

FALL 2022

CSE 3063

OBJECT ORIENTED SOFTWARE DESIGN TERM PROJECT

ITERATION - 1

Prepared by

GROUP 6



MARMARA UNIVERSITY
FACULTY OF ENGINEERING
COMPUTER ENGINEERING DEPARTMENT

TABLE OF CONTENTS

03

STAKEHOLDERS

VISION

PROBLEM STATEMENT

04

FUNCTIONAL REQUIREMENTS

NON-FUNCTIONAL REQUIREMENTS

05

USE CASES

06

DOMAIN MODEL

07

GLOSSARY

1. STAKEHOLDERS

❖ Customer

- Murat Can GANİZ

❖ Developers

- İsmail ÖKSÜZ
- Emre SAĞIROĞLU
- Serkan KORKUT
- Onur ALKURT
- Mustafa YANAR
- Erdem PEHLİVANLAR
- Ertan KARAOĞLU
- Yasin ÇÖREKÇİ
- Mertkan TURAN
- Mehmet Akif GÜLMÜŞ
- Yunus KAYA

2. VISION

For the Student Course Registration System, we created a simulation that addresses the procedures and guidelines according to the Marmara University Computer Engineering Department's policies and guidelines.

3. PROBLEM STATEMENTS

The aim of this project is to eliminate various problems that may occur in the student registration system. The courses that the student chooses according to the semester they are in:

- If the quota for the course they want to take has not been filled,
- If they have successfully completed the prerequisite of the course,
- If the course hours do not overlap,

Courses successfully added.

4. FUNCTIONAL REQUIREMENTS

- I. Students are created by using json file for each semester.
- II. When students are created, an advisor is defined for each student.
- III. The software will use a json file to read the list of courses, types of courses, prerequisites, quota, and semester (1 to 8).
- IV. When a student wishes to add a course to their calendar, the registration system makes sure there are no conflicts.
- V. The system must make sure that all prerequisites for a course are taken before adding it to a student.

5. NON-FUNCTIONAL REQUIREMENTS

- I. Java programming language was used for this project.
- II. Draw.io was used to draw diagrams.
- III. We distributed tasks by a Kanban Board on monday.com.
- IV. Discord was used for group meetings.
- V. We set our appropriate meeting time using Doodle.
- VI. We write our documents using Google Docs.
- VII. No Graphical User Interface was used in this project.

