

# **Semester Project of Advanced Programming & Introduction to Programming II**

## **Library Management System**

*Project Description V1 : 12.04.2021*

*Project Delivery : End of Finals*

**Please read this document at least 3 times**

*You can use MySQL, MS-SQL, SQLite, PostgreSQL etc... as your relational database of your project.*

*You can use any of Java, C# (WPF), Python, or Mobile Programming (Swift, etc...) languages as programming language. However, your application has to be either a mobile application or a desktop application. We do not accept web application.*

## **Project Description**

**In this project, you will design a comprehensive library management system. You can add extra features to even further improve your system. Storing your codes in a code management system such as GitHub/BitBucket during the development process will provide you + points in your business life.**

## **Login Panel**

- 1) There must be a registration system for both students and teachers. (There is no need of approval for student registration. Teachers are going to be registered as a student before they get approved by admin.) To do this, you can add rank information to users table. (For example, Rank 1 is admin, Rank 2 Teacher, Rank 3 Student and keep ranks in different table)
- 2) User should enter either school number or their email and their password to log in. So you have to automatically detect whether it is a student number or email and check for both.
- 3) Passwords should be stored salted hashed in the database (such as SHA256(random string + password)).

4) You also have to implement a login protection system as for prevention of password brute forcing as shown in lecture 7 of our Youtube videos : [https://youtube.com/playlist?list=PL\\_pbwdIyffslHaBdS3RUW26RKzSjkl8m4](https://youtube.com/playlist?list=PL_pbwdIyffslHaBdS3RUW26RKzSjkl8m4)

## **Library Panel**

- 1) Books in the library should contain title, number of pages, category, author and publishing year information
- 2) The books in the library should have “quantity of the book” information. For example there can be 2 of the same book. When user takes one of the books, that book’s quantity should be 1.
- 3) User should be able to search the books in library. When searching, it should be searched as if it contains the searched term. (eg: %word%). All users should be able to see all the books. However, it should not be possible to take books that have 0 quantity. Also, a filter should be added and, if checked, books that have 0 quantity should not be displayed.
- 4) User should be able to sort the books by their names, authors or categories. Also, there should be quick search feature that searches the books by their names’ first letter.
- 5) Students can take maximum 5 books at the same time. There is no limit for lecturers. This number of limit should be adjustable. This setting should be stored in database and should be adjustable in Admin Panel. You should compose a new table for settings.
- 6) The book return period for students is 7 days. There is no return period for teachers. This period time should be adjustable. This setting should be stored in database and should be adjustable in Admin Panel.
- 7) Also, students and teachers should be able to see books they have taken.
- 8) Admin should be able to see information of books taken. (by who and when)
- 9) Students whose book period has passed should be notified with a message. For this, there should be a simple private message / notification system for each user.
- 10) Users should be able to return books with the return button from taken books section on their panels. There should be Returned Books List, in the admin panel and the books should be considered returned after the approval of the admin.
- 11) In your library database, there has to be at least 1,000 different books (with different counts) and 30 test user account. Some accounts will be teacher some will be students. You can

automatically generate random books and user accounts your or find some real book (this would be better) lists and import them.

12) Assign books to the users randomly and test the system and show if it is working correctly or not.

**13) When planning, designing and developing the project, you have to think as your employer is paying you money for this project and like that you will use this project in your real life. So the features of the project has to be as useful and realistic and possible.**

14) You should add comments to your each class, method, code, etc. and develop your project in a more understandable way.

There will not a final exam. Your grade will be based on this Project. Thus, take this Project very seriously and start working on it immediately. Look the internet for the parts that you do not know. Create an account on <https://stackoverflow.com/> and ask there, or look for answers there. When doing the Project, you can ask the parts that you cannot solve in our discord channel. Our discord channel link: <https://discord.gg/6Mrb8MwteQ> . My email: [furkan.gozukara@toros.edu.tr](mailto:furkan.gozukara@toros.edu.tr) . Also you can contact me through our discord channel.

## Finally

1. Finally, everyone will come and explain to me face to face, preferably on their own computer or lab computer their project.
2. In face-to-face narration, I will ask you questions entirely within the project you brought. You will receive points based on your answers to these questions.
3. So even if the project you brought is perfect, if you can't explain your project, you will not get any points.
4. Therefore, learn and understand the code you bring to me very well in every aspect.
5. Be sure to add the addresses of the codes you get from the internet or other sources as comment lines on that code block.
6. Your project must be in English.
7. Although not required, you can get extra points if you prepare a report for your project.
8. While describing your project, you will show every feature of your project by running it.

9. Even if it is very incomplete, your own project will earn you much more points than a ready/copy project.

10. Finally, you will compress your entire project into a Zip or RAR file. Then you will upload that file into Google Drive. Then you will send me that uploaded file link by email: **furkan.gozukara@toros.edu.tr** .

11. When sharing your google drive upload (getting your uploaded file link), don't forget to select anyone with the link can view it so I can download it.

12. Those who lack in participation in the classes have to watch all the lesson videos on our Youtube channel and make comments that summarize what is taught in that lesson. Make sure to take screenshots of your comments and save them, because sometimes Youtube can delete comments. Then put these comments in a Word file and send them with your project. Otherwise, those who do not attend the classes may fail the attendance and cant pass the lecture.

**Note: Pictures below are only to give a very basic idea about the project. You need to change the design according to the rules requested above and design according to your imagination.**

**You can use ComboBox to make selection parts with multiple options.**

## Admin Paneli

Kitap Ekle

Kitapları Listele

Kullanımdaki  
Kitaplar

Öğretmen Onayları

# Kütüphane Yönetim Sistemi

## Giriş Ekranı

Okul Numarası:

Şifre:

Giriş Yap

Üye Ol

## Kitapları Listele

### Kitap Arama

Kitap Adı:

Harf ile Başlayan:

Kitap Türü:

Yazar Adı:

Kitabı Ara

Seçilen Kitabı Al

## Öğretmen/Öğrenci Giriş Sayfası

Kitapları Listele

Üzerimdeki Kitaplar

Bildirimler

### Kütüphane Yönetim Sistemi Üye Olma Paneli

Ad:

Şifre:

Soyad:

Şifre Tekrar:

E-Mail:

Durum:

Okul Numarası:

Üye  
Ol