

# Báo cáo thực hành Lập trình hướng đối tượng Lab 5

Họ và tên: Nguyễn Minh Khôi

MSSV: 20225642

## Mục lục

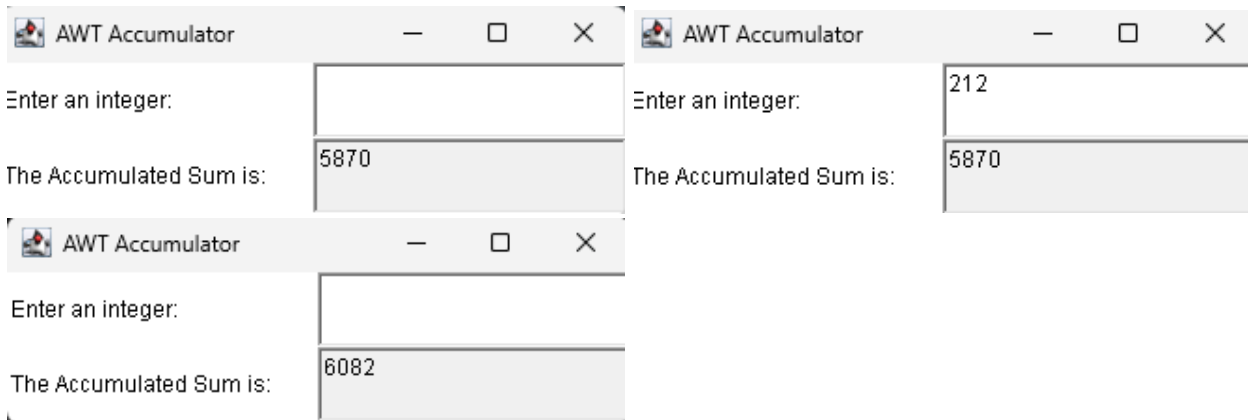
|      |  |                                     |
|------|--|-------------------------------------|
| I.   | Java swing and java awt .....  | 3                                   |
| 1.   | AWT Accumlator .....   | 3                                   |
| a.   | Code .....   | <b>Error! Bookmark not defined.</b> |
| b.   | Result.....  | <b>Error! Bookmark not defined.</b> |
| 2.   | Swing Accumulator .....  | 3                                   |
| a.   | Code .....   | <b>Error! Bookmark not defined.</b> |
| b.   | Result.....  | <b>Error! Bookmark not defined.</b> |
| 3.   | Number Grid.....   | 3                                   |
| a.   | Code .....   | <b>Error! Bookmark not defined.</b> |
| b.   | Result.....  | 3                                   |
| II.  | Java FX.....   | 4                                   |
| 1.   | Tạo lớp Painter .....  | <b>Error! Bookmark not defined.</b> |
| 2.   | Tạo lớp PainterController .....                                      | <b>Error! Bookmark not defined.</b> |
| 3.   | Tạo file Painter.fxml.....   | <b>Error! Bookmark not defined.</b> |
| 4.   | Kết quả.....   | 4                                   |
| III. | Xử lý ngoại lệ.....  | 5                                   |
| 1.   | Tạo lớp ngoại lệ PlayException trong package ../aims/exception ..... | 5                                   |
| 2.   | Từ ngoại lệ đẩy, sửa các phương thức có liên quan .....              | 6                                   |
| a.   | Trong interface Playable .....                                       | 6                                   |
| b.   | Trong class DigitalVideoDisc .....                                   | 6                                   |
| c.   | Trong class CompactDisc .....  | 6                                   |
| d.   | Trong class Track .....  | 6                                   |
| e.   | Trong class chính AIMS .....   | 6                                   |
| IV.  | Tạo tất cả giao diện trong project AIMS.....                         | 7                                   |

|   |                                     |
|---|-------------------------------------|
| 1. Tạo package screen trong project AIMS .....  | 7                                   |
| 2. Tạo class MediaStore.....  | 7                                   |
| 3. Tạo giao diện giỏ hàng .....   | 9                                   |
| a. Tạo class CartScreenController để điều khiển file fxml .....   | 9                                   |
| b. Tạo file Cart.fxml .....   | 9                                   |
| c. Tạo class CartScreen .....   | 14                                  |
| 4. Tạo class StoreScreen, trong file StoreScreen.java thì sẽ tạo ra một vài chức năng như thêm xoá sửa tìm kiếm, hoàn thành các chức năng của ứng dụng AIMS trên GUI (Sau khi tạo xong các lớp như CartScreen, ...) | <b>Error! Bookmark not defined.</b> |
| a. Source code .....  | <b>Error! Bookmark not defined.</b> |
| b. Result.....  | <b>Error! Bookmark not defined.</b> |
| V. Các biểu đồ.....   | 20                                  |
| 1. Biểu đồ Use-case .....   | 20                                  |
| 2. Biểu đồ Class .....  | 21                                  |

