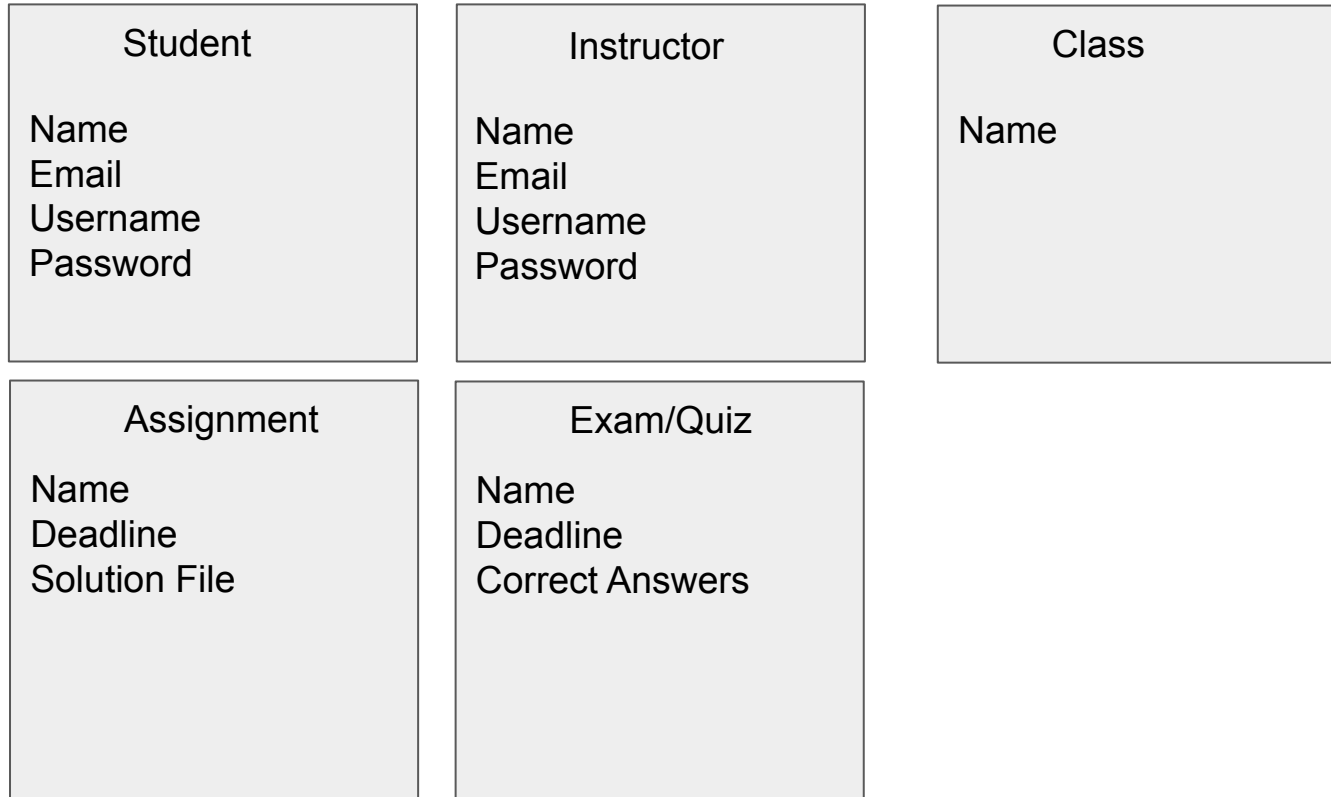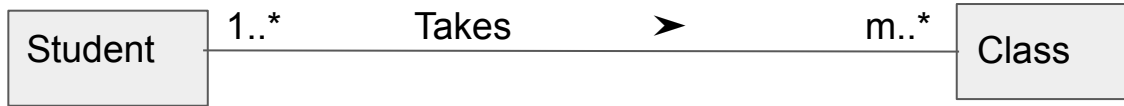# Project Analysis and Design Model: AlphaSchool

Erik Thompson

Matthew Davis
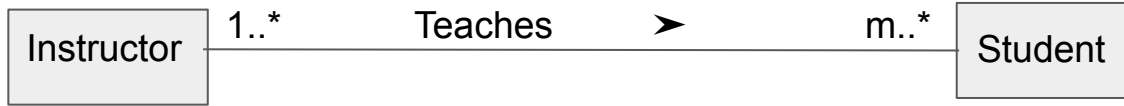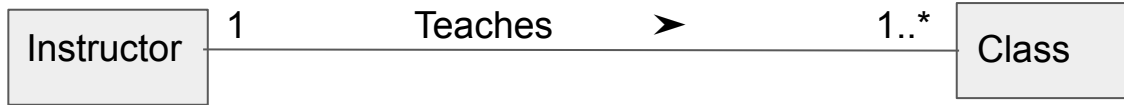
Jonathan Ruiz

