



STEVE'S CRUISE LINE

PASSENGER RESERVATION APPLICATION & CRUISE CONTROL SYSTEM

Final Report

Prepared for
Stephen Chiong
Instructor, CSIS 3540-001 Client Servers Systems

Development Team
Manupreet Kaur
Pawanpreet Kaur
Matthew Lai
Amanda Lee
Shaun Yerui Lu
Manjot Sangha

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SECTION I: Project Assumptions and Company Policies

For this project, we are making the assumption that we are an in-house development team working directly inside the STEVE'S CRUISE LINES, and therefore have input/and or direct control of the company's internal policies.

It is also important to be aware of the following assumption: There are currently 4 trips loaded into the database; with trip ID 1 being the only trip that has occurred thus far. Trips 2-4 are currently 'future' trips that have yet to occur, and thus do not have any transactions or staff schedules associated with them. Trip ID 1 is the only one with such data.

Room Policies and Pricing

It is the policy of STEVE'S CRUISE LINES that no more than 4 people are permitted in a single room. There are three types of rooms: Inside, Ocean View, and Balcony. The pricing scheme (per regular passenger) for each room is as follows:

Inside:	\$1800.00
Ocean View:	\$2300.00
Balcony:	\$2800.00

Additionally, passengers who are seniors (65+) receive a special discount of 20%.

Finally, passengers who book closer to the departure date (20 days) receive a special discount of 40%, which can stack with the senior discount for a total of 60%.

Monetary Policies

STEVE'S CRUISE LINES has a uniform policy when it comes to all monies onboard the ships.

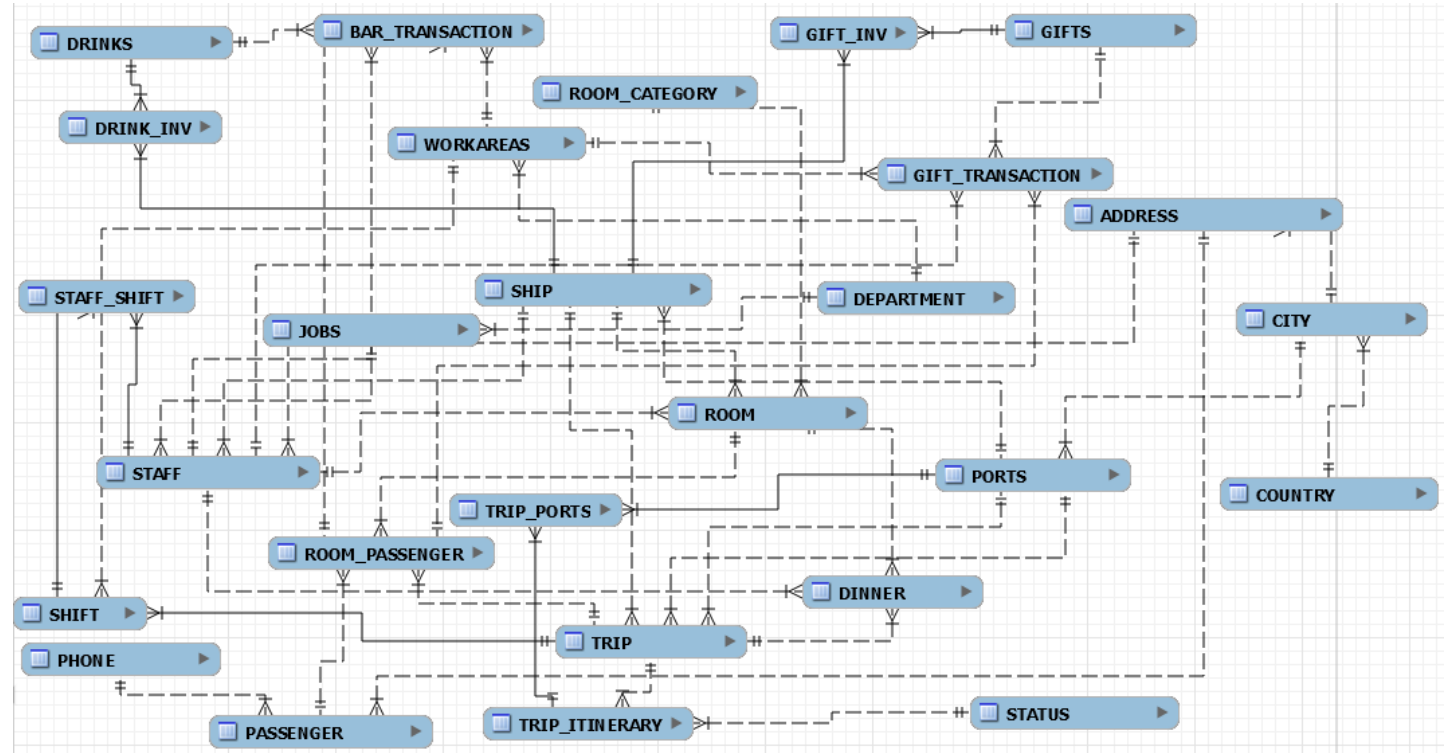
- All currency is in US Dollars (USD).
- Passengers are first charged when they first reserve rooms before the trip. A single passenger in each room is designated as the bill holder, who is charged at the end of the trip for all items purchased while on the trip.
- Taxes are included in all item prices.
- Any tips that a passenger wishes to give to staff is kept by the said staff in full.

SECTION II: Database Design

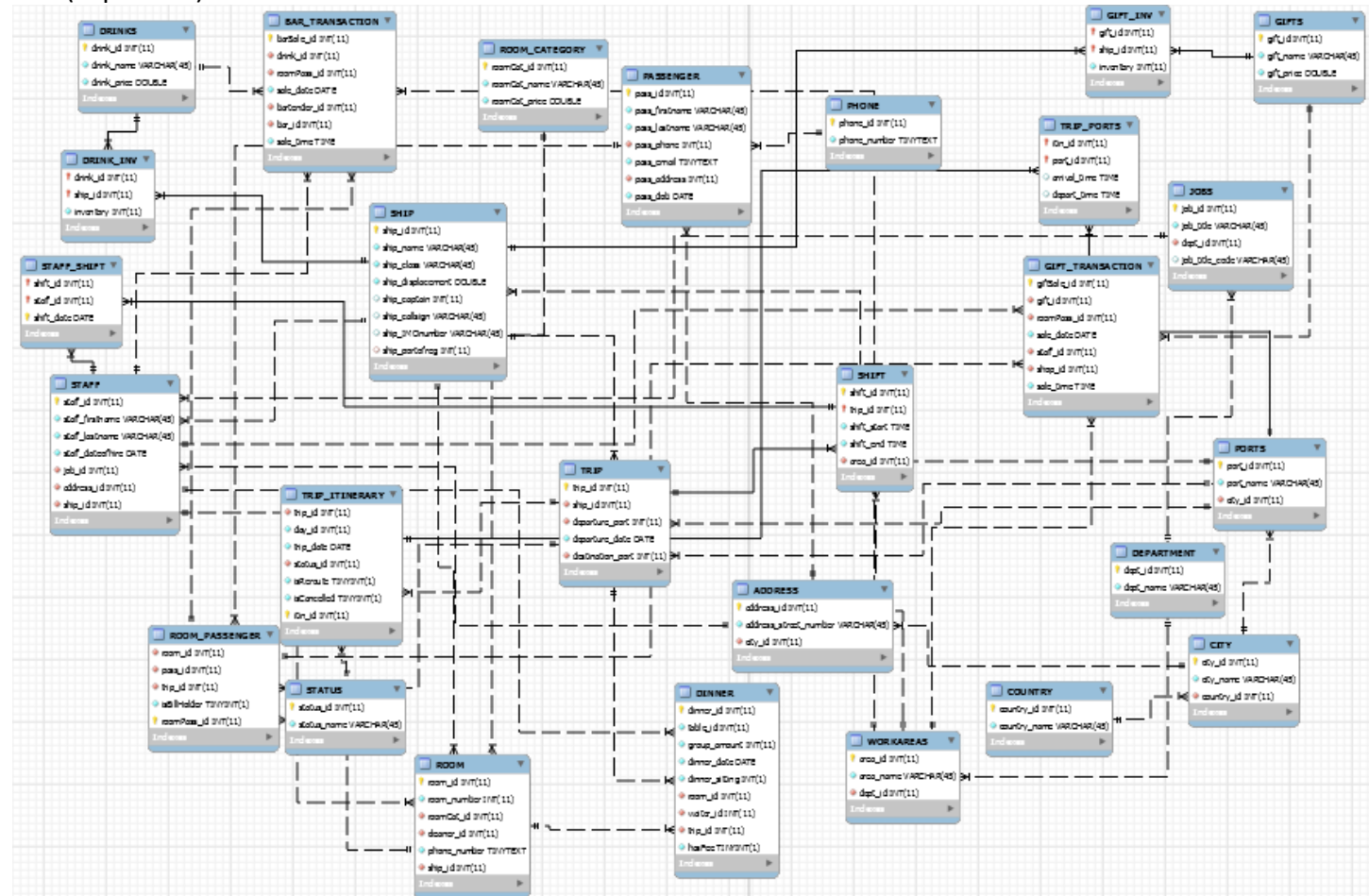
Our database for this system has a total of 28 tables, which contains everything from passenger information to the drink inventory of each ship.

