Laboratory Assignment AND Assessment Requirements Specification

Version 1.0

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Version History

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| **Version** | **Description of Change** | **Author** | **Date** |
| V01 | Initial/Modification of document | Stef Eduard | 16.03.2023 |
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# Introduction

This Java application is designed for teachers to monitor and manage assignments and assessments for the "Metode Avansate de Programare" (MAP) discipline. It provides an easy way to manage student grades and assignments, keeping track of deadlines and automatically calculating late penalties. Users can also update student information and remove students, assignments, or grades.

## Purpose

The purpose of this application is to simplify the task of managing student grades and assignments for MAP teachers. It allows users to perform CRUD operations for student, assignment, and grade entities and keeps them up to date on any changes to deadlines.

## Scope

This document provides information about the system's users, functionalities, purpose, usability, data management, and user scenarios.

## Definitions, Acronyms, and Abbreviations

MAP - Metode Avansate de Programare

CRUD - Create/Read/Update/Delete

## Document Overview

This document is organized into chapters and subchapters, providing a general description of the product's purpose and scope, as well as its functional and user interface requirements.

# Product/Service Description

This application allows teachers to manage data quickly by performing CRUD operations on three different entities: students, grades, and assignments. Data can be read from a file, which contains various information about the entities that will help teachers grade students, assign homework, and change assignment deadlines.

## Product Context

This product is self-contained and does not require any external dependencies.

## User Characteristics

The users of this product are MAP teachers who want a simpler way to manage student grades and assignments.

# Requirements

This section includes the requirements from the "initial" requirement document, as well as additional details about each identified requirement.

## Functional Requirements

List the functional requirements (FR) of the system.

|  |  |
| --- | --- |
| Section/ Requirement ID | Requirement Definition |
| FR1.0 | Implement CRUD operations for the Student entity |
| FR1.1 | Adding a laboratory theme |
| FR2.0 | Adding a grade for a particular student to a laboratory topic; |
| FR2.1 | Automatically calculating the maximum mark for a student based on delivery delay |
| FR3.0 | Extending the term of delivery for an existing subject |
| FR4.0 | Notifying all students by email when adding a new laboratory theme or modifying the delivery date of a theme |
| FR4.1 | Allowing students to unsubscribe from notifications |
| FR5.0 | Emailing the NameStudent.txt file (or its content) to the student weekly with the subject "Feedback laboratory MAP" |
| FR6.0 | Not considering delays if the student has a valid reason, and allowing the teacher to specify the week in which the subject was delivered |
| FR7.0 | Filtering entities based on criteria. |
| FR11.0 | Generating reports on:   * Laboratory grade for each student (the weighted average of grades from the lab topics; weight share = number of weeks allocated to the topic) * The hardest theme: the average of the grades on the theme is the smallest * Students who can enter the exam (average greater than or equal to 4) * Students who have delivered all the themes on time |

## User Interface Requirements

The user should be presented with a menu where each option describes one of the functional requirements. After choosing an option, the program should prompt the user to enter the required information. The interface should be user-friendly and help the teacher manage their work..

## Usability

* The user documentation and help should be comprehensive.
* The help should be context-sensitive and explain how to achieve common tasks.
* The system should be easy to learn.

## Data Management

The data should be stored in a file format (such as XML or CSV) to ensure data persistence of the application.

# User Scenarios/Use Cases

This section describes the different user scenarios/use cases of the system.

4.1. Print List of Students

The teacher selects the "Print List of Students" option from the main menu. The application displays a list of all students enrolled in the MAP discipline, including their student number, name, group, email, and name of the professor.

4.2. Print List of Assignments

The teacher selects the "Print List of Assignments" option from the main menu. The application displays a list of all assignments for the MAP discipline, including the laboratory number, brief description of the requirement, deadline (week of the semester), and the week in which the theme was received.

4.3. Print List of Grades

The teacher selects the "Print List of Grades" option from the main menu. The application displays a list of all grades for the MAP discipline, including the student's name, laboratory number, delivered week, deadline week, and feedback.

4.4. Add a New Student

The teacher selects the "Add a New Student" option from the main menu. The application prompts the teacher to enter the student's number, name, group, email, and name of the professor. The system then adds the new student to the list of students for the MAP discipline.

4.5. Add a New Assignment

The teacher selects the "Add a New Assignment" option from the main menu. The application prompts the teacher to enter the laboratory number, brief description of the requirement, deadline (week of the semester), and the week in which the theme was received. The system then adds the new assignment to the list of assignments for the MAP discipline.

4.6. Add Grade for a Student for an Assignment

The teacher selects the "Add Grade for a Student for an Assignment" option from the main menu. The application prompts the teacher to enter the student's name, the laboratory number, the delivered week, the feedback, and the grade. The system then calculates the maximum mark for the student based on the delivery delay and adds the grade to the list of grades for the MAP discipline.

4.7. Delete an Existing Student

The teacher selects the "Delete an Existing Student" option from the main menu. The application prompts the teacher to select the student to be deleted from the list of students for the MAP discipline. The system then removes the selected student from the list of students.

4.8. Delete an Existing Assignment

The teacher selects the "Delete an Existing Assignment" option from the main menu. The application prompts the teacher to select the assignment to be deleted from the list of assignments for the MAP discipline. The system then removes the selected assignment from the list of assignments.

4.9. Update a Student

The teacher selects the "Update a Student" option from the main menu. The application prompts the teacher to select the student to be updated from the list of students for the MAP discipline. The system then displays the student's information and prompts the teacher to enter the updated information. The system then updates the student's information.

4.10. Extend the Deadline for an Assignment

The teacher selects the "Extend the Deadline for an Assignment" option from the main menu. The application prompts the teacher to select the assignment to be updated from the list of assignments for the MAP discipline. The system then displays the current deadline and prompts the teacher to enter the new deadline. The system then updates the assignment's deadline.