Kachi Mbamalu

Class Diagram

Student

Name
Email
Username
Password

Instructor

Name
Email
Username
Password

Class

Name

Assignment

Name
Deadline
Solution File

Exam/Quiz

Name
Deadline
Correct Answers

Class Diagram

| Instructor | 1 | Teaches ➤ | 1..* | Class |

| Instructor | 1..* | Teaches ➤ | m..* | Student |

| Student | 1..* | Takes ➤ | m..* | Class |

Class Diagram

| Student | m..* | Has ➤ | 1..* | Assignment |

| Student | m..* | Has ➤ | 1..* | Instructor |

Package Diagram

gui

+   Main
+   MainFrame
-     Dialog

network

controller

+   Controller
-     User

database

+   Database Manager

<<import>>

<<import>>
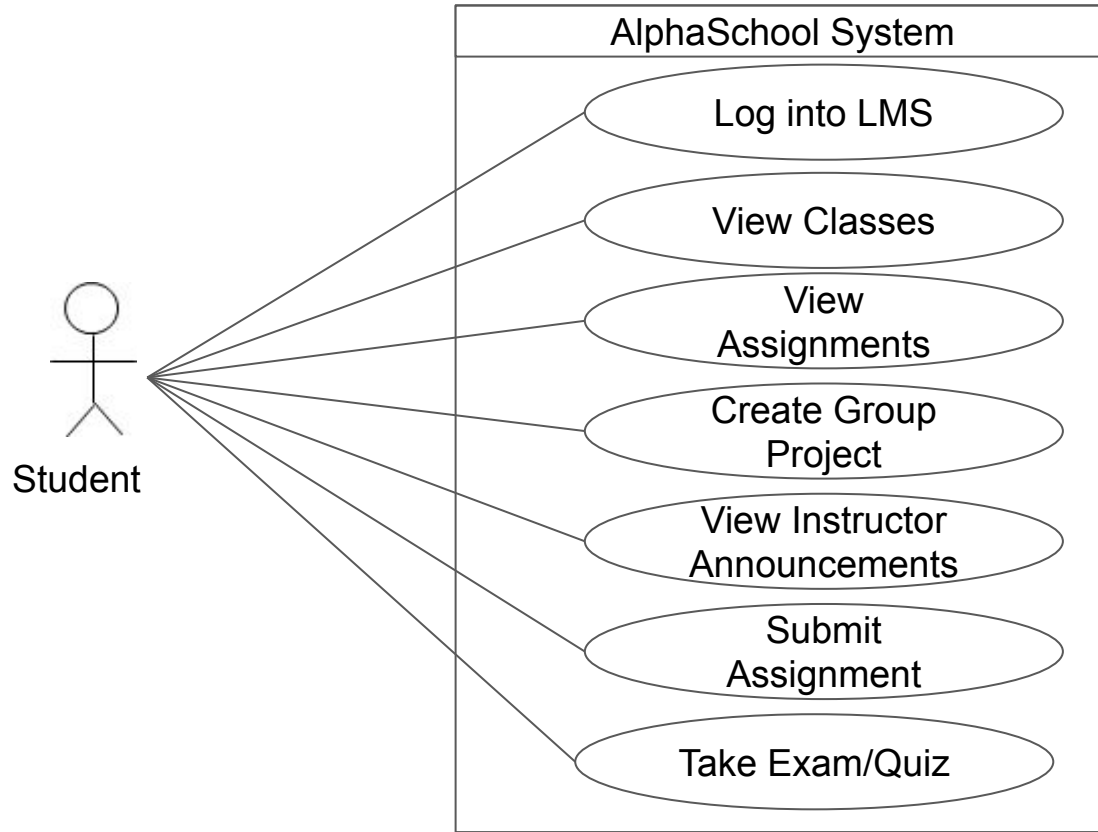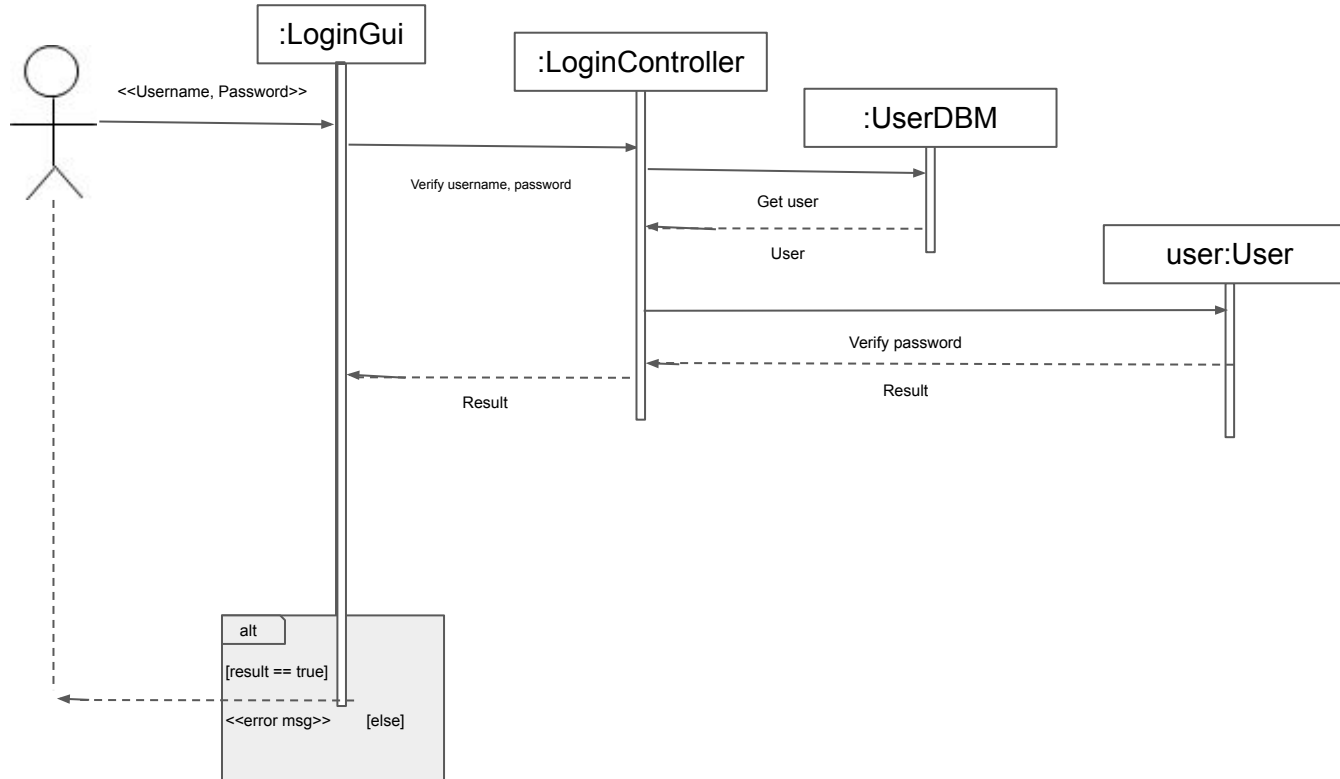
<<import>>

