Faculty of Information and Communication technology, Mahidol University

E-Commerce Cart System

Presented to

Asst. Prof. Ananta Srisuphap
Instructor
Computer Science Academic Group
Mahidol University

Prepared by

6588132   Raweerot   Bhasidhchirapiroch

ICT student, Mahidol University

Table of Contents

This user manual will guide the customer how to buy the products in the application. Please follow the instructions carefully and enjoy shopping in the application.

At first, the application will lead the user to the welcome page.

```
|=-------------------------------------------------------------------------=|
|                                                                           |
|                 Welcome to Thailand Online Shopping Mall!                 |
|                                                                           |
|=-------------------------------------------------------------------------=|


Products per page: 10

=---------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin          Ministry of Finance        971222 Baht per unit    3 unit(s) |
=---------------------------------------------------------------------------=


=---------------------------------------------------------------------------=
| [2] 487975:   J. Amornwiwat        Ministry of Finance        934758 Baht per unit    4 unit(s) |
=---------------------------------------------------------------------------=


=---------------------------------------------------------------------------=
| [3] 982588:   K. Jinawijarana      Ministry of Finance        900951 Baht per unit    3 unit(s) |
=---------------------------------------------------------------------------=


=---------------------------------------------------------------------------=
| [4] 654963:   P. Pahitthanukorn    Ministry of Foreign Affair 899501 Baht per unit    7 unit(s) |
=---------------------------------------------------------------------------=


=---------------------------------------------------------------------------=
| [5] 98852:    J. Sangmanee         Ministry of Foreign Affair 896649 Baht per unit    8 unit(s) |
=---------------------------------------------------------------------------=


=---------------------------------------------------------------------------=
| [6] 524549:   T. Prompao           Ministry of Agriculture    880634 Baht per unit   10 unit(s) |
=---------------------------------------------------------------------------=


=---------------------------------------------------------------------------=
| [7] 622599:   C. Promma            Ministry of Agriculture    878605 Baht per unit    7 unit(s) |
=---------------------------------------------------------------------------=


=---------------------------------------------------------------------------=
| [8] 332090:   A. Nakasai           Ministry of Agriculture    863414 Baht per unit    2 unit(s) |
=---------------------------------------------------------------------------=
```

The user will find the command prompt at the last of the welcome page.

```
| [8] 332090:   A. Nakasai           Ministry of Agriculture    863414 Baht per unit    2 unit(s) |
=------------------------------------------------------------------------------=


=------------------------------------------------------------------------------=
| [9] 890933:   S. Klungsang         Ministry of Defense        831230 Baht per unit    3 unit(s) |
=------------------------------------------------------------------------------=


=------------------------------------------------------------------------------=
| [10] 998444:  S. Isarapakdee       Ministry of Higher Education 786243 Baht per unit  8 unit(s) |
=------------------------------------------------------------------------------=


Page: [1] from [4]

(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page   ):
```

The command in this prompt is showed here. There are 9 commands in the main page, and the user can see that there is command no. 7: go to filter mode. The filter mode has 10 commands, but the manual will refer to it later.

User can insert the number that indicated in the application. To insert the number or anything which wasn't showed up here would lead the user to the page that show the products. For example

Page Switching

All commands in the first line are about page switching. Start with command no.1 and 5, these commands will lead the user to the first page and the last page respectively.

Command no. 1

Command no. 5

The following commands are command no. 2 and 4. These commands will lead the user to the previous page and the next page.

