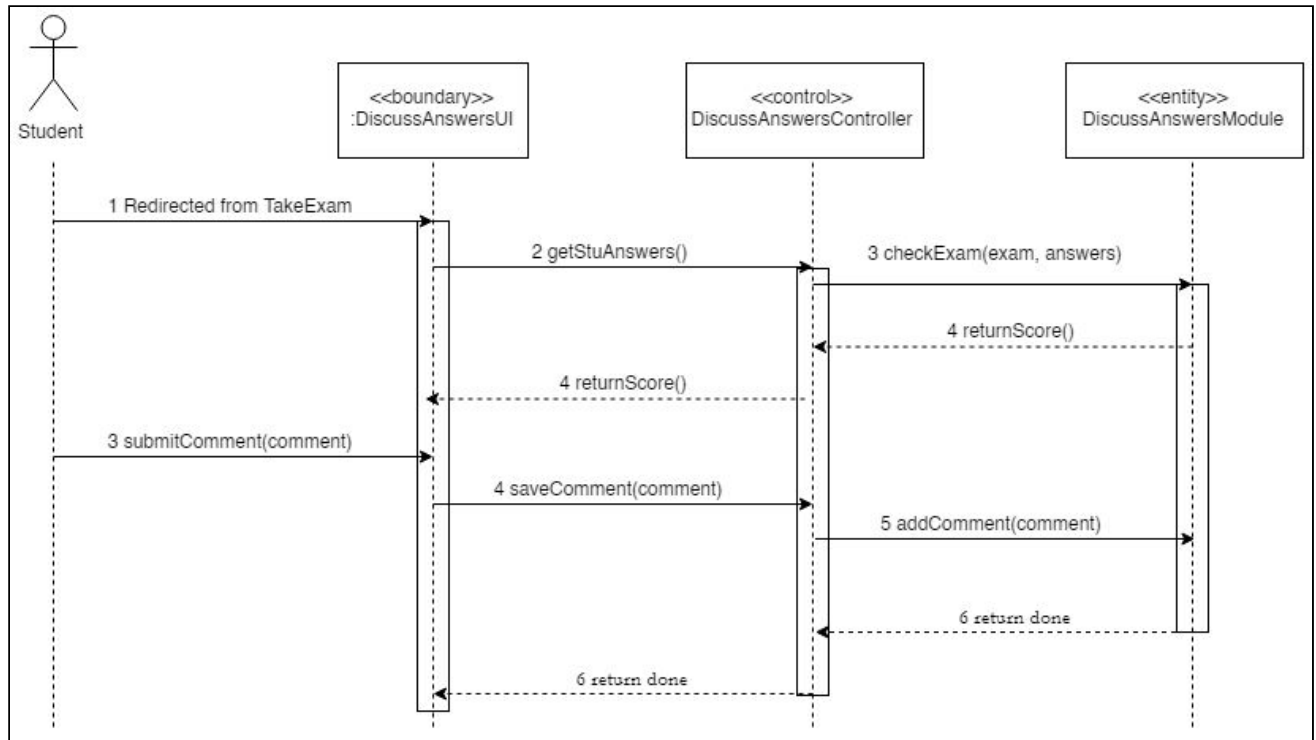
Use-Case Name: 3.0 Discuss Answers

Description: The student can have the option to discuss the answers of the sample exam they took. This will be a forum discussion where students can share approaches to solutions, or ask questions. Students can start discussions, or join existing discussions.

Scenario 1: Student goes to Discuss Answers directly. (Basic Flow)



Scenario 2: Student was redirected from the Take Exam Module.



Scenario 3: Moderator duties.

