Programming Projects Ideas:

Team Information

Naomie Edward - 2242656 / Elsana Kanybek - 2236835

Project Description: Topic 3 - Library Management System

Build a system to manage a small library with books and members.

* You may have a list of books and users available in a text file before hand.
* The app should display a list of all books, available books and borrowed books.
* The app should have feature to checkout and check-in books.
* The app should generate a report for overdue books.
* When a book is checked out it status should be changed to not available.
  + The app should save the status to the file.
* Bonus features is adding new books and users to the system and save them.

Tentative:

**First Page - Welcome Page:** User login, employees and users login

Have the add user and add employee option (employee needs to log in first to add another employee).

**Second Page - Employee Window:**

* Be able to add new employees
* Be able to Add/Delete books from the list
* Employees could add books and change status

**Third Page - Client Window**

* Display a list of all books + status (availability)
  + If book is available, button “add to cart” to borrow a book.
* Have a place in the page to check in the books
* If user has overdue books, pop up report
* The user could see the book

Development Approach

Explain how did you prepare for the project. You can use the 5 steps of algorithmic thinking to you help build this section (you will need to elaborate on each step).

1. Understanding the problem.
2. Formulating the problem.
3. Developing the application \ algorithm.
4. Implementing the application \algorithm.
5. Testing.

OOP Design

UML (Tentative)

| Employee : User |
| --- |
| Base Constructor |
| Add New Employee method |
| AddBook |
| DeleteBook |
| Log In - override |

| *User Class* |
| --- |
| FirstName |
| LastName |
| Username |
| Password |
| Constructor: FullName, Username, Password1, Password2 |
| LogIn Authentication method - to see |

| Client : User |
| --- |
| <List> Books |
| Base Constructor |
| Check In |
| Check Out |
| DisplayBorrowedBooks |
| OverdueBooks |
| Log In - override |
|  |

| IStatus |
| --- |
| String: status |

| Books |
| --- |
| String: Name |
| String: Author |
| Int: PageNumber |
| Status: IStatus |
| dueDate |

| Library |
| --- |
| Users: list |
| Employees: list |
| Books: list |
| DisplayBooks |
|  |
|  |
|  |

Contributions

-Both Work on UML Planning

App Snapshots (Not here yet)

This section includes snapshots of the final application showing different features. It could be a guideline to using the application. You may include snapshots of the app while being developed. Remember to add explanatory captions to the snapshots.

Future Work

Discuss features or improvement that can be added to application.

Appendix A: Team Contract

This is an informal contract to ensure that all team members have a common understanding of what is expected in terms of work standards, communication, division or work, and conflict resolution.

Team Members (Name & ID)

|  | Name | Student ID |
| --- | --- | --- |
| Member A: | Elsana Kanybek | 2236835 |
| Member B: | Naomie Edward | 2242656 |

Strength & Weaknesses

Within the context of this project, what are the strengths and weaknesses that each member brings to the team?

Member A: S- I’m very organized and I don’t like leaving the work to do at the last minute. W: I’m stressed if I am late to an assignment.

Member B: S- I come up with solutions and I'm a perfectionist. W: It takes me a while to organize my code.

Definition of “good enough” for this project

What would the team collectively consider “good enough” of an achievement for the project?

*(One response for the whole team)*

For us, “good enough” is when the work is done by everyone in the team but it was not perfect.

Picked Topic: Library Topic

Division of work

How will each member contribute to the project?

Member A: Alternating at each page so we both understand the wpf and code behind

Member B: Alternating at each page so we both understand the wpf and code behind

Frequency of communication

How often will the team be in touch and what tools will be used to communicate? Member A calls and texts Member B every day. We use Discord, Instagram, and Text Messages.

Response delays: When Member B decides to answer Member A.

What is a reasonable delay to reply to messages? Is it the same for weekdays and weekends? The reasonable delay would be a maximum one minute after sending the message. But Member B promised to answer faster.

Receiving feedback

Each member must provide a sample sentence for how they would like to receive constructive feedback from their peers.

(If unsure, assume a hypothetical situation such as you have not completed your work in time or you have not replied to a message in a timely manner).

Member A: “Do your work, I know where you live.”

Member B: “Do your work.”

In case of conflict

If a team member fails to communicate as described in this contract or does not respond to constructive feedback, what measures should the other teammate take?

*(One response for the whole team)*

Communication is key. We will try to talk it out.

Appendix B: UML Class Diagram

* DO NOT PLACE A LINK TO THE DIAGRAM.
* Do not include WPF created classes in the class diagram.
* The diagram should be placed in the document.