Hostname:	ec2-54-226-9-216.compute-1.amazonaws.com
Port:	3306
User:	f2016_s1_user16
Password:	f2016_s1_user16

ERD (collapsed)



ERD (expanded)



SECTION III: System Description and Manual

Our system consists of two programs: a reservation program intended for customers/passengers, and a CRUISE CONTROL which is a shipboard control program intended for the crew.

Reservation Program

This program allows the user (in this case a customer) to book a room aboard a cruise. They are able to select a trip from a menu, and then will be prompted to enter their details. It is intended to be loaded onto a kiosk-like machine in the office for customers to use.

The screenshot shows a web application titled "Steve's Cruise Line". It features a form for booking a cruise. At the top, there is a dropdown menu for "Cruise Itinerary" with the selected option "7-DAY PASSAGE FROM Willow Creek TO Dundee". Below this are three input fields: "Departure Date" (set to "December 05, 2017"), "Ship" (set to "MS Nucleon"), and "Number of Guests" (set to "2"). The form then asks for personal information: "First Name" (set to "Matt"), "Last Name" (set to "Lai"), "Phone Number", "Date Of Birth" (set to "November 05, 2016"), "Address", "City", "Country" (a dropdown menu), and "Email". A blue button at the bottom right is labeled "NEXT: STATEROOM >".

The user is first prompted with a blank form where they can select a trip, the amount of guests they're bring with them (up to 3), and their personal information. Once they have filled out all the information correct, they can hit the 'NEXT: STATEROOM' button to continue onwards choosing a room. If they have guests, the program will prompt the user for their details first before proceeding.

The screenshot shows a stateroom selection interface. On the left, there is a legend with four categories: "Public", "Crew Only", "Stateroom", and "Room Booked". The main area displays a grid of staterooms, each represented by a small icon and a number. The staterooms are arranged in a grid with 6 columns and 15 rows. The numbers range from 3000 to 3015 in the first column, 3016 to 3031 in the second column, 3032 to 3047 in the third column, 3048 to 3063 in the fourth column, 3064 to 3079 in the fifth column, and 3080 to 3095 in the sixth column. The staterooms are color-coded: blue for "Public", green for "Crew Only", yellow for "Stateroom", and red for "Room Booked".

On the next form, the user is presented with a combobox in which they choose the deck they wish view. Under the combobox are non-interactive controls that make up the map legend. On selecting a deck in the combobox, a map of the selected deck is generated with. Booked rooms are represented by disabled buttons. Available rooms are represented by enabled buttons and are color coded according to the legend. Clicking on an available room assumes the user wishes to book this room and continues the program onto the final invoice form.

Invoice

Name:	Stephen Chiong (Adult)
Itinerary:	7-DAY PASSAGE FROM Willow Creek TO Dundee
Ship:	NS Nucleon
Depart:	December 05, 2017
Cabin:	30106 (Inside)
Deck Level:	3
Passenger:	1 Adult
1 x Adult is \$1800.00	
Overall cost (tax included): \$1800.00	

GENERATE
INVOICE

EXIT

Once on the invoice form, the user clicks the 'GENERATE INVOICE' to print out their bill onto the display. Clicking the 'EXIT' button will return the user back to the first form.

CRUISE CONTROL Program

This program is intended for crew members of the ship to manage the functions of several areas of the ship. When the program first starts up, they will see the main control form. Note the lack of trip information.

The screenshot shows the 'CRUISE CONTROL: Main Panel' window. On the left, there is a sidebar with a 'Current Trip ID' field set to 'N/A' and a 'Select New' button. Below this are buttons for 'Itinerary Control', 'Bar Control', 'Deck Map', 'Gift Shop Control', 'Scheduling', 'Dinner Control', and 'Bill Generation'. The main area on the right is titled 'NO TRIP SELECTED' in red. It contains three large empty boxes labeled 'VESSEL INFORMATION', 'CREW STATUS', and 'PASSENGERS STATUS'. At the bottom left, it says 'Database Status: CONNECTED' and 'Connected at 26/11/2016 13:19:27'. At the bottom right, there is a 'TOTAL CREW:' label.

The user then uses the upper left controls to select a trip by its identification number. Information about the trip will then show itself on the right side, and the button controls on the left will become enabled.

The screenshot shows the 'CRUISE CONTROL: Main Panel' window after a trip has been selected. The 'Current Trip ID' field now shows '1' and the 'Select New' button is enabled. The sidebar buttons are also enabled. The main area now displays trip information: 'Willow Creek, Sembabule >>> Phillipsburg, Budagovo' and 'SAILING ON 30/10/2016'. The 'VESSEL INFORMATION' section lists 'NS Nucleon', '1DDXG7', 'IMO 7883102', 'Prince Rupert, Afganistan', and 'Captain Carolyn Hansen'. The 'PASSENGERS STATUS' section shows '201/1428' and '190 rooms occupied'. The 'CREW STATUS' section is a table with the following data:

DEPARTMENT	NUMSTAFF
DECK	27
ENGINEERING	9
GALLEY	16
FOOD AND BEVERAGE	31
HOUSEKEEPING	9
SHOPPING	10
IT	10
MEDICAL	7
SECURITY	34
ENTERTAINMENT	6

The 'TOTAL CREW:' label now shows '159'. The database status remains 'CONNECTED' and 'Connected at 26/11/2016 13:19:27'.

CRUISE CONTROL: Scheduling Management

This control is accessed from the main control program by pressing the 'Scheduling' button. From this control, the user is able to view the trip's schedule by day, and filter it by departments. They are able to see information such as the shift times, the worker with their job, which area they're assigned to, and more.

