



WWW.ONLINELIBRARYSYSTEM.SOMEE.COM

Online Library System

Presented to:

Dr. Riham Abdel Kader

Ву:

Omar Mneimneh

Alaa Ghader

Karim Kayssi

Omar Orabi

Wassim Issa

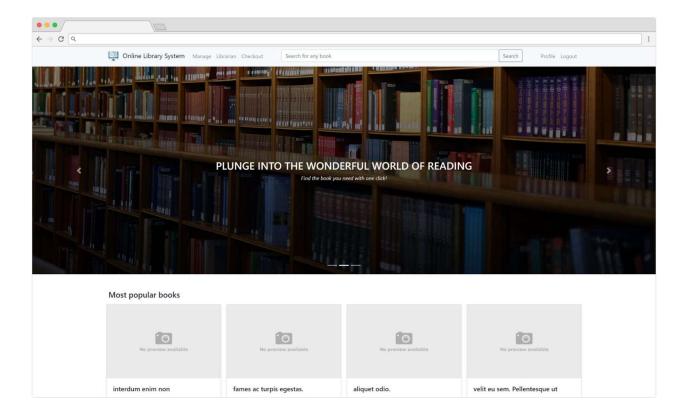
Abdelrahman Daher

Pages Description

Home Page

This page provides a nice welcome screen to the user, showing him some of the most popular books so he can interact and easily learn how to use the website.

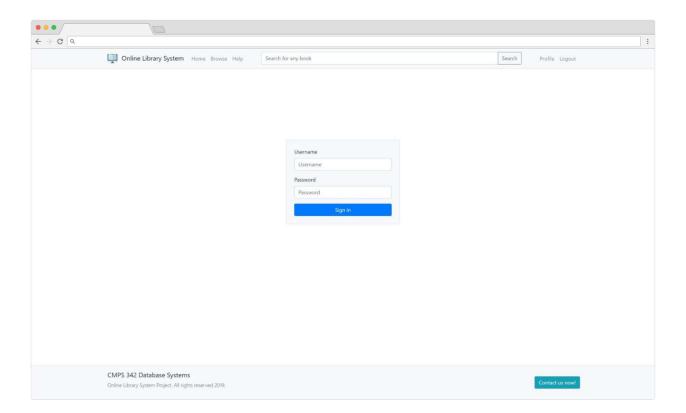
Page Title	Online Library Home Page
Allowed Users	Guest
Path	~/Home/Index
MVC View Path	~/Views/Home/Index.cshtml
JavaScript	~/Scripts/home.js



Login Page

This page presents to the user a simple form that requires him to enter his username and password to login.

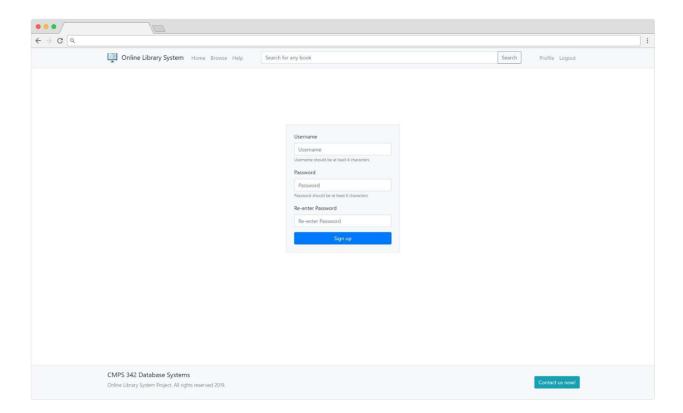
Page Title	Online Library Login
Allowed Users	Guest
Path	~/Account/Login
MVC View Path	~/Views/Account/Login.cshtml
JavaScript	N/A



Sign-Up Page

The sign-up page allows students to sign up for an account to be able to rent books.