<<import>>
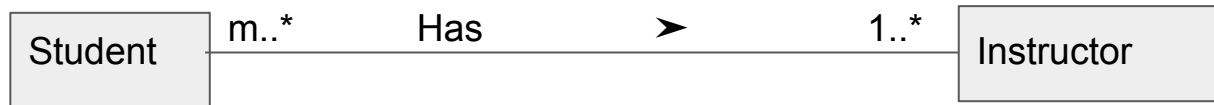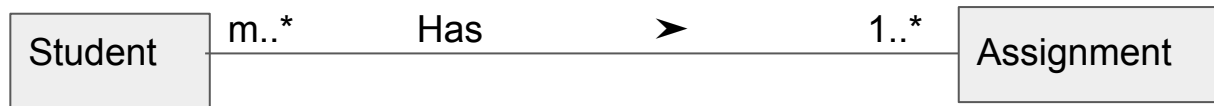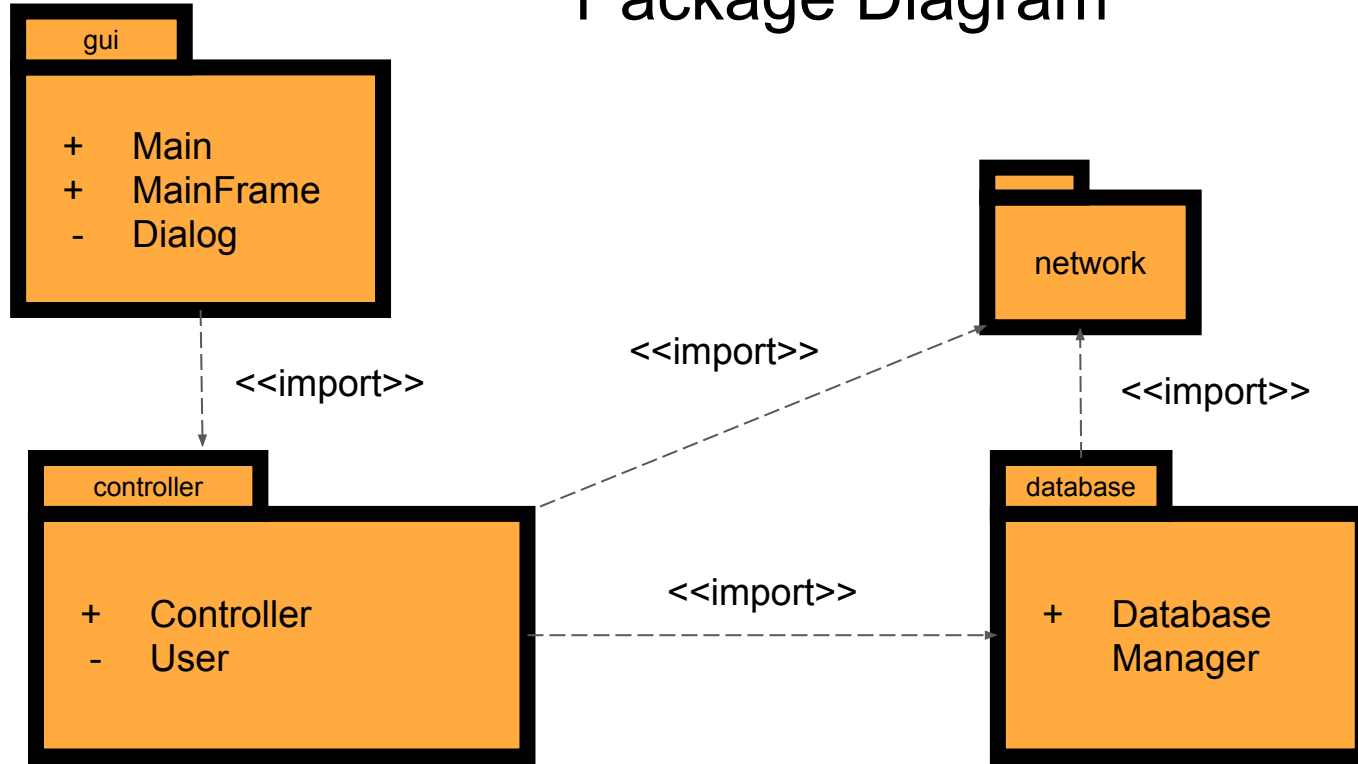
Legend: +public   -private
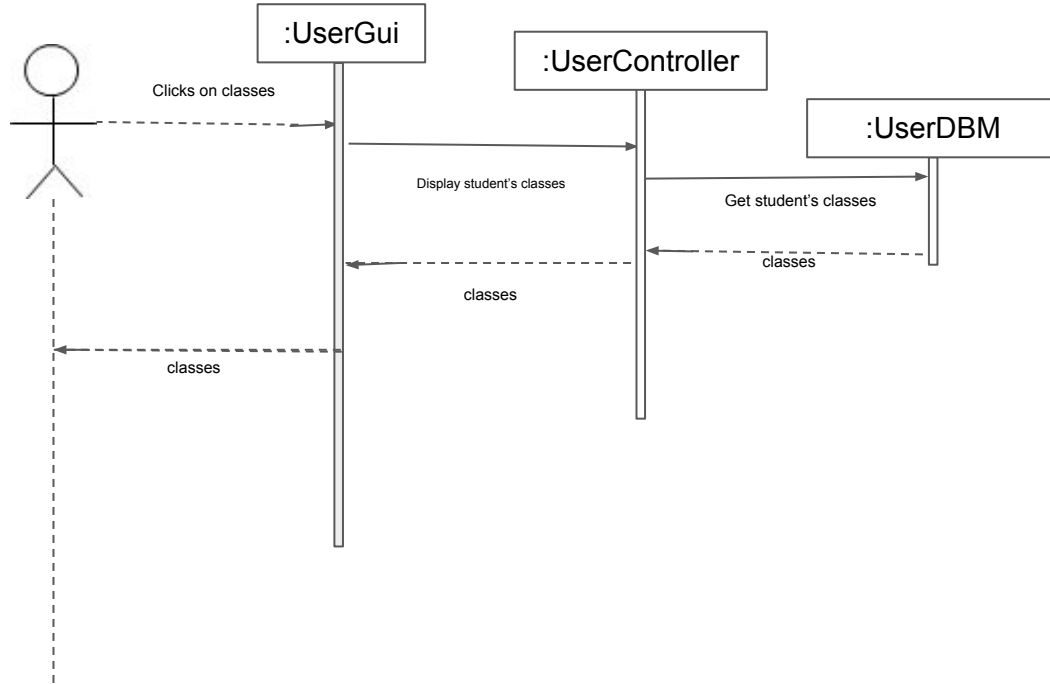
Use Case Diagram

Analysis Sequence Diagram
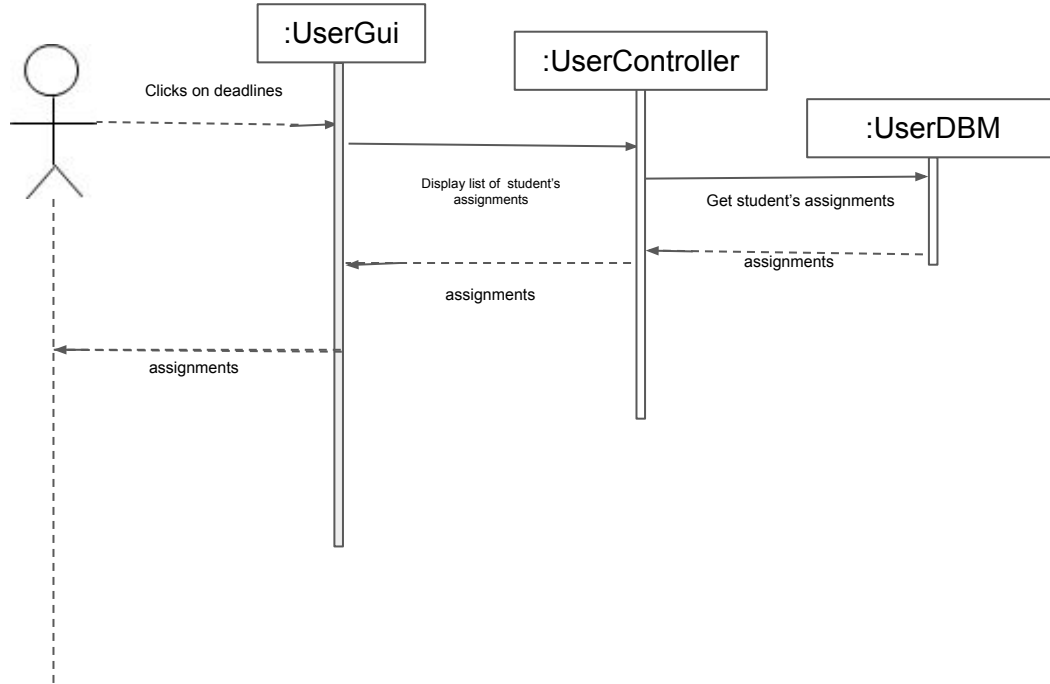
Student logs into LMS