CRUISE CONTROL: Schedule Manager						
SHIFTDATE	SHIFT	STAFF	DUTY	DUTYAREA	DEPT	
30/10/2016	00:00:00 - 08:00:00	Harper, Jeremy	Officer	CIC	DECK	
30/10/2016	00:00:00 - 08:00:00	Baker, Nicholas	Officer	Bridge	DECK	
30/10/2016	00:00:00 - 08:00:00	Richardson, Brenda	Seaman	CIC	DECK	
30/10/2016	00:00:00 - 08:00:00	Reyes, Janice	Engineer	Engine Room	ENGINEERING	
30/10/2016	00:00:00 - 08:00:00	Lee, Billy	Engineer	Engine Room	ENGINEERING	
30/10/2016	00:00:00 - 08:00:00	Cole, Gary	Senior Engineer	Engine Room	ENGINEERING	
30/10/2016	00:00:00 - 08:00:00	Oliver, Benjamin	Senior Engineer	Engine Room	ENGINEERING	
30/10/2016	00:00:00 - 08:00:00	Ellis, Stephanie	Senior Engineer	Reactor Room	ENGINEERING	
30/10/2016	00:00:00 - 08:00:00	Gordon, Harold	Master Chef	Lower Deck Kitchen	GALLEY	
30/10/2016	00:00:00 - 08:00:00	Myers, Paul	Line Cook	Upper Deck Kitchen	GALLEY	
30/10/2016	00:00:00 - 08:00:00	Myers, Paul	Line Cook	Lower Deck Kitchen	GALLEY	
30/10/2016	00:00:00 - 08:00:00	Hunter, Joan	Server	Lower Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Gordon, Walter	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Howard, Christopher	Server	Lower Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Lopez, Peter	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Butler, Jeremy	Bartender	Frog and Nightgown Sports Bar	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Butler, Jeremy	Bartender	Rusty Bent Gleave Pub	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Stone, Daniel	Bartender	Rusty Bent Gleave Pub	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Tucker, Keith	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Montgomery, Tammy	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Hansen, Kevin	Cleaner	Laundry Room	HOUSEKEEPING	
30/10/2016	00:00:00 - 08:00:00	Holmes, Edward	Cleaner	Laundry Room	HOUSEKEEPING	
30/10/2016	00:00:00 - 08:00:00	Shaw, Kimberly	Store Manager	Expensive Gift Shop	SHOPPING	
30/10/2016	00:00:00 - 08:00:00	Olsen, Victor	Store Manager	Expensive Gift Shop	SHOPPING	
30/10/2016	00:00:00 - 08:00:00	Adams, Julia	Store Manager	Expensive Gift Shop	SHOPPING	
30/10/2016	00:00:00 - 08:00:00	Torres, Cheryl	Store Manager	Expensive Gift Shop	SHOPPING	
30/10/2016	00:00:00 - 08:00:00	Austin, Theresa	Help Desk	IT Help Desk	IT	
30/10/2016	00:00:00 - 08:00:00	Cole, Cheryl	Nurse	Stem Medbay	MEDICAL	

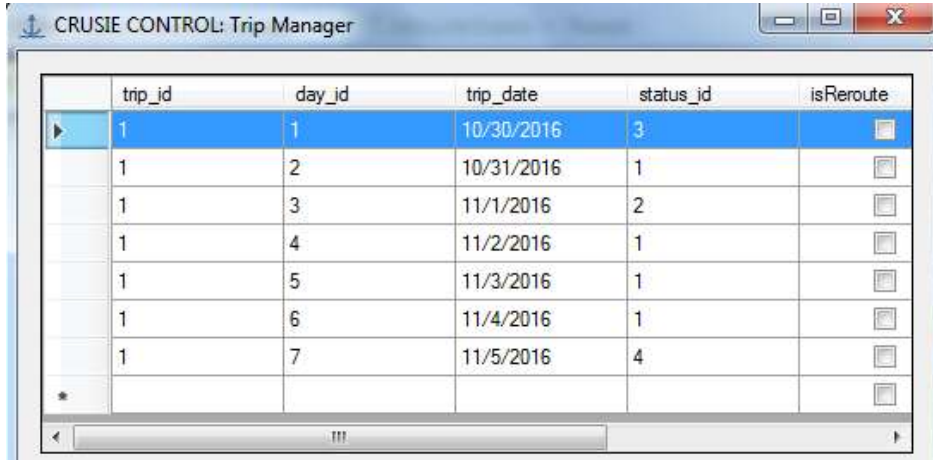
Using the controls grouped under 'SCHEDULE NEW SHIFT', the user is able to create new shifts and assigned them to the relevant employees.

CRUISE CONTROL: Schedule Manager						
SHIFTDATE	SHIFT	STAFF	DUTY	DUTYAREA	DEPT	
30/10/2016	00:00:00 - 08:00:00	Tucker, Keith	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Montgomery, Tammy	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Hunter, Joan	Server	Lower Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Gordon, Walter	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Howard, Christopher	Server	Lower Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Lopez, Peter	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Butler, Jeremy	Bartender	Frog and Nightgown Sports Bar	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Butler, Jeremy	Bartender	Rusty Bent Gleave Pub	FOOD AND BEVERAGE	
30/10/2016	00:00:00 - 08:00:00	Stone, Daniel	Bartender	Rusty Bent Gleave Pub	FOOD AND BEVERAGE	
30/10/2016	08:00:00 - 16:00:00	Montgomery, Tammy	Server	Lower Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	08:00:00 - 16:00:00	Jordan, Deborah	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	08:00:00 - 16:00:00	White, Thomas	Bartender	Frog and Nightgown Sports Bar	FOOD AND BEVERAGE	
30/10/2016	08:00:00 - 16:00:00	Gomez, Samuel	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	
30/10/2016	16:00:00 - 23:00:00	Stewart, Aaron	Bartender	Frog and Nightgown Sports Bar	FOOD AND BEVERAGE	
30/10/2016	16:00:00 - 23:00:00	Perez, Randy	Bartender	Frog and Nightgown Sports Bar	FOOD AND BEVERAGE	
30/10/2016	16:00:00 - 23:00:00	Martin, Stephanie	Bartender	Frog and Nightgown Sports Bar	FOOD AND BEVERAGE	
30/10/2016	16:00:00 - 23:00:00	Simmons, Nicole	Server	Upper Deck Dining Area	FOOD AND BEVERAGE	

Finally, should the user wish to cancel a shift, they simply need to select the shift (row) they wish to cancel and hit the 'CANCEL SELECTED SHIFT' button.

CRUISE CONTROL: Trip Manager

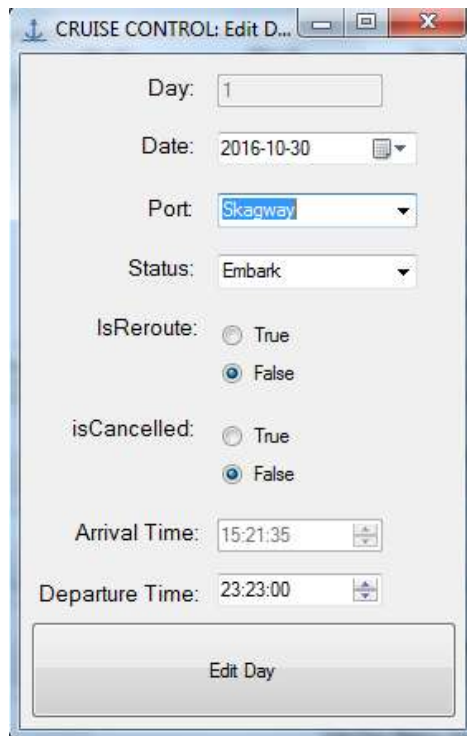
This control is accessed from the main control program by pressing the 'Itinerary Control' button. From this interface the user is able to edit the trip plan by adding more days and editing the contents of existing ones. To edit a day, the user selects a row from the display in the main GUI:



The screenshot shows a window titled "CRUISE CONTROL: Trip Manager" with a table containing trip details. The table has columns for trip_id, day_id, trip_date, status_id, and isReroute. The first row is highlighted in blue.


	trip_id	day_id	trip_date	status_id	isReroute
▶	1	1	10/30/2016	3	<input type="checkbox"/>
	1	2	10/31/2016	1	<input type="checkbox"/>
	1	3	11/1/2016	2	<input type="checkbox"/>
	1	4	11/2/2016	1	<input type="checkbox"/>
	1	5	11/3/2016	1	<input type="checkbox"/>
	1	6	11/4/2016	1	<input type="checkbox"/>
	1	7	11/5/2016	4	<input type="checkbox"/>
*					<input type="checkbox"/>


And then clicks the 'Edit Day' button. A new form will then appear on which they can edit the day's details. When they are satisfied with the changes, the user clicks the 'Edit Day' button at the bottom of the form to save. The user then clicks the 'Reload Days' button on the main Trip Manager form to refresh the display.