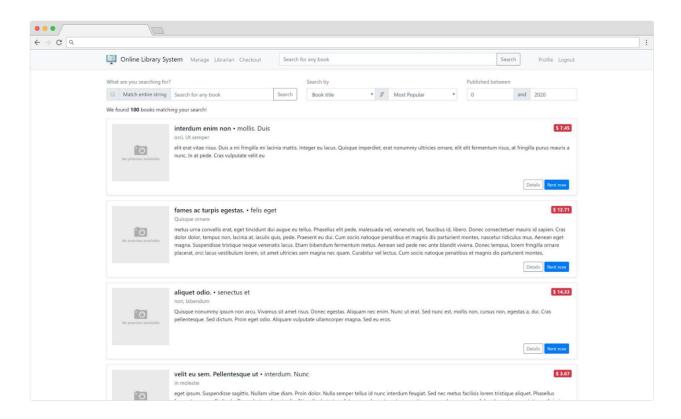
Page Title	Online Library Signup
Allowed Users	Guest
Path	~/Account/Signup
MVC View Path	~/Views/Account/Signup.cshtml
JavaScript	N/A



Search Page

This page provides the user with a very detailed but rather easy to use interface to search across a huge database of books.

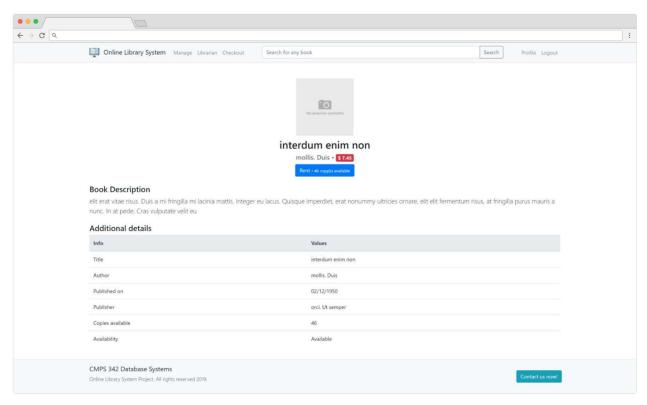
Page Title	Online Library Search
Allowed Users	Guest
Path	~/Book/Search
MVC View Path	~/Views/Book/Search.cshtml
JavaScript	N/A

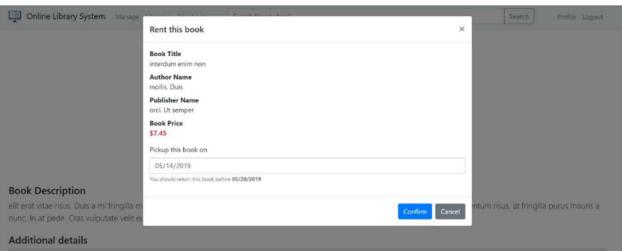


Book Page

This page shows a detailed description of a book, with a popup dialog that shows up when the user clicks on the rent button. The pickup date of a book should be provided so the user can rent it.

Page Title	Online Library \${BookTitle}
Allowed Users	Guest (only students or higher roles can rent)
Path	~/Book/Index
MVC View Path	~/Views/Book/Index.cshtml
JavaScript	N/A

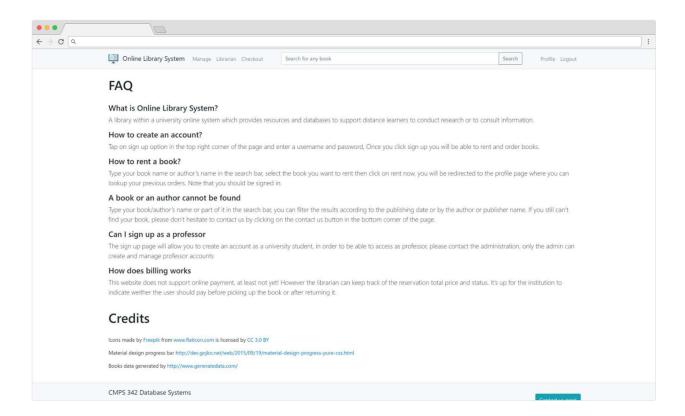




Help Page

This page provides some FAQs (Frequently asked questions) and credits.