Analysis Sequence Diagram
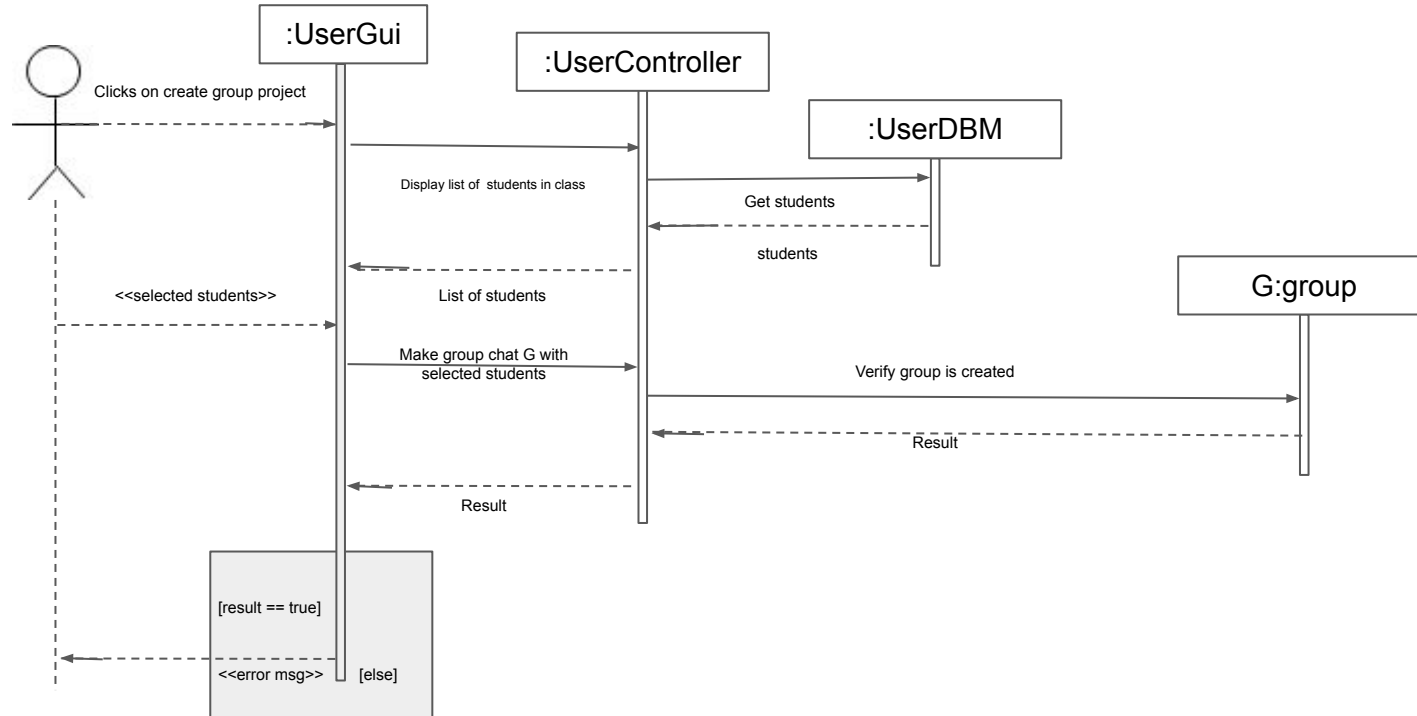
Student views classes

