

DOKUZ EYLÜL UNIVERSITY

ENGINEERING FACULTY

**DEPT. OF COMPUTER
ENGINEERING**

CME 3202 - Concepts of Programming Languages

CENGOnline Project Report

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General Project Information

CENGOOnline is a project where students can get distance learning. It is designed to protect the education rights of students in the current situation in the world. The project has a lot of simple features that you can easily understand and adapt. There are 2 types of user; Teacher and Student. Students can view his/her assignments, announcements about enrolled courses, view messages and send messages, upload assignments and comment on the teachers' posts. Teachers can create a course, add an assignment, create a post and comment a post, enrol a student to a course, view and send messages and also delete the created things.

These are the general information about the project. Project has more features that we mentioned above. The project details will be explained below.

Mechanism of the Project

At the first start, the program will create the necessary database files for saving the information. Then, you should create an account for using the system. You should be logged in to use program. Then, you perform transactions by navigating within the required UI functions according to the transactions you want to do. While you are performing the transactions, the necessary database registration processes are made automatically and you are notified. When you close the program, no action is taken because the database was updated in every process you performed before. When you reopen the program, all the information in the database is transferred to the required data structures in the code, and everything you do next takes place in these data structures. And everything goes like this.

Technical Information

IDE:

We used Eclipse as our IDE. Eclipse is written mostly in Java and its primary use is for developing Java applications. We have been using this IDE since the first grade, so we are rather experienced with it.

Libraries:

`java.io.BufferedReader` : Used for file I/O processes.

`java.io.File` : Used for CRUD operations of files.

`java.io.FileNotFoundException` : Used for preventing the errors about files.

`java.io.FileReader` : Used for file I/O processes.

`java.io.FileWriter` : Used for file I/O processes.

`java.io.IOException` : Used for preventing the errors about files.

`java.util.ArrayList` : Used for using the stored information about the database.

`java.util.HashMap` : Used for using the stored information about the database.

`java.util.Map` : Used for using the stored information about the database.

`java.util.Scanner` : Used for user I/O processes.

Classes:

Announcement : Subclass of event class and used for the keeping announcements.

App : Driver class of the project. All the main processes are done here.

Assignment : Subclass of event class and used for the keeping assignments.

Comment : That class is only used for keeping posts comments.

Course : Used for the keeping course information.

Event : An abstract class to add more functionality to the project about course processes.

Message : Used for the providing the message feature.

Post : Used for the providing the post feature.

Student : Used for keeping the students information.

Teacher : Used for keeping the teachers information.

User : An abstract class to add more functionality to the project about user processes.

User Interface

We used Eclipse's console as an user interface. Here is some screenshots from UI.

First Screen:

```
0.- Exit
1.- Create Account
2.- Login
```

Teacher Menu:

```
0.- Exit
1.- Create Account
2.- Login

2
Username:
berkay1
Password:
coşkuner1
Logged In
Hello Berkay

0.- Exit
1.- Add Course
2.- See Courses
3.- Send Message
4.- See Messages
5.- Add Post
6.- See Posts
```

Student Menu:

```
0.- Exit
1.- See Enrolled Courses
2.- Send Message
3.- See Messages
4.- See Posts
```

Course Select Screen:

```
0. - Exit
1. - CME3202
2. - CME3000
3. - CME4000
```

Course Selected Screen:

```
0. - Exit
1. - CME3202
2. - CME3000
3. - CME4000
1
Selected course CME3202

0.- Exit
1.- Delete Course
2.- Edit Course
3.- Add Assignment
4.- See Assignments
5.- Add Announcement
6.- See Annoucements
7.- Enroll Student
```

Data Repositories

We built our own file system to keep the data. When the user launches the console app for the first time, the .txt files for required data are created in the project folder. These .txt files are;

- Accounts: Stashes account information. Name, surname, teacher or student account, username, password, courses and messages information about accounts are written in this repository.
- Announcements: Stashes announcements in a course. Id of the teacher that made the announcement, id of the course that the announcement was made, id of the announcement and the content of the announcement are written in this repository.
- Assignments: Stashes assignments in a course. Contains information about teacher id, course id, assignment id, explanation and submitted works.
- Courses: Stashes course information. Contains course name, course id, course teacher, assignments, students and announcements.
- Message_logs: Stashes message logs. Has information about sender and receiver account id, message id and message content.
- Posts: Contains post information. Poster teacher's id, post id, post content and comments are written in this repository.

And then, when the program closed and reopened, all of these files read and added to the programs memory.

Contribution of Each Group Member

General algorithm, file system and its functions are made together.

Message system,

Post system,

Comment system are made by İlker Soner.

Assignment System and Functions,

Announcement System and Functions,

Login System,

Course System and Functions are made by Berkay Coşkuner.

Report is also made by together and the presentation, everyone shot the video of their part.

Conclusion

As a result, we think that we have written a program that meets all of the requirements requested from us. We didn't have a problem with timing because everyone did their part. If we have any shortcomings in the report, be sure that we will make them it up in our presentation in the video. Thank you very much for the time and understanding you have given us during this pandemic.