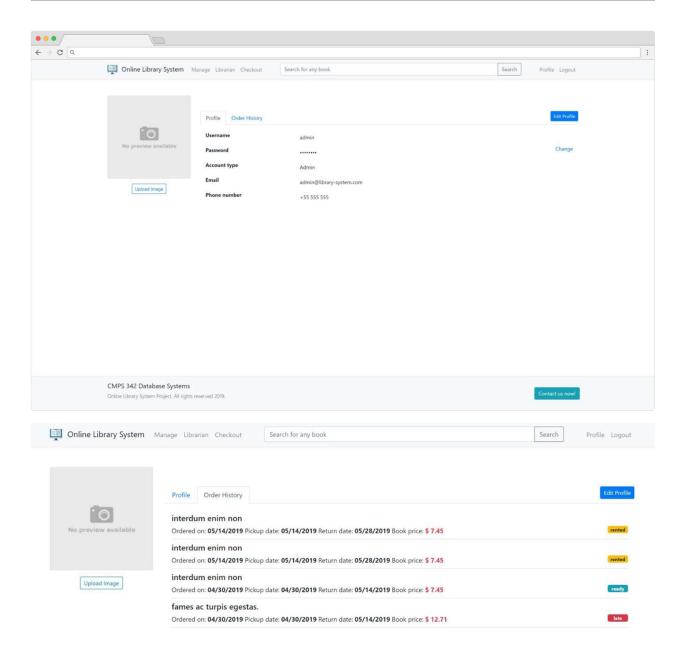
Page Title	Online Library Help
Allowed Users	Guest
Path	~/Book/Help
MVC View Path	~/Views/Help/Index.cshtml
JavaScript	~/Scripts/help.js



Profile Page

A simple page allowing users to check and edit their profile information along with checking previously ordered books.

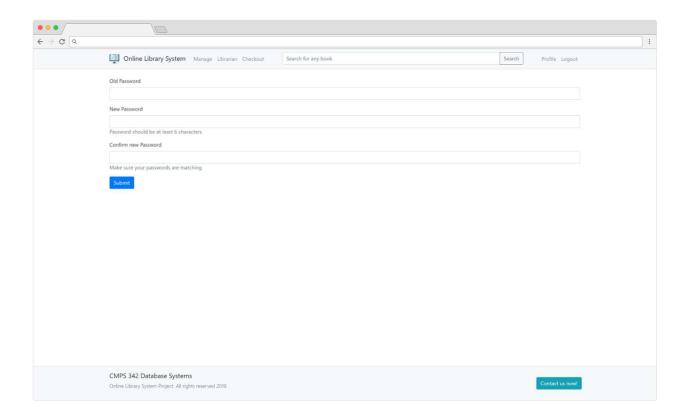
Page Title	Online Library Profile
Allowed Users	Students or higher roles
Path	~/Account/Profile
MVC View Path	~/Views/Account/Profile.cshtml
JavaScript	~/Scripts/profile.js



Change Password Page

This page allows users to modify their password securely.

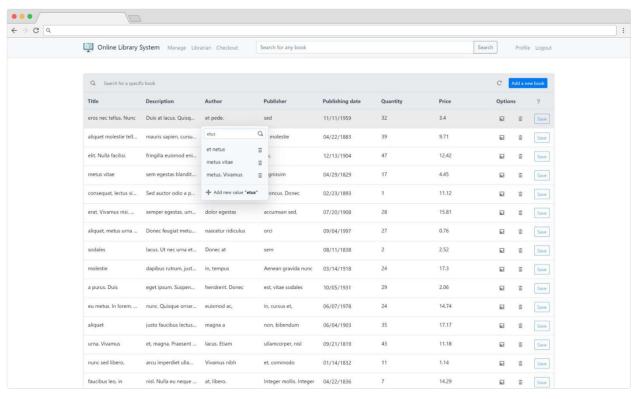
Page Title	Online Library Change Password
Allowed Users	Guest
Path	~/Account/ChangePassword
MVC View Path	~/Views/Account/ChangePassword.cshtml
JavaScript	N/A

