

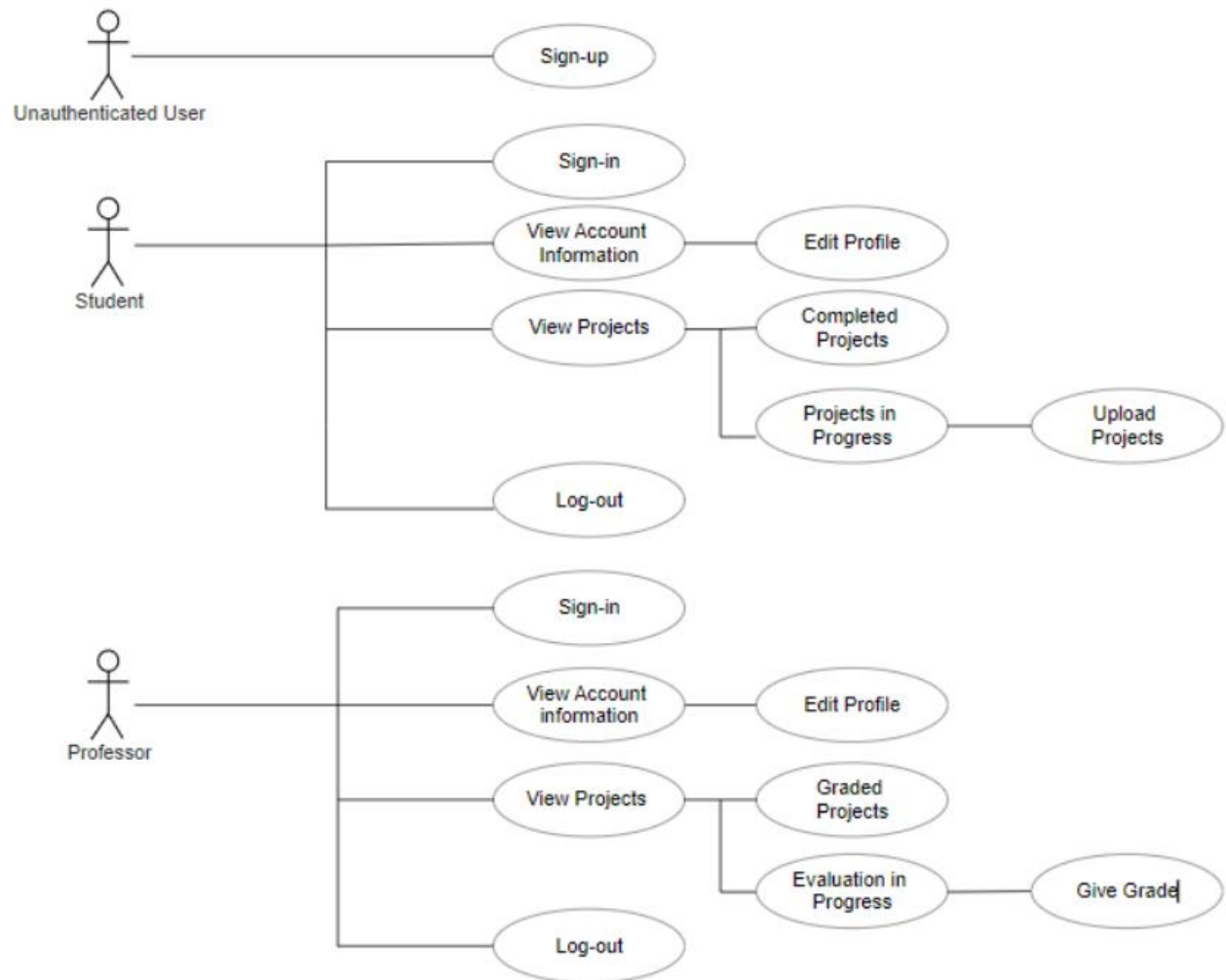
# **Software Design Document**

**“Distributed computer system for the management of students  
assignments”**