For example

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 4

Products per page: 10

=-------------------------------------------------------------------------=
| [11] 838049:  P. Janruangthong      Ministry of DE              745862 Baht per unit    4 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [12] 88553:   W. Silapa-archa       Ministry of Social Development 552146 Baht per unit    5 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [13] 690504:  A. Charnwirakul       Ministry of Interior         542103 Baht per unit   10 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [14] 749311:  K Kaltinan            Ministry of Interior         480814 Baht per unit    7 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [15] 324338:  S. Thongsree          Ministry of Interior         470503 Baht per unit    7 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [16] 49055:   C. Thaiseth           Ministry of Interior         460981 Baht per unit    2 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [17] 402930:  P. Chitchob           Ministry of Education        453659 Baht per unit    5 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [18] 985918:  S. Pancharoenworakul  Ministry of Educion          414057 Baht per unit    2 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [19] 669471:  C. Srikaew            Ministry of Public Health    386059 Baht per unit    4 unit(s) |
=-------------------------------------------------------------------------=
```

Command no. 4

Command no. 2

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 2

Products per page: 10

=-------------------------------------------------------------------------=
| [21] 510875:  S. Wangsupakitkosol    Ministry of Travel and Sport    304551 Baht per unit    3 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [22] 170093:  P. Rachkitprakan       Ministry of Labour              297730 Baht per unit    5 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [23] 412434:  P. Khunla-aied         Office of Prime Minister        252536 Baht per unit    3 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [24] 34857:   P. Chuenban            Office of Prime Minister        252333 Baht per unit   10 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [25] 840569:  P. Wetchayachai        Ministry of Finance             206560 Baht per unit    3 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [26] 912143:  P. Lick                Ministry of Finance             195537 Baht per unit    6 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [27] 328213:  N. Srisanpang          Ministry of Finance             151950 Baht per unit    6 unit(s) |
=-------------------------------------------------------------------------=

=-------------------------------------------------------------------------=
| [28] 712701:  P. Wongsuwan           Ministry of Nural Resource      95140 Baht per unit     7 unit(s) |
=-------------------------------------------------------------------------=
```

The last command related to page switching is the command no. 3. This command will ask the user to insert page number which user want to go. To insert the page numbers which weren't in the range would make the application to ask the user to insert the page number repeatedly until the user would insert the valid page number.

For example

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 3
Please insert page number you want to go:
5
Invalid page number. Please insert page number you want to go again:
```

```
Invalid page number. Please insert page number you want to go again:
0
Invalid page number. Please insert page number you want to go again:
-1
```

```
Products per page: 10

=--------------------------------------------------------------------------------------=
| [31] 379491:  S. juengrungruengkit    Ministry of Transportion       17385 Baht per unit      3 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [32] 554717:  M. Charoensri           Ministry of Transportion       15303 Baht per unit      2 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [33] 151679:  S. Piyachote            Ministry of Transportion       13473 Baht per unit      8 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [34] 289700:  P. Wichaikul            Ministry of Industry            8633 Baht per unit      5 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [35] 570236:  S. Pongpanit            Ministry of Culture             7302 Baht per unit      7 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [36] 900954:  T. Sordsong             Ministry of Judgement           5938 Baht per unit      8 unit(s) |
=--------------------------------------------------------------------------------------=

Page: [4] from [4]
```

Maximum Product Showed In Each Page.

The following command is the command no. 6. This command will ask the user to insert new number of the maximum number of products which would be showed in each page.

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 6

Please insert new number of products per page: 5

Products per page: 5

=--------------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin             Ministry of Finance            971222 Baht per unit      3 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [2] 487975:   J. Amornwiwat           Ministry of Finance            934758 Baht per unit      4 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [3] 982588:   K. Jinawijarana         Ministry of Finance            900951 Baht per unit      3 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [4] 654963:   P. Pahitthanukorn       Ministry of Foreign Affair     899501 Baht per unit      7 unit(s) |
=--------------------------------------------------------------------------------------=

=--------------------------------------------------------------------------------------=
| [5] 98852:    J. Sangmanee            Ministry of Foreign Affair     896649 Baht per unit      8 unit(s) |
=--------------------------------------------------------------------------------------=

Page: [1] from [8]
```

To insert numbers which is less than 1, the application would ask the user to insert the number repeatedly until the user insert the valid number.

To insert anything which aren't the number will lead the user to the main page.

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 6

Please insert new number of products per page: 0

Invalid max number of products per page. Please insert new number of products per page: -1
```

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 6

Please insert new number of products per page: dsv

Products per page: 10

=-------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin            Finance                971222 Baht per unit    3 unit(s) |
=-------------------------------------------------------------------------------=


=-------------------------------------------------------------------------------=
| [2] 487975:   J. Amornwiwat          Finance                934758 Baht per unit    4 unit(s) |
=-------------------------------------------------------------------------------=


=-------------------------------------------------------------------------------=
| [3] 982588:   K. Jinawijarana        Finance                900951 Baht per unit    3 unit(s) |
=-------------------------------------------------------------------------------=


=-------------------------------------------------------------------------------=
| [4] 654963:   P. Pahitthanukorn      Foreign Affair         899501 Baht per unit    7 unit(s) |
=-------------------------------------------------------------------------------=


=-------------------------------------------------------------------------------=
| [5] 98852:    J. Sangmanee           Foreign Affair         896649 Baht per unit    8 unit(s) |
=-------------------------------------------------------------------------------=


=-------------------------------------------------------------------------------=
| [6] 524549:   T. Prompao             Agriculture            880634 Baht per unit   10 unit(s) |
=-------------------------------------------------------------------------------=


=-------------------------------------------------------------------------------=
| [7] 622599:   C. Promma              Agriculture            878605 Baht per unit    7 unit(s) |
=-------------------------------------------------------------------------------=


=-------------------------------------------------------------------------------=
| [8] 332090:   A. Nakasai            Agriculture            863414 Baht per unit    2 unit(s) |
=-------------------------------------------------------------------------------=
```