# I. Java swing and java awt

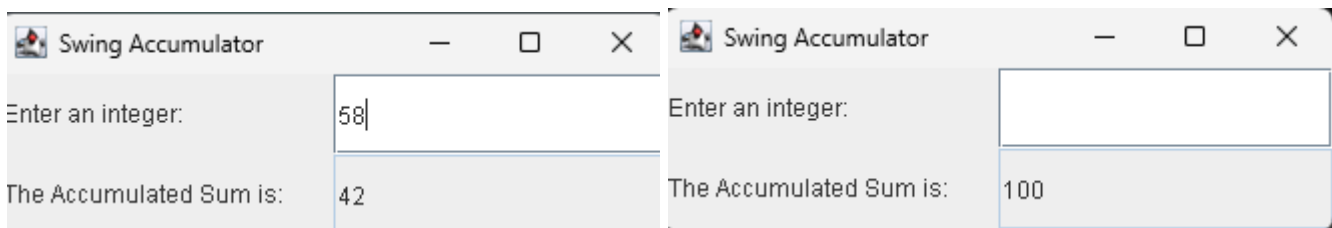
## 1. AWT Accumulator

### a. Kết quả



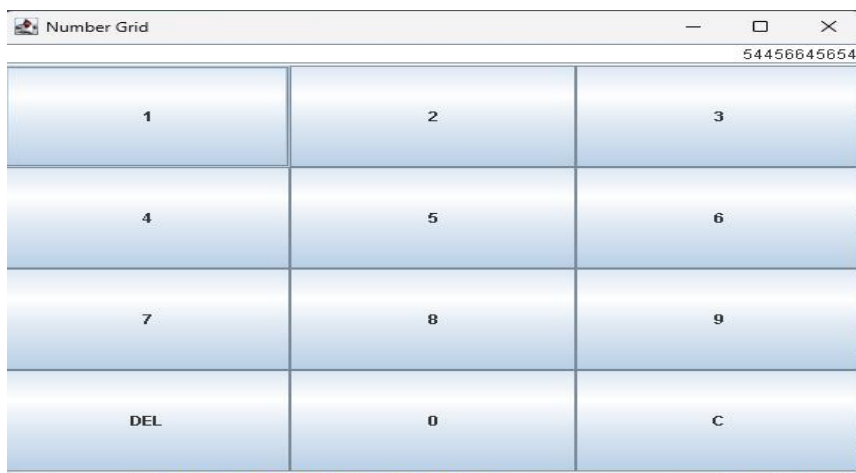
## 2. Swing Accumulator

### a. Kết quả

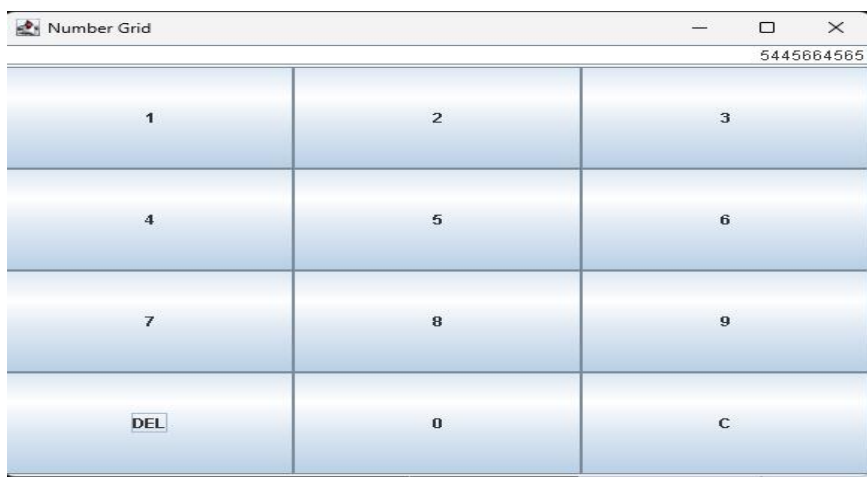


## 3. Number Grid

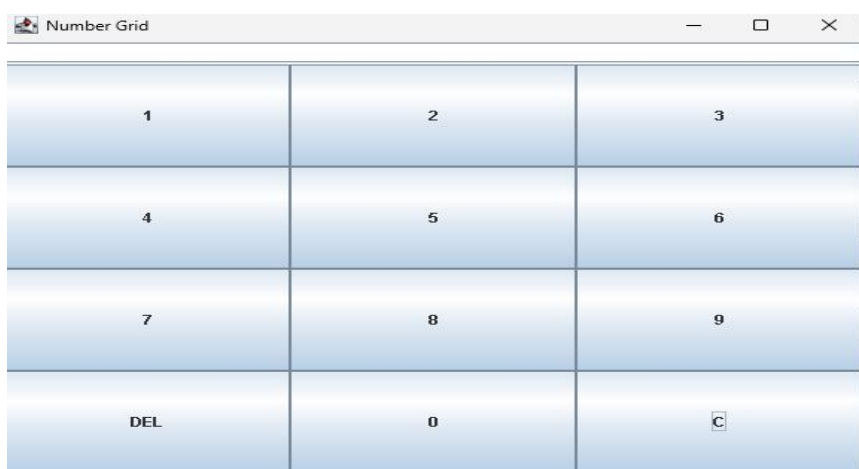
### a. Result



Sau khi ấn DEL



Sau khi ấn C

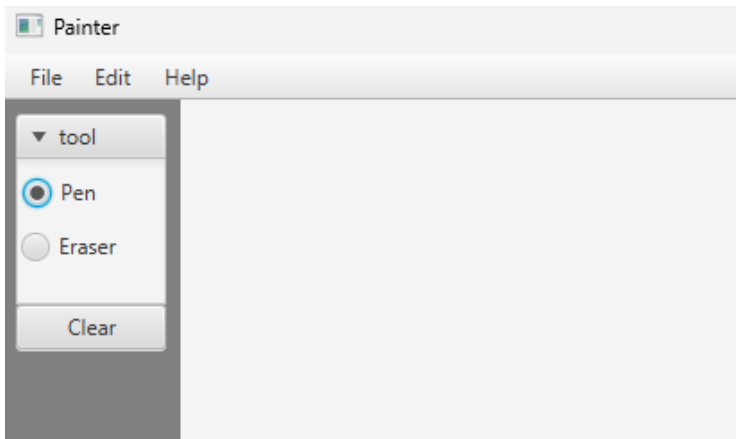


## II. Java FX

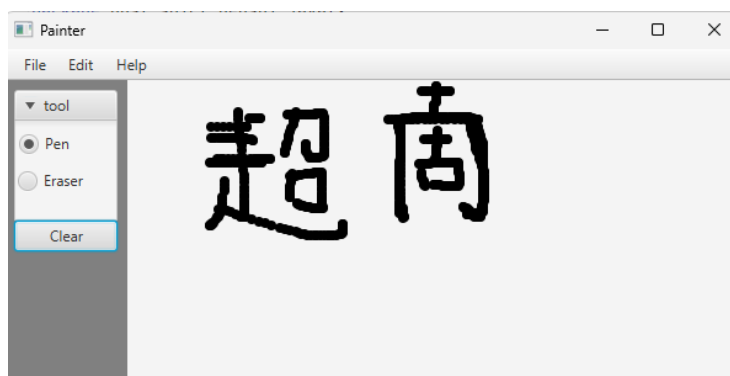
Tạo 1 ứng dụng vẽ tranh sử dụng JavaFX

Kết quả:

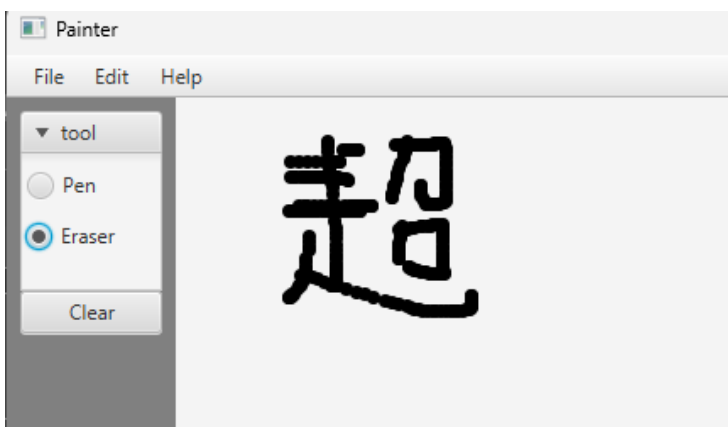
Ban đầu



Sau khi vẽ



Sau khi sử dụng Eraser



### III. Xử lý ngoại lệ

1. Tạo lớp ngoại lệ PlayException trong  
}

```

package AimsProject.src.hust.soict.hedspi.main.exception;

public class PlayerException extends Exception { 20 usages new *

    public PlayerException() { super(); }

    public PlayerException(String message) { super(message); }

    public PlayerException(String message, Throwable cause) { no usages new *
        super(message, cause);
    }

    public PlayerException(Throwable cause) { super(cause); }
}

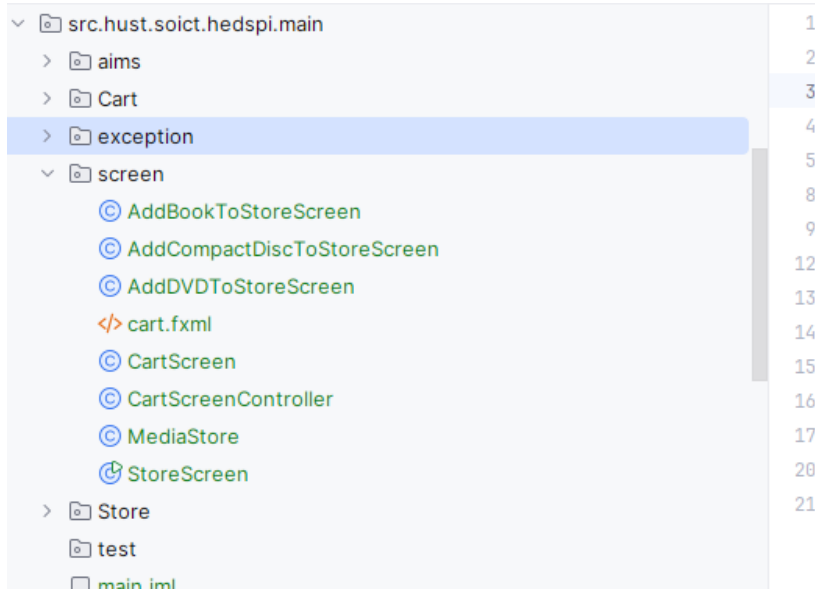
```

## 2. Từ ngoại lệ đẩy, sửa các phương thức có liên quan

- Trong class interface Playable
- Trong class DigitalVideoDisc
- Trong class CompactDisc
- Trong class Track
- Trong class AimsTest

## IV. Tạo tất cả giao diện trong project AIMS

### 1. Tạo package screen trong project AIM



### 2. Tạo class MediaStore

3. `package` AimsProject.src.hust.soict.hedspi.main.screen;

```
import AimsProject.src.hust.soict.hedspi.main.Cart.Cart;
import AimsProject.src.hust.soict.hedspi.main.aims.media.*;
import AimsProject.src.hust.soict.hedspi.main.exception.PlayerException;

import javax.swing.*;
import java.awt.*;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;

public class MediaStore extends JPanel {
    private Media media;

    public MediaStore(Media media, Cart myCart) {
        this.media = media;
        this.setLayout(new BorderLayout(this, BorderLayout.Y_AXIS));
        this.setBackground(new Color(255, 255, 255));
        this.setBorder(BorderFactory.createCompoundBorder(
            BorderFactory.createLineBorder(new Color(200, 200, 200), 1,
true),
            BorderFactory.createEmptyBorder(15, 15, 15, 15)
));

        JLabel title = new JLabel(media.getTitle());
        title.setFont(new Font("Segoe UI", Font.BOLD, 20));
        title.setForeground(new Color(44, 62, 80));
        title.setAlignmentX(CENTER_ALIGNMENT);

        JLabel cost = new JLabel(String.format("%.2f $", media.getCost()));
        cost.setFont(new Font("Segoe UI", Font.PLAIN, 16));
        cost.setForeground(new Color(127, 140, 141));
        cost.setAlignmentX(CENTER_ALIGNMENT);

        JPanel container = new JPanel();
        container.setLayout(new FlowLayout(FlowLayout.CENTER));
```

```

        container.setBackground(new Color(255, 255, 255));

        JButton btnAdd = createStyledButton("Add to cart", new Color(52, 152,
219));
        btnAdd.addActionListener(new ActionListener() {
            @Override
            public void actionPerformed(ActionEvent e) {
                myCart.addMedia(media);
                JOptionPane.showMessageDialog(null,
                    "Added " + media.getTitle() + " to cart!",
                    "Success",
                    JOptionPane.INFORMATION_MESSAGE);
            }
        });
        container.add(btnAdd);

        if (media instanceof Playable) {
            JButton playBtn = createStyledButton("Play", new Color(46, 204,
113));
            playBtn.addActionListener(new ActionListener() {
                @Override
                public void actionPerformed(ActionEvent e) {
                    JDialog playDialog = createPlayDialog(media);
                    playDialog.setVisible(true);
                    playDialog.setSize(300, 200);
                    playDialog.pack();
                }
            });
            container.add(playBtn);
        }

        this.add(Box.createVerticalGlue());
        this.add(title);
        this.add(cost);
        this.add(Box.createVerticalGlue());
        this.add(container);
    }

    private JButton createStyledButton(String text, Color backgroundColor) {
        JButton button = new JButton(text);
        button.setFont(new Font("Segoe UI", Font.BOLD, 12));
        button.setForeground(Color.WHITE);
        button.setBackground(backgroundColor);
        button.setBorder(BorderFactory.createEmptyBorder(5, 10, 5, 10));
        button.setFocusPainted(false);
        button.setCursor(new Cursor(Cursor.HAND_CURSOR));

        button.addMouseListener(new java.awt.event.MouseAdapter() {
            public void mouseEntered(java.awt.event.MouseEvent evt) {
                button.setBackground(backgroundColor.darker());
            }

            public void mouseExited(java.awt.event.MouseEvent evt) {
                button.setBackground(backgroundColor);
            }
        });

        return button;
    }

    static JDialog createPlayDialog(Media media) {
        JDialog playDialog = new JDialog();

