Name Christian Garcia, Javier Aranda, Angel Aguayo, Caleb Lopez
Date 11/18/2023
Daniel Mejia
Programming Assignment 5

I confirm that the work of this assignment is completely my own. By turning in this assignment, I declare that I did not receive unauthorized assistance. Moreover, all deliverables including, but not limited to the source code, lab report and output files were written and produced by me alone.

1. Program Explanation

In our lab report, we need to enhance and expand a Java ticketing system. This involves refining the existing code for better performance and adding new features to manage fees and transactions. We'll also be enabling both customer and admin functionalities, such as ticket cancellation and revenue tracking. Our task includes documenting the system using Javadoc and creating electronic tickets for specified individuals.

2. What did I learn?

In our group project, we collectively learned about advanced Java programming and the dynamics of teamwork in software development. We delved into implementing real-world financial transactions in software, emphasizing the importance of clear documentation and user-centric design. Our solution could be improved with further code optimization and enhanced user interface. Considering different architectural approaches, like MVC, might offer alternative problem-solving strategies.

3. Solution Design

While tackling this assignment, our team incorporated a few additional features such as fees, order cancellation, and generating invoices for specific individuals. These implementations were straightforward, building on similar tasks we had handled in previous programming assignments. Our primary emphasis was on code refactoring, aiming to organize it better and guarantee its smooth functioning without errors. Through collaborative efforts, we successfully identified improvements and ensured the code's robust performance upon testing.

4. Testing

We employed both black box and white box testing methods, examining various methods and classes to confirm the proper implementation of the cancellation option and the fees. In testing our program with another team, they rigorously evaluated each function, similar to the approach in the last programming assignment, attempting to find any weaknesses in the program. Naturally, they conducted these tests without examining the underlying code.

5. Demo with other team

In this part of the assignment, our team had to swap demonstrations with another group, thoroughly testing their software to find any potential issues. We aimed to thoroughly explore the application, trying out scenarios that the developers might not have foreseen. During this exercise, the other team's software excelled; we encountered no errors, and every feature worked

as intended. This clearly showed that they had successfully created a reliable and flawless program.

6. Test results

```
** * ** ***** **       *****   *****  **       ** *****
** *** ** **     **     **      **   ** ** *  * ** **
** ** ** ** ***** **    **      **   ** ** ** ** ** *****
** *  * ** **    **     **      **   ** ** *** ** **
**        ** ***** ****** *****  *****  **  *  ** *****
────────────────────────────────────────────────────────
Are you an admin or Customer? (Select a choice):
────────────────────────────────────────────────────────
[1] Customer
[2] Administrator
[3] Autopurchase test
[4] Exit

Please enter an option: 1


─────────────────────────────────────
WELCOME TO TICKETMINER EVENTS
═════════════════════════════════════
Enter username:
donaldduck

Enter password:
Fun!23


─────────────────────────────────────
        Welcome Donald Duck
═════════════════════════════════════
```
Successful Login^

```
------------------------------------
       Welcome Donald Duck
====================================


_____M_A_I_N___M_E_N_U_____
[1] Look events by type
[2] Search with Event ID
[3] Cancel Order
[4] Exit

Please enter an option: 1


------------------------------------
Enter an event type to see available events:

[1] Sport
[2] Concert
[3] Festival
[4] See all events

Please enter an option: 1

====================================
Event ID: 1
Event Name: UTEP Football 1
Event Type: Sport
Event Date: 9/4/23
Event Time: 7:05 PM
Venue: Sun Bowl Stadium


====================================
Event ID: 2
```

Looking up event^

```
Select an Event ID to choose the event (type 0 to go back): 2

==================================
Event ID: 2
Event Name: UTEP Football 2
Event Type: Sport
Event Date: 9/11/23
Event Time: 7:05 PM
Venue: Sun Bowl Stadium

*-*-*-* T_I_C_K_E_T_S *-*-*-*
----------------------------------
[1] General Admission: $30.0
[2] Bronze Admission: $39.0
[3] Silver Admission: $45.0
[4] Gold price: $54.0
[5] VIP price: $63.0
=================================
Your money available = $ 2579.47

Select a Ticket Type you would like to buy: 4

Enter the quantity of tickets (up to 6 tickets): 4

Subtotal would be: $221.2 [Fees included, Tax not included]
--> Total Price would be: $239.45 [Tax & Fees included]


Would you like to proceed with this purchase? (Yes/No): yes

**-*-*-*-*-*-*-*-*-*-*-**
```