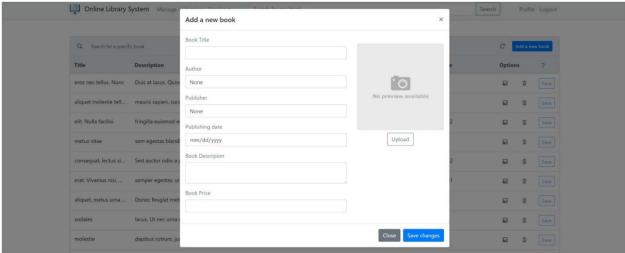


Librarian Page

A compact interface provides the librarian to modify and add books very easily; he can also search by typing a book's name. Adding and removing authors and publishers is also a very easy operation.

Page Title	Online Library Librarian
Allowed Users	Librarians or higher roles
Path	~/Librarian/Index
MVC View Path	~/Views/Librarian/Index.cshtml
JavaScript	~/Scripts/librarian.js

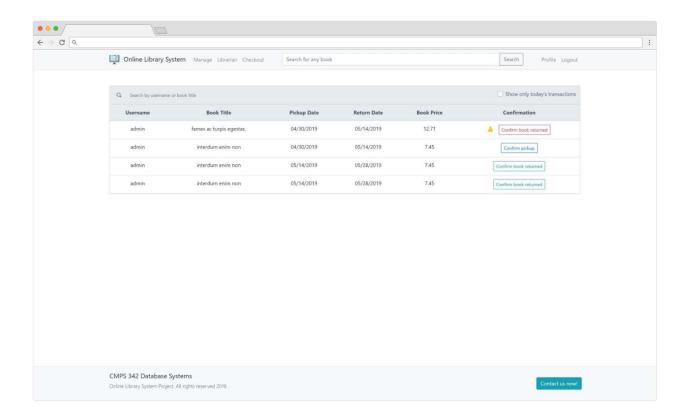




Checkout Page

This page allows the librarian to confirm picking up or returning a book, a warning sign will appear next to the late transactions.

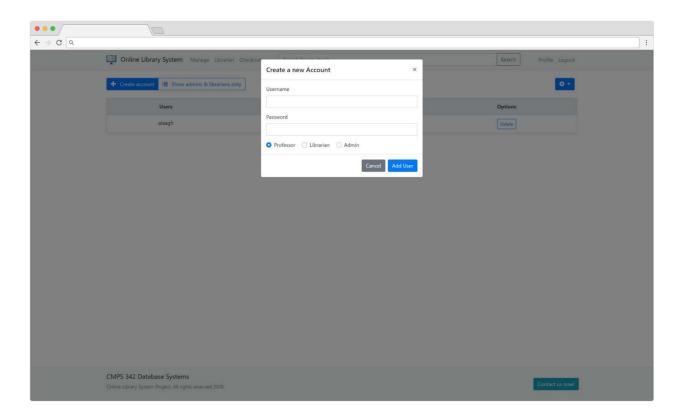
Page Title	Online Library Checkout
Allowed Users	Librarians or higher roles
Path	~/Librarian/Checkout
MVC View Path	~/Views/Librarian/Checkout.cshtml
JavaScript	~/Scripts/checkout.js



Admin Page

Only admins can access this page, this page is used to add new staff (Professors, Librarians or Admins) or delete them (this will keep a copy of the data in the database, but the deleted user will not be able to login anymore).

Page Title	Online Library Manage
Allowed Users	Admins
Path	~/Admin/Manage
MVC View Path	~/Views/Admin/Manage.cshtml
JavaScript	~/Scripts/checkout.js



Brief explanation

Technologies used

We decided to create this project using ASP.NET MVC, because of the design architecture that allows us to separate the backend from the frontend and make the project easily understood and modified. So now our code is nicely divided into "ApiController" classes and each class is divided into several methods or "actions". The following are the controllers that can be found in ~/Controllers/ folder:

- ApiBookController.cs
 - o All actions in this class are related to books.
 - o The biggest class since most of our queries are related to books.
- ApiAccountController.cs
 - o Actions that are related to users' information.
- ApiReservationController.cs
 - o Contains actions to checkout or check existing reservations.

