PROFILEBOOK

Capstone Project

Mentored by:

Mr. Parth Shukla

Email: ParthShukla@greatlearning.in

Name	Email	Phone No.
[Khusboo]	[25533khusboocsea@gmail.com]	[9996011365]

Date: 07/09/2025

Batch: WIPRO-NGA-.Net-FSDA-FY26-C1

Index

S.no	TOPIC
1.	INTRODUCTION
	1.1 Motivation
	1.2 Problem Statement
	1.3 Objective of the Project
	1.4 Theory
2.	ProfileBook
	2.1 Features
	2.2 Tech Stack
	2.3 Architecture Overview
	2.4 Entity Relationship Diagram (ERD)
3.	REQUIREMENTS AND RESULTS
	3.1 System Requirements
	3.2 Case Diagrams
	3.3 Implementation
	3.4 Results
4.	CONCLUSION

ABSTRACT

This document provides a detailed overview of the ProfileBook application, an online social media platform that enables users to create posts, send messages, comment, and report inappropriate behavior. Admins manage users, approve posts, and handle reports. The project utilizes Angular, ASP.NET Core MVC, SQL Server, and optionally
SignalR for real-time communication.

CHAPTER 1: INTRODUCTION

1.1 Motivation

ProfileBook connects users virtually, enabling easy interaction through posts and messaging while maintaining a secure and moderated environment.

1.2 Problem Statement

Users face fragmented services when it comes to social interaction, requiring multiple apps for messaging,
posting, and reporting. ProfileBook addresses this by offering a unified platform.

1.3 Objective of the Project

• Secure authentication for users and admins. • Post creation and admin approval. • Commenting and liking posts. • Real-time messaging with SignalR. • Reporting system for inappropriate content. • Image storage and management.

1.4 Theory

The project is designed to provide seamless user experience using Angular for frontend, ASP.NET Core MVC Web API for backend, and SQL Server database. JWT is used for secure authentication, while EF Core manages the database interactions.

CHAPTER 2: PROFILEBOOK

2.1 Features

1. User Authentication (Login, Register, Logout)
2. Post Creation and Approval Process
3. Comment and Like Posts
4. Messaging between Users (SignalR)
5. Reporting Users
6. Search for Other Users
7. Admin User and Post Management
8. Group Creation and Management

2.2 Tech Stack

Frontend (Angular): Angular Router for navigation, Axios for API requests, Context API or Redux for state

- Backend: ASP.NET Core MVC with Web API
- Database: SQL Server (Entity Framework Core ORM)
- Image Storage: Server folder
- API Documentation: Swagger
- Real-Time Communication: SignalR (Optional)

2.3 Architecture Overview

Frontend (Angular): Angular Router for navigation, Axios for API requests, Context API or Redux for state management. Backend (ASP.NET Core MVC): JWT Authentication, EF Core for DB interactions, Web API controllers (UserController, PostController, etc.). Database (SQL Server): Tables - Users, Posts, Comments, Messages, Reports, Groups, GroupMembers, Profiles. Image Upload: Handled via IFormFile, images stored in server directories. Notifications: Optional real-time notifications using SignalR.

2.4 Entity Relationship Diagram (ERD)

GROUPS
int Id PK
string GroupName
USERS
int Id PK
string Username
string PasswordHash
string Role
has
member
profile
reports
reported
writes
makes
has
GROUPMEMBERS
int Id PK
int GroupId FK
int UserId FK
PROFILES
int Id PK
string FullName
string Email
string Phone
string Bio
int UserId FK,UK
string ProfileImage
REPORTS
int Id PK
string Reason
datetime TimeStamp
int ReportingUserId FK
int ReportedUserId FK
POSTS
int Id PK
string Content
string PostImage
string Status
int UserId FK
COMMENTS
int Id PK
string Text
int UserId FK
int PostId FK

