



# CS251 – Software Engineering I

Staff Memebers	Email
<b>Dr Mohamed El Ramly</b>	<b>m.elramly@fci-cu.edu.eg</b>
Eng Catherine Bedrossian	c.bedrossian@fci-cu.edu.eg
Eng Sara Tarek Ali Othman	s.tarek@fci-cu.edu.eg
Eng Mohamed Samir	m.samir@fci-cu.edu.eg
Eng Marwa Nabil	m.nabil@fci-cu.edu.eg
Eng Yomna Magdy Mohamed	yomna@fci-cu.edu.eg
Eng Desoky Abd El-qawy	d.abdelqawy@fci-cu.edu.eg
Eng Omar Khaled Ali Ragab	o.khaled@fci-cu.edu.eg
Eng Mohamed Elarnaoty	m.elarnaoty@fci-cu.edu.eg
Eng Mostafa Saad	m.saad@fci-cu.edu.eg



# CS251: Phase 2 – Team Name

## Project: <Project Name>

# Software Design Specification

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## Software Design Specification

### Team

ID	Name	Email	Mobile
20120100	Afnan Ahmed Salem	Afnanalfeky3@gmail.com	01153475844
20120140	Toqa Shrief	Toqaabdelhafez@yahoo.com	01285585229
20120142	Tahany fawzy	Tahany_fawzy@yahoo.com	01115705800
20120170	Doaa mohamed mohamed	Doaa_fci_cu@yahoo.com	01126805518
20120452	Wafaa magdy saad	Wafaa_fci4@yahoo.com	01111882554

### Document Purpose and Audience

This Document shows the system design of the advanced learning management website. It is intended to inform the details of the design and the design process to educational institutes, faculties, centers that offers online courses with online assessment.



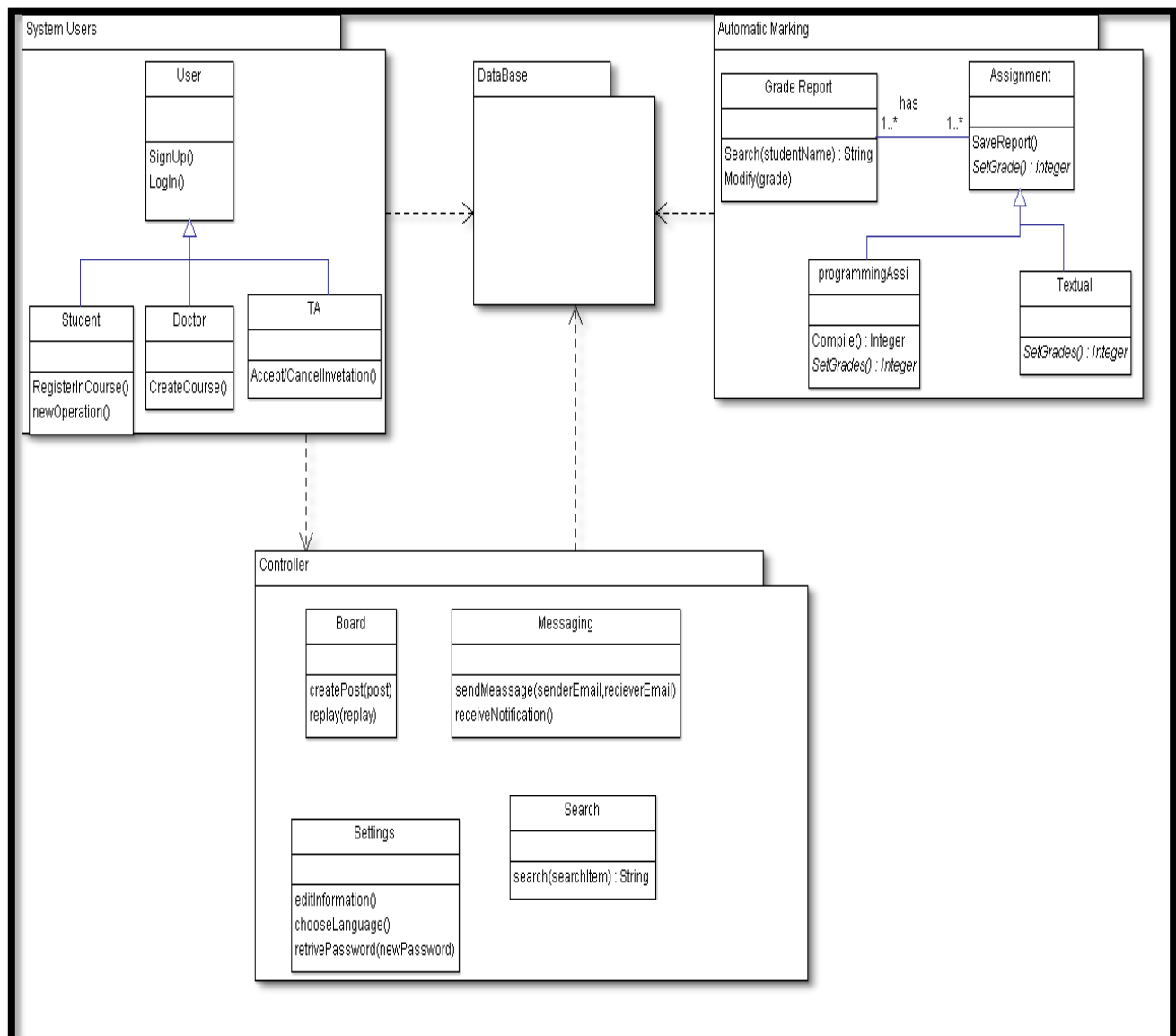
# CS251: Phase 2 – Team Name

## Project: <Project Name>

## Software Design Specification

### System Models

#### System Decomposition







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## Software Design Specification

Class ID	Class Name	Subsystem ID	Description
1	User	System users	Parent class for (Student, Doctor, and Teacher Assistant) include the mutual attributes and functions they can do between them
2	Student	System users	Subclass from User, include functions that he can do
3	Doctor	System users	Subclass from User, , include functions that he can do
4	Teacher Assistant	System users	Subclass from User, , include functions that he can do
5	Course	_____	Include all the attributes and methods belongs to the course
6	Assignment	Automatic Marking	Parent class for(textual and programming assignments)
7	Textual	Automatic Marking	Subclass from Assignment
8	Programming Assignment	Automatic Marking	Subclass from Assignment ,Class depend on automatic marking system, files doctor upload and code from student then set grade to student
9	GradeReport	Automatic Marking	Class for collecting all grades of students and allows doctors to modify these grades
10	Settings	Controller	Class to allow user edit his information , retrieve password ,manage notifications and chose the website language
11	Messaging	Controller	Class responsible for user send message to another user and send notifications to users
12	Board	Controller	Class make user possible to post a status and reply to it
13	File	Controller	Class make user possible to download/ upload files



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Class ID	Class Name	Subsystem ID	Description
14	Searching	Controller	Class make user possible to search about course or another user

### Important Algorithm:

#### Automatic Marking algorithm:

1-open the solved assignment file from the student.