The queries used inside those files are grouped in the file ApiQueries.sql:

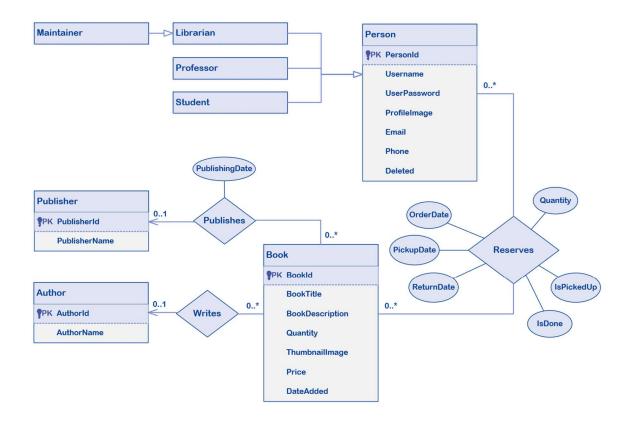
```
AniOueries sal X
SELECT TOP(@count) * FROM BookInfo LEFT OUTER JOIN (
     SELECT BookId, COUNT(ReservationId) AS ReservationCount FROM Reservation GROUP BY BookId
 ) AS Res ON BookInfo.BookId = Res.BookId ORDER BY ReservationCount DESC
     SELECT ROW_NUMBER() OVER(ORDER BY _) AS[Row], BookInfo.* FROM BookInfo
    LEFT OUTER JOIN(Select COUNT(BookId) AS[Count], BookId FROM Reservation GROUP BY BookId) AS Res
     ON BookInfo.BookId = Res.BookId WHERE (BookTitle LIKE CONCAT('{3}',@key,'{3}') OR _=_)
     AND(AuthorName LIKE CONCAT('{3}',@key,'{3}') OR _=_) AND (PublisherName LIKE CONCAT('{3}',@key,'{3}') OR _=_)
     AND (PublishingDate IS NULL OR YEAR(PublishingDate) BETWEEN @min AND @max)
 ) AS Result WHERE[Row] BETWEEN @start AND @end
 SELECT COUNT(*) FROM BookInfo LEFT OUTER JOIN(
     Select COUNT(BookId) AS[Count], BookId FROM Reservation GROUP BY BookId) AS Res ON BookInfo.BookId = Res.BookId
     WHERE (BookTitle LIKE CONCAT('{3}',@key,'{3}') OR _=_) AND (AuthorName LIKE CONCAT('{3}',@key,'{3}') OR _=_)
     AND (PublisherName LIKE CONCAT('{3}',@key,'{3}') OR ==) AND (PublishingDate IS NULL OR YEAR(PublishingDate) BETWEEN @min AND @max
 Select * FROM BookInfo WHERE BookId = @id
 INSERT INTO Reservation (BookId, PickupDate, ReturnDate, IsDone, PersonId, Quantity) VALUES(@bookId, @date, @retDate, 0, @personId, 1)
```

This file is missing parameters marked as "_", running the script will cause errors.

We also used other technology like angular, allowing us to divide our views into components without redundantly repeating codes.

Database Design

Here is our **Entity Relations Diagram**:



We've included all diagrams and SQL files inside the visual studio project folder <u>SqlScripts</u>.

Our SQL files are split into a <u>DDL</u> and <u>DML</u> file to keep everything clean. And there's also an <u>MDF</u> file that can be copied and attached to SQL Server.

We made some design tweaks considering that in real world applications, requirements can change very often. That's why some tables are made of only one attribute, but only because extending that table and adding more attributes to it in the future is a must (e.g. we might need to store a specific information for professors that is not related to students so we might need to add that later that's why we kept the professor table separated, or maybe a maintainer can have a creator id which gives him specific permissions or restriction over other admins) but we kept things nice and easy for now!

Additional Links

- Hosted project on **somee.com**: http://www.onlinelibrarysystem.somee.com
- Our **GitHub** repository: https://github.com/omneimneh/online-library-system
- Screenshots are located in the <u>screenshots</u> folder