

Project on Qt: QtShop  
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**Problem:** Application, which displays different products, allows to choose and sort them based on custom criteria and calculates total price.

### **Implementation details:**

The project utilizes the Qt framework for developing the GUI application. The main window of the application is implemented using the ``MainWindow`` class, which inherits from the ``QMainWindow`` class provided by Qt. The user interface for the main window is defined in the ``mainwindow.ui`` file.

The application includes several components, such as a table view (``QTableView``), a list view (``QListView``), and various input controls (``QSlider``, ``QLineEdit``, ``QCheckBox``, ``QComboBox``, etc.). These components are utilized to display and interact with the data.

Key implementation details include:

- Loading and saving file.
- Initializing and setting up the model for the table view using the ``ExampleModel`` class and the ``MyProxy`` class.
- Connecting various signals and slots to handle user interactions: adding and removing rows, setting filters for price and category, highlighting selected data items, and adding items to the shopping cart.

The application provides features like sorting the table view, hiding specific columns, resizing rows to fit content, and disabling certain edit triggers.

For adding a row with new information it is necessary to use "Add product button", after triggering which, dialog opens, where you can add all the necessary info about new product.

Dialog

ID:

Category: Bath & Shower

Title:

Brand:

MRP: 1

Price: 1

Offers:

In stock: ☐

It is possible to change information in the checkbox, whether a good is in stock or not, and if it is not, you can't add it to the shopping cart.

MainWindow

Product Title	Brand	Price	In stock
We are Little's Island Coconut Flavour Infused Instant Coffee (50 g)	We are Little's	495	<input checked="" type="checkbox"/>
"Homely Electric Manicure Drill Nail Cutter 3/32"" Tungsten Carbide Nail Drill Bit Manicure Pedicure Tool Electric Nail Drill Accessories : Tungsten Drill D2"	Homely	700	<input checked="" type="checkbox"/>
Honey Badger Mustard Honey Super bee Pure Honey Organic Natural Honey Pure Original Honey Pure Honey 500 GMS (Sunflower Honey, Size-500 GMS)	Honey Badger	300	<input type="checkbox"/>
Stockout Colourpop FRENCHIE PENCIL	Stockout	2399	<input checked="" type="checkbox"/>
Premium Vijaysagar Powder double pack 100 gram each	Glowing Buzz	499	<input checked="" type="checkbox"/>
HNS NatureS Essence Facewash, Papaya, 65ml (Pack of 2)	HNS	198	<input checked="" type="checkbox"/>
YaYa cafe™ Birthday Chocolates Gift Combo for Brother, Worlds Best Bro	YaYa cafe	599	<input checked="" type="checkbox"/>

Product Card

ID: fea8b5aad7485621eaf23aad47fdd261

Category: Grocery & Gourmet Foods

Product Title: Honey Badger Mustard Honey Super bee Pure Honey Organic Natural Honey Pure Original Honey Pure Honey 500 GMS (Sunflower Honey, Size-500 GMS)

Brand: Honey Badger

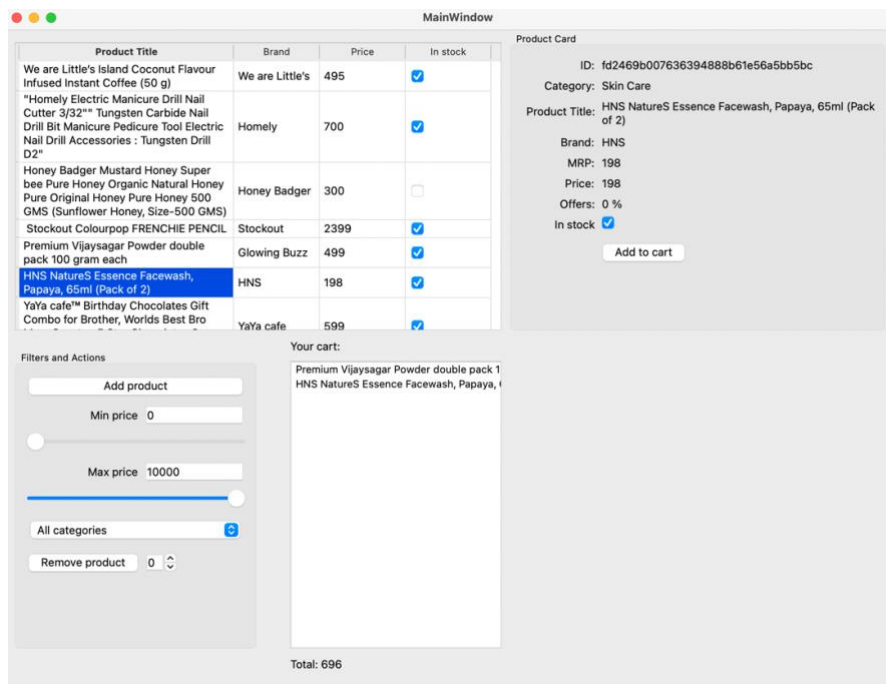
MRP: 699

Price: 300

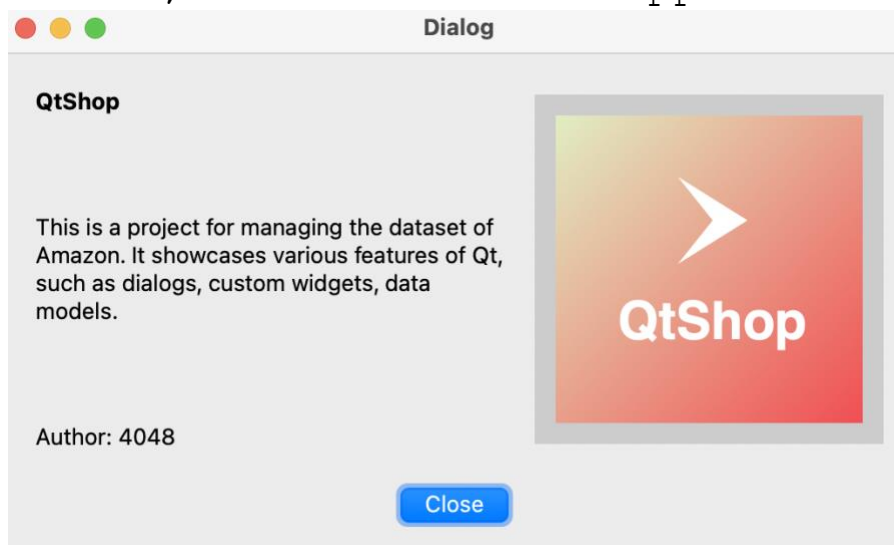
Offers: 57.08%

In stock ☐

The total price in the shopping cart is calculated with respect of offer: price - offer.



Moreover, you can open the About Dialog and get a brief information about the project and the application, the name of the application's author, and look at the application's logo.



URL address of the GitHub repository:  
<https://github.com/Viktoriia1928/dsba-itop2023-hw>

## Results and Discussion

During the development process, several approaches were implemented to achieve the desired functionality of the GUI application. The implemented features, such as loading and saving data files, adding, and removing rows, applying filters, and managing the shopping cart, were successfully implemented and tested, however changing to another language was implemented worser, at this point you can't change language in the application.

## **Conclusion**

In conclusion, the development of the GUI application for managing data was successful. The implemented features demonstrated the application's capability to handle various data-related tasks effectively. Because of project specification where it was necessary to have cart for goods and the task to make rows changeable, it turned out quite odd as basically customer can change price of any good and then add it to the shopping cart, in this way he/she can buy everything for free. I guess, this flaw can be improved. Besides, implementing translation would be also a good idea. Moreover, searching by ID or name of the product can be also a further step in the application's development.

Overall, the project demonstrated the feasibility and effectiveness of developing a GUI application for managing data.