Purchasing event^

```
**-*-*-*-*-*-*-*-*-*-*-*-**
*-*-*-* I_N_V_O_I_C_E *-*-*-*

Event: UTEP Football 2
Time: 7:05 PM
Event Date: 9/11/23
Event ID: 2
Ticket Type: Gold
Cost for each ticket: $59.86
Ticket Quantity: 4
Subtotal: $221.2
Tax 8.25%: $18.25
Convenience Fees: $2.5
Service Fees: $1.11
Charity Fees: $1.66
---> Total Price: $239.45 <---
Confirmation Number: 383DF23B
Member ID: 2
Client name: Donald Duck
Balance before: $2579.47
Balance after purchase: $2340.02
*-*-*-*-*-*-*-*-*-*-*-*-*-*-*
  Thank you for your purchase
*-*-*-*-*-*-*-*-*-*-*-*-*-*-*
```

Invoice created after purchase in terminal^

```
Subtotal: $221.2
Tax 8.25%: $18.25
Convenience Fees: $2.5
Service Fees: $1.11
Charity Fees: $1.66
---> Total Price: $239.45 <---
Confirmation Number: 383DF23B
Member ID: 2
Client name: Donald Duck
Balance before: $2579.47
Balance after purchase: $2340.02
*-*-*-*-*-*-*-*-*-*-*-*-*-*-*
   Thank you for your purchase
*-*-*-*-*-*-*-*-*-*-*-*-*-*-*


Would you like to make another purchase? (Yes/No): yes

Select an Event ID to choose the event (type 0 to go back): 3


==================================
Event ID: 3
Event Name: UTEP Football 3
Event Type: Sport
Event Date: 9/18/23
Event Time: 7:05 PM
Venue: Sun Bowl Stadium

*-*-*-* T_I_C_K_E_T_S *-*-*-*
```

Making another purchase^

```
_____M_A_I_N___M_E_N_U_____
[1] Look events by type
[2] Search with Event ID
[3] Cancel Order
[4] Exit

Please enter an option: 3

------ CANCEL TICKET PURCHASE ------
Select a ticket purchase to cancel:
[1]
Event: UTEP Football 2
Date: 9/11/23
Ticket Type: 4
Number of Tickets: 4
Total Price: 239.45
Confirmation Number: 383DF23B


[2]
Event: UTEP Football 3
Date: 9/18/23
Ticket Type: 1
Number of Tickets: 1
Total Price: 35.59
Confirmation Number: 49894945


--> Disclaimer: Fees will not be refunded <--
Enter the number corresponding to the purchase you want to cancel (or 0 to go back): 2
Invoice canceled after order cancellation.
Ticket purchase cancelled successfully.
```

Cancelling order^

```
--> Disclaimer: Fees will not be refunded <--
Enter the number corresponding to the purchase you want to cancel (or 0 to go back): 2
Invoice canceled after order cancellation.
Ticket purchase cancelled successfully.

----- CANCEL TICKET PURCHASE -----
Select a ticket purchase to cancel:
[1]
Event: UTEP Football 2
Date: 9/11/23
Ticket Type: 4
Number of Tickets: 4
Total Price: 239.45
Confirmation Number: 383DF23B


--> Disclaimer: Fees will not be refunded <--
Enter the number corresponding to the purchase you want to cancel (or 0 to go back): 0
Exiting Cancel order menu...

_____M_A_I_N__M_E_N_U_____
[1] Look events by type
[2] Search with Event ID
[3] Cancel Order
[4] Exit

Please enter an option: █
```

Order cancellation successful^

```
**   *   **  *****  **        *****    *****    **        **  *****
**  *** **  **      **      **        **   **  ** *    * **  **
** ** ** **  *****  **      **        **   **  ** ** ** **  *****
** *   * **  **      **      **        **   **  ** **  ***  **  **
**        **  *****  ******  *****    *****    **  *    **  *****
-----------------------------------------------------------------
Are you an admin or Customer? (Select a choice):
-----------------------------------------------------------------
 [1] Customer
 [2] Administrator
 [3] Autopurchase test
 [4] Exit

 Please enter an option: 2


 ---------------------------------------
 [1] Inquire event by ID
 [2] Inquire event by name
 [3] Inquire all events
 [4] Cancel event
 [5] Create a new event
 [6] Compute/print the amount of money gained by The TicketMiner Company for an event
 [7] Compute/print the amount of money gained by The TicketMiner Company for all events
 [8] Create invoice for customer
 [9] Retrieve all customer purchases
 [10] Exit admin menu

 Please enter an option:
 1
 Please enter the ID of the event you'd like to see.
 2
```

Logging as Admin and looking up event^

```
=================================
Event ID: 2
Event Name: UTEP Football 2
Event Type: Sport
Event Date: 9/11/23
Event Time: 7:05 PM
Venue: Sun Bowl Stadium
Event Capacity: 58000
Total Seats sold: 4
Total VIP Seats Sold: 0
Total Gold Seats Sold: 4
Total Silver Seats Sold: 0
Total Bronze Seats Sold: 0
Total General Adm Seats Sold: 0
Total revenue for VIP tickets: $0.0
Total revenue for Gold tickets: $216.0
Total revenue for Silver tickets: $0.0
Total revenue for Bronze tickets: $0.0
Total revenue for General Admission tickets: $0.0
Total revenue for all tickets: $216.0
Expected profit (Sell Out): $2122800.00
Actual profit: $-681284.0
Discounts made for TicketMiner Members: $0.0


----------------------------------------
[1] Inquire event by ID
[2] Inquire event by name
[3] Inquire all events
```