Manage User's Cart

To manage the user's cart, the user can use the command no. 8: manage the userr cart. There are 5 commands in the command no. 8 as would be showed.

```
( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ):
```

To insert any number which isn't indicate as the command or anything that isn't the number will make the application lead the user to the main page.

```
( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 6

Products per page: 10

=------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin          Ministry of Finance          971222 Baht per unit     3 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [2] 487975:   J. Amornwiwat        Ministry of Finance          934758 Baht per unit     4 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [3] 982588:   K. Jinawijarana      Ministry of Finance          900951 Baht per unit     3 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [4] 654963:   P. Pahitthanukorn    Ministry of Foreign Affair   899501 Baht per unit     7 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [5] 98852:    J. Sangmanee         Ministry of Foreign Affair   896649 Baht per unit     8 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [6] 524549:   T. Prompao           Ministry of Agriculture      880634 Baht per unit    10 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [7] 622599:   C. Promma            Ministry of Agriculture      878605 Baht per unit     7 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [8] 332090:   A. Nakasai           Ministry of Agriculture      863414 Baht per unit     2 unit(s) |
=------------------------------------------------------------------------------=
```

The user can use the command no. 1 to add the product from store to class. The application will ask the user to insert the product ID. However, application would tell the user that there is no the product if the ID which user insert didn't match to any ID of product at all. After that the application will lead the user to the main page.

```
What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 1
Please insert the ID of wanted product: 70007
There is no this product in our store. Please look for another product

Products per page: 10

=------------------------------------------------------=
| [1] 70770:    S. Thawesin       Ministry of Finance         971222 Baht per unit     3 unit(s) |
=------------------------------------------------------=

=------------------------------------------------------=
| [2] 487975:   J. Amornwiwat     Ministry of Finance         934758 Baht per unit     4 unit(s) |
=------------------------------------------------------=

=------------------------------------------------------=
| [3] 982588:   K. Jinawijarana   Ministry of Finance         900951 Baht per unit     3 unit(s) |
=------------------------------------------------------=

=------------------------------------------------------=
| [4] 654963:   P. Pahitthanukorn Ministry of Foreign Affair  899501 Baht per unit     7 unit(s) |
=------------------------------------------------------=

=------------------------------------------------------=
| [5] 98852:    J. Sangmanee      Ministry of Foreign Affair  896649 Baht per unit     8 unit(s) |
=------------------------------------------------------=

=------------------------------------------------------=
| [6] 524549:   T. Prompao        Ministry of Agriculture     880634 Baht per unit    10 unit(s) |
=------------------------------------------------------=

=------------------------------------------------------=
| [7] 622599:   C. Promma         Ministry of Agriculture     878605 Baht per unit     7 unit(s) |
=------------------------------------------------------=
```

The application would ask the user to insert the quantity if there were that product in the store. However, there would be some remind message if the user inserted the quantity that less than 1 or exceed than the true quantity.

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 8

What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 1
Please insert the ID of wanted product: 70770
How many unit(s) do you need to add: 0
Invalid quantity. This product has 3 unit(s)
How many unit(s) do you need to add: -1
Invalid quantity. This product has 3 unit(s)
How many unit(s) do you need to add: 4
Invalid quantity. This product has 3 unit(s)
How many unit(s) do you need to add: 3
Added 70770      S. Thawesin successfully!

=------------------------------------------------------------------------------------------=
|                             These are items in your cart                                 |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [1] 70770:     S. Thawesin            Finance                   971222 Baht per unit    3 unit(s) |
=------------------------------------------------------------------------------------------=


[Total Price]: 2,913,666 Baht
What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ):
```

To insert anything that isn't the number will make the application lead the user to the main page.