**Prepared by Papa Boris Alexandru Ștefan  
Tudor Ana-Maria  
Tuță Liana**

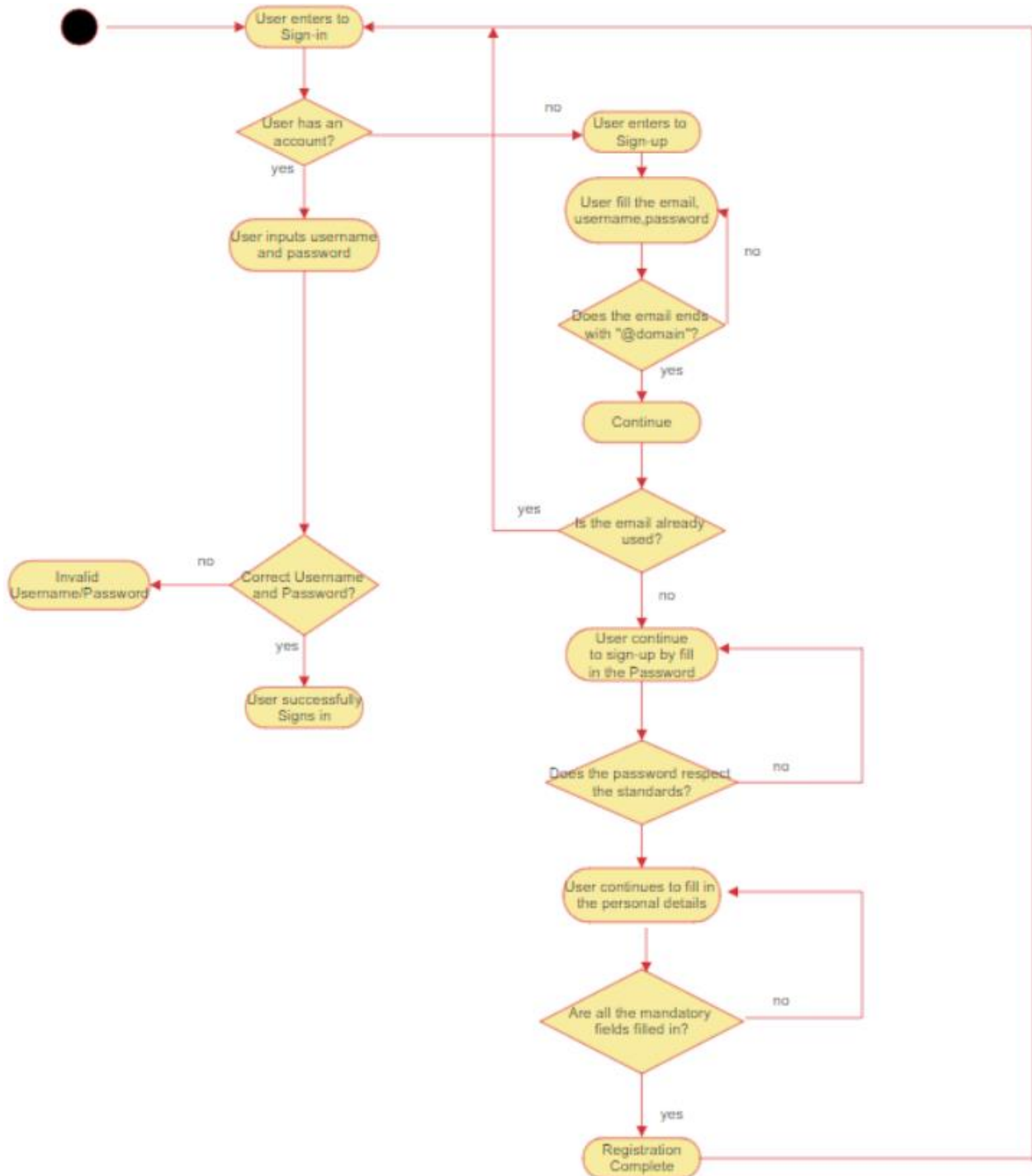
**University of Craiova,  
Faculty of Automation, Computers and Electronics  
11.04.2024**