2-check the language of the assignment

2.1 If language accepted open the input /output format

2.1.1 Read the number of test cases from the format file.

2.1.2 While there is a test case

2.1.2.1 Take the input from the file format and run the code.

2.1.2.2 Compare the output from the code with the output of the file format.

2.1.2.3 If the two outputs are the same then increment the grade counter by one.

Else

2.1.2.4 The counter still the same.

2.1.3 Close the code file.

2.1.4 Close the file format.

Else

2.2 If language don't accepted then set counter with zero.

3. Set the student grade with the counter calculated.

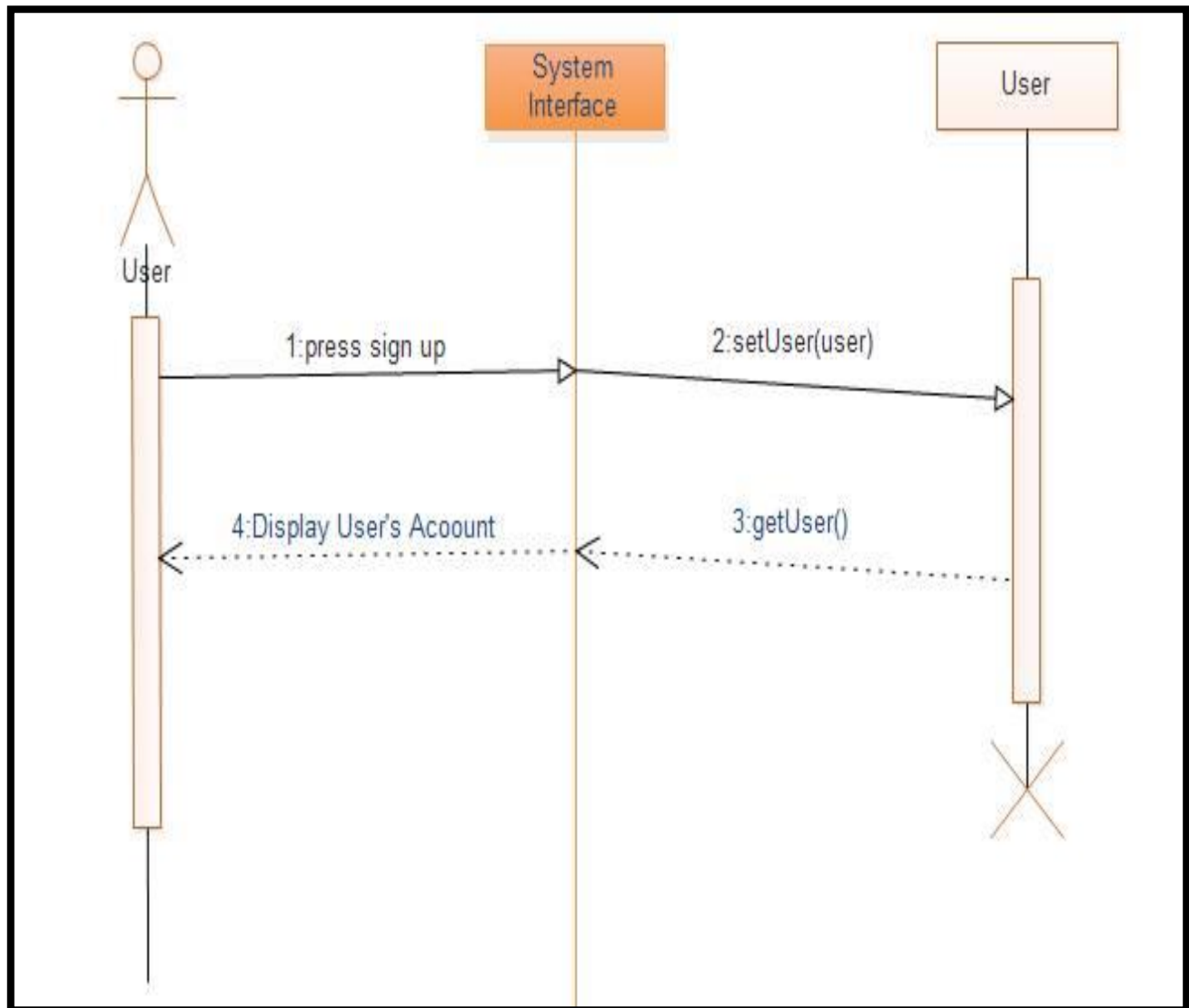


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### Sequence diagrams

#### 1-sign up:



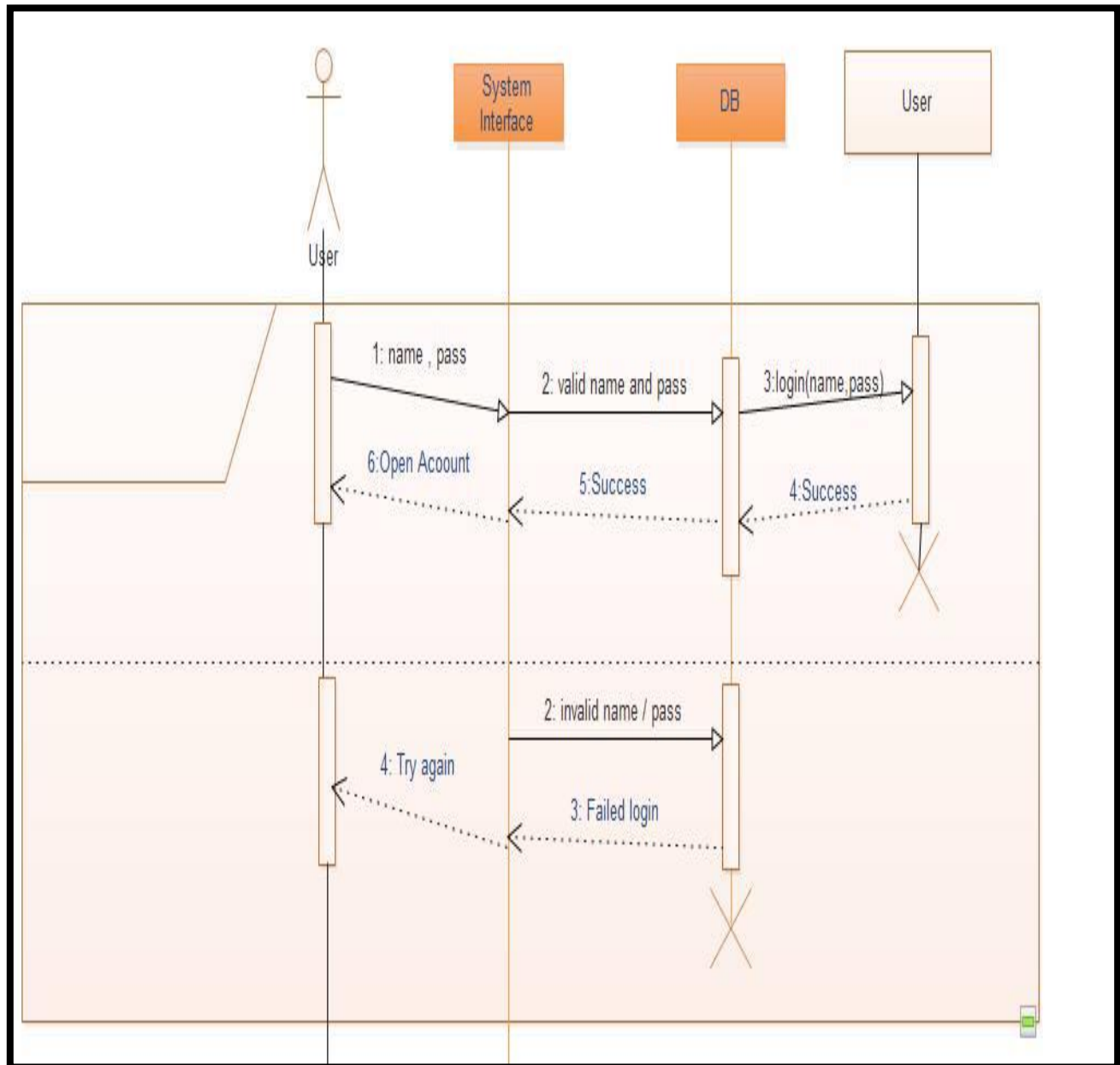




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### 2-login:

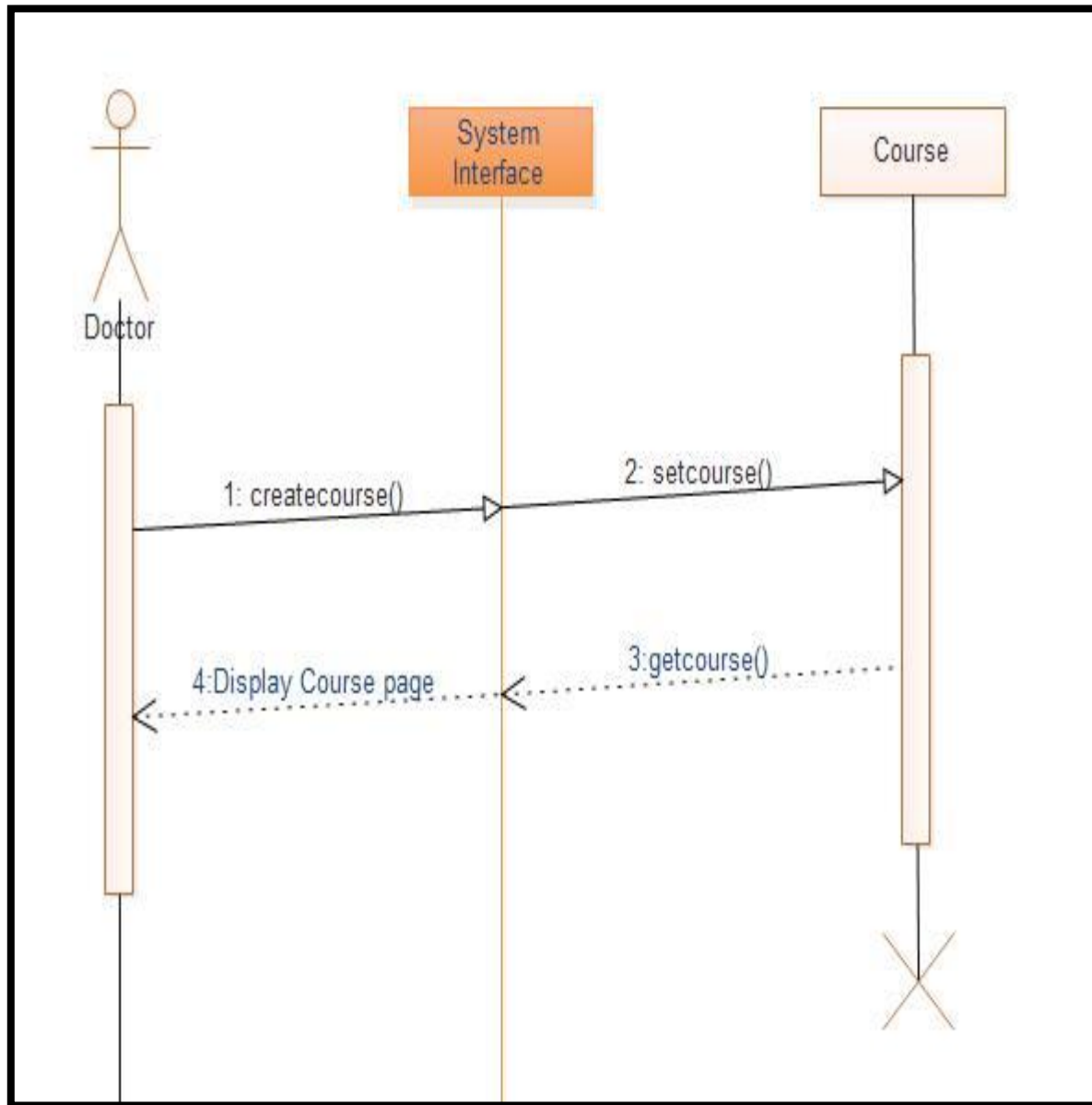




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### 3-Create Course:

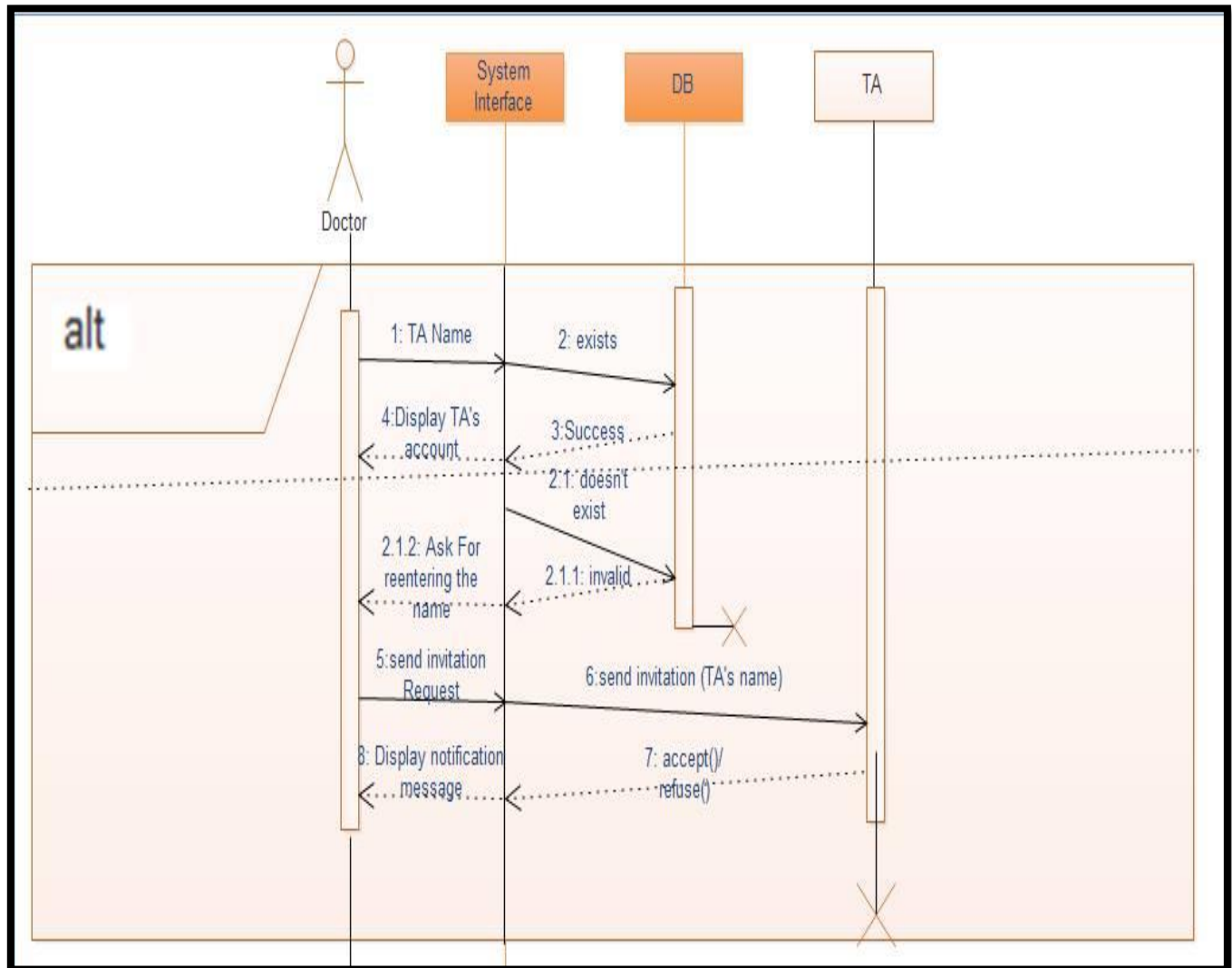




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### 4- Doctors send invitations to TAs:

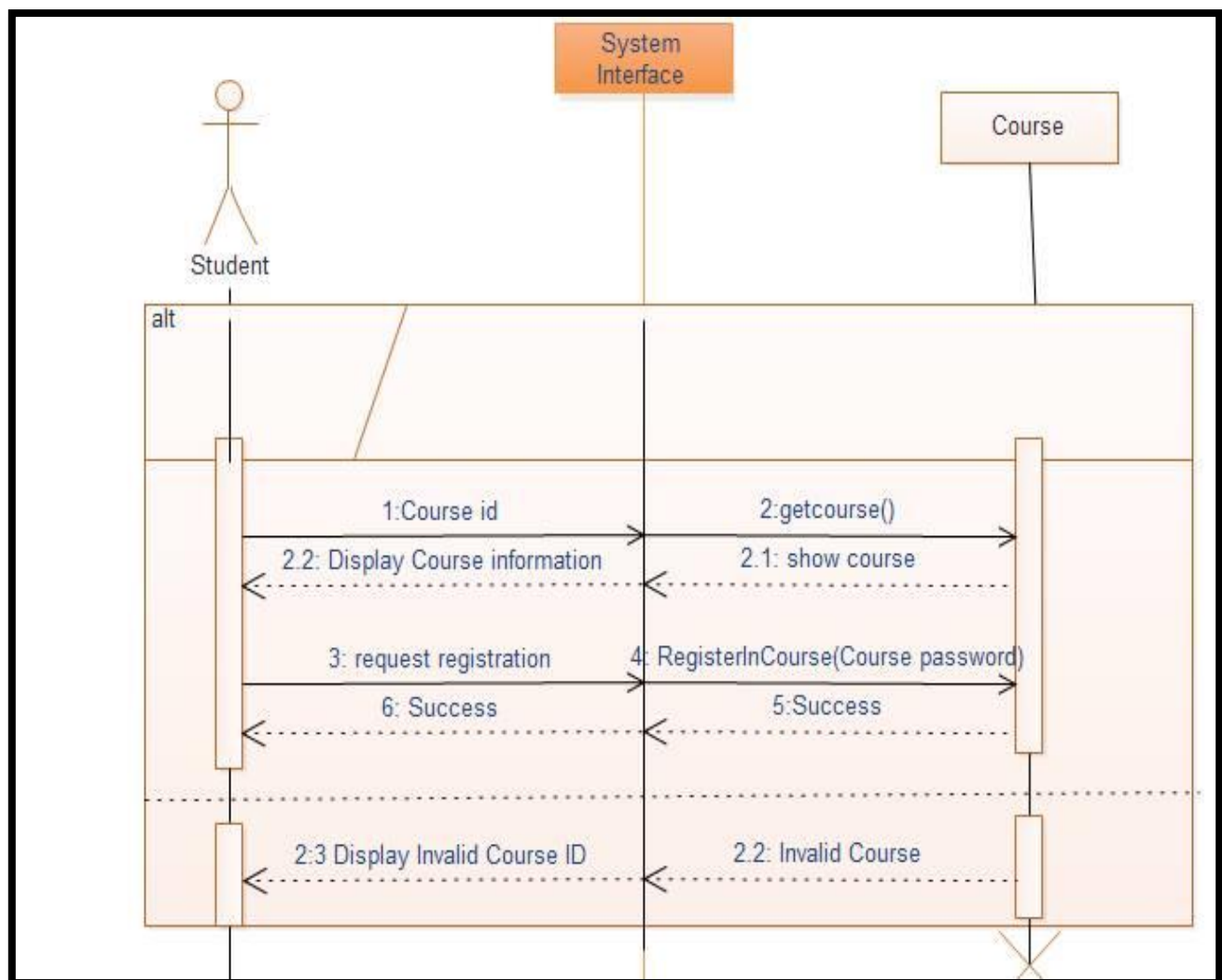




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### 5- Student course registration:

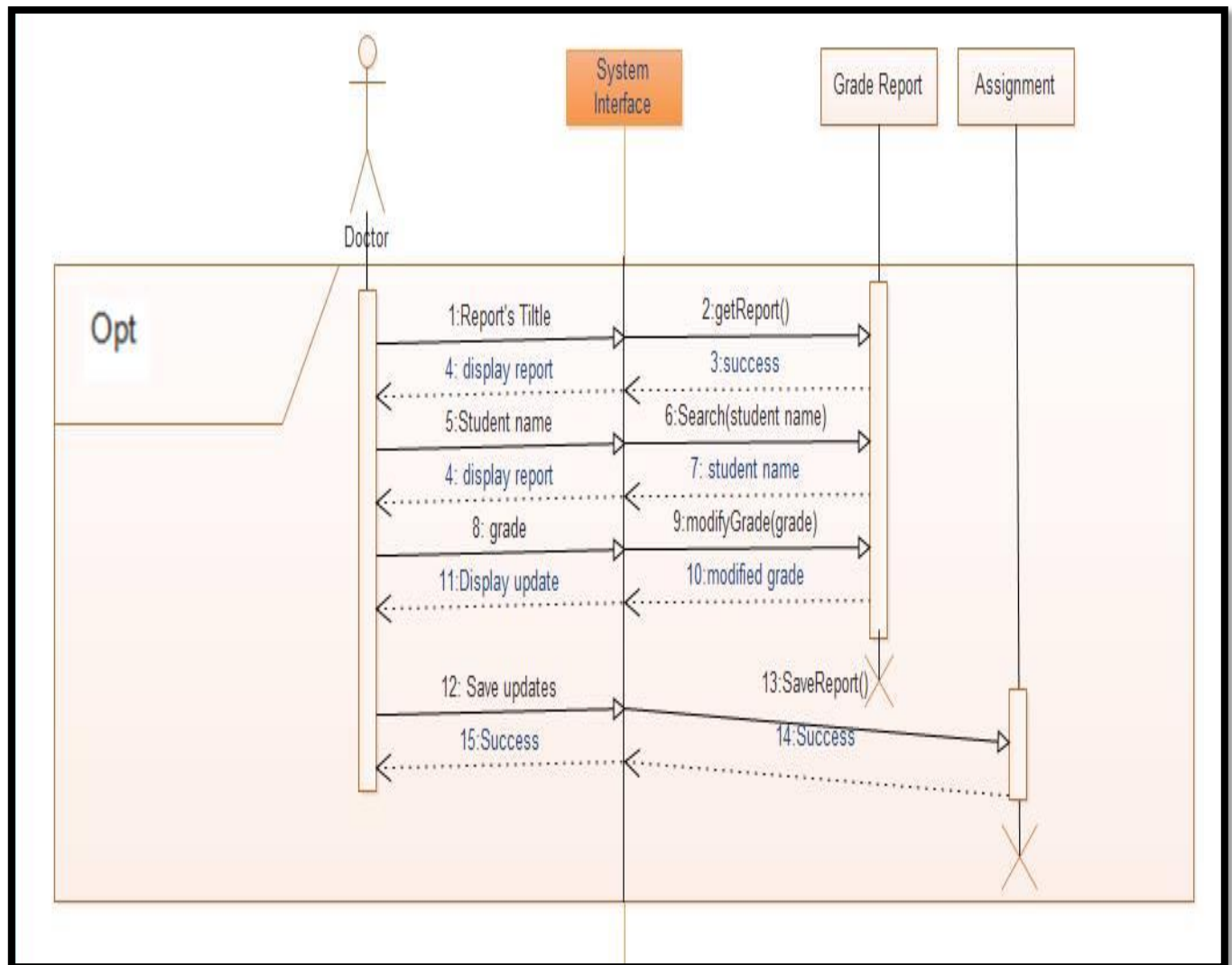




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**6-Doctor searches and modifies student information and grades in report:**

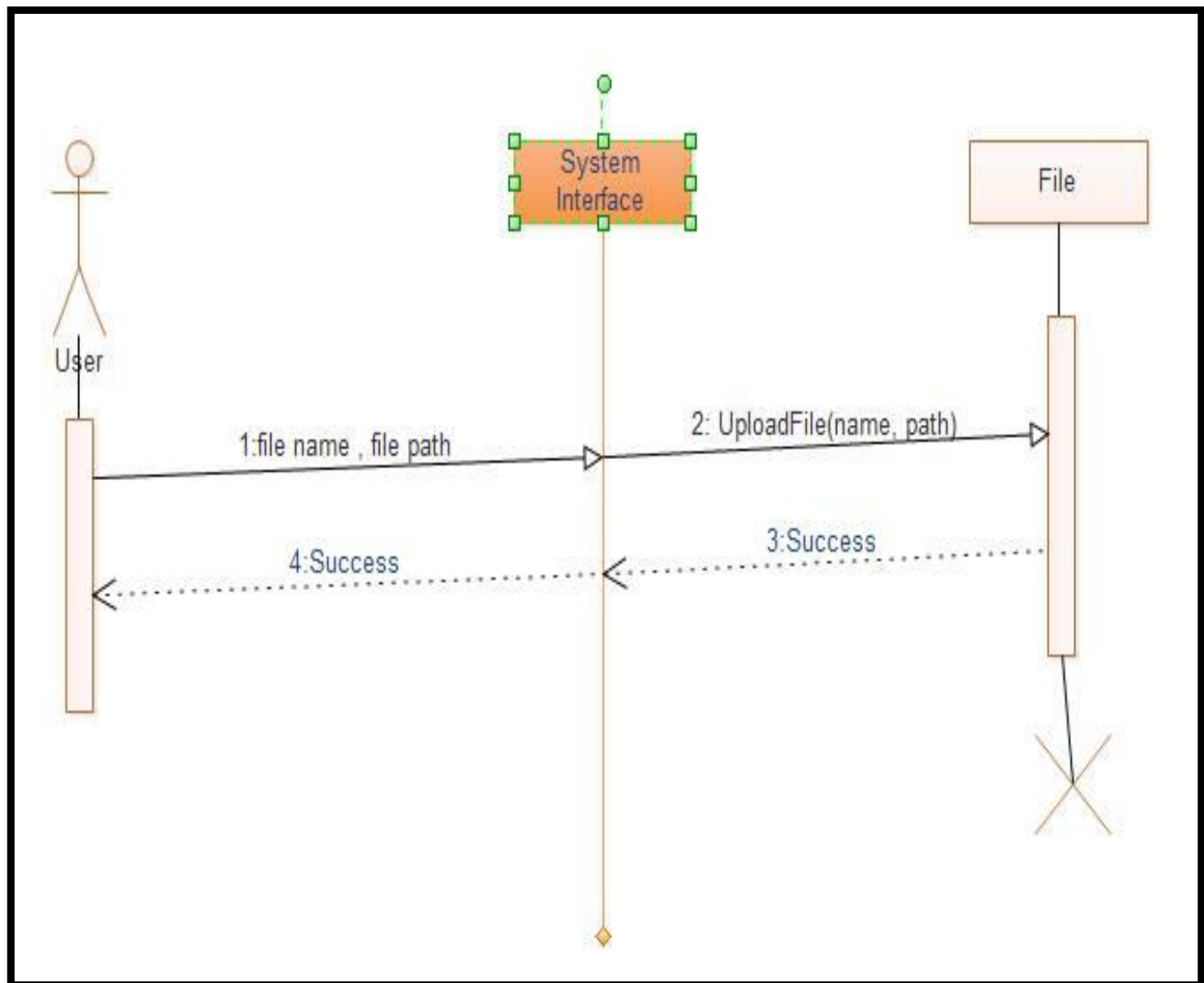




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### 7-Upload file:

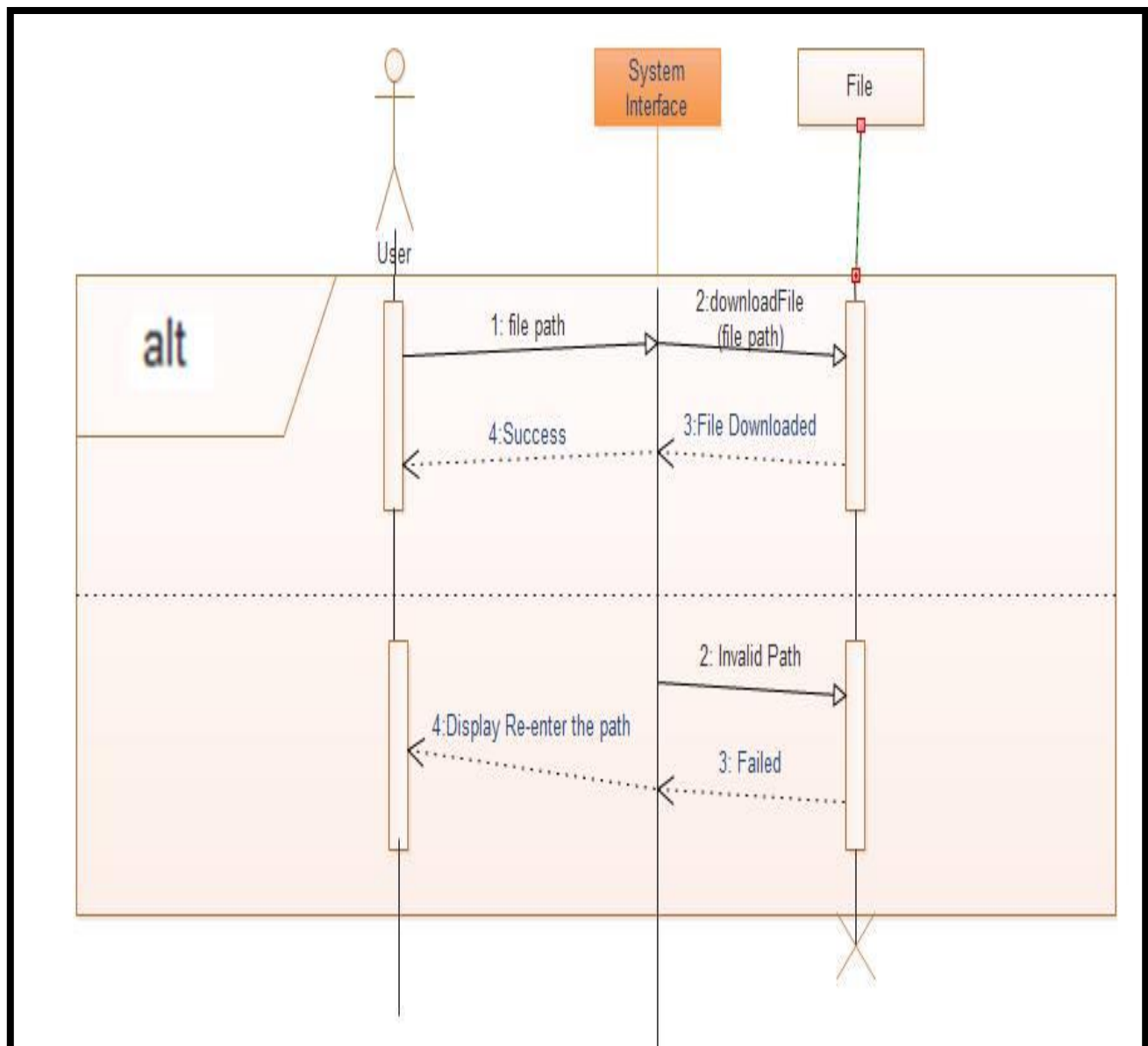




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### 8-Download file:

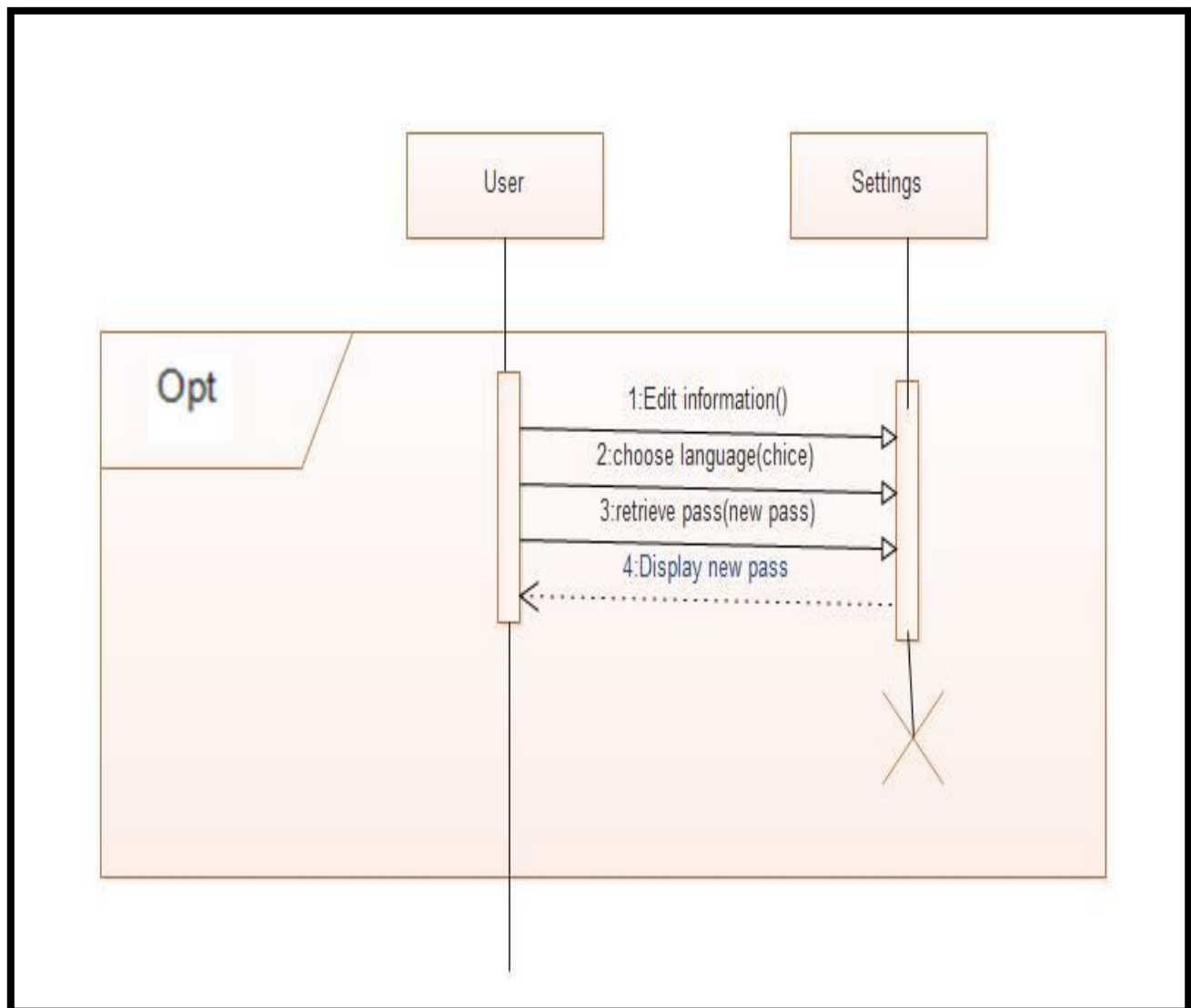




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### 9-Reset Settings:



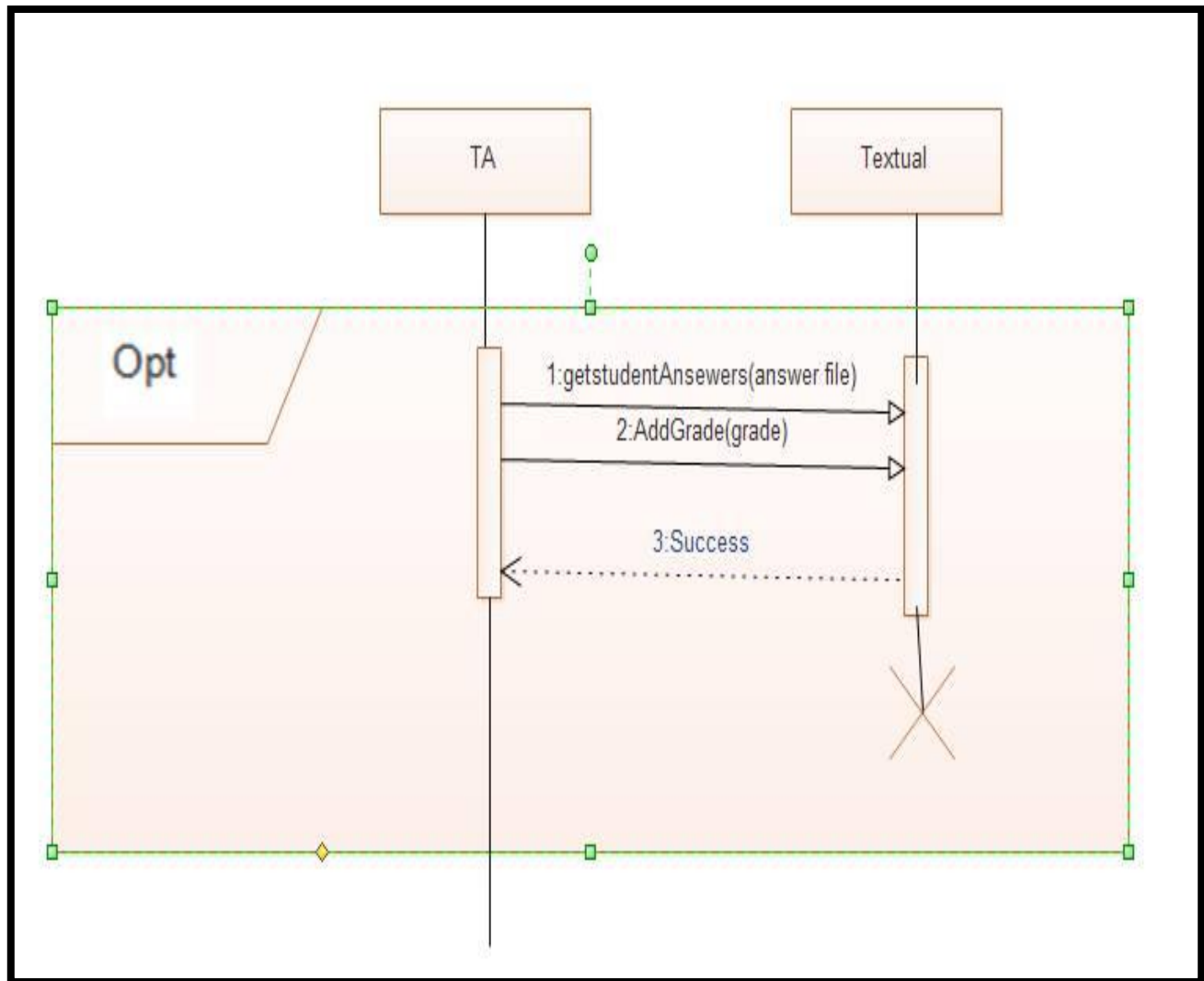




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10-TA marks textual assignment

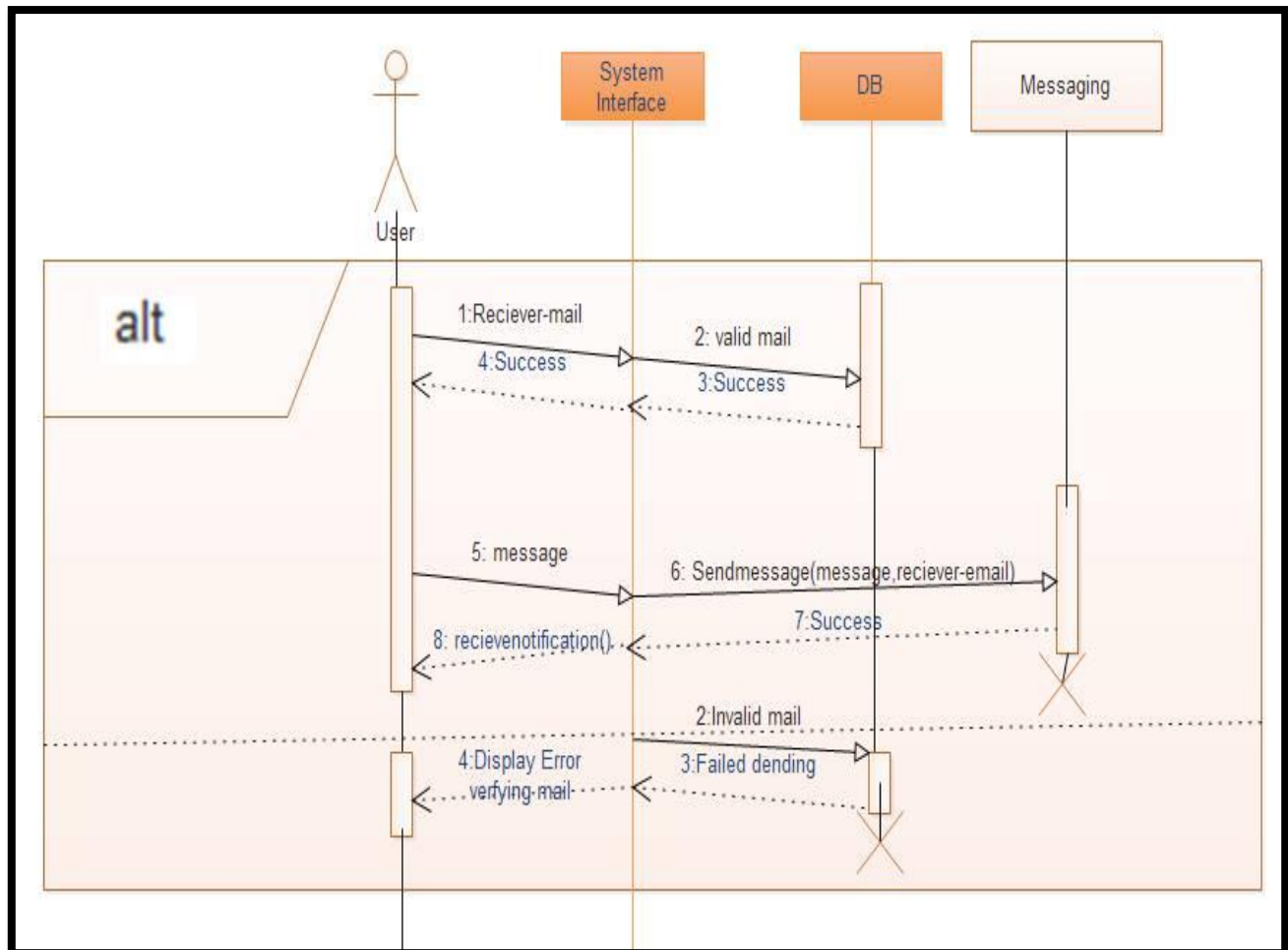




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### 11-send message:



### Class - Sequence Usage

Class Name	Sequence Diagrams	Overall used methods
Doctor	4,3	Send invitation, create course
TA	4	Accept/cancel invitation
course	5	Validate user
student	5	Register in course



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Class Name	Sequence Diagrams	Overall used methods
Grade report	6	Search, modify
Assignment	6	Save report
file	7,8	Upload file, download file
textual	10	Get student answer, add grade
settings	9	Edit information , choose language, retrieve password
Messaging	11	Send message
user	1,2	Sign Up, login