```
( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 1
Please insert the ID of wanted product: 998444
How many unit(s) do you need to add: sdf

Products per page: 10

=------------------------------------------------------------------------------------------=
| [1] 70770:     S. Thawesin            Finance                   971222 Baht per unit    0 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [2] 487975:    J. Amornwiwat          Finance                   934758 Baht per unit    4 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [3] 982588:    K. Jinawijarana        Finance                   900951 Baht per unit    3 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [4] 654963:    P. Pahitthanukorn      Foreign Affair            899501 Baht per unit    7 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [5] 98852:     J. Sangmanee           Foreign Affair            896649 Baht per unit    8 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [6] 524549:    T. Prompao             Agriculture               880634 Baht per unit   10 unit(s) |
=------------------------------------------------------------------------------------------=
```

The user can use the command no. 2 to remove the product from the cart. The product which would be removed from user's cart will return to the store immediately. The application will ask the user to insert the number of product (e.g. 1, 2, 3, …), not the product ID. However, application would tell the user that there is no the product if the number of product which user insert didn't match to any number of product at all. After that the application will show what products are in the user's cart. To insert anything that isn't number will make the application lead the user to main page.

```
( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 2
Please insert the number of product(no.) you want to remove: 2
There is no this product in your cart.
=-----------------------------------------------------------------------------------------------=
|                                        These are items in your cart                            |
=-----------------------------------------------------------------------------------------------=


=-----------------------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin              Ministry of Finance            971222 Baht per unit    3 unit(s) |
=-----------------------------------------------------------------------------------------------=


[Total Price]: 2,913,666 Baht
What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ):
```

The application will remind the user if the user cart is empty.

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 8

What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 2
=-----------------------------------------------------------------------------------------------=
|                         Your cart is empty, please pick some products from our store.           |
=-----------------------------------------------------------------------------------------------=


What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ):
```

The application will ask the user the quantity of product. If user insert an invalid quantity means exceed than true quantity or insert quantity that less than 1, the application will ask the user to insert the quantity of product repeatedly until the user insert the true quantity.

The application would lead the user to the main page if the user inserted anything that isn't the number.

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 8

What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 2
Please insert the number of product(no.) you want to remove: 2
How many unit(s) do you need to remove: -1
Invalid quantity. This product has 8 unit(s)
How many unit(s) do you need to remove: 0
Invalid quantity. This product has 8 unit(s)
How many unit(s) do you need to remove: 9
Invalid quantity. This product has 8 unit(s)
How many unit(s) do you need to remove: 8
Remove 998444   S. Isarapakdee successfully!


=------------------------------------------------------------------------------=
|                          These are items in your cart                        |
=------------------------------------------------------------------------------=


=------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin            Finance              971222 Baht per unit    3 unit(s) |
=------------------------------------------------------------------------------=


[Total Price]: 2,913,666 Baht
What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ):
```

User can review the shelf to see what products are in our store, and the user can also review their cart by using command no 3, and 4 respectively.

```
( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 3

Products per page: 10

=------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin        Ministry of Finance        971222 Baht per unit    0 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [2] 487975:   J. Amornwiwat      Ministry of Finance        934758 Baht per unit    0 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [3] 982588:   K. Jinawijarana    Ministry of Finance        900951 Baht per unit    3 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [4] 654963:   P. Pahitthanukorn  Ministry of Foreign Affair 899501 Baht per unit    7 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [5] 98852:    J. Sangmanee       Ministry of Foreign Affair 896649 Baht per unit    8 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [6] 524549:   T. Prompao         Ministry of Agriculture    880634 Baht per unit   10 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [7] 622599:   C. Promma          Ministry of Agriculture    878605 Baht per unit    7 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [8] 332090:   A. Nakasai         Ministry of Agriculture    863414 Baht per unit    2 unit(s) |
=------------------------------------------------------------------------------=
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 8

What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ): 4
=------------------------------------------------------------------------------=
|                          These are items in your cart                        |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin        Ministry of Finance        971222 Baht per unit    3 unit(s) |
=------------------------------------------------------------------------------=

=------------------------------------------------------------------------------=
| [2] 487975:   J. Amornwiwat      Ministry of Finance        934758 Baht per unit    4 unit(s) |
=------------------------------------------------------------------------------=