Analysis Sequence Diagram

Student views assignments

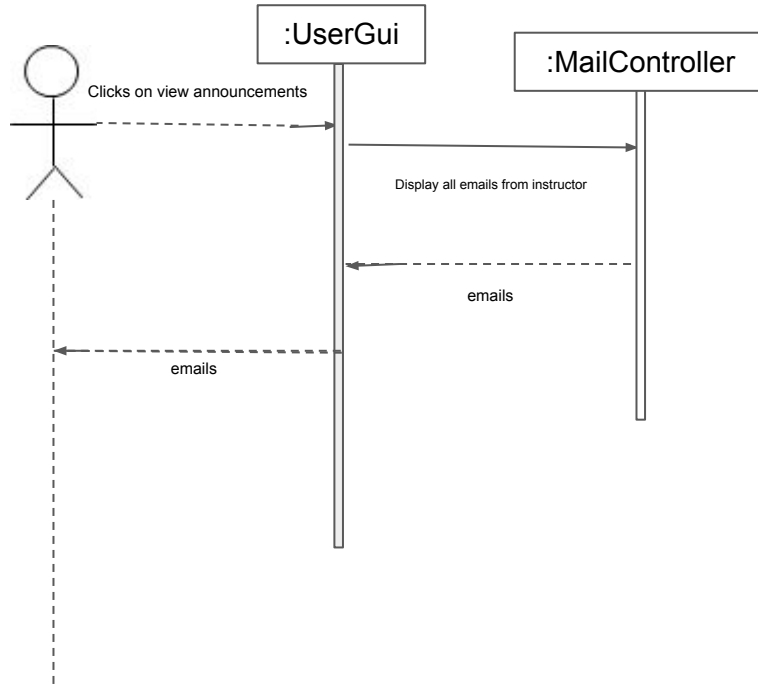# Analysis Sequence Diagram

Student creates group chat for group project

Analysis Sequence Diagram

Student views instructor's emails

:UserGui

:MailController

Clicks on view announcements

Display all emails from instructor

emails

emails

Analysis Sequence Diagram

Student submits assignment
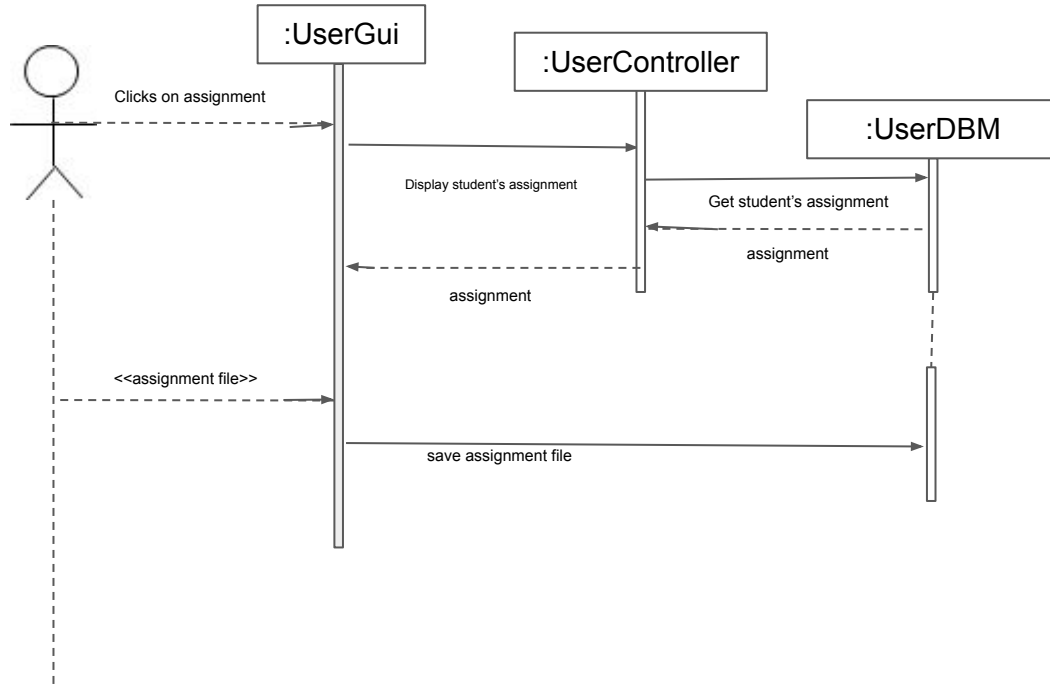
Analysis Sequence Diagram

Student takes exam/quiz

Analysis State Diagram

AlphaSchool

COURSES:

CLAS 1001

Homepage for class CLAS 1001

CLAS 1201

Homepage for class CLAS 1201

Exit system

Login

Logout

Enter system

CLAS 1201

View Assignments

View assignments for class CLAS 1201

Create new group project in class CLAS 1201

Create Group Project

View announcements for class CLAS 1201

View Instructor Announcements

Design Sequence Diagram

Student logs into LMS

:LoginGui

:LoginController

:UserDBM

user:User

<<Username, Password>>

result := verify(username: String, password: Password): Boolean

user := getUser(username: String): User

result := verify(password: Password): Boolean

alt

[result == true]

<<error msg>>   [else]

Design Sequence Diagram

Student views classes

:UserGui

:UserController

:UserDBM

Clicks on dashboard

classes: = displayClasses(): List

classes := getClasses(user: User): List

classes

Design Sequence Diagram

Student views assignments
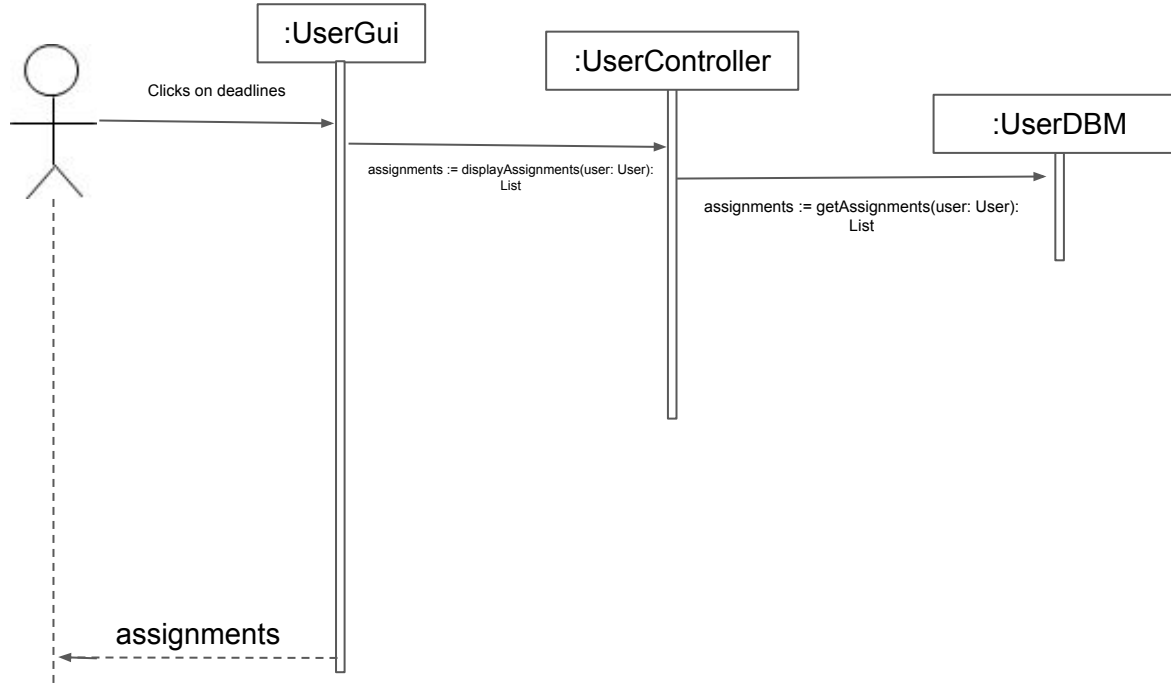
Design Sequence Diagram