```



```

Container container = playDialog.getContentPane();
playDialog.setDefaultCloseOperation(JDialog.DISPOSE_ON_CLOSE);
container.setLayout(new BoxLayout(container, BoxLayout.Y_AXIS));
container.setBackground(new Color(255, 255, 255));
container.add(Box.createRigidArea(new Dimension(10, 10)));

if (media instanceof DigitalVideoDisc dvd) {
    container.add(createStyledLabel("Playing DVD: " + dvd.getTitle(), new
Font("Segoe UI", Font.BOLD, 14)));
    container.add(createStyledLabel("DVD length: " + dvd.getLength() + "
min", new Font("Segoe UI", Font.PLAIN, 12)));
} else if (media instanceof CompactDisc cd) {
    container.add(createStyledLabel("Title: " + cd.getTitle(), new
Font("Segoe UI", Font.BOLD, 14)));
    container.add(createStyledLabel("Artist: " + cd.getArtist(), new
Font("Segoe UI", Font.PLAIN, 12)));
    for (Track track : cd.getTracks()) {
        container.add(createStyledLabel("Play: " + track.getTitle() + ".
Length: " + track.getLength() + " min", new Font("Segoe UI", Font.PLAIN, 12)));
    }
}

playDialog.setTitle("Play " + media.getTitle());
return playDialog;
}

private static JLabel createStyledLabel(String text, Font font) {
    JLabel label = new JLabel(text);
    label.setFont(font);
    label.setForeground(new Color(44, 62, 80));
    return label;
}
}

```

## 4. Tạo giao diện

### a. Tạo class CartScreenController điều khiển file fxml

```

package AimsProject.src.hust.soict.hedspi.main.screen;

import AimsProject.src.hust.soict.hedspi.main.Cart.Cart;
import AimsProject.src.hust.soict.hedspi.main.aims.media.Media;
import AimsProject.src.hust.soict.hedspi.main.aims.media.Playable;
import javafx.beans.value.ChangeListener;
import javafx.beans.value.ObservableValue;
import javafx.collections.FXCollections;
import javafx.event.ActionEvent;
import javafx.event.EventHandler;
import javafx.fxml.FXML;
import javafx.geometry.Pos;
import javafx.scene.Scene;
import javafx.scene.control.*;
import javafx.scene.control.cell.PropertyValueFactory;
import javafx.scene.layout.VBox;
import javafx.scene.paint.Color;
import javafx.scene.text.Font;
import javafx.scene.text.FontWeight;
import javafx.stage.Modality;
import javafx.stage.Stage;

import javax.swing.*;
import java.util.ArrayList;

```

```

public class CartScreenController {
    private Cart cart;
    @FXML
    private Button btnPlaceOrder;
    @FXML
    private TextField tfFilter;
    @FXML
    private ToggleGroup filterCategory;
    @FXML
    private RadioButton radioBtnFilterId;
    @FXML
    private RadioButton radioBtnFilterTitle;
    @FXML
    private Button btnPlay;
    @FXML
    private Button btnRemove;
    @FXML
    private TableView<Media> tblMedia;
    @FXML
    private TableColumn<Media, Integer> colMediaId;
    @FXML
    private TableColumn<Media, String> colMediaTitle;
    @FXML
    private TableColumn<Media, String> colMediacategory;
    @FXML
    private TableColumn<Media, Float> colMediaCost;
    @FXML
    private Label totalPrice;

    public CartScreenController(Cart cart) {
        super();
        this.cart = cart;
    }

    @FXML
    private void initialize() {
        colMediaId.setCellValueFactory(new PropertyValueFactory<Media,
Integer>("id"));
        colMediaTitle.setCellValueFactory(new PropertyValueFactory<Media,
String>("title"));
        colMediacategory.setCellValueFactory(new PropertyValueFactory<Media,
String>("category"));
        colMediaCost.setCellValueFactory(new PropertyValueFactory<Media,
Float>("cost"));

        tblMedia.setItems(FXCollections.observableList(this.cart.getItemsOrdered()));
        tblMedia.setPlaceholder(new Label("No item in cart"));
        btnPlay.setVisible(false);
        btnRemove.setVisible(false);
        btnRemove.setOnAction(new EventHandler<javafx.event.ActionEvent>() {
            @Override
            public void handle(javafx.event.ActionEvent event) {
                Media media = tblMedia.getSelectionModel().getSelectedItem();
                cart.removeMedia(media);
                totalPrice.setText(Float.toString(cart.totalCost()) + "$");
            }
        });

        tblMedia.setItems(FXCollections.observableList(cart.getItemsOrdered()));

        tfFilter.textProperty().addListener(new ChangeListener<String>() {
            @Override
            public void changed(ObservableValue<? extends String>

```

```

observableValue, String s, String t1) {
    showFilterMedia(t1);
}
});

tblMedia.getSelectionModel().selectedItemProperty().addListener(
    new ChangeListener<Media>() {
        @Override
        public void changed(ObservableValue<? extends Media>
observableValue, Media media, Media t1) {
            updateButtonBar(t1);
        }
    }
);
totalPrice.setText(Float.toString(cart.totalCost()) + "$");

btnPlay.setOnAction(new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent event) {
        JDialog playDialog =
MediaStore.createPlayDialog(tblMedia.getSelectionModel().getSelectedItem());
        playDialog.setVisible(true);
        playDialog.setSize(300, 200);
        playDialog.pack();
    }
});

btnPlaceOrder.setOnAction(new EventHandler<ActionEvent>() {
    @Override
    public void handle(ActionEvent event) {
        createPopUp();
        cart.getItemsOrdered().clear();
    }
});

tblMedia.setItems(FXCollections.observableList(cart.getItemsOrdered()));
totalPrice.setText(Float.toString(cart.totalCost()) + "$");
});
}

@FXML
void updateButtonBar(Media media) {
    btnRemove.setVisible(true);
    if (media instanceof Playable) {
        btnPlay.setVisible(true);
    } else {
        btnPlay.setVisible(false);
    }
}

@FXML
void showFilterMedia(String t1) {
    if (filterCategory.getSelectedToggle() == radioBtnFilterTitle) {
        ArrayList<Media> filterByTitle = new ArrayList<Media>();
        for (Media item : cart.getItemsOrdered()) {
            if (item.getTitle().contains(t1)) {
                filterByTitle.add(item);
            }
        }
        tblMedia.setItems(FXCollections.observableList(filterByTitle));
    } else if (filterCategory.getSelectedToggle() == radioBtnFilterId) {
        ArrayList<Media> filterById = new ArrayList<Media>();
        for (Media item : cart.getItemsOrdered()) {