## 1. Use-cases:

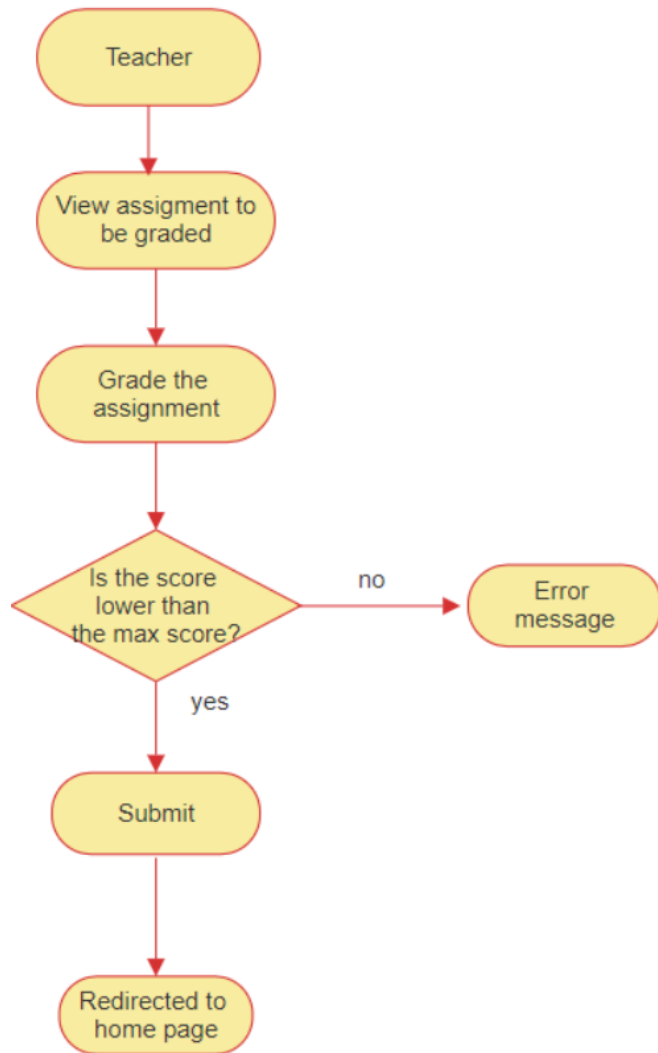


## 2. Activity diagrams:

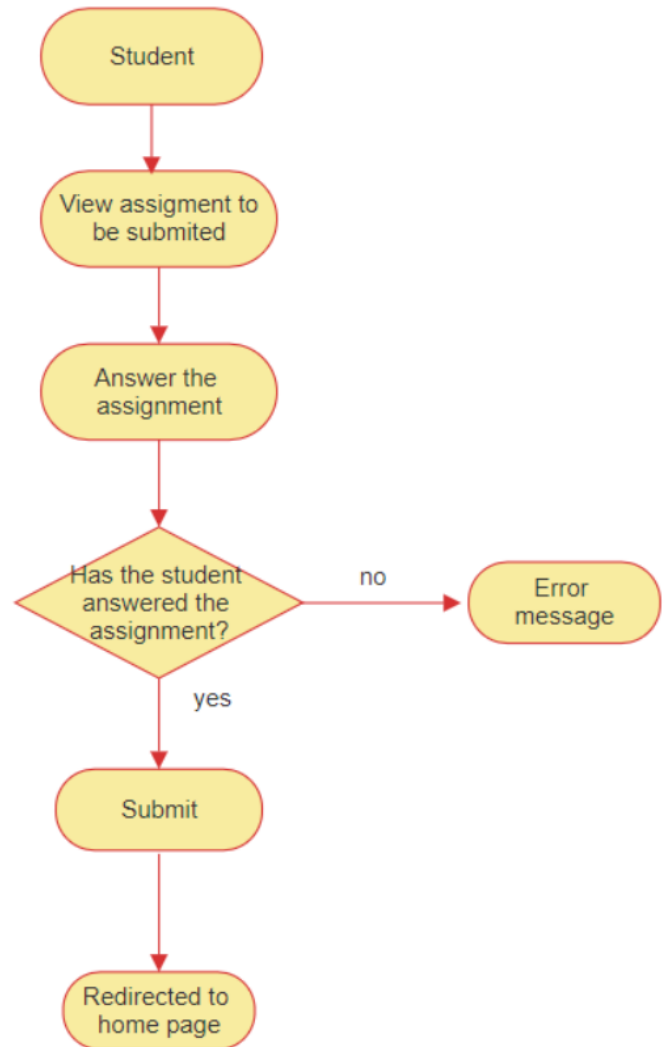
### Sign in/ Sign up



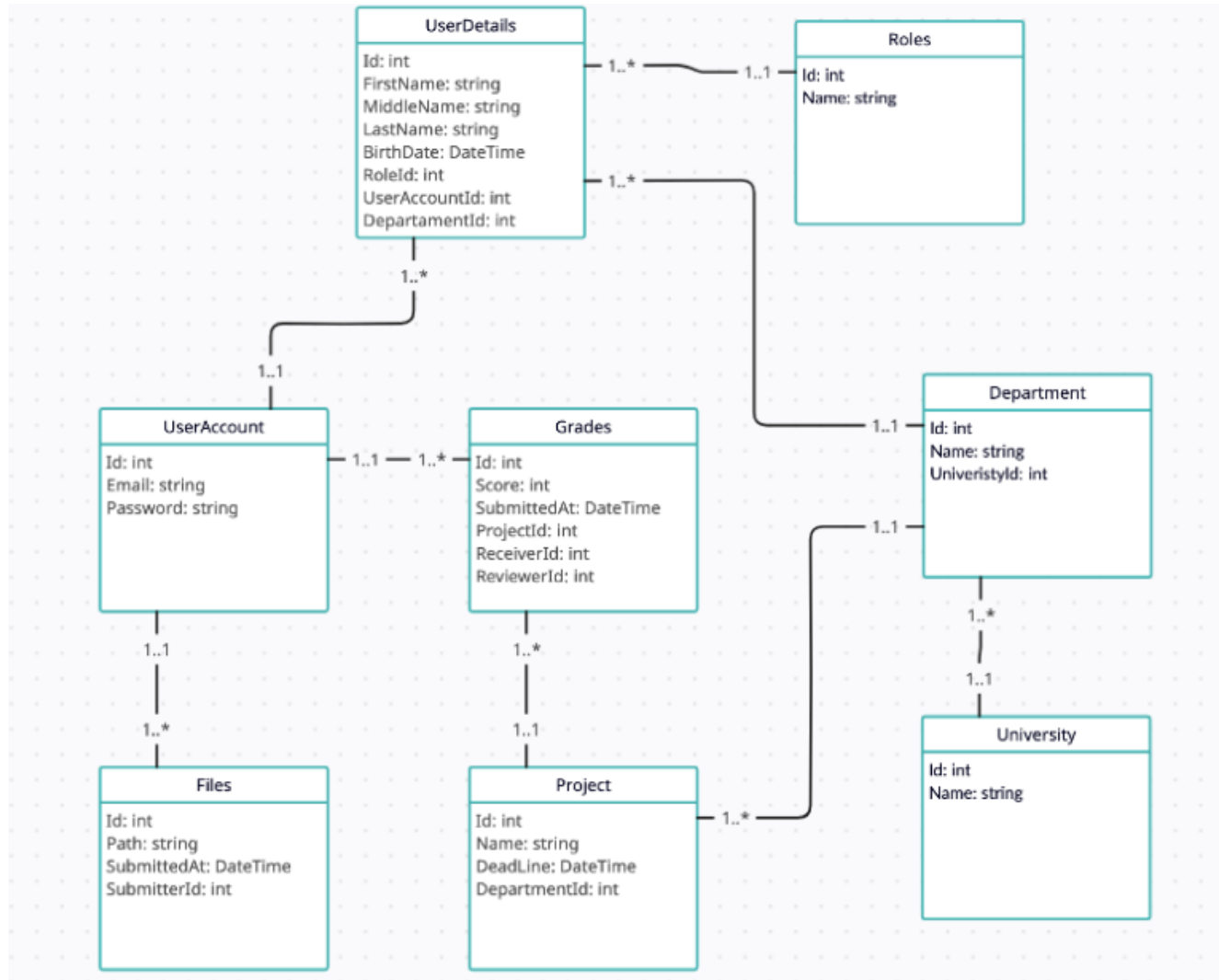
**Teacher Evaluation diagram**



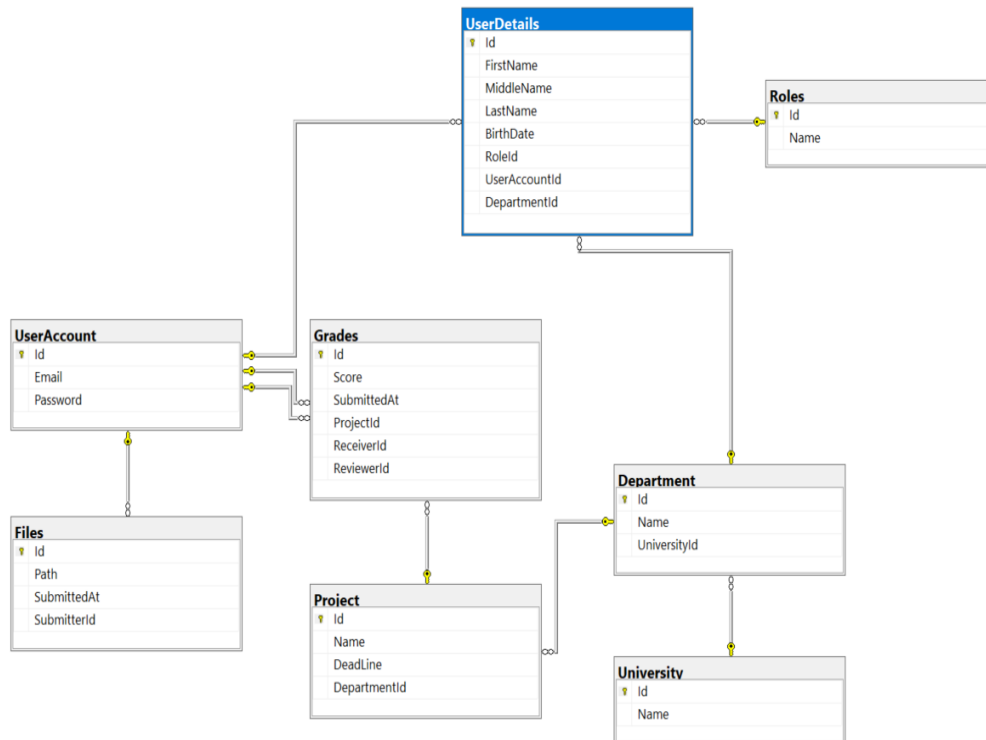
**Student Submit diagram**



### 3. Class diagrams:



#### 4. Relational Model for database:



#### 5. Project Tasks

##### A. [1] Create project MVC project

Assignee: Liana

DeadLine: 18 04 2024

Estimation: 3 story points

Details:

As a developer in order to be able to add logic for upcoming features I want to create a project for MVC

##### *Acceptance criteria*

- add layered architecture to support feature development

- the layered architecture will contain 3 layers
  - Controllers
  - BL
  - DAL

The database connection will be established.

Migrations for the database schema will be integrated in the project.

An example mock up for a controller, service, repository will be made.

## B. [2] Sign up

Assignee: Liana

DeadLine: 18 04 2024

Estimation: 5 story points

Details:

### ***Business Requirements***

As a user I want to sign up to this application so that I can access the application functionalities ( grading/ submitting an assignment depending on the role.)

### ***Pre conditions***

Have universities and departments in a database system and an endpoint to retrieve the information about them.