Student creates group chat for group project

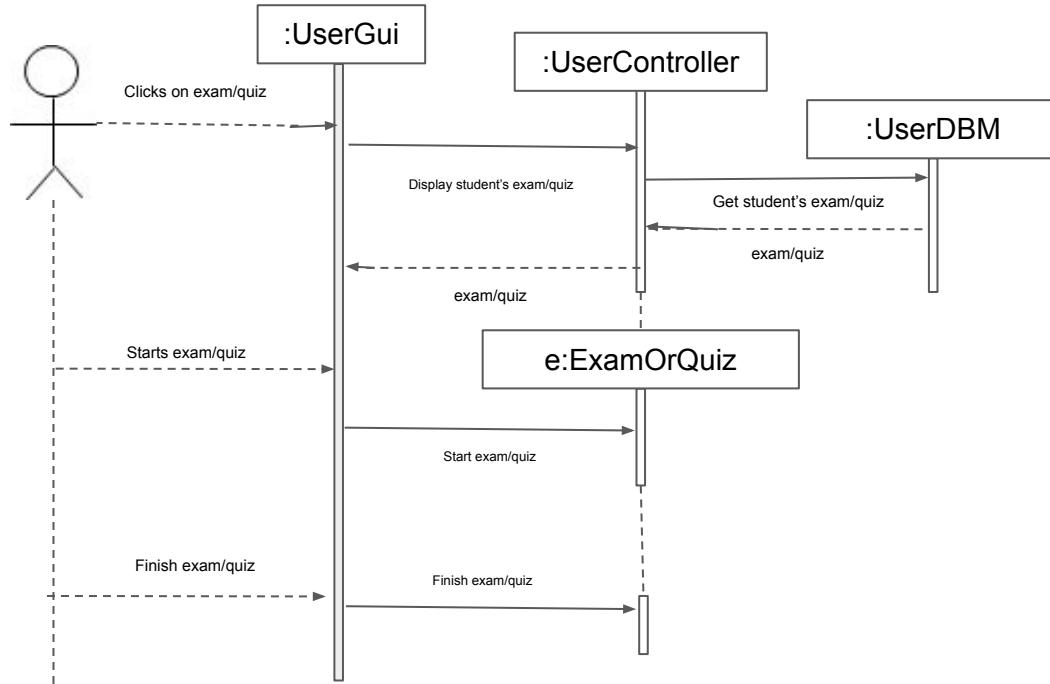# Design Sequence Diagram

Student views instructor's emails

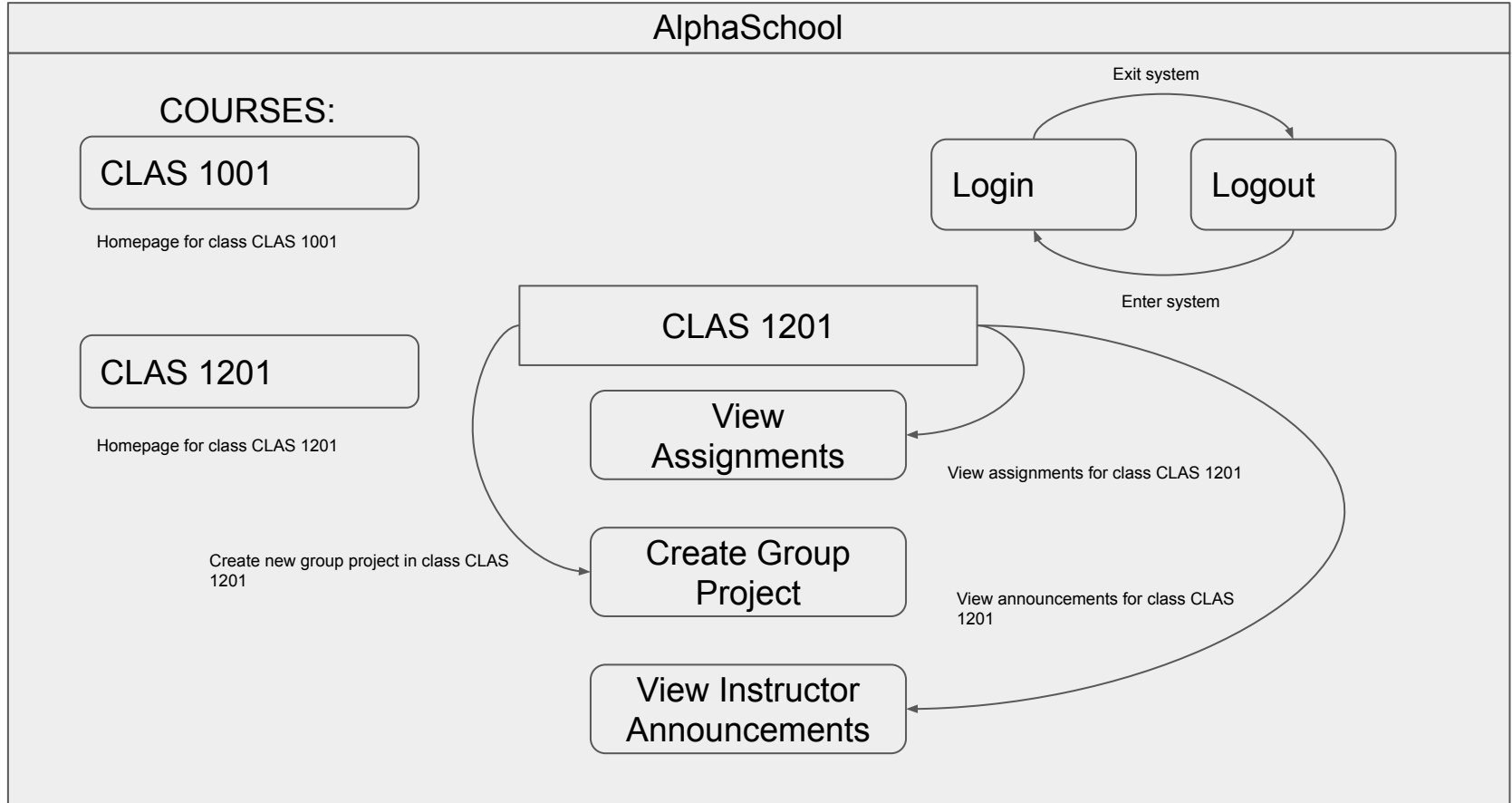# Design Sequence Diagram

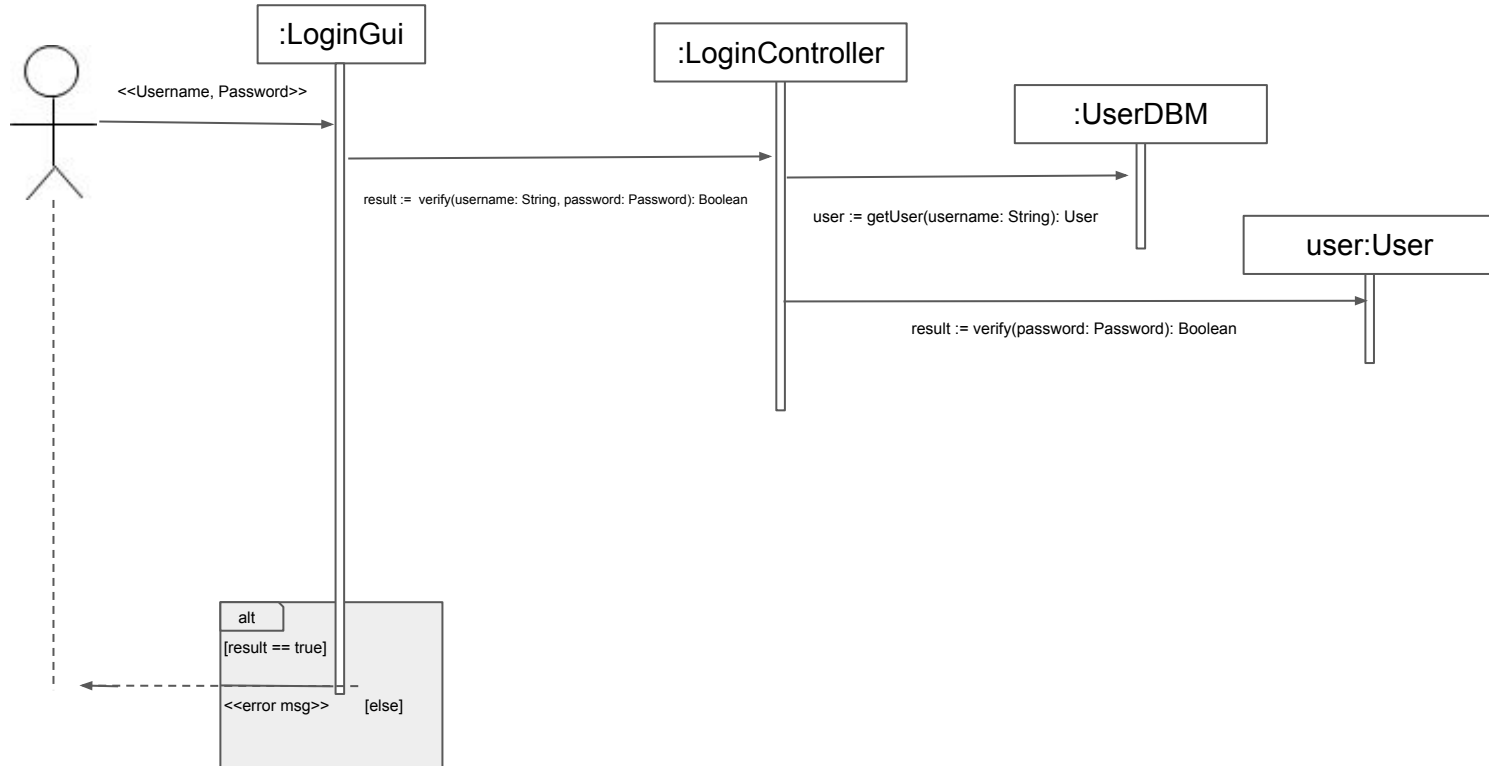Student submits assignment

Design Sequence Diagram

Student takes exam/quiz

Design State Diagram

AlphaSchool

COURSES:

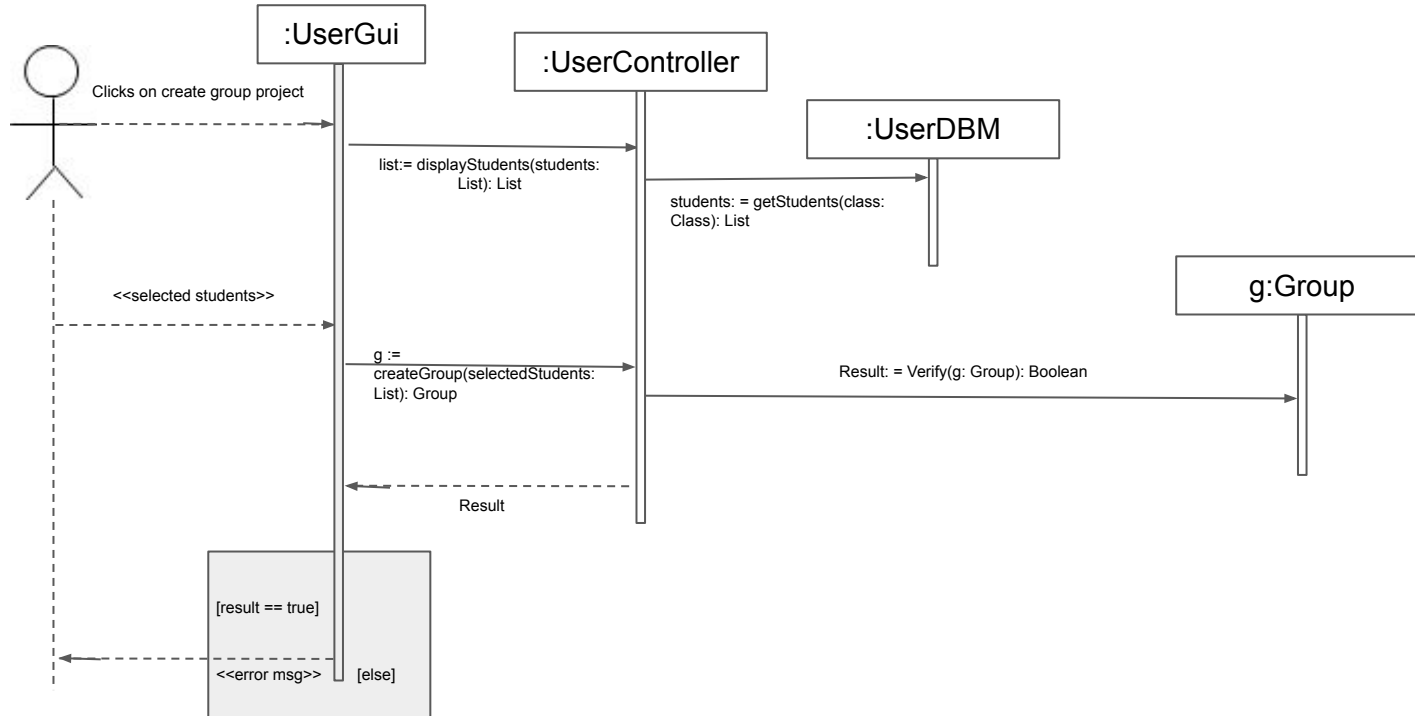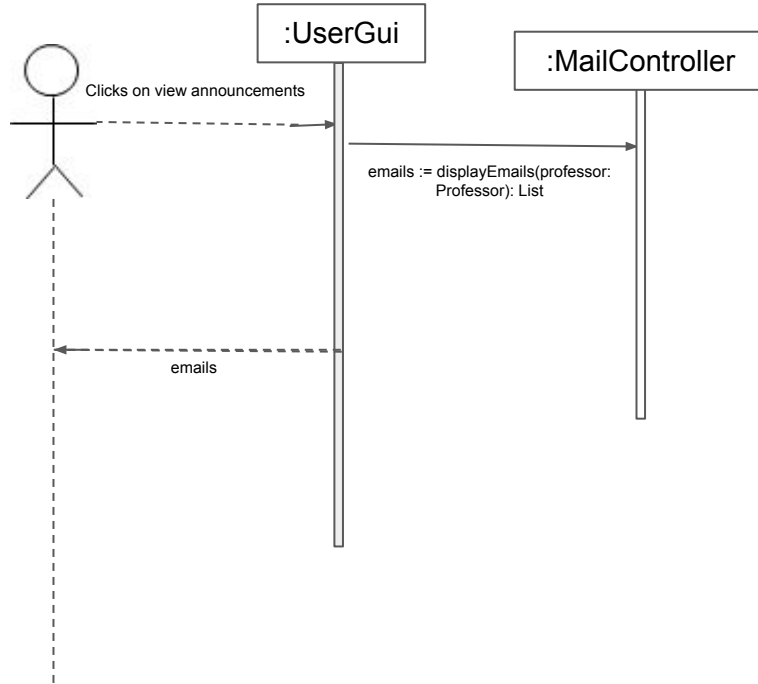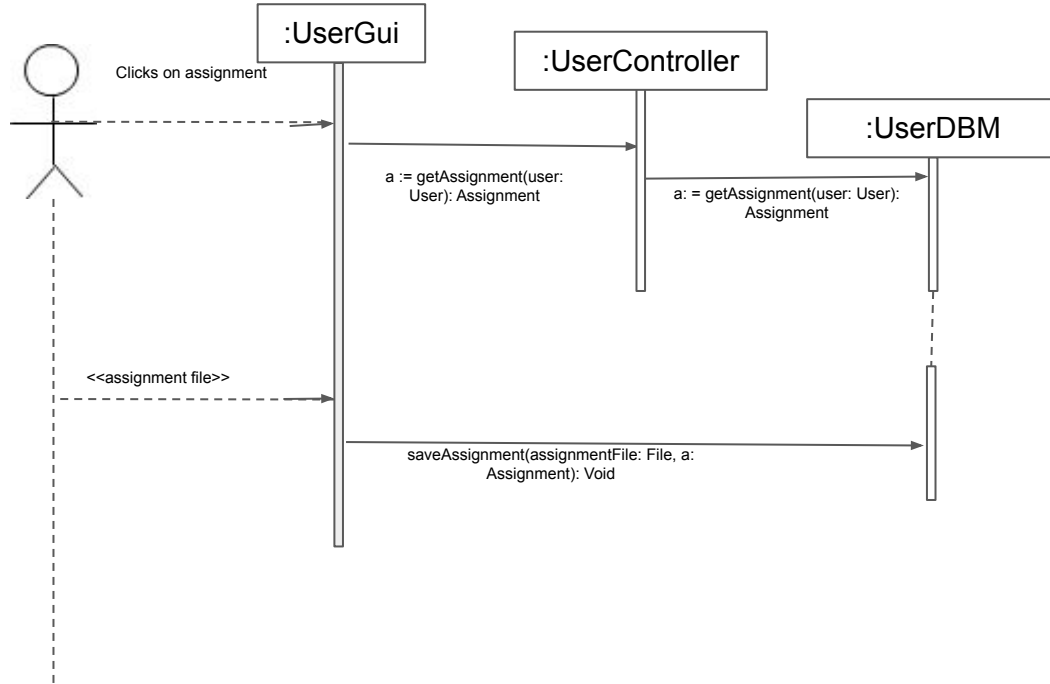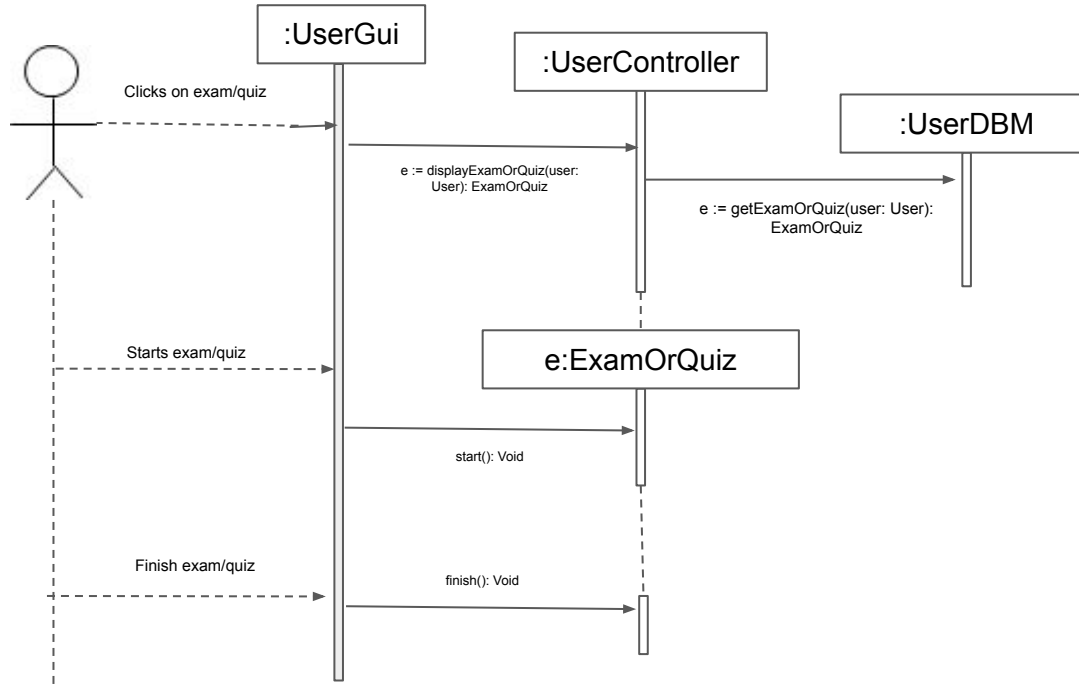CLAS 1001

class.c1001.home()

CLAS 1201

class.c1201.home()

system.exit()

Login

Logout

system.enter()

CLAS 1201

View Assignments

class.c1201.viewAssignments()

new class.c1201.project()

Create Group Project

View Instructor Announcements

class.c1201.viewAnnouncements()

Activity Diagram

Student | Class Instructor

Submits Assignment → :Assignment → Review Assignment

:Feedback ← Send feedback ← (Review Assignment)

Activity Diagram

Student	Class Instructor

Takes exam ← **:Exam** ← **Sets exam**

Takes exam → **Submits exam**

Submits exam → **File:Exam** → **Reviews exam**

Reviews exam → **Send feedback**

:Feedback ← **Send feedback**