[Total Price]: 6,652,698 Baht
What would you like to do next

( 1: pick some items, 2: remove some items from cart, 3: go back to review the shelf, 4: review your cart, 5: go to checkout page ):
```

For the command no. 5: go to checkout page will be referred in the main command no. 9 since the command will ask the user to do the same thing. Please see how to checkout in the command no 9.

Filter Mode

The user can use the filter mode to see only the product that related to the user's demand by using the command no 7. Filter mode.

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 7
1: Search by price range or 2: Search by Ministry :
```

As the user can see that there are 2 choices for the user to use, price range or ministry. The application would ask the user to insert the choice repeatedly if the user inserted any number which isn't indicated as command or anything which isn't number.

```
1: Search by price range or 2: Search by Ministry : 3
1: Search by price range or 2: Search by Ministry : df
```

For the first choice, price range, the application will ask the user to insert the lowest price and the highest price respectively. The application would ask you to do this repeatedly if the user inserted the lowest price higher than the highest price. The application will ask the user to insert the choice instead if the user insert anything which isn't number.

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 7
1: Search by price range or 2: Search by Ministry : df
1: Search by price range or 2: Search by Ministry : 1
Insert the low price: df
1: Search by price range or 2: Search by Ministry : 1
Insert the low price: 10000
Insert the high price: df
1: Search by price range or 2: Search by Ministry : 1
Insert the low price: 50000
Insert the high price: 10000
You insert an invalid price interval
Insert the low price: 10000
Insert the high price: 50000

Products per page: 10

=------------------------------------------------------------------------------------------=
| [1]799944:    S. Thepsuthin          Deputy Prime Minister          33767 Baht per unit    4 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [2]701429:    P. Salirwipak          Energy                         17441 Baht per unit    3 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [3]379491:    S. juengrungruengkit   Transportion                   17385 Baht per unit    3 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [4]554717:    M. Charoensri          Transportion                   15303 Baht per unit    2 unit(s) |
=------------------------------------------------------------------------------------------=


=------------------------------------------------------------------------------------------=
| [5]151679:    S. Piyachote           Transportion                   13473 Baht per unit    8 unit(s) |
=------------------------------------------------------------------------------------------=

5 results found
```

For the second choice, ministry, the application will ask the user to insert the ministry with no concern about case.


```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 7
1: Search by price range or 2: Search by Ministry : 2
Please fill the Ministry you want to find: what

No result found

Would you like to ( 1: Clear Filter/ 2: Go back to default mode ): 1
1: Search by price range or 2: Search by Ministry : 2
Please fill the Ministry you want to find: FINANCE

Products per page: 10

=----------------------------------------------------------------------------------=
| [1]70770:     S. Thawesin          Finance                971222 Baht per unit    3 unit(s) |
=----------------------------------------------------------------------------------=


=----------------------------------------------------------------------------------=
| [2]487975:    J. Amornwiwat        Finance                934758 Baht per unit    4 unit(s) |
=----------------------------------------------------------------------------------=


=----------------------------------------------------------------------------------=
| [3]982588:    K. Jinawijarana      Finance                900951 Baht per unit    3 unit(s) |
=----------------------------------------------------------------------------------=


=----------------------------------------------------------------------------------=
| [4]840569:    P. Wetchayachai      Finance                206560 Baht per unit    3 unit(s) |
=----------------------------------------------------------------------------------=


=----------------------------------------------------------------------------------=
| [5]912143:    P. Lick              Finance                195537 Baht per unit    6 unit(s) |
=----------------------------------------------------------------------------------=


=----------------------------------------------------------------------------------=
| [6]328213:    N. Srisanpang        Finance                151950 Baht per unit    6 unit(s) |
=----------------------------------------------------------------------------------=
```

Sometime, the application may not find anything. There will be 2 choices for user to select between "Clear filter" or "Go back to default mode".


```
Please fill the Ministry you want to find: what'

No result found

Would you like to ( 1: Clear Filter/ 2: Go back to default mode ):
```

The user can choose to use command 1 or 2. If the user chooses 1, the application will do the same thing as when you enter to the filter mode as the first time. If the user chooses 2, the application will lead you to the main page. To insert anything that wasn't indicated as command will always make the program lead you to this question.