### ***Acceptance Criteria***

The front end page will contain some fields for the following properties:

- Email address ( mandatory validate to a specific format e.g ...@domain )
- Password (mandatory hidden -characters when typing don't show up)
- Confirm password (mandatory -characters when typing don't show up must be the same as password)
- Role (mandatory) -> the roles can be teacher / student
- First name (mandatory)
- Middle name

- o Last name (mandatory)
- o Birth date (date format component)
- o University (mandatory) (dropdown with the possible universities)
- o Department (mandatory) (dropdown with the possible departments)

A save button will be displayed at the end of the form. When pressing Save the following validations will be done

- o Check if the email address already exists
- o Check if the password is formatted correctly ( one UpperCase, one lowercase one digit, one special character)

If the validation has failed the reason will be specified in the front end.

After the validation passes the user profile will be saved, but if the saving process fails a message will appear.

Due to security reasons the password will be hashed before the save in the DB.\

### c. [3]Login

**Assignee:** Ana

**DeadLine:** 18 04 2024

**Estimation:** 5 story points

**Details:**

#### ***Business Requirements***

As a user I want to login in the application with the email address and password for the account that I have created.

#### **Pre conditions**

The user should have an account created.

#### ***Acceptance Criteria***

The front end page will contain two fields for the following properties:



- o Email address ( mandatory validate to a specific format e.g ...@domain )
- o Password (mandatory hidden -characters when typing don't show up)

A *Login* button will be displayed at the end of the form in the middle. When pressing Login the following validations will be done

- o Check if the email address exists in the database
- o Check if the password is correct for that email address.

If the validation has failed a message will be displayed in the front-end "Email address or password don't match/Invalid credentials".

After Login the user will be redirected to the application ( Home Page).

#### **D.[4]Edit Account Details Page**

Assignee: Boris

DeadLine: 18 04 2024

Estimation: 5 story points

Details:

##### ***Business Requirements***

As a user I want to edit my personal details in case that something was misspelled when I created the account or something has changed in the meanwhile.

##### **Pre-conditions**

Have an existing account in the application.

##### ***Acceptance Criteria***

1. The front end page will contain an overview with the personal details of the account containing some fields for the following properties:
  - o Email address (displayed read only)
  - o Role (displayed read only)
  - o First name (can be changed) (mandatory)

- o Middle name (can be changed)
- o Last name (can be changed) (mandatory)
- o Birth date (can be changed date component)
- o University (read only)
- o Department (read only)

2.A save button will be displayed at the end of the form. When pressing Save the following validations will be done:

- The mandatory fields should have a value before save

If the validation has failed the reason will be specified in the front end. ( “You must complete the required fields”)

After the validation passes the user profile will be saved, but if the saving process fails a message will appear.

#### **E. [5]Student Overview for In progress assignments**

**Assignee:** Boris

**DeadLine:** 25 04 2024

**Estimation:** 3 story points

**Details:**

##### **Business Requirements**

As a student, I want to be able to view the work that was submitted to me and to be able to view the assignment requirements and submit an answer/solution for the assignment.

##### ***Pre-conditions:***

User has logged in on the platform with a student user account and has assignments for the department/university year that he signed up for.

##### ***Acceptance Criteria***

An overview consisting of a list of assignments will be displayed containing the following information:

- name of the assignment
- due date
- department/course

When clicking on an assignment the user will be redirected to that assignment's details page.

## **F. [6]Assignment Details Overview in progress Student**

**Assignee: Liana**

**DeadLine: 25 04 2024**

**Estimation: 5 story points**

**Details :**

### **Business Requirements**

As a student, I want to be able to view assignment details which are in progress.

#### ***Pre-conditions:***

The user has assignments based on the department.

### **Acceptance Criteria**

Assignment Details will include :

- Name of the assignment at the top of the page
- Due date displayed
- Section regarding the requirements
- Section for submitting the answer to the assignment
- Predefined maximum score/ grade for the assignment

If the student missed the deadline he can no longer submit the assignment. ( the fields should be read only)

Submit button will be displayed at the end of the page. The answer section is mandatory and will be saved along with the date of the submitted assignment.

## **G. [7]Teacher Overview for In progress assignments**

**Assignee: Ana**

**DeadLine: 25 04 2024**

**Estimation: 3 story points**

**Details :**

### **Business Requirements**

As a teacher, I want to be able to view the work that was submitted on the assignments that I have to grade in order to be able to give feedback and score.