```

```

        if (item.getId() == Integer.parseInt(t1)) {
            filterByID.add(item);
        }
    }
    tblMedia.setItems(FXCollections.observableList(filterByID));
}

@FXML
void createPopUp() {
    Stage popupwindow = new Stage();
    popupwindow.initModality(Modality.APPLICATION_MODAL);
    popupwindow.setTitle("Place order");

    Label label1 = new Label("You have placed your order!");
    label1.setFont(Font.font("Arial", FontWeight.BOLD, 14));
    Label label2 = new Label("Your bill total is " +
Float.toString(cart.totalCost()) + "$");
    Button button1 = new Button("OK!");
    label2.setTextFill(Color.RED);
    button1.setOnAction(e -> popupwindow.close());
    VBox layout = new VBox(10);
    layout.getChildren().addAll(label1, label2, button1);
    layout.setAlignment(Pos.CENTER);
    Scene scenel = new Scene(layout, 300, 200);
    popupwindow.setScene(scenel);
    popupwindow.show();
}
}

```

## b. Tạo file Cart.fxml làm giao diện chính

```

<?xml version="1.0" encoding="UTF-8"?>
<?import javafx.geometry.Insets?>
<?import javafx.scene.control.Button?>
<?import javafx.scene.control.ButtonBar?>
<?import javafx.scene.control.Label?>
<?import javafx.scene.control.Menu?>
<?import javafx.scene.control.MenuBar?>
<?import javafx.scene.control.MenuItem?>
<?import javafx.scene.control.RadioButton?>
<?import javafx.scene.control.TableColumn?>
<?import javafx.scene.control.TableView?>
<?import javafx.scene.control.TextField?>
<?import javafx.scene.control.ToggleGroup?>
<?import javafx.scene.layout.BorderPane?>
<?import javafx.scene.layout.HBox?>
<?import javafx.scene.layout.VBox?>
<?import javafx.scene.text.Font?>

<BorderPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity"
minWidth="-Infinity" prefHeight="768.0" prefWidth="1024.0"
xmlns="http://javafx.com/javafx/21" xmlns:fx="http://javafx.com/fxml/1">
    <top>
        <VBox prefWidth="100.0" BorderPane.alignment="CENTER">
            <children>
                <MenuBar>
                    <menus>
                        <Menu mnemonicParsing="false" text="Options">
                            <items>
                                <Menu mnemonicParsing="false" text="Update
store">

```

```

                                <items>
text="Add book" />                                <MenuItem mnemonicParsing="false"
                                <MenuItem mnemonicParsing="false"
text="Add DVD" />                                <MenuItem mnemonicParsing="false"
                                <MenuItem mnemonicParsing="false"
text="Add CD" />                                </items>
                                </Menu>
                                <Menu mnemonicParsing="false" text="View store">
                                <items>
text="Action 1" />                                <MenuItem mnemonicParsing="false"
                                </items>
                                </Menu>
                                <Menu mnemonicParsing="false" text="View cart">
                                <items>
text="Action 1" />                                <MenuItem mnemonicParsing="false"
                                </items>
                                </Menu>
                                </items>
                                </Menu>
                                </menus>
                                </MenuBar>
                                <Label text="CART" textFill="#000fff">
                                <font>
                                <Font size="50.0" />
                                </font>
                                </Label>
                                </children>
                                </VBox>
</top>
<center>
    <VBox BorderPane.alignment="CENTER">
        <padding>
            <Insets left="10.0" />
        </padding>
        <children>
            <HBox alignment="CENTER_LEFT" prefWidth="200.0" spacing="10.0">
                <padding>
                    <Insets bottom="10.0" top="10.0" />
                </padding>
                <children>
                    <Label text="Filter" />
                    <TextField fx:id="tfFilter" />
                    <RadioButton fx:id="radioBtnFilterId"
mnemonicParsing="false" selected="true" text="By ID">
                        <toggleGroup>
                            <ToggleGroup fx:id="filterCategory" />
                        </toggleGroup>
                    </RadioButton>
                    <RadioButton fx:id="radioBtnFilterTitle"
mnemonicParsing="false" text="By Title" toggleGroup="$filterCategory" />
                </children>
            </HBox>
            <TableView fx:id="tblMedia" prefHeight="200.0" prefWidth="200.0">
                <columns>
                    <TableColumn fx:id="colMediaId" prefWidth="50.0"
text="ID" />
                    <TableColumn fx:id="colMediaTitle" prefWidth="75.0"
text="Title" />
                </columns>
            </TableView>
        </children>
    </VBox>
</center>
</top>
</BorderPane>
</FXML>

```

```

                                <TableColumn fx:id="colMediacategory" prefWidth="75.0"
text="Category" />
                                <TableColumn fx:id="colMediaCost" prefWidth="75.0"
text="Cost" />
                                </columns>
                                <columnResizePolicy>
                                    <TableView fx:constant="CONSTRAINED_RESIZE_POLICY" />
                                </columnResizePolicy>
                                </TableView>
                                <ButtonBar prefHeight="40.0" prefWidth="200.0">
                                    <buttons>
                                        <Button fx:id="btnPlay" mnemonicParsing="false"
text="Play" />
                                        <Button fx:id="btnRemove" mnemonicParsing="false"
text="Remove" />
                                    </buttons>
                                </ButtonBar>
                                </children>
                            </VBox>
                        </center>
                        <right>
                            <VBox alignment="TOP_CENTER" BorderPane.alignment="CENTER">
                                <padding>
                                    <Insets left="10.0" right="10.0" top="50.0" />
                                </padding>
                                <children>
                                    <HBox alignment="CENTER">
                                        <children>
                                            <Label text="Total:">
                                                <font>
                                                    <Font size="24.0" />
                                                </font>
                                                <padding>
                                                    <Insets right="10.0" />
                                                </padding>
                                            </Label>
                                            <Label fx:id="totalPrice" text="0 $" textFill="#000fff">
                                                <font>
                                                    <Font size="24.0" />
                                                </font>
                                            </Label>
                                        </children>
                                    </HBox>
                                    <Button fx:id="btnPlaceOrder" mnemonicParsing="false" style="-fx-
background-color: red;" text="Place Order" textFill="WHITE">
                                        <font>
                                            <Font size="24.0" />
                                        </font>
                                    </Button>
                                </children>
                            </VBox>
                        </right>
                    </BorderPane>