The screenshot shows a window titled "CRUISE CONTROL: Edit Day..." with a form for editing a day's details. The form includes fields for Day, Date, Port, Status, IsReroute, isCancelled, Arrival Time, and Departure Time, along with an "Edit Day" button at the bottom.

Day:


Date: 


Port: 

Status: 

IsReroute: ☐ True ☒ False

isCancelled: ☐ True ☒ False

Arrival Time: 

Departure Time: 

To add a new day to the trip, the user clicks the 'Add New Day' button the main Trip Manager Form. A new form will then appear on which the user will be able to enter the details of the new day. When they are satisfied, they will click the 'Add Day' button at the bottom and the data will be saved. On the main Trip Manager form, the user will then click the 'Reload Days' button to refresh the display. Note: this function adds days to the end of the trip plan.

A screenshot of a software window titled "CRUISE CONTROL: Add New Day". The window contains several input fields and a button. The fields are: "Day:" with the value "9", "Date:" with the value "2016-11-22" and a calendar icon, "Port:" with a dropdown menu showing "Prince Rupert", "Status:" with a dropdown menu showing "Cruising", "IsReroute:" with two radio buttons, "True" and "False", where "False" is selected, "Arrival Time:" with the value "15:22:37" and a time picker icon, and "Departure Time:" with the value "15:22:37" and a time picker icon. At the bottom of the form is a large button labeled "Add Day".

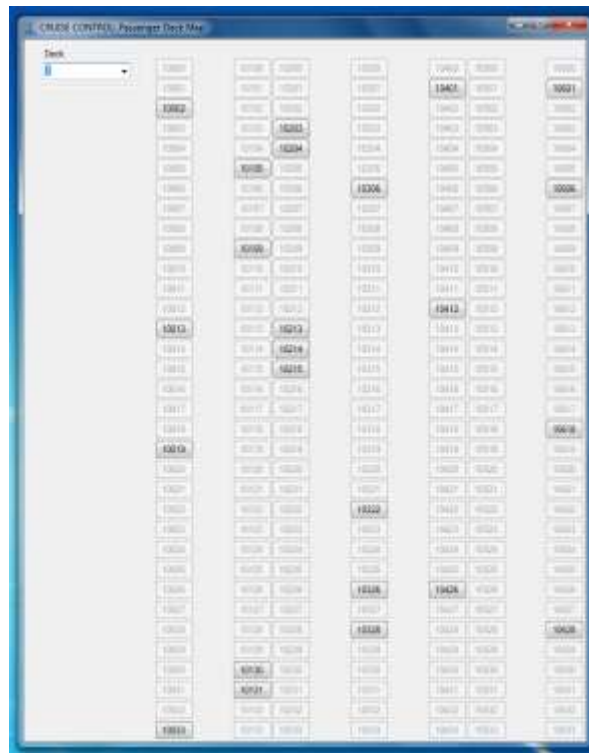
In order to add a new day between two existing days, the user must select a day on the display on the main Trip Manager form and hit 'Add Day Below Selected'. A new form will then appear which will be very similar to the Add New Day sub-form.

A screenshot of a software window titled "Add Below Selected". The window contains several input fields and a button. The fields are: "Day:" with the value "7", "Date:" with the value "2016-11-05" and a calendar icon, "Port:" with a dropdown menu showing "Prince Rupert", "Status:" with a dropdown menu showing "Cruising", "IsReroute:" with two radio buttons, "True" and "False", where "False" is selected, "Arrival Time:" with the value "20:34:30" and a time picker icon, and "Departure Time:" with the value "20:34:30" and a time picker icon. At the bottom of the form is a large button labeled "Add Day".

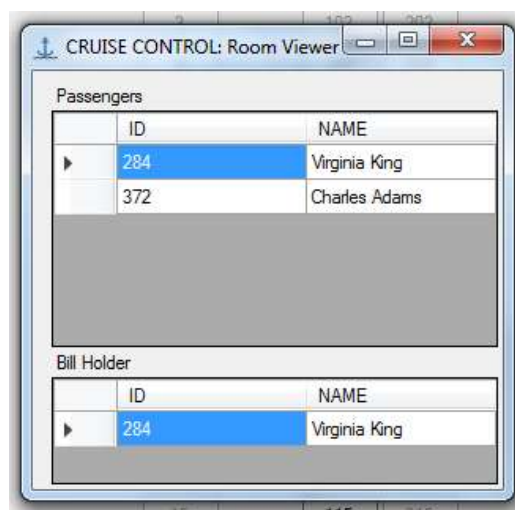
After entering the new data, the user will click the 'Add Day' button to save the inserted day. The user will then hit the 'Reload Days' button the main Trip Manager form to refresh the display. Note: it is highly recommended that the user at this point utilize the Edit Days function to cancel the inevitable duplicated day so that the newly insert day can take its place.

CRUISE CONTROL: Deck Map

This control is access from the main control program by clicking the 'Deck Map' button. This interface displays the floor plan of the ship and allows the user to view what passengers are in the selected room.



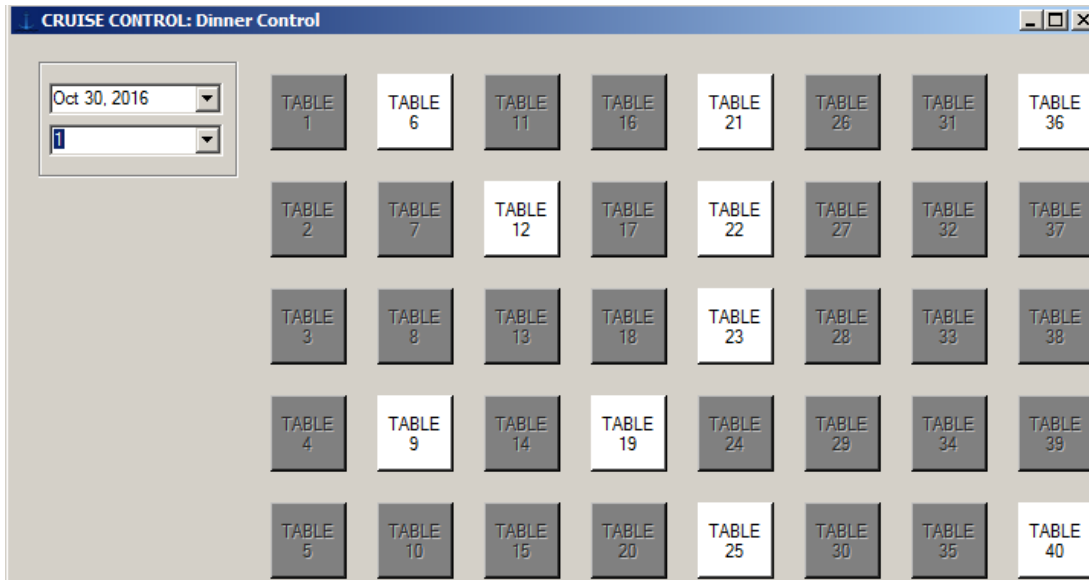
On launching the customer ship map, the user is presented with a combobox in which they choose the deck they wish view. On selecting a deck in the combobox, a map of the selected deck is generated with. Unlike the customer ship map, empty rooms are disabled and filled rooms are enabled.