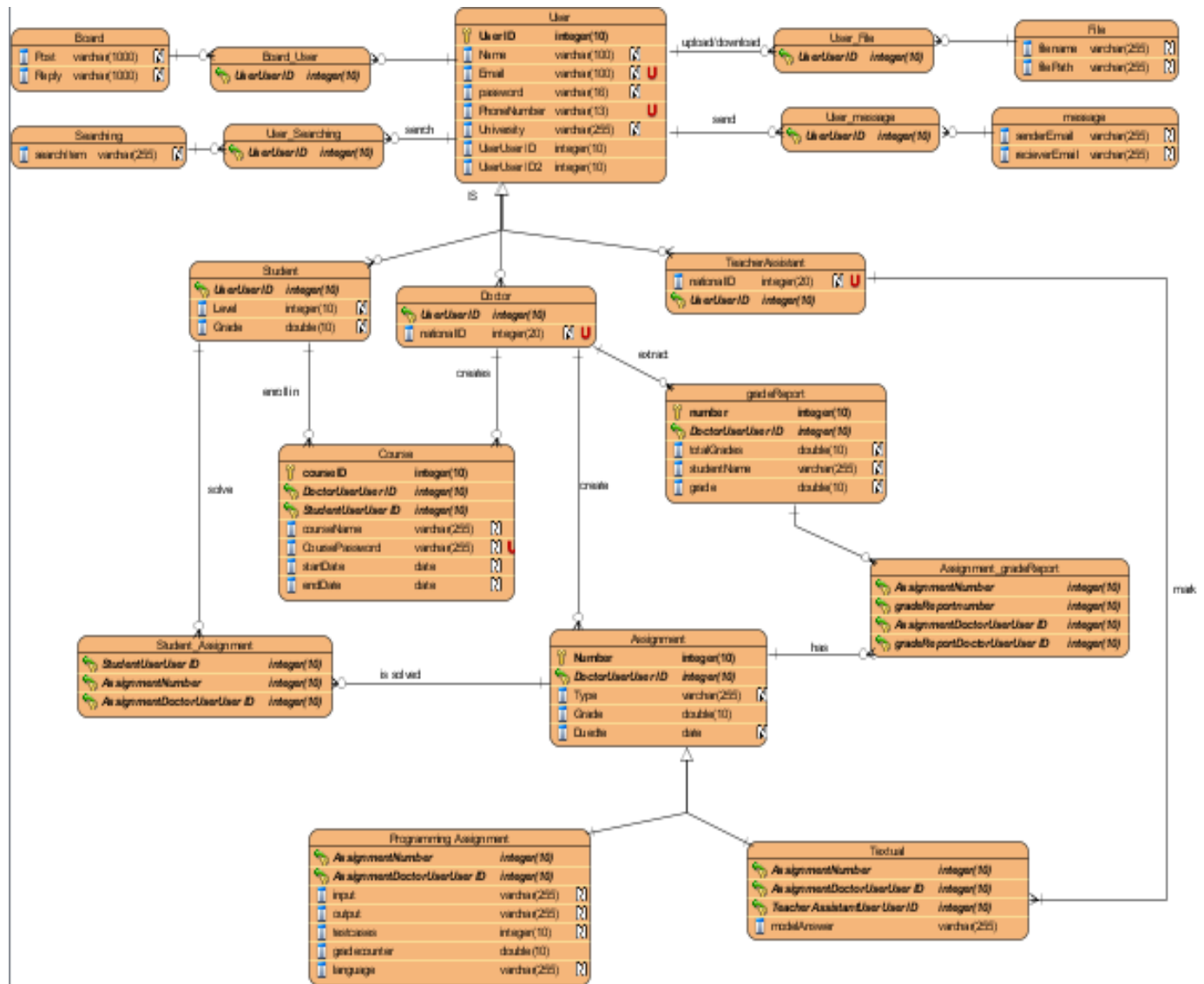


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### Physical Entity-Relationship Diagram





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### User Interface Design

Joining course:

The image displays a web application interface for 'Aca-Coder Innovative Learning'. At the top, there is a header with two cartoon avatars, the text 'Aca-Coder', and the tagline 'Innovative Learning'. A 'Student' button is located in the top right corner. Below the header is a navigation bar with five buttons: 'Home', 'Courses' (highlighted in blue), 'Settings', 'Messages', and 'Search'. On the left side, there are two buttons: 'Course Registration' and 'My Courses'. The main content area features a 'Join Course :' section with a text input field labeled 'Enter Course Code (password) :' and a 'Join' button. At the bottom, there is a teal footer containing contact information: 'Call Us: / E-mail: Aca-coder@fci.com / Address: ', a navigation bar with 'Home | Courses | Settings | Messages | Search', social media icons for Facebook, Twitter, and Google+, and a copyright notice '© 2014 by FCI-CU'.



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Creating course:

The screenshot displays the Aca-Coder web application interface. At the top, there is a header with the Aca-Coder logo and the tagline 'Innovative Learning'. A navigation bar contains links for Home, Courses, Settings, Messages, and Search. A user profile dropdown for 'Dr. Mohamed' is visible in the top right corner. The main content area is titled 'Create New Course' and includes a 'Create new Course' button and a 'My courses' button. The form fields for creating a new course are as follows:

- Course Title :
- Course Code (password) :
- University :
- Start Date :
- End Date :
- Course Info :

A 'Create' button is located at the bottom right of the form. The footer contains contact information: 'Call Us : / E-mail : Aca-coder@fci.com / Address :', a navigation bar, social media icons for Facebook, Twitter, and Google+, and a copyright notice: '© 2014 by FCI-CU'.



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Sign Up screen:

**Aca-Coder**  
Innovative Learning

[ABOUT](#) | [Registration](#) | [Login](#) | [Language](#)

If you not an Aca-Coder member ,  
Register Now !

OR

First Name :

Last Name :

Password :

Confirm Password :

E-mail :

University :

[Register](#)

[f](#) Register with facebook

[t](#) Register with twitter

[g+](#) Register with google+

Call Us : / E-mail : Aca-coder@fci.com / Address :

[ABOUT](#) | [Registration](#) | [Login](#) | [Language](#)

[f](#) [t](#) [g+](#)

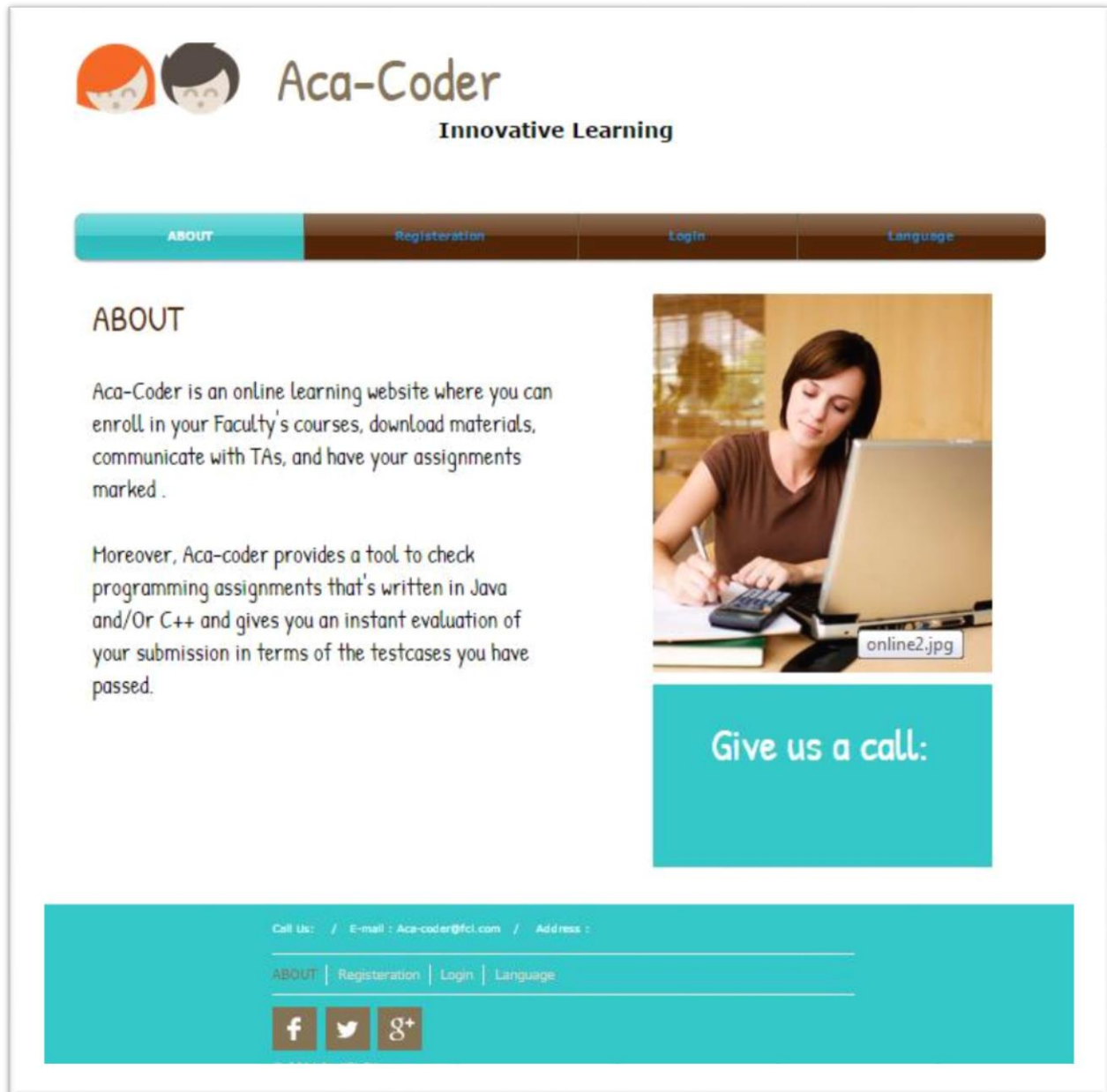
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### Screen 4 – Main Interface (example)