Event found^

```
Event Succesfully created
Event Information:
==================
ID: 73                         Type: Concert
Name: Daniel Mejia Singing for Charity   Date: 12/01/2023
Time: 6:00 PM                   Venue: Sun Bowl Stadium
VIP Price: $1500.0             Gold Price: $900.0
Silver Price: $750.0           Bronze Price: $450.0
General Admission Price: $300.0

Fireworks: $100
Total cost: $681600


----------------------------------------
[1] Inquire event by ID
[2] Inquire event by name
[3] Inquire all events
[4] Cancel event
[5] Create a new event
[6] Compute/print the amount of money gained by The TicketMiner Company for an event
[7] Compute/print the amount of money gained by The TicketMiner Company for all events
[8] Create invoice for customer
[9] Retrieve all customer purchases
[10] Exit admin menu

Please enter an option:
```

Creating an event^

```
**    *    **  *****   **          *****     *****     **          **   *****
**   ***   **  **      **           **        **      **  **     *  **   **
** ** ** **   *****   **           **        **      **  ** ** ** **  *****
** *    * **   **      **           **        **      **  **  ***  **   **
**         **  *****  ******    *****     *****     **    *    **  *****
----------------------------------------------------------------------------
Are you an admin or Customer? (Select a choice):
----------------------------------------------------------------------------
[1] Customer
[2] Administrator
[3] Autopurchase test
[4] Exit

Please enter an option: 3
Please select one of the following choices
[1] Auto purchase with 100 customers.
[2] Auto purchase with 1000 customers.
[3] Auto purchase with 100,000 customers.
[4] Auto purchase with 1,000,000 customers
[5] Exit menu
3


Auto purchase complete.
New folder with invoices has been created.

Exiting menu.....
```

Autopurchaser^

```
  AutoInvoices                 AutoInvoices  >  ≡ adamsanthony_InvoiceSummary.txt

≡ adamsanthony_Inv...      1    Purchase status: PURCHASE SUCCESSFUL
≡ adamsmichael_Inv...      2    Event Type: Sport
                           3    Event Name: UTEP Basketball 25
≡ adamssheri_Invoic...     4    Event Date: 2/12/24
≡ adkinswilliam_Invoi...   5    Ticket Type: Gold
≡ aguayoangel_Invoi...     6    Number of Tickets: 3
≡ aladdindisney_Invo...    7    Total Price: 180.26
                           8    Confirmation Number: CDAAF915
≡ alexanderjulie_Invo...   9
≡ alexanderlinda_Inv...    10   Purchase status: PURCHASE SUCCESSFUL
≡ alexandertami_Invo...    11   Event Type: Concert
≡ alirezanouri_Invoic...   12   Event Name: UTEP Wind Symphony 7
≡ allendonna_Invoice...    13   Event Date: 3/22/24
                           14   Ticket Type: Gold
≡ allensusan_Invoice...    15   Number of Tickets: 3
≡ alondragonzalez_I...     16   Total Price: 182.99
≡ alvaradotyrone_Inv...    17   Confirmation Number: 812A8AC1
≡ alvarezcesar_Invoi...    18
≡ alvarezelizabeth_In...   19   Purchase status: PURCHASE SUCCESSFUL
≡ alvarezjeremy_Invo...    20   Event Type: Concert
                           21   Event Name: UTEP Wind Symphony 4
≡ alvarezsusan_Invoi...    22   Event Date: 12/7/23
≡ andersonjames_Inv...     23   Ticket Type: General Admission
≡ andersonjessica_In...    24   Number of Tickets: 3
≡ andersonmary_Inv...      25   Total Price: 44.63
≡ andersonnicholas_I...    26   Confirmation Number: 812A8ABE
                           27
≡ andersonsarah_Inv...     28   Purchase status: PURCHASE SUCCESSFUL
```

Invoice folder created after auto purchaser^

```
Electronic Invoice Summary
Customer Name: Donald Duck

Number Of Tickets: 4
Total Price: 239.45
Event Date: 9/11/23
Charity Fees: 1.66
Event Name: UTEP Football 2
Convenience Fees: 2.5
Event Type: Sport
Confirmation Number: 383DF23B
Subtotal: 221.2
Service Fees: 1.11
Ticket Type: 4

Number Of Tickets: 1
Total Price: 35.59
Event Date: 9/18/23
Charity Fees: 0.25
Event Name: UTEP Football 3
Convenience Fees: 2.5
Event Type: Sport
Order Canceled
Subtotal: 32.88
Service Fees: 0.16
Ticket Type: 1
```

Donald Duck Invoice after purchase^