### ***Pre-conditions:***

User has logged in on the platform with a teacher user account and has assignments for the department/university year that he works for

### ***Acceptance Criteria***

An overview consisting of a list of assignments will be displayed containing the following information:

- name of the assignment
- department/course

When clicking on an assignment the user will be redirected to that assignment's details page.

## **H. [8] Assignment Details Overview in progress Teacher**

**Assignee: Liana**

**DeadLine: 25 04 2024**

**Estimation: 5 story points**

**Details :**

### **Business Requirements**

As a teacher, I want to be able to view assignment details which I have not graded yet.

### ***Pre-conditions:***

The user has assignments based on the department.

A student has submitted an assignment to be graded.

### ***Acceptance Criteria***

Assignment Details will include :

- Name of the assignment at the top of the page
- Section regarding the requirements
- Section with the submitted answer to the assignment (read only not editable)
- Predefined maximum score/ grade for the assignment
- Section for grading the assignment ( for score number only) ( mandatory the score should be smaller than or equal to the maximum score for that assignment) -> if the score is bigger than the maximum score a message should be displayed -> “You must give maximum x point”)
- Feedback section to explain the reasons for the grade. ( this section is not mandatory)

Submit button will be displayed at the end of the page.

The grading section and feedback will be saved along with the date of the graded assignment.

## **I. [9]Student Overview for Completed assignments**

Assignee: Ana

DeadLine: 9 05 2024

Estimation: 3 story points

Details :

### **Business Requirements**

As a student, I want to be able to view the assignments that have been submitted/ graded to be able to assess my performance and keep track of my work.

### ***Pre-conditions:***

User has logged in on the platform with a student user account and has assignments for the department/university year which have been graded by a teacher or submitted.

### ***Acceptance Criteria***

An overview consisting of a list of assignments will be displayed containing the following information:

- name of the assignment

- If the assignment has been graded a check icon will appear
  - Date of the grading
- Date of submission
- department/course

When clicking on an assignment the user will be redirected to that assignment's details page.

## **J. [10]Assignment Details Overview completed Student**

**Assignee:** Liana

**DeadLine:** 9 05 2024

**Estimation:** 3 story points

**Details :**

### **Business Requirements**

As a student, I want to be able to view the assignments details that have been submitted/ graded to be able to assess my performance and keep track of my work.

### ***Pre-conditions:***

The user has assignments that have been submitted/ graded .

### ***Acceptance Criteria***

Assignment Details will include :

- Name of the assignment at the top of the page
- Date of submission
- Section regarding the requirements
- Section for submitting the answer to the assignment (read only)
- Predefined maximum score/ grade for the assignment

For graded assignments the graded date and the score should be displayed read only and the feedback of the teacher if it exists.

## **K. [11] Teacher Overview for Completed assignments**

**Assignee:** Boris

**DeadLine:** 9 05 2024

**Estimation:** 3 story points

**Details :**

### **Business Requirements**

As a teacher, I want to be able to view the assignments that have been graded to be able to keep track of my work.

### ***Pre-conditions:***

User has logged in on the platform with a teacher account and has assignments for the department/university year which they have graded.

### **Acceptance Criteria**

An overview consisting of a list of assignments will be displayed containing the following information:

- name of the assignment
- Date of grading
- department/course

When clicking on an assignment the user will be redirected to that assignment's details page.

## **L. [12] Assignment Details Overview completed Teacher**

**Assignee:** Ana

**DeadLine:** 9 05 2024

**Estimation:** 3 story points

**Details :**

### **Business Requirements**

As a teacher, I want to be able to view the assignments details that have been graded to be able to keep track of my work.

### ***Pre-conditions***

The user has assignments they have graded.

### **Acceptance Criteria**

Assignment Details will include :

- Name of the assignment at the top of the page
- Date of submission
- Date of grading
- Section regarding the requirements
- Section for submitting the answer to the assignment (read only)
- Predefined maximum score/grade for the assignment
- Grade (read only)
- Feedback (if it exists) (read only)