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### Screen 5-Send message

**Aca-Coder**  
Innovative Learning

Student

Home Courses Settings Messages Search

New Message Messages

To

Subject

Message

attach files

Send

Call Us: / E-mail : Aca-coder@fci.com / Address :

Home | Courses | Settings | Messages | Search

f t g+

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Screen 6-course details

The screenshot displays the Aca-Coder web application interface. At the top, there is a header with the Aca-Coder logo and the tagline "Innovative Learning". A navigation bar contains links for Home, Courses, Settings, Messages, and Search. Below this, a sidebar shows "My Courses" with a list of courses, including CS251-2014 and CS215-2014. The main content area displays the "Course Details" for CS251-2014, including the Course Code, Course Title, University, Start Date, End Date, Course Info, Teachers, and Students. A "Leave Course" button is also present. The footer contains contact information, social media links, and a copyright notice.

**Aca-Coder**  
Innovative Learning

Student

Home Courses Settings Messages Search

Course Registration

My Courses

Info Board Tasks

CS251-2014

CS215-2014

**Course Details :**

Course Code : CS251-2014

Course Title : Software Engineering I

University : Cairo University

Start Date : 13 Sep 2014 End Date : 13 Dec 2014

Course Info : -

Teachers : 20 Students : 350

Leave Course : Leave

Call Us : / E-mail : Aca-coder@fci.com / Address :  
Home | Courses | Settings | Messages | Search

f t g+

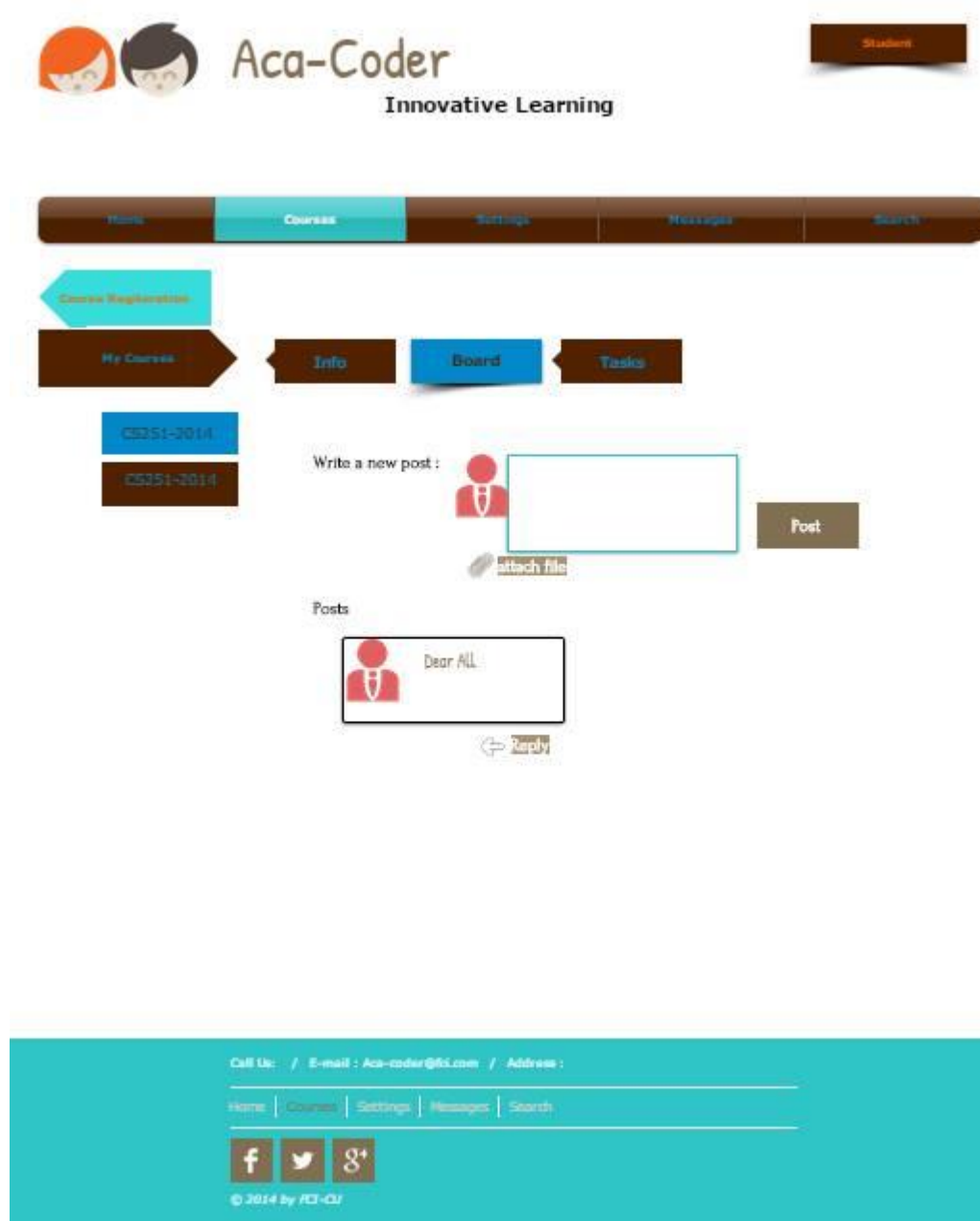
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### Screen 7-Board





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### Ownership Report

Item	Owners
System decomposition	Toqa sherif , Doaa mohamed
Class diagram	Toqa sherif , Doaa mohamed ,tahany fawzy
ERD	Tahany fawzy
Sequence diagram	Afnan ahmed
User interfaces	Wafaa magdy

### Policy Regarding Plagiarism:

**Students have collective ownership and responsibility of their project. Any violation of academic honesty will have severe consequences and punishment for ALL team members.**

1. تشجع الكلية على مناقشة الأفكار و تبادل المعلومات و مناقشات الطلاب حيث يعتبر هذا جوهرية لعملية تعليمية سليمة
2. ساعد زملاءك على قدر ما تستطيع و حل لهم مشاكلهم في الكود و لكن تبادل الحلول غير مقبول و يعتبر غشا.
3. أى حل يتشابه مع أى حل آخر بدرجة تقطع بأنهما منقولان من نفس المصدر سيعتبر أن صاحبيهما قد قاما بالغش.
4. قد توجد على النت برامج مشابهة لما نكتبه هنا أى نسخ من على النت يعتبر غشا يحاسب عليه صاحبه.
5. إذا لم تكن متأكدا أن فعلا ما يعد غشا فلتسأل المعيد أو أستاذ المادة.
6. في حالة ثبوت الغش سيأخذ الطالب سالب درجة المسألة ، و في حالة تكرار الغش سيرسب الطالب في المقرر.

### References

- <http://www.mhhe.com/engcs/compsci/pressman/graphics/Pressman5sepa/common/cs1/design.pdf>

### Authors

- Eng Mostafa Saad