Title of the work: Books’ description

Author name: Andrei Lavrov

Group number: 212-2

Submission date: 13.06.2022

Supervisor name: Zhulikov Georgy

1. Problem statement section

This project was created to sort books of two genres of fiction and non-fiction. The user can sort books by ratings, and by genre. The entire dataset can be sorted by name, author, price, year, and genres.

2. Implementation details section

Subject area and description

You are given a .csv file that contains information about books. You have to develop an application that will help users to find a book that suits their needs using filtering and sorting the data. Also, you have to provide a possibility to add items to the database or remove them, and then save new database.

Columns description

Name. The name of the book (take into account that names are unique, not worries about that)

Author. The author of the book

User Rating. The rating of the book from 0 to 5(not min/max, find on your own)

Price. The price, in $

Year. The year the was published

Genre. The book's genre (fiction/ non-fiction)

Data model

File work and info

File. User should be able to load database as .csv file.

About. Information about the app, the number of the student. Logo is supposed to be in the About menu, not in the main window.

Help. Info about each button.

Simple search

Books' description 2

Search line. Something is printed and user should be able to find a book either by name or by author (buttons)

Adding and removing

Add. By clicking, the user should be able to add an item. The data should be saved and updated. There also should be add record dialog with the bottom add record.

Remove. By clicking, the user should be able to remove an (specifying only name, as I've deleted not unique books) item. The data should be saved and updated. There also should be delete record dialog with the bottom remove record.

Filtering and sorting

There is another “option” of searching the information about the book. By filtering:

User’s rating. List of checkboxes: rating 4+ or not specified ones.

Price. Range slider with prices from min to max (should be calculated).

Type. List of checkboxes: fiction or non-fiction.

Year. Range slider with prices from min to max (should be calculated).

Apply. Button to apply filtering.

Sort. Option button where user should be able to apply be name(from A to Z), by author(from A to Z), rating (High to Low), by price(both), by year(both).

Results

Results. By default should contain all data. Should be changed if there are search or filters applied.

3. Results and discussion

During the development process, I learned how to create CustomProxyModels, do sorting and filtering, use a slider and a checkbox, create new classes and design areas. During the project, we learned how to use buttons by pressing.

4. Conclusion

As a result, we got a separate widget / application that allows us to analyze books by rating, price, year of publication, author and even genre. The application works perfectly, without any complaints. There are a lot of opportunities for improvement, you can expand the functionality of this application for a long time.