```
1: Search by price range or 2: Search by Ministry :
```

The filter mode was included the same command as the main page, but there are the command no. 7: clear filter, and the command no.8: go back to default mode. The command no. 7 will lead the user to see this question `1: Search by price range or 2: Search by Ministry :`, But the command no. 8 will lead the user to the main page.

Checkout Page

The user can go to checkout by using command no. 9 in the main page, for the filter mode will be command no. 10. The user will be asked to fill his or her name, email, address, and postal code.

```
(1: go to the first page  2: go to the previous page  3: go to...  4: go to the next page  5: go to the last page
6: Change the number of max product per page  7: go to filter mode  8: manage your cart  9: go to checkout page  ): 9
Please insert your name: Raweerot
Please insert your email: raweerot.aaa@gmail.com
Please insert your address: 123
Please insert your postal code: 73130
```

After that, the user will choose the payment method, between cash or credit card.

```
[Grand Total ( included shipping fee )]: 786,342 Baht
Please select the method of payment
1: Cash
2: Credit Card
```

For cash, the user will be asked to insert the money. The application will be asked the user to insert the money repeatedly if the user insert the money that less than the grand total which the user have to pay.

```
[Grand Total ( included shipping fee )]: 786,342 Baht
Please select the method of payment
1: Cash
2: Credit Card
1
Please insert your cash: 786000

[Grand Total ( included shipping fee )]: 786,342 Baht
Please insert your cash:
```

The application will show your receipt if the user inserts the valid money.

```
Please insert your cash: 6652740

[Receipt]

[Order No.]: 29092023-181731
[Customer]: raweerot
[E-mail]: raweerot@gmail.com
[Address]: 123
[Postal Code]: 73130


=--------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin          Ministry of Finance         971222 Baht per unit    3 unit(s) |
=--------------------------------------------------------------------------------=


=--------------------------------------------------------------------------------=
| [2] 487975:   J. Amornwiwat         Ministry of Finance         934758 Baht per unit    4 unit(s) |
=--------------------------------------------------------------------------------=


[Total Price]: 6,652,698 Baht

[Shipping Fee]: 37 Baht

[Grand Total]: 6,652,735 Baht

[Payment Info]: CASH::6652735.00::6652740.00::5.00

=---------- Thank you for shopping with us. Wish you would come back later. Have a good day! -----------=
```

To insert anything which is not money will make the program ask about the payment method to the user.

For credit card, the user will be asked to choose the credit card type. If the user choose the credit card type which doesn't exist here, the application will ask the user about payment method.

```
[Grand Total ( included shipping fee )]: 786,342 Baht
Please select the method of payment
1: Cash
2: Credit Card
2
What is the type of your creditcard
1: VISA 2: AMERICANEXPRESS    3: JCB  4: MASTERCARD: 5

[Grand Total ( included shipping fee )]: 786,342 Baht
Please select the method of payment
1: Cash
2: Credit Card
```

After the user choose the credit card type, the application will ask the user to insert his or her card number. The application will ask the user to insert the card number repeatedly if the card number is invalid.

```
[Grand Total ( included shipping fee )]: 6,652,735 Baht
Please select the method of payment
1: Cash
2: Credit Card
2
What is the type of your creditcard
1: VISA 2: AMERICANEXPRESS    3: JCB  4: MASTERCARD: 1
Please insert your card number: 111111111111111
Please insert your card number:
```

The application will print receipt after the user insert the valid card number.

```
Please insert your card number: 4123456789012345

[Receipt]

[Order No.]: 29092023-182205
[Customer]: Raweerot
[E-mail]: raweerot@gmail.com
[Address]: 1234
[Postal Code]: 73130


=-------------------------------------------------------------------------------=
| [1] 70770:    S. Thawesin              Ministry of Finance          971222 Baht per unit    3 unit(s) |
=-------------------------------------------------------------------------------=


=-------------------------------------------------------------------------------=
| [2] 487975:   J. Amornwiwat            Ministry of Finance          934758 Baht per unit    4 unit(s) |
=-------------------------------------------------------------------------------=