Tables

File Edit View Query Git Project Tools Extensions Window Help
Search
Solution1
New Query
Copilot
ProfileBookDB
Execute
Object Expl...
SQLQuery8.s...\mukul (52))*
SQLQuery7.sql...82\mukul (63))
SQLQuery6.sql...82\mukul (54))
SQLQuery5.sql...82\mukul (71))
SQLQuery4.sql...82\mukul (69))
Solution Ex...
Connect
(localdb)\MSS
Databases
System D
Database
Bookstor
Day32_EF
Employe
LibraryDb
ProductS
ProfileBo
Datab
Tables
Sys
File
Ext
Gra
dbo
Views
Extern
Synon
Progra
Servic
Storag
Securit
RepoDen
RoleBase
SecureRo
TestDB
100 %
No issues found
Ln: 9 Ch: 1 TABS CRLF
Results
Messages
Id Reason TimeStamp ReportingUserId ReportedUserId
1 1 fake 2025-09-06 13:11:49.4608383 5 3
Id FullName Email Phone Bio UserId ProfileImage
1 1 1 NULL
2 2 2 NULL
3 3 David William David123@gmail.com american 3 uploads\49b0df4a-76bd-4635-9ab1-20683a7f3697.jpg
4 4 steven steven243@gmail.com 4 uploads\e1e97421-3c66-48da-a37e-32b8c65c747f.jpg
5 5 5 NULL
6 6 6 NULL
Id Content PostImage Status UserId Likes
1 1 hi everyone NULL Approved 2 1
2 2 nice weather uploads\fbd96ad0-d05a-4d82-b9bf-69cd3f9ec0f8.jpg Rejected 1 0
3 3 Nice weath... uploads\3f44157d-88ef-4af0-83ce-62eb79dbaea7.j... Rejected 3 4
4 4 Marvel is g... uploads\f1feee0b-e955-4971-bb8a-84e93492a48c... Approved 4 2
5 5 who love b... uploads\02534e98-fab7-4787-b97d-385aadaba64... Rejected 4 0
6 6 cameraman uploads\4b977a4d-3c6d-4e8b-80e3-6b0b26f6694... Approved 5 0
Id GroupName
1 1 Power Rangers
2 2 us
Id GroupId UserId
Id Text UserId PostId
1 1 yes 5 3
2 2 awesome 2 4
Query executed successfully.
(localdb)\MSSQLLocalDB (15... LAPTOP-C3KGRC82\mukul ... ProfileBookDB 00:00:00 31 rows
Properties
Current connection
Aggregate Status
Name
The name of the connection.
Ready
28°C
Light rain
Search
ENG
US
19:40
06-09-2025

File Edit View Query Git Project Tools Extensions Window Help
Search
Solution1
New Query
Copilot
ProfileBookDB
Execute
Object Expl...
SQLQuery8.s...\mukul (52))*
SQLQuery7.sql...82\mukul (63))
SQLQuery6.sql...82\mukul (54))
SQLQuery5.sql...82\mukul (71))
SQLQuery4.sql...82\mukul (69))
Solution Ex...
Connect
System Databases
Database Snapshots
BookstoreDB
Day32_EF_CodeFirst
EmployeeDirectoryD
LibraryDb_assignme
ProductServiceDb
ProfileBookDB
Database Diagra
Tables
System Tables
FileTables
External Table
Graph Tables
dbo.__EFMigra
dbo.Comment
dbo.GroupMe
dbo.Groups
dbo.Posts
dbo.Profiles
dbo.Reports
dbo.Users
Views
External Resourc
Synonyms
Programmability
Service Broker
Storage
Security
RepoDemo
RoleBasedProductsD
SecureRoleApp
TestDB
Select *from Users;
Select *from Reports;
Select *from Profiles;
Select *from Posts;
Select *from Groups;
Select *from GroupMembers;
Select *from Comments;
100 %
No issues found
Ln: 1 Ch: 1 TABS CRLF
Results
Messages
Id Reason TimeStamp ReportingUserId ReportedUserId
1 1 fake 2025-09-06 13:11:49.4608383 5 3
Id FullName Email Phone Bio UserId ProfileImage
1 1 1 NULL
2 2 2 NULL
3 3 David William David123@gmail.com american 3 uploads\49b0df4a-76bd-4635-9ab1-20683a7f3697.jpg
4 4 steven steven243@gmail.com 4 uploads\e1e97421-3c66-48da-a37e-32b8c65c747f.jpg
5 5 5 NULL
6 6 6 NULL
Id Content PostImage Status UserId Likes
1 1 hi everyone NULL Approved 2 1
2 2 nice weather uploads\fbd96ad0-d05a-4d82-b9bf-69cd3f9ec0f8.jpg Rejected 1 0
3 3 Nice weath... uploads\3f44157d-88ef-4af0-83ce-62eb79dbaea7.j... Rejected 3 4
4 4 Marvel is g... uploads\f1feee0b-e955-4971-bb8a-84e93492a48c... Approved 4 2
5 5 who love b... uploads\02534e98-fab7-4787-b97d-385aadaba64... Rejected 4 0
6 6 cameraman uploads\4b977a4d-3c6d-4e8b-80e3-6b0b26f6694... Approved 5 0
Id GroupName
1 1 Power Rangers
2 2 us
Id GroupId UserId
Query executed successfully.
(localdb)\MSSQLLocalDB (15... LAPTOP-C3KGRC82\mukul ... ProfileBookDB 00:00:00 31 rows
Properties
Current connection
Aggregate Status
Name
The name of the connection.
Ready
28°C
Rain showers
Search
ENG
US
19:45
06-09-2025

