Ceng201 Project

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Chapter 1

OOP_Group10

This repository will be used for Ceng201 Project Group 10

1.1 Group members:

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1.2 To execute & run:

Open > gui_v2\exe\application.exe Once you open the application, enter a name and a password you want then proceed with clicking "Log in" button. After logging in, you can select the items on the list and you can add them to your cart, remove from the cart, apply discount and select gift wrapping by clicking the named buttons. Finally you can click on "Confirm Order" and finish your shopping.

1.3 Contributions:

Sıla created the initial codes and worked on doxygen. Aybüke worked on login window. Sema worked on main window. Özgür worked on order window. Murathan worked on images and created executable.

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

Chapter 4

File Index

4.1 File List

Here is a list of all documented files with brief descriptions:

Chapter 5

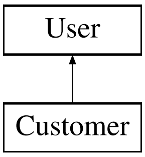
Class Documentation

5.1 Customer Class Reference

Derived class representing a customer in the system.

```
#include <Customer.h>
```

Inheritance diagram for Customer:



Public Member Functions

- Customer (const QString &name, const QString &pwd)

  Constructor for the Customer class.
- QString getCardInfo () const

  Gets the customer's card information.
- void setCardInfo (const QString &newInfo)

  Sets new card information for the customer.
- QString getAddress () const

  Gets the customer's address.
- void setAddress (const QString &add)

  Sets the customer's address.
- void **displayInfo** () const
- void signup () override

  signup function is overriden from User class
- void login () override

  login function is overriden from User class

Public Member Functions inherited from User

- User (const QString &name, const QString &pwd)

  Constructor for the User class.
- virtual ∼**User** ()

  Virtual destructor for the User class.
- bool verification (const QString &name, const QString &pwd) const

  Verifies the user's credentials.
- QString getUsername () const

  Gets the username.
- void setUsername (const QString &name)

  Sets the username.
- int getUserID () const

  Gets the user ID.
- QString getPassword () const

  Gets the user's password.
- void setPassword (const QString &pwd)

  Sets a new password for the user.

Additional Inherited Members

Protected Attributes inherited from User

- int **userID**
- QString **username**
- QString **password**

5.1.1 Detailed Description

Derived class representing a customer in the system.

5.1.2 Constructor & Destructor Documentation

5.1.2.1 Customer()

```
Customer::Customer (
             const QString & name,
             const QString & pwd)
```

Constructor for the Customer class.

Parameters

name	Username for the customer.
pwd	Password for the customer.

5.1.3 Member Function Documentation

5.1.3.1 getAddress()

```
QString Customer::getAddress () const
```

Gets the customer's address.

Returns

The address as a QString.

5.1.3.2 getCardInfo()

```
QString Customer::getCardInfo () const
```

Gets the customer's card information.

Returns

The card information as a QString.

5.1.3.3 login()

```
void Customer::login ()  [override], [virtual]
```

login function is overriden from User class

Implements User.

5.1.3.4 setAddress()

```
void Customer::setAddress (
             const QString & add)
```

Sets the customer's address.

Parameters

add	The new address to set.

5.1.3.5 setCardInfo()

```
void Customer::setCardInfo (
             const QString & newInfo)
```

Sets new card information for the customer.

Parameters

newInfo	The new card information to set.

5.1.3.6 signup()

```
void Customer::signup ()  [override], [virtual]
```

signup function is overriden from User class

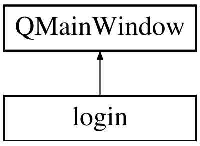
Implements User.

The documentation for this class was generated from the following files:

- /Users/siladolas/Downloads/Customer.h
- /Users/siladolas/Downloads/Customer.cpp

5.2 login Class Reference

Inheritance diagram for login:



Public Member Functions

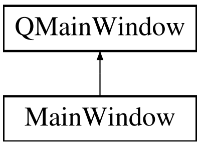
- **login** (QWidget ∗parent=nullptr)

The documentation for this class was generated from the following files:

- /Users/siladolas/Downloads/login.h
- /Users/siladolas/Downloads/login.cpp

5.3 MainWindow Class Reference

Inheritance diagram for MainWindow:



Public Member Functions

- **MainWindow** (QWidget ∗parent=nullptr)

The documentation for this class was generated from the following files:

- /Users/siladolas/Downloads/mainwindow.h
- /Users/siladolas/Downloads/mainwindow.cpp

5.4 Product Class Reference

Public Member Functions

- **Product** (const std::string &name, double price, const std::string &description, int stock)
- std::string **getName** () const
- double **getPrice** () const
- std::string **getDescription** () const
- int **getStock** () const
- void **reduceStock** (int quantity)
- void **increaseStock** (int quantity)

The documentation for this class was generated from the following files:

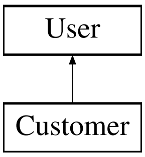
- /Users/siladolas/Downloads/Product.h
- /Users/siladolas/Downloads/Product.cpp

5.5 User Class Reference

Base class representing a user in the system.

```
#include <User.h>
```

Inheritance diagram for User:



Public Member Functions

- User (const QString &name, const QString &pwd)

  Constructor for the User class.
- virtual ∼**User** ()

  Virtual destructor for the User class.
- bool verification (const QString &name, const QString &pwd) const

  Verifies the user's credentials.
- virtual void signup ()=0

  Virtual method for signing up. To be implemented by derived classes.
- virtual void login ()=0

  Virtual method for logging in. To be implemented by derived classes.
- QString getUsername () const

  Gets the username.
- void setUsername (const QString &name)

  Sets the username.
- int getUserID () const

  Gets the user ID.
- QString getPassword () const

  Gets the user's password.
- void setPassword (const QString &pwd)

  Sets a new password for the user.