[Total Price]: 6,652,698 Baht

[Shipping Fee]: 37 Baht

[Grand Total]: 6,652,735 Baht

[Payment Info]: CARD::6652735.00::VISA::4123 4567 8901 2345

=----------- Thank you for shopping with us. Wish you would come back later. Have a good day! -------------=
```
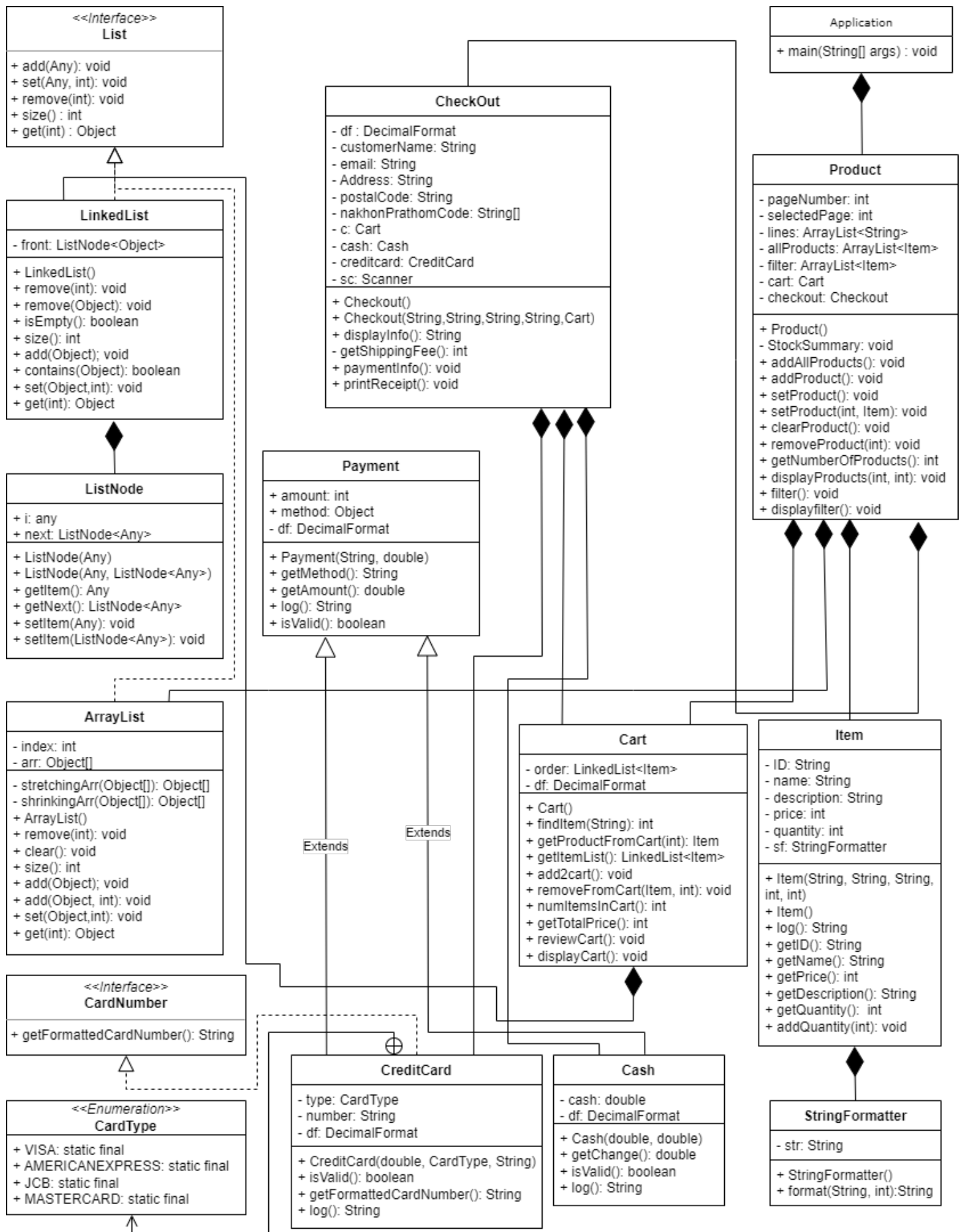
System Design and Architecture

List
<<Interface>>

+ add(Any): void
+ set(Any, int): void
+ remove(int): void
+ size() : int
+ get(int) : Object

LinkedList

- front: ListNode<Object>

+ LinkedList()
+ remove(int): void
+ remove(Object): void
+ isEmpty(): boolean
+ size(): int
+ add(Object); void
+ contains(Object): boolean
+ set(Object,int): void
+ get(int): Object

ListNode

+ i: any
+ next: ListNode<Any>

+ ListNode(Any)
+ ListNode(Any, ListNode<Any>)
+ getItem(): Any
+ getNext(): ListNode<Any>
+ setItem(Any): void
+ setItem(ListNode<Any>): void

CheckOut

- df : DecimalFormat
- customerName: String
- email: String
- Address: String
- postalCode: String
- nakhonPrathomCode: String[]
- c: Cart
- cash: Cash
- creditcard: CreditCard
- sc: Scanner

+ Checkout()
+ Checkout(String,String,String,String,Cart)
+ displayInfo(): String
- getShippingFee(): int
+ paymentInfo(): void
+ printReceipt(): void

Payment

+ amount: int
+ method: Object
- df: DecimalFormat

+ Payment(String, double)
+ getMethod(): String
+ getAmount(): double
+ log(): String
+ isValid(): boolean

Application

+ main(String[] args) : void

Product

- pageNumber: int
- selectedPage: int
- lines: ArrayList<String>
- allProducts: ArrayList<Item>
- filter: ArrayList<Item>
- cart: Cart
- checkout: Checkout

+ Product()
- StockSummary: void
+ addAllProducts(): void
+ addProduct(): void
+ setProduct(): void
+ setProduct(int, Item): void
+ clearProduct(): void
+ removeProduct(int): void
+ getNumberOfProducts(): int
+ displayProducts(int, int): void
+ filter(): void
+ displayfilter(): void

ArrayList

- index: int
- arr: Object[]

- stretchingArr(Object[]): Object[]
- shrinkingArr(Object[]): Object[]
+ ArrayList()
+ remove(int): void
+ clear(): void
+ size(): int
+ add(Object); void
+ add(Object, int): void
+ set(Object,int): void
+ get(int): Object

CardNumber
<<Interface>>

+ getFormattedCardNumber(): String

CardType
<<Enumeration>>

+ VISA: static final
+ AMERICANEXPRESS: static final
+ JCB: static final
+ MASTERCARD: static final

Cart

- order: LinkedList<Item>
- df: DecimalFormat

+ Cart()
+ findItem(String): int
+ getProductFromCart(int): Item
+ getItemList(): LinkedList<Item>
+ add2cart(): void
+ removeFromCart(Item, int): void
+ numItemsInCart(): int
+ getTotalPrice(): int