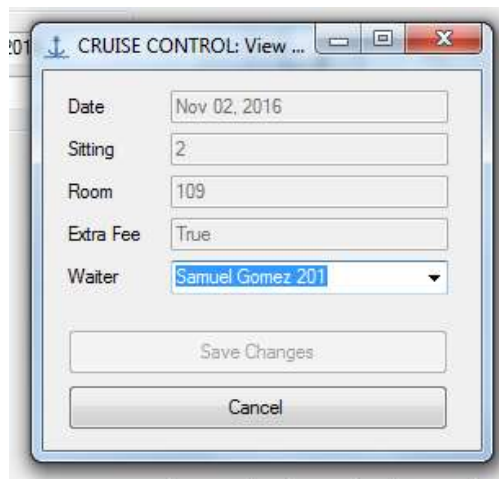
Clicking on a room brings up a form that lists the passengers residing in the room and the passenger whom is the bill holder for that room.

CRUISE CONTROL: Dinner Control

This control is access from the main control program by clicking the 'Dinner Control' button. This interface allows the user to see what tables in the dining area are booked, as well as how many guests are at the table and which waiter is assigned to it.



On launching the dinning map, the user is presented with two comboboxes in which they choose the date of dinning and the sitting number. When both values are selected, a map is generated with buttons. Empty tables are disabled and booked tables are enabled.



Clinking on an enabled table brings up a form with additional information: the date, the sitting number, the room of passengers who booked the table, if they're paying an extra fee and their assigned waiter. The waiter value is displayed in a combobox which may be changed to assign a different waiter. This combobox contains all eligible employees, which are employees who are working on the current ship and whom are waiters. After selecting a different employee, the save changes button becomes enabled. Clicking this button assigns this waiter to the table in our database. The cancel button closes the information form without committing changes.

CRUISE CONTROL: Billing Control

This form is accessed by clicking the 'Bill Generation' button on the main control program. This interface handles the creation of bills to be charged to passengers at the end of the trip.

ROOM 00022
BILL HOLDER: Martin Fisher

ITEM	PRICE	PURCHASE DATE	CUSTOMER	LOCATION	STAFF
Pants	\$17.33	2016-11-01 20:01:00	Martin Fisher	9	Carlos
Smirnoff	\$16.61	2016-11-02 15:59:00	Martin Fisher	13	Stephanie
Knife	\$29.68	2016-11-04 00:41:00	Martin Fisher	9	Kimberly
TOTAL	\$63.62				

THANK YOU FOR SAILING WITH STEVE'S CRUISE LINE
WE HOPE TO SEE YOU AGAIN SOON!

Room Number: 22

Buttons: Calculate Bill, Print Displayed Bill

Upon start-up, the user will be presented with a blank display. The user can then enter a room number into the 'Room Number' text field. If the room is occupied with passengers and they've made onboard purchases, then upon the user clicking the 'Calculate Bill' button their bill will be displayed with the details of their purchases.

ROOM 00022
BILL HOLDER: Martin Fisher

ITEM	PRICE	PURCHASE DATE	CUSTOMER	LOCATION	STAFF
Pants	\$17.33	2016-11-01 20:01:00	Martin Fisher	9	Carlos
Smirnoff	\$16.61	2016-11-02 15:59:00	Martin Fisher	13	Stephanie
Knife	\$29.68	2016-11-04 00:41:00	Martin Fisher	9	Kimberly
TOTAL	\$63.62				

THANK YOU FOR SAILING WITH STEVE'S CRUISE LINE
WE HOPE TO SEE YOU AGAIN SOON!

Room Number: 22

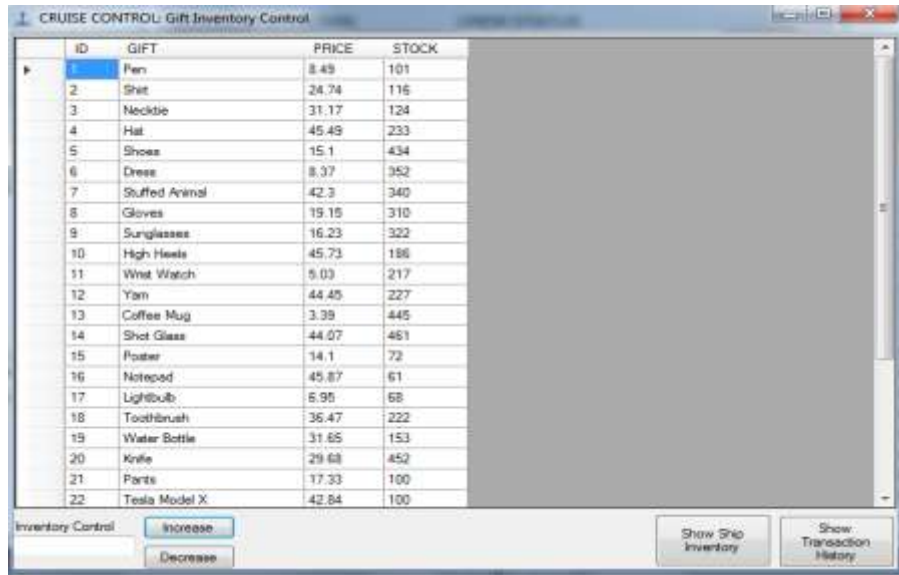
Buttons: Calculate Bill, Print Displayed Bill

SUCCESS
Bill saved!
OK

If the user clicks the 'Print Displayed Bill' button, the program will save the currently displayed bill to a text file titled "ROOM [room number] BILL.txt" located in the 'SAVED BILLS' folder.

CRUISE CONTROL: Gift Control

This form is access by clicking the 'Gift Shop Control' button on the main control program. This interface allows the user to manage the inventory of the gift shops aboard the ship as wells view a log of the transactions that have occurred.



The screenshot shows a window titled "CRUISE CONTROL: Gift Inventory Control". It contains a table with the following columns: ID, GIFT, PRICE, and STOCK. The table lists 22 items. Below the table, there is an "Inventory Control" section with a text input field and two buttons: "Increase" and "Decrease". To the right of the input field are two buttons: "Show Ship Inventory" and "Show Transaction History".

ID	GIFT	PRICE	STOCK
1	Pen	8.49	101
2	Shirt	24.74	116
3	Necktie	31.17	124
4	Hat	45.49	233
5	Shoes	15.1	434
6	Dress	8.37	352
7	Stuffed Animal	42.3	340
8	Gloves	19.15	310
9	Sunglasses	16.23	322
10	High Heels	45.73	186
11	Wrist Watch	5.03	217
12	Yarn	44.45	227
13	Coffee Mug	3.39	445
14	Shot Glass	44.07	461
15	Poster	14.1	72
16	Notepad	45.87	61
17	Lightbulb	5.95	68
18	Toothbrush	36.47	222
19	Water Bottle	31.65	153
20	Knife	29.68	452
21	Pants	17.33	100
22	Tesla Model X	42.84	100

To update the stock of an item, the user clicks on the 'STOCK' cell of the desired item's row, and then enters a number in the text field under 'Inventory Control'. The user then clicks the 'Increase' or 'Decrease' button to add or subtract the entered number from the inventory.