CHAPTER 3: REQUIREMENTS AND RESULTS

Software: Visual Studio, VS Code, SQL Server, Angular, ASP.NET Core MVC, EF Core. Hardware: Minimum

3.1 System Requirements

Software: Visual Studio, VS Code, SQL Server, Angular, ASP.NET Core MVC, EF Core. Hardware: Minimum

Software: Visual Studio, VS Code, SQL Server, Angular, ASP.NET Core MVC, EF Core. Hardware: Minimum

Software: Visual Studio, VS Code, SQL Server, Angular, ASP.NET Core MVC, EF Core. Hardware: Minimum

4 GB RAM, Intel/AMD dual-core, 500 MB free disk space.

3.2 Case Diagrams

User Operations Use Case Diagram

Admin Operations Use Case Diagram

3.3 Implementation

Backend Implementation: Developed Web API endpoints, JWT Authentication, SignalR for messaging, CRUD for Posts, Comments, Users, Reports. Frontend Implementation: Angular Components, Axios API calls, Context API state management. Image Upload:

Implementation Screenshot

Register API

login API

localhost:5293/swagger/index.html
POST
/api/Auth/login
Parameters
Cancel
Reset
No parameters
Request body
application/json
Edit Value
Schema
{
"id": 0,
"username": "alice",
"passwordHash": "pass@123",
"role": "string"
}
Execute
Clear
Responses
28°C
Partly sunny
Search
ENG
US
12:30
04-09-2025

localhost:5293/swagger/index.html
Curl
curl -X 'POST' \
'http://localhost:5293/api/Auth/login' \
-H 'accept: */*' \
-H 'Authorization: Bearer <JWT>' \
-H 'Content-Type: application/json' \
-d '{
"id": 0,
"username": "alice",
"passwordHash": "pass@123",
"role": "string"
}'
Request URL
http://localhost:5293/api/Auth/login
Server response
Code
Details
200
Response body
{
"token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJuYW1laWQiOiIxIiwidW5pcXV1X25hbWUiOiJhbGljZSIsInJvbGUiOiJzdHJpbmciLCJuYmYiOjE3NTY5NjkyMDcsImV4cCI6MTc1Njk3MjgwNywiaWF0IjoxNzU2OTY5MjA3fQ.RmlYWyLKAxwVEbo4HcMvIDau0RRiO_MJa5gAGNDQFF4",
"username": "alice",
"role": "string"
}
Download
Response headers
content-type: application/json; charset=utf-8
date: Thu,04 Sep 2025 07:00:07 GMT
server: Kestrel
transfer-encoding: chunked
Responses
Code
Description
Links
200
OK
No links
28°C
Partly sunny
Search
ENG
US
12:31
04-09-2025

Admin fetching users

fetching users by id

updating user data

Creating Profile API

localhost:5293/swagger/index.html

```
  "user": {
    "id": 0,
    "username": "string",
    "passwordHash": "string",
    "role": "string"
  }
}
```

Request URL

```
http://localhost:5293/api/Profiles
```

Server response

Code	Details
200	Response body

```
{
  "id": 2,
  "fullName": "Alice A",
  "email": "alice@example.com",
  "phone": "9999999999",
  "bio": "Hi there!",
  "profileImage": "string",
  "userId": 2,
  "user": {
    "id": 2,
    "username": "string",
    "passwordHash": "string",
    "role": "string"
  }
}
```

Download

Response headers

```
content-type: application/json; charset=utf-8
date: Thu,04 Sep 2025 08:08:25 GMT
server: Kestrel
transfer-encoding: chunked
```

Responses

Code	Description	Links
200	OK	*No links*

29°C Partly sunny

Search

ENG US

13:50 04-09-2025

3.4 Results

Home Page Displaying Posts:

User Registration Page:

Login Page:

Post Creation Interface:

Comment/Message Interface:

Report User Page:

Admin Login Page:

Post Approval Dashboard:

User Management Interface:

Reported Users List:

Admin managing groups

CHAPTER 4: CONCLUSION

ProfileBook offers a comprehensive solution for online social interaction, combining ease of use, security, and functionality in a single platform. Future Scope: - AI-driven content moderation - Multi-language support - Push notifications - Enhanced analytics dashboard

Refrences:

1. Microsoft ASP.NET Core Documentation
2. Angular Official Docs
3. SQL Server Documentation
5. Entity Framework Core Documentation