```

c. Tạo class CartScreen xử lý sau khi người dùng ấn vào “Add to Cart” và khi xem “View Cart”

```
package AimsProject.src.hust.soict.hedspi.main.screen;
```

```

import AimsProject.src.hust.soict.hedspi.main.Cart.Cart;
import javafx.application.Platform;
import javafx.embed.swing.JFXPanel;
import javafx.fxml.FXMLLoader;
import javafx.scene.Parent;
import javafx.scene.Scene;

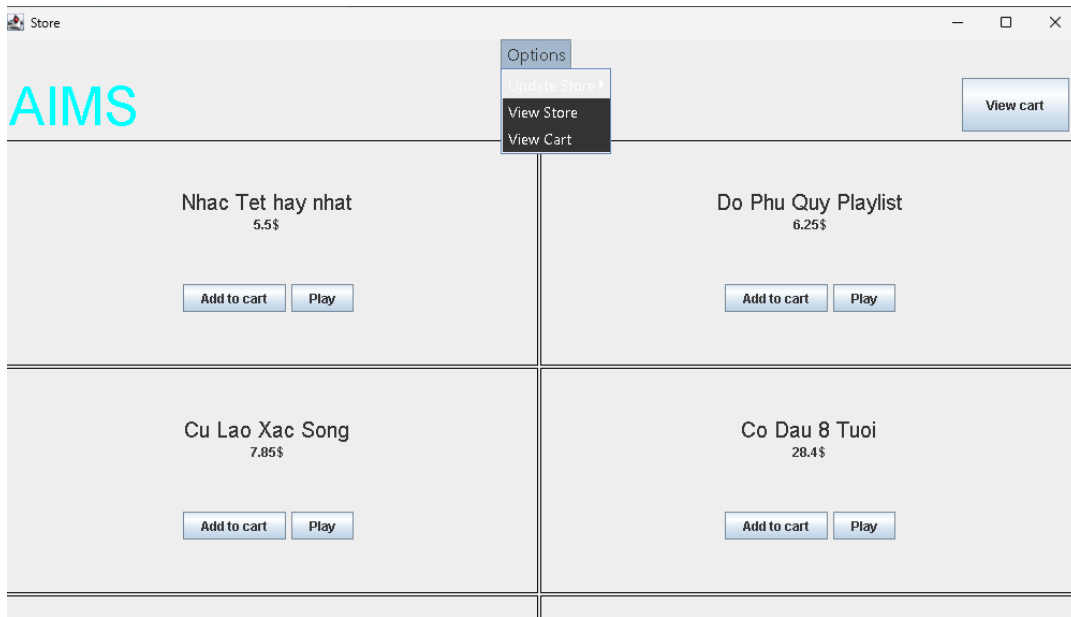
import javax.swing.*;
import java.io.IOException;

public class CartScreen extends JFrame {
    private Cart cart;

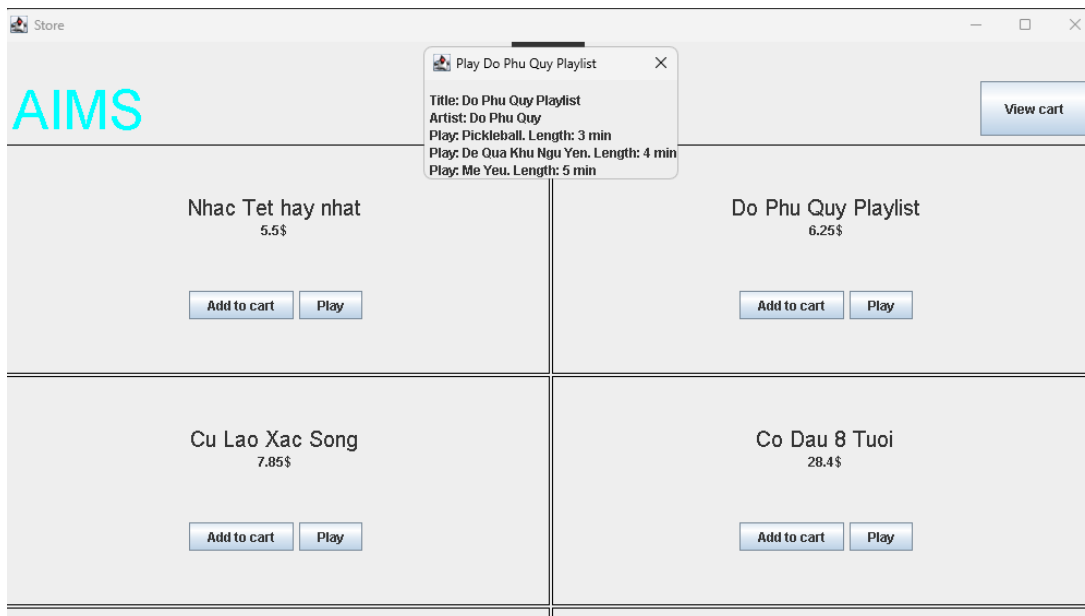
    public CartScreen(Cart cart) {
        super();
        this.cart = cart;
        JFXPanel fxPanel = new JFXPanel();
        this.add(fxPanel);
        this.setTitle("Cart");
        this.setVisible(true);
        setSize(1100, 768);
        Platform.runLater(new Runnable() {
            @Override
            public void run() {
                try {
                    FXMLLoader loader = new
FXMLLoader(getClass().getResource("cart.fxml"));
                    CartScreenController controller = new
CartScreenController(cart);
                    loader.setController(controller);
                    Parent root = loader.load();
                    fxPanel.setScene(new Scene(root));
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }
        });
    }
}