The screenshot shows the same window as before, but the table now displays transaction history. The columns are: SALETIME, GIFT, PRICE, CUSTOMER, SHOP, and STAFF. The table lists 26 transactions. Below the table, the "Inventory Control" section and buttons are the same as in the previous screenshot.

SALETIME	GIFT	PRICE	CUSTOMER	SHOP	STAFF
2016-10-30 00:21:00	Necktie	31.17	Beverly Alexander	Cool Gift Shop	Mary Mills
2016-10-30 00:57:00	Tesla Model X	42.84	Jason Lynch	Cool Gift Shop	Maria Nichols
2016-10-30 01:32:00	Trident II SLBM	37.76	Judy Ramos	Expensive Gift Shop	Kimberly Cole
2016-10-30 01:33:00	Indestructable Bucket	3.45	Amanda Jordan	Expensive Gift Shop	Julia Adams
2016-10-30 01:33:00	Pen	8.49	Martha Lawrence	Expensive Gift Shop	Victor Olson
2016-10-30 02:22:00	nVidia GeForce GTX 980Ti	34.64	Richard Sanchez	Cool Gift Shop	Cheryl Torres
2016-10-30 02:53:00	Necktie	31.17	Brenda Larson	Cool Gift Shop	Cheryl Torres
2016-10-30 03:47:00	Notepad	45.87	Jack Campbell	Cool Gift Shop	Kimberly Cole
2016-10-30 05:41:00	Indestructable Bucket	3.45	Cheryl Moreno	Cool Gift Shop	Kimberly Shaw
2016-10-30 06:26:00	Yarn	44.45	Aaron Rivera	Expensive Gift Shop	Carlos Frazier
2016-10-30 06:34:00	Apples	8.3	Theresa Lynch	Cool Gift Shop	Victor Olson
2016-10-30 06:49:00	Tesla Model X	42.84	Gerald Gomez	Expensive Gift Shop	David Shaw
2016-10-30 06:50:00	Necktie	31.17	Barbara Hart	Cool Gift Shop	Kimberly Cole
2016-10-30 06:56:00	Dress	8.37	Evelyn Williamson	Cool Gift Shop	Mary Mills
2016-10-30 07:16:00	Combine Harvester	49.48	Jack Snyder	Expensive Gift Shop	Carlos Frazier
2016-10-30 07:42:00	Sweater	8.93	Raymond Howell	Cool Gift Shop	Victor Olson
2016-10-30 07:53:00	Imperial II-class Star Destroyer	29.84	Lawrence Fisher	Cool Gift Shop	Julia Adams
2016-10-30 08:41:00	Shoes	15.1	Marilyn Roberts	Expensive Gift Shop	David Shaw
2016-10-30 08:44:00	Indestructable Bucket	3.45	Harold Alexander	Cool Gift Shop	Cheryl Torres
2016-10-30 09:10:00	Wrist Watch	5.03	Maria Washington	Cool Gift Shop	David Shaw
2016-10-30 09:51:00	Water Bottle	31.65	Adam Lawrence	Cool Gift Shop	Maria Nichols
2016-10-30 10:11:00	Knife	29.68	Harold Williams	Expensive Gift Shop	Kimberly Shaw

If the user clicks the 'Show Transaction History' button, the display will change to a log of all the transactions that have occurred aboard the ship while on the trip. Clicking the 'Show Ship Inventory' button will return to the previous display.

CRUISE CONTROL: Bar Control

This form is access by clicking the 'Bar Control' button on the main control program. This interface allows the user to manage the inventory of the bars aboard the ship as wells view a log of the transactions that have occurred.

The screenshot shows a window titled "CRUISE CONTROL: Bar Inventory Control". It contains a table with the following data:

ID	DRINK	PRICE	STOCK
1	Guinness	2.01	89
2	Asahi	21.33	100
3	Sapporo	32.41	306
4	Corona	10.74	57
5	Heineken	20.43	150
6	Stella Artois	18.77	289
7	Jack Daniels	13.83	156
8	Johnny Walker Black	10.62	413
9	Jameson	28.39	208
10	Grey Goose	19.71	481
11	Smirnoff	16.61	150
12	Crown Royal	8.35	500
13	Budweiser	26.02	363
14	Water	25.66	56
15	Captain Morgan	9.97	184
16	Pabst Blue Ribbon	37.8	376
17	Tsing Tsao	43.48	419
18	Beju	30.48	141
19	Moonshine	16.74	139
20	literally just pure alcohol	3.29	253

Below the table, there is an "Inventory Control" section with a text input field and two buttons: "Increase" and "Decrease". To the right of this section are two buttons: "Show Ship Inventory" and "Show Transaction History".

To update the stock of a drink, the user clicks on the 'STOCK' cell of the desired drink's row, and then enters a number in the text field under 'Inventory Control'. The user then clicks the 'Increase' or 'Decrease' button to add or subtract the entered number from the inventory.

The screenshot shows the same window as before, but now displaying a log of transactions. The table has the following columns: SALETIME, DRINK, PRICE, CUSTOMER, BAR, and BARTENDER. The data is as follows:

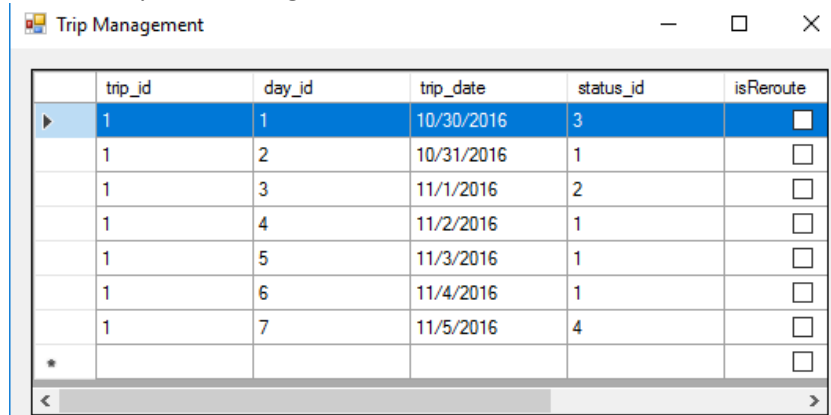
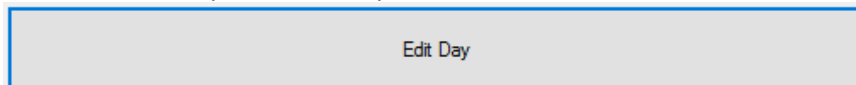
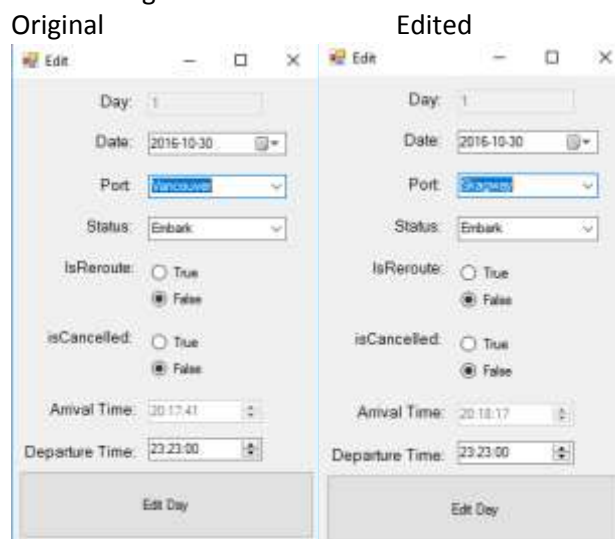
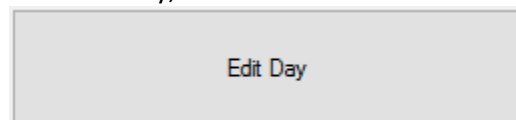
SALETIME	DRINK	PRICE	CUSTOMER	BAR	BARTENDER
2016-10-30 00:30:00	Budweiser	26.02	Harold Williams	Rusty Bent Glove Pub	Aaron Stewart
2016-10-30 00:48:00	Heineken	20.43	Aaron Rice	Frog and Nightgown Sports Bar	Gregory Cole
2016-10-30 02:28:00	Corona	10.74	Debra Palmer	Rusty Bent Glove Pub	Aaron Stewart
2016-10-30 02:43:00	Heineken	20.43	Sandra Garza	Frog and Nightgown Sports Bar	Paula Berry
2016-10-30 04:48:00	literally just pure alcohol	3.29	Martha Harris	Frog and Nightgown Sports Bar	Thomas White
2016-10-30 06:10:00	Corona	10.74	Peter Hernandez	Rusty Bent Glove Pub	Gregory Cole
2016-10-30 06:21:00	Jack Daniels	13.83	Tammy Riley	Frog and Nightgown Sports Bar	Paula Berry
2016-10-30 07:32:00	Heineken	20.43	Shawn Butler	Frog and Nightgown Sports Bar	Paul Ford
2016-10-30 07:56:00	Crown Royal	8.35	Rose Hunt	Rusty Bent Glove Pub	Paul Ford
2016-10-30 08:16:00	Moonshine	16.74	Eugene Powell	Frog and Nightgown Sports Bar	Randy Perez
2016-10-30 08:17:00	Guinness	2.01	Elizabeth Wells	Frog and Nightgown Sports Bar	Aaron Stewart
2016-10-30 09:02:00	Heineken	20.43	Richard Sanchez	Frog and Nightgown Sports Bar	Jeremy Butler
2016-10-30 09:46:00	literally just pure alcohol	3.29	Billy Butler	Rusty Bent Glove Pub	Jeremy Butler
2016-10-30 10:05:00	Jack Daniels	13.83	Joyce Washington	Rusty Bent Glove Pub	Stephanie Martin
2016-10-30 10:09:00	Johnny Walker Black	10.62	William Wells	Rusty Bent Glove Pub	Paula Berry
2016-10-30 10:19:00	Pabst Blue Ribbon	37.8	Debra Palmer	Rusty Bent Glove Pub	Paula Berry
2016-10-30 12:56:00	Pabst Blue Ribbon	37.8	Shawn Butler	Frog and Nightgown Sports Bar	Randy Perez
2016-10-30 13:45:00	Stella Artois	18.77	Lawrence Fisher	Rusty Bent Glove Pub	Paula Berry
2016-10-30 13:50:00	Tsing Tsao	43.48	Lawrence Fisher	Frog and Nightgown Sports Bar	Paula Berry
2016-10-30 14:59:00	literally just pure alcohol	3.29	Carolyn Burton	Frog and Nightgown Sports Bar	Paul Ford
2016-10-30 15:35:00	Jack Daniels	13.83	Kimberly Simmons	Frog and Nightgown Sports Bar	Randy Perez
2016-10-30 15:39:00	literally just pure alcohol	3.29	Clarence Wallace	Rusty Bent Glove Pub	Stephanie Martin

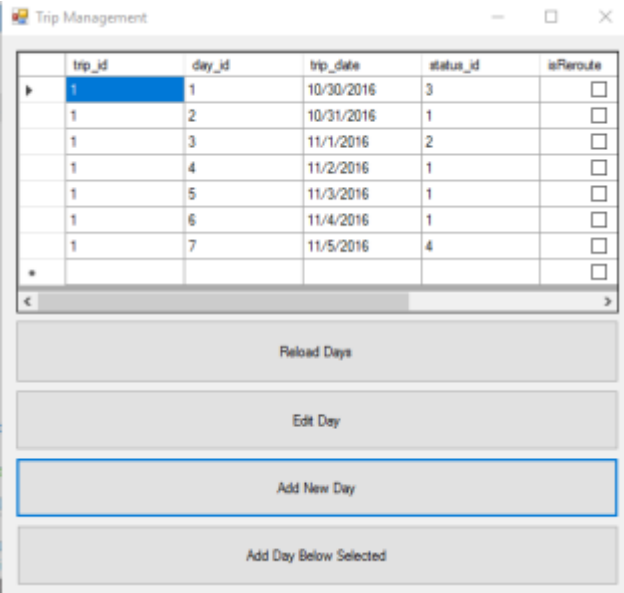
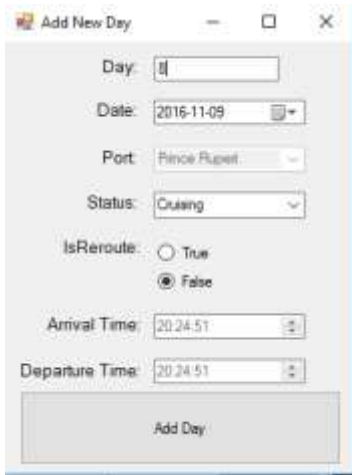
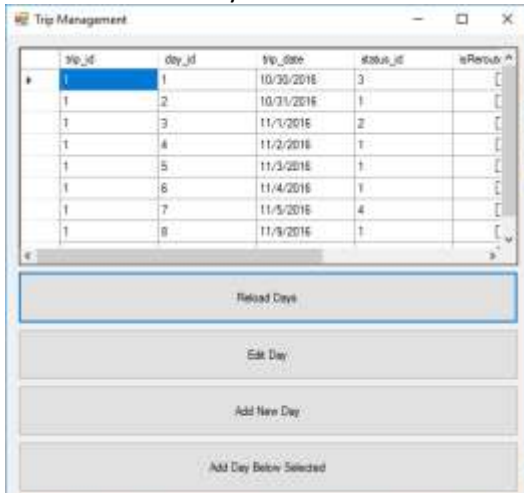
The bottom section of the window remains the same, with the "Inventory Control" text field and buttons, and the "Show Ship Inventory" and "Show Transaction History" buttons.

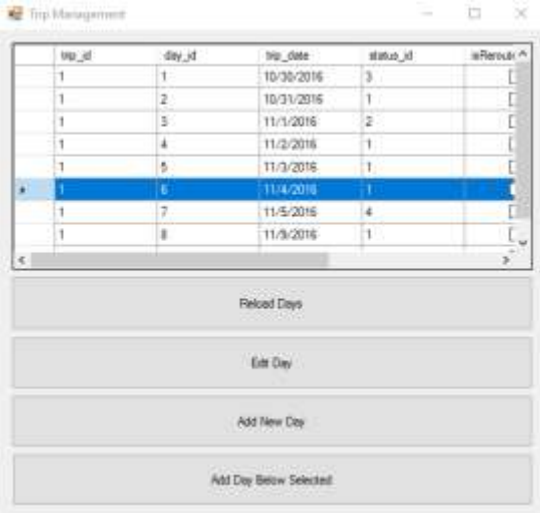
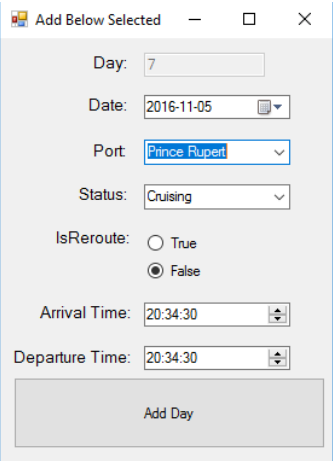
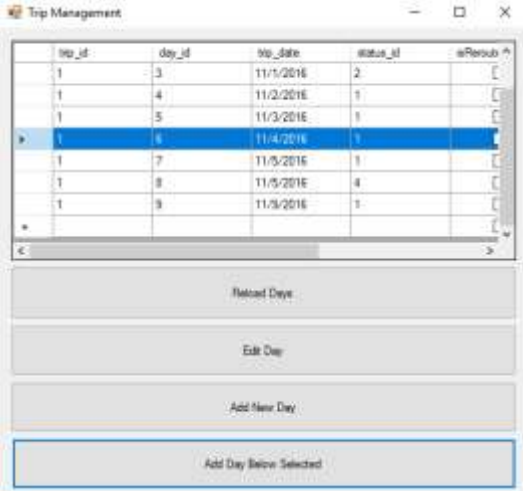
If the user clicks the 'Show Transaction History' button, the display will change to a log of all the transactions that have occurred aboard the ship while on the trip. Clicking the 'Show Ship Inventory' button will return to the previous display.