6. USE CASES

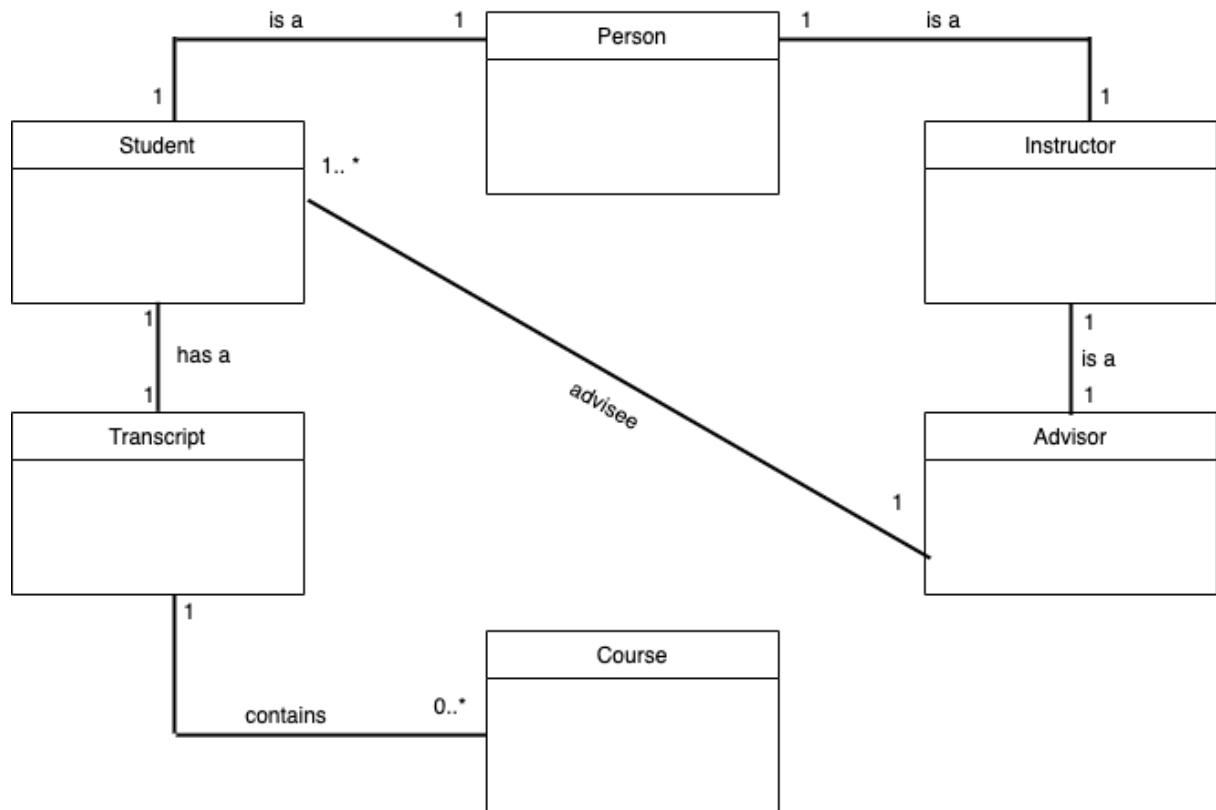
Actors: Student, Advisor

- 1- Student enters the course registration system.
- 2- Student chooses the courses in the course registration system.
- 3- Sends it to the advisor for approval.
- 4- Advisor approves the registration.
- 5- Course registration is completed.

Extensions:

- 2.a) If the student has not successfully completed the prerequisite of the course he/she wants to register, he/she cannot take the course.
- 4.a) If the course quota is full, the advisor will not approve the course enrollment.
- 4.b) If the course that the student wants to take overlaps with another course, the advisor will not approve the course enrollment.

7. DOMAIN MODEL



8. GLOSSARY

- **Advisor:** A person whose duty it is to offer guidance to students on enrolling in courses.
- **Course:** Lessons that students need to pass in order to graduate.
- **Credit:** The recognition for having taken a course at school or university.
- **Cumulative GPA:** The average of all semester GPAs.
- **Elective Course:** Courses that are optional to take. Students can choose the lessons if they are interested in the topics.
- **Faculty Elective Course:** Subclass of Elective Course. Those courses' topics are related to the department.
- **GPA:** Abbreviation for “Grade Point Average”. GPA is a number representing the average value of the grades earned in courses over time.
- **Graduation Project:** Courses that a student can enroll in after collecting at least 165 credits. Subclass of Mandatory Course.
- **Instructor:** Lecturer of the courses.
- **Java:** Java is a class-based, object-oriented programming language that we use to develop that system.
- **Json File:** Json is a structure used to store data and move it between different platforms. JSON is text written in object notation format.
- **Mandatory Course:** Courses that every student must take.
- **Non-Technical Elective Course:** Subclass of Elective Course. Those courses' topics are not much related to the department according to the Technical Elective Courses.
- **Person:** Superclass of student and advisor with name, surname, email, and phone number.
- **Prerequisite:** Course or other requirement that a student must have taken prior to enrolling in a specific course or program.
- **Quota:** The number or percentage of persons of a specified kind permitted to enroll in a course.
- **Registration:** The action or process of registering or of being registered.
- **Schedule:** A class that holds the day and course time of the courses taken by the student.
- **Semester:** A division constituting half of the regular academic year.

- **Student:** The main character of the course registration system under the Person class.
- **Student ID:** Unique ID that students have.
- **Transcript:** A class that calculates the GPA of the student and shows the courses taken, passed, and failed.