```

Kết quả

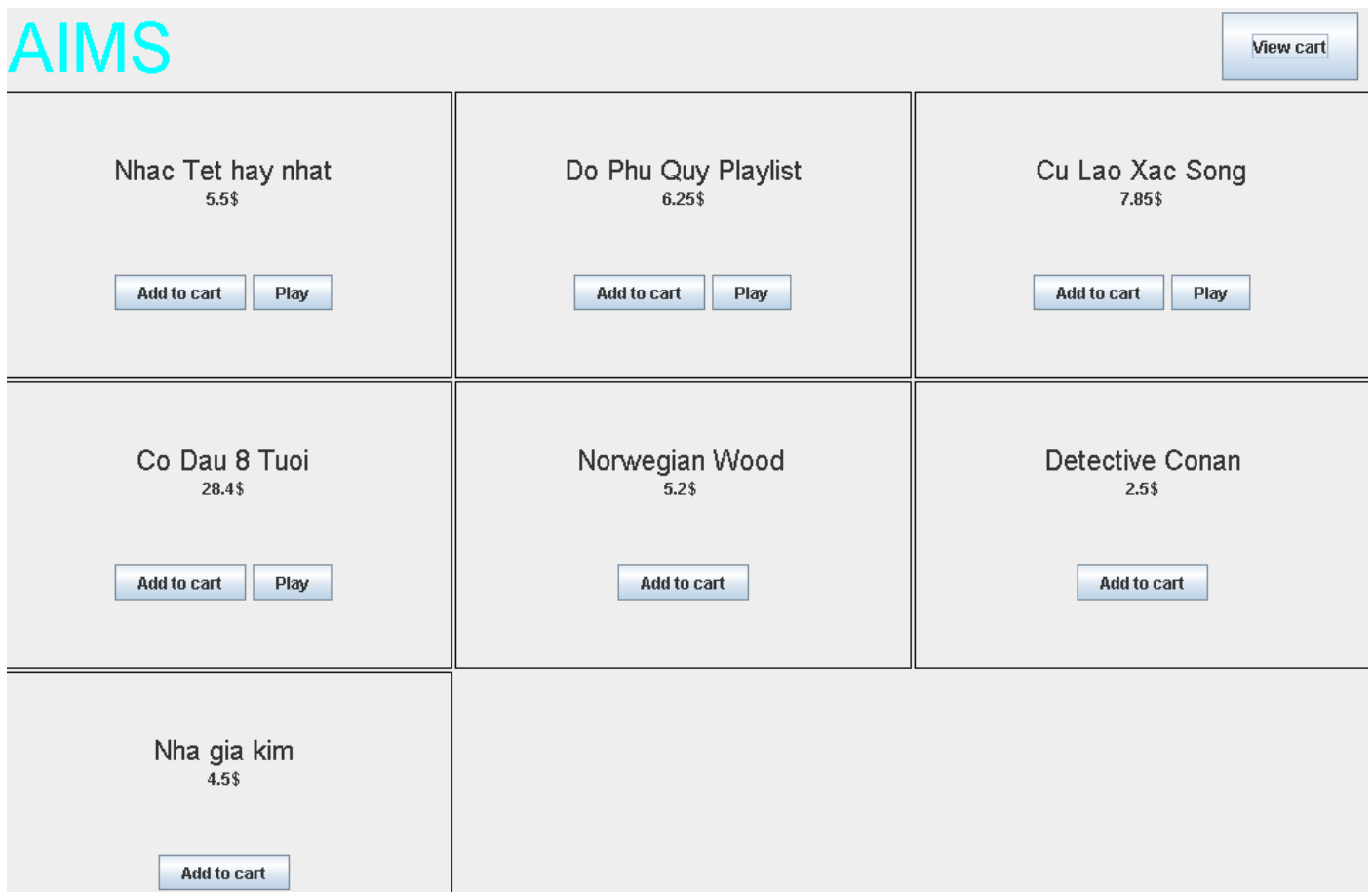
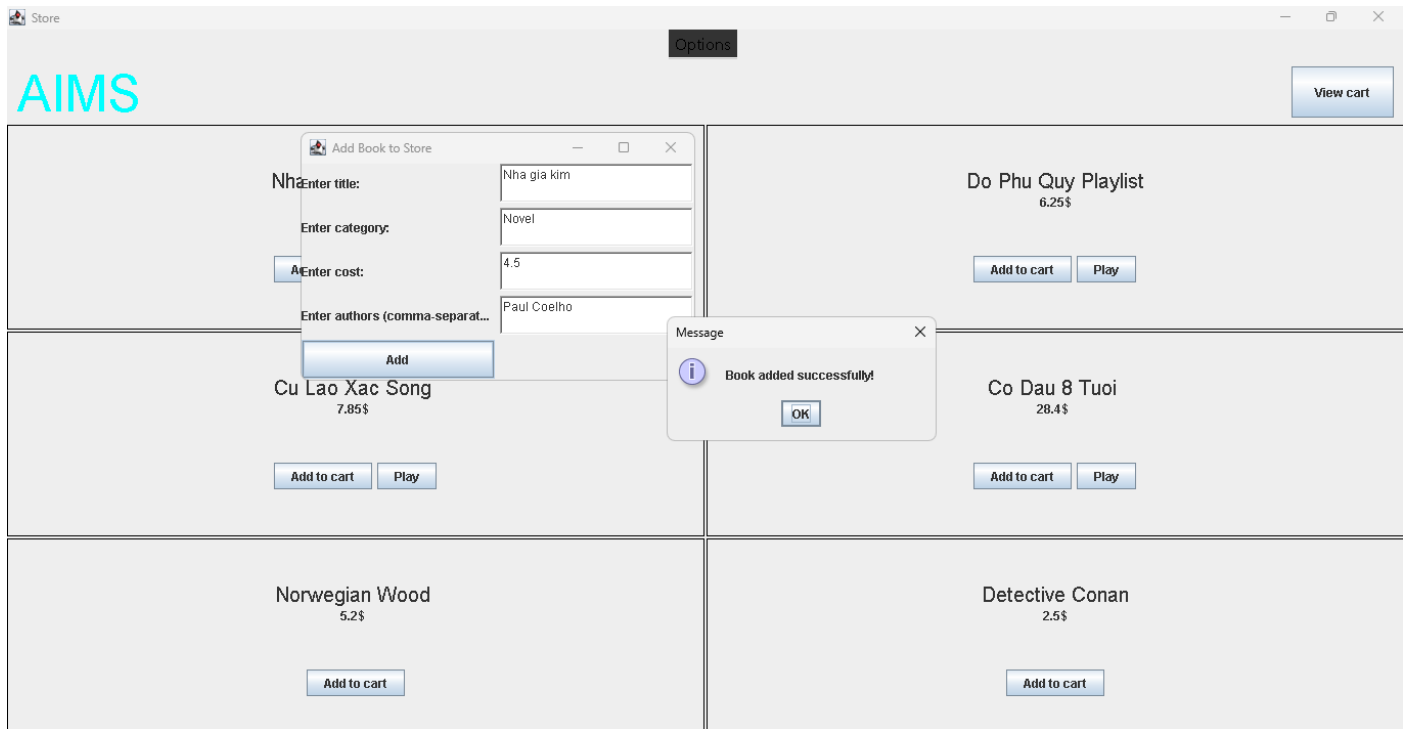


Play 1 playlist nào đó



Thêm sách vào Store





View CartScreen

# CART

Filter

☒ By ID ☐ By Title

| ID | Title               | Category       | Cost |
|----|---------------------|----------------|------|
| 4  | Do Phu Quy Playlist | Vietnamese Pop | 6.25 |
| 1  | Cu Lao Xac Song     | Adventure      | 7.85 |
| 7  | Nha gia kim         | Novel          | 4.5  |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |

Total: 18.6\$  

Place Order

Sort theo ID

# CART

Filter

☒ By ID ☐ By Title

| ID | Title               | Category       | Cost |
|----|---------------------|----------------|------|
| 1  | Cu Lao Xac Song     | Adventure      | 7.85 |
| 4  | Do Phu Quy Playlist | Vietnamese Pop | 6.25 |
| 7  | Nha gia kim         | Novel          | 4.5  |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |

Sort theo Title

# CART

Filter

☒ By ID ☐ By Title

| ID | Title               | Category       | Cost |
|----|---------------------|----------------|------|
| 1  | Cu Lao Xac Song     | Adventure      | 7.85 |
| 4  | Do Phu Quy Playlist | Vietnamese Pop | 6.25 |
| 7  | Nha gia kim         | Novel          | 4.5  |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |

Filter theo ID

# CART

Filter  ☒ By ID ☐ By Title

| ID | Title               | Category       | Cost |
|----|---------------------|----------------|------|
| 4  | Do Phu Quy Playlist | Vietnamese Pop | 6.25 |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |

## Filter theo Title

# CART

Filter  ☐ By ID ☒ By Title

| ID | Title           | Category  | Cost |
|----|-----------------|-----------|------|
| 1  | Cu Lao Xac Song | Adventure | 7.85 |
|    |                 |           |      |
|    |                 |           |      |
|    |                 |           |      |
|    |                 |           |      |
|    |                 |           |      |
|    |                 |           |      |

Total: 18.6\$

Place Order

## Remove Item trong Cart

| ID | Title               | Category       | Cost |
|----|---------------------|----------------|------|
| 4  | Do Phu Quy Playlist | Vietnamese Pop | 6.25 |
| 7  | Nha gia kim         | Novel          | 4.5  |
| 1  | Cu Lao Xac Song     | Adventure      | 7.85 |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |

Play

Remove

filter
☒ By ID
☐ By Title

| ID | Title               | Category       | Cost |
|----|---------------------|----------------|------|
| 4  | Do Phu Quy Playlist | Vietnamese Pop | 6.25 |
| 7  | Nha gia kim         | Novel          | 4.5  |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |
|    |                     |                |      |

Total: 10.75\$

Place Order

Remove

## Chốt đơn

Title

e

Ca

No item in cart

Remove

Place order

You have placed your order!

Your bill total is 10.75\$

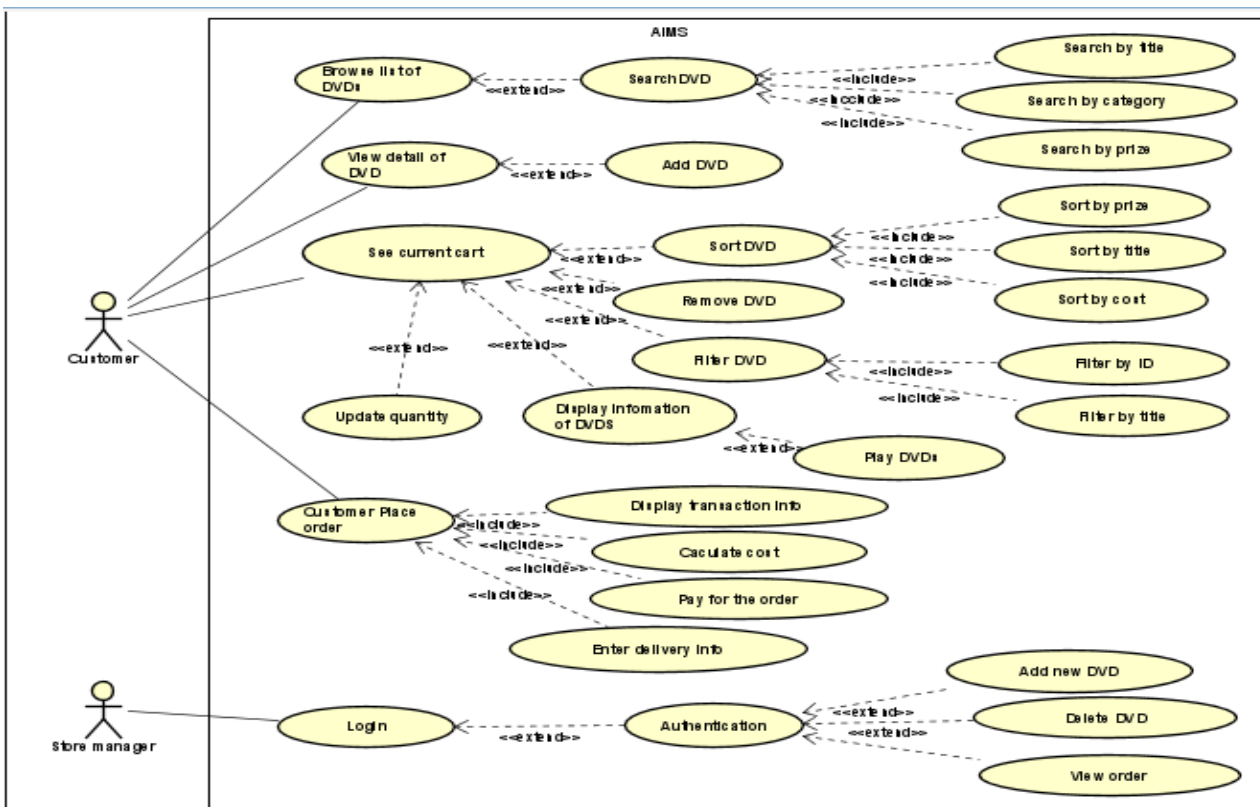
OK!

Total: 0.0\$

Place Order

## V. Các biểu đồ

### 1. Biểu đồ Use-case



## 2. Biểu đồ Class