SECTION IV: System Test Cases

This section contains 10 test cases which document and demonstrate the system's functionalities in action.

ID	1
Title	Edit Day
Pre-Conditions	Set trip ID to 1 and click itinerary control
Test Steps	<div><div>1. Select a day in the datagridview</div><div></div></div> <div><div>2. Click the “Edit Day” button to open the Edit form</div><div></div></div> <div><div>3. Make changes to data</div><div><div>Original</div><div>Edited</div><div></div></div></div> <div><div>4. Click Edit Day, on the Edit form</div><div></div></div>
Expected Results	Message box with the message “Day Edited”

ID	2
Title	Add New Day
Pre-Conditions	Set Trip ID to 1 and click Itinerary Control
Test Steps	<ol style="list-style-type: none"> Click the "Add New Day" Button  Fill form with data  Click Add Day button Click the Reload days button 
Expected Results	New row in datagridview

ID	3
Title	Add Day Below Selected
Pre-Conditions	Set Trip ID to 1 and click Itinerary Control
Test Steps	<div>1. Select a row or cell in the datagridview</div> <div></div> <div>2. Click the “Add Day Below Selected” button</div> <div>3. Fill the “Add Below Selected” form with data</div> <div></div> <div>4. Click the “Add Day” button</div> <div>5. Click the “Reload Days” button</div> <div></div>
Expected Results	Adds a new row of data below the selected row Changes the day_id for all rows below the added row

ID	4
Title	Add 1 x Customer(number of guest 0)
Pre-Conditions	<p>All fields must be filled/selected before proceeding to the next form:</p> <ul style="list-style-type: none"> • Cruise Itinerary = 7-DAY PASSAGE FROM Willow Creek TO Dundee • Number of Guest = 0 • All textboxes • Date Of Birth = May 4, 1990
Test Steps	<ol style="list-style-type: none"> 1) Fill/select every fields, Figure 4.1 2) Click button "NEXT:STATEROOM>," Figure 4.1 3) Select Ship Deck level, Figure 4.2 4) Choose cabin number, room colors are according to cabin type based on the legend, Figure 4.2 5) Click "GENERATE INVOICE" button, Figure 4.3 6) Click "EXIT" button to restart a new form, Figure 4.3
Expected Results	<ul style="list-style-type: none"> • Customers Information will be inserted into database • Invoice generated displaying: <ul style="list-style-type: none"> - Passenger name - Itinerary name - Ship name - Departure date - Cabin number and type - Deck level - Total number of passengers - Price of per type of passenger - Overall cost(tax included)

Figure 4.1. Main Form

Steve's Cruise Line

Cruise Itinerary: 7-DAY PASSAGE FROM Willow Creek TO Dundee

Departure Date: December 05, 2017

Ship: NS Nucleon

Number of Guests: 0

First Name: Stephen

Last Name: Chiong

Phone Number: 3540001

Date Of Birth: November 05, 2000

Address: Csis 3540

City: New Westminster

Country: Canada

Email: stephenchiong@Douglas.ca

NEXT: STATEROOM >

Figure 4.2. Stateroom

Legend

Inside

Ocean View

Satellite

Room Booked

30001	30101	30201	30301	30401	30501	30601
30002	30102	30202	30302	30402	30502	30602
30003	30103	30203	30303	30403	30503	30603
30004	30104	30204	30304	30404	30504	30604
30005	30105	30205	30305	30405	30505	30605
30006	30106	30206	30306	30406	30506	30606
30007	30107	30207	30307	30407	30507	30607
30008	30108	30208	30308	30408	30508	30608
30009	30109	30209	30309	30409	30509	30609
30010	30110	30210	30310	30410	30510	30610
30011	30111	30211	30311	30411	30511	30611
30012	30112	30212	30312	30412	30512	30612
30013	30113	30213	30313	30413	30513	30613
30014	30114	30214	30314	30414	30514	30614
30015	30115	30215	30315	30415	30515	30615
30016	30116	30216	30316	30416	30516	30616
30017	30117	30217	30317	30417	30517	30617
30018	30118	30218	30318	30418	30518	30618
30019	30119	30219	30319	30419	30519	30619
30020	30120	30220	30320	30420	30520	30620
30021	30121	30221	30321	30421	30521	30621
30022	30122	30222	30322	30422	30522	30622
30023	30123	30223	30323	30423	30523	30623
30024	30124	30224	30324	30424	30524	30624
30025	30125	30225	30325	30425	30525	30625
30026	30126	30226	30326	30426	30526	30626
30027	30127	30227	30327	30427	30527	30627
30028	30128	30228	30328	30428	30528	30628
30029	30129	30229	30329	30429	30529	30629

Figure 4.3. Invoice

Invoice

Name: Stephen Chiong (Adult)

Itinerary: 7-DAY PASSAGE FROM Willow Creek TO Dundee

Ship: NS Nucleon

Depart: December 05, 2017

Cabin: 30106 (Inside)

Deck Level: 3

Passenger: 1 Adult

1 x Adult is \$1800.00

Overall cost (tax included): \$1800.00

GENERATE INVOICE

EXIT

SQL database

```
SELECT *
FROM T2016_11_user10.PASSENGER
INNER JOIN PHONE ON PASSENGER.pass_phone = PHONE.phone_id
INNER JOIN ADDRESS ON ADDRESS.address_id = PASSENGER.pass_address
INNER JOIN CITY ON ADDRESS.city_id = CITY.city_id
INNER JOIN COUNTRY ON CITY.country_id = COUNTRY.country_id
ORDER BY PASSENGER.pass_id DESC
```

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Options

pass_id pass_firstname pass_lastname pass_phone pass_email pass_address pass_city pass_phone_number address_id address_street_number city_id city_name country_id country_id country_name

501 Stephen Chiong 106 stephenchiong@google.ca 503 2008-11-05 106 2548801 503 cde 3540 101 101 New Westminster 31 31 Canada

ID	5
Title	Error handling responds - fail to fill in any fields
Pre-Conditions	<ul style="list-style-type: none"> Trying to proceed to next form without filling up all fields
Test Steps	<ol style="list-style-type: none"> 1) Click "NEXT:STATEROOM" button, Figure 5.1 2) Click "OK" on error box, Figure 5.1 3) Fill/select one field – City=New Westminster, Figure 5.2 4) Click "NEXT:STATEROOM" button, Figure 5.2 5) Click "OK" on error box, Figure 5.2 6) Fill/select all except one field, Figure 5.3 7) Click "NEXT:STATEROOM" