

Software Patterns - Erasmus Calendar Specification

Erasmus 2025/26

Introduction

Approach

The application is designed and implemented in order to apply the software patterns exposed in the theoretical part of the course. A further goal is to practice teamwork and application developing strategies.

The creators of the project:

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Overview

General overview

This specification declares the general features and functions of the project. In the functions part, all the features that must be met are listed, following with a textual explanation. The second part of the specification defines the target users of the project and their required skills.

The application's main goal is to let Erasmus students organise activities with the use of a calendar. There may be several users, who all can create numerous calendars, for different semesters. The calendar can store events, notes and recurring events, which all can be modified and removed.

Functions

The application supports multiple users, each of whom might store multiple calendars, for different mobilities.

The application supports the following features:

- managing students
 - registering student
 - signing in student
 - signing out student
- managing calendars
 - adding calendar
 - specifying the period of the mobility
 - naming the calendar
 - removing calendar
 - observing calendar
 - “zoom” into a day point of view
 - adding events, notes
 - removing events, notes
 - modifying events, notes
 - zoom out to a month point of view

Student management consists of three main features: Registering, signing in and signing out student accounts. Providing a name, birthday and ID number, (where ID number acts as a primary key) is necessary in order to register a user account. In addition, a password is also required to make the registration complete. Once an account is registered, signing in is possible: choosing the account from a list and entering the password. There can be unlimited tries for giving the password. Signing out can be accomplished from the workspace, after signing in, with simply clicking on a “sign out” button. Closing the application automatically signs out the current user.

When a student is signed in, calendars can be managed. First of all, calendars must be created by giving a name and a period of time, which defines the beginning and end of the mobility. This is achieved by providing the length of the mobility: 1 or 2 semesters. In addition, the start of the Erasmus stay is also needed: autumn or spring. Calendars can be deleted and also modified: adding, removing or modifying events. To do the aforementioned, the user can “zoom” into the perspective of a certain day by clicking on its action field and proceed to manage the events of the day. The zoomed-in perspective shall be an hourly overview of the corresponding day which displays all activities and events in a timetable format and provides the tools to manage them. In the monthly-view, events are visible, but can not be modified.

Event handling is the main purpose of the application, each calendar can contain independent events or notes. Events are defined by giving a title, textual description and label, which can be either studying, doing sports, free time activities or traveling. Labels are distinguished with use of colors.

A recurring event is a special event, which must appear in the calendar for several weeks. It also has a title, a description and a label, but in addition it recurs through multiple weeks, on the same day. The definition is made by giving the values for the characteristics and then selecting the length for the recurrence in weeks.

Notes are similar to events, however, one note can only belong to one day. Nevertheless, multiple notes can be added to a single day. There is no restriction for the length of a note, but a title must be named.

The removal and modification of events and notes are equivalent. After selection, the characteristics can be modified, or the objects can be deleted.

The application is reachable by the users with a GUI, which enables them to control the calendars with the use of mouse and keyboard. The opening page is the main menu, where the student accounts can be managed. Once the user signs in, the calendars can be managed. After a calendar is selected to be observed, always one month is shown with buttons for actions. If it is possible, the month that is seen on the screen may be switched to the previous or following month.

Users

The target users of the application are Erasmus students, with basic skills of computer use. Both Erasmus students who are currently taking their semesters, or former ones, who have already finished their mobilities can benefit from the calendar, since it is also a way to organise activities as well as to look back at the memories.