Protected Attributes

- int **userID**
- QString **username**
- QString **password**

5.5.1 Detailed Description

Base class representing a user in the system.

5.5.2 Constructor & Destructor Documentation

5.5.2.1 User()

```
User::User (
             const QString & name,
             const QString & pwd)
```

Constructor for the User class.

Parameters

name	Username of the user.
pwd	User's password.

5.5.3 Member Function Documentation

5.5.3.1 getPassword()

```
QString User::getPassword () const
```

Gets the user's password.

Returns

The password as a QString.

5.5.3.2 getUserID()

```
int User::getUserID () const
```

Gets the user ID.

Returns

The user ID as an integer.

5.5.3.3 getUsername()

```
QString User::getUsername () const
```

Gets the username.

Returns

The username as a QString.

5.5.3.4 login()

```
virtual void User::login ()  [pure virtual]
```

Virtual method for logging in. To be implemented by derived classes.

Implemented in Customer.

5.5.3.5 setPassword()

```
void User::setPassword (
             const QString & pwd)
```

Sets a new password for the user.

Parameters

pwd	New password to set.

5.5.3.6 setUsername()

```
void User::setUsername (
             const QString & name)
```

Sets the username.

Parameters

name	New username to set.

5.5.3.7 signup()

```
virtual void User::signup ()  [pure virtual]
```

Virtual method for signing up. To be implemented by derived classes.

Implemented in Customer.

5.5.3.8 verification()

```
bool User::verification (
             const QString & name,
             const QString & pwd) const
```

Verifies the user's credentials.

Parameters

name	Username to verify.
pwd	Password to verify.

Returns

True if credentials match, false otherwise.

The documentation for this class was generated from the following files:

- /Users/siladolas/Downloads/User.h
- /Users/siladolas/Downloads/User.cpp

Chapter 6

File Documentation

6.1 /Users/siladolas/Downloads/Customer.h

```
#ifndef CUSTOMER_H
#define CUSTOMER_H

#include "User.h"
#include <QVector>
#include <QString>
#include <QFile>
#include <QTextStream>
#include <QDebug>

class Customer : public User {
private:
    QString cardInfo;
    QString address;

public:
    Customer(const QString& name, const QString& pwd);

    QString getCardInfo() const;

    void setCardInfo(const QString& newInfo);

    QString getAddress() const;

    void setAddress(const QString& add);

    void displayInfo() const;

    void signup() override;

    void login() override;
};

#endif // CUSTOMER_H
```

6.2 /Users/siladolas/Downloads/login.h

```
#ifndef LOGIN_H
#define LOGIN_H

#include <QMainWindow>
#include <QLineEdit>
#include "Customer.h"

QT_BEGIN_NAMESPACE
namespace Ui {
class login;
}
QT_END_NAMESPACE

class login : public QMainWindow
{
    Q_OBJECT

public:
    login(QWidget *parent = nullptr);
    ~login();

private slots:
    void on_btnlogin_clicked();
    void openMainWindow();
    void on_result_cursorPositionChanged(int arg1, int arg2);

private:
    Ui::login *ui;
};
#endif // LOGIN_H
```

6.3 /Users/siladolas/Downloads/mainwindow.h

```
#ifndef MAINWINDOW_H
#define MAINWINDOW_H

#include <QMainWindow>
#include <QListWidget>
#include <QMessageBox>
#include "Product.h"
#include <vector>

QT_BEGIN_NAMESPACE
namespace Ui { class MainWindow; }
QT_END_NAMESPACE

class MainWindow : public QMainWindow {
    Q_OBJECT

public:
    explicit MainWindow(QWidget *parent = nullptr);
    ~MainWindow();
private slots:
    void onAddToCart();
    void onRemoveFromCart(); // Slot for Remove from Cart button
    void onApplyDiscount();
    void updateTotalLabel();
    void onProductSelected();

private:
    Ui::MainWindow *ui;

    std::vector<Product> availableProducts; // Store available products
    std::vector<Product> cartItems;
    void populateProductList(); // Function to populate the product list

};

#endif // MAINWINDOW_H
```

6.4 /Users/siladolas/Downloads/Product.h

```
#ifndef PRODUCT_H
#define PRODUCT_H

#include <string>

class Product {
private:
    std::string name;
    double price;
    std::string description; // New field for product description
    int stock;

public:
    Product(const std::string& name, double price, const std::string& description, int stock);
    std::string getName() const;
    double getPrice() const;
    std::string getDescription() const; // Getter for description
    int getStock() const;
    void reduceStock(int quantity);
    void increaseStock(int quantity);
};

#endif // PRODUCT_H
```

6.5 /Users/siladolas/Downloads/User.h

```
#ifndef USER_H
#define USER_H

#include <QString>

class User {
protected:
    int userID;
    QString username;
    QString password;

public:
    User(const QString& name, const QString& pwd);

    virtual ~User();

    bool verification(const QString& name, const QString& pwd) const;

    virtual void signup() = 0;

    virtual void login() = 0;

    QString getUsername() const;

    void setUsername(const QString& name);

    int getUserID() const;

    QString getPassword() const;

    void setPassword(const QString& pwd);
};

#endif // USER_H
```