+ reviewCart(): void
+ displayCart(): void

Item

- ID: String
- name: String
- description: String
- price: int
- quantity: int
- sf: StringFormatter

+ Item(String, String, String, int, int)
+ Item()
+ log(): String
+ getID(): String
+ getName(): String
+ getPrice(): int
+ getDescription(): String
+ getQuantity(): int
+ addQuantity(int): void

CreditCard

- type: CardType
- number: String
- df: DecimalFormat

+ CreditCard(double, CardType, String)
+ isValid(): boolean
+ getFormattedCardNumber(): String
+ log(): String

Cash

- cash: double
- df: DecimalFormat

+ Cash(double, double)
+ getChange(): double
+ isValid(): boolean
+ log(): String

StringFormatter

- str: String

+ StringFormatter()
+ format(String, int):String

Extends

Extends

Challenges faced and how they were addressed

This project had many challenges that I faced. The big problems are about implementing ArrayList and LinkedList since I never go thorough out those classes. However, those problems can be solved since I follow the contents that provided in the course materials. Another challenges are about to implement the products' storage, customer cart, or checkout system, but they're not quite difficult as I or my friends have the knowledge from the pre-requisite course. I just have to go back to review it for a little.

Any Additional features implemented and their rationale

There are some additional features that I implemented for the convenience in viewing the product in the application. That feature is page switching. The customer who are shopping in my own application can switch the page to view my products that have a numbers of product which will be displayed per page. That's not the last one because I also implemented the feature used to change the number of products which will be displayed per page. For the customers who think that the initial number of the products which will be displayed per page is less than or greater than their demand, they can use this feature to make the userr life easier and enjoy shopping in my application.

Lesson Learned and Possible Future Improvement

Project I: E-Commerce Cart System gave me many lessons. The most dominant one is about LinkedList implementation. Since I am accustomed to use the Array List, I am certainly sure that I know how it had been constructed.

For the LinkedList one, I can say that I know nothing about it at first sight even if it was implemented from List interface, like ArrayList. However, both ArrayList and LinkedList that I implemented in the project aren't the best one. They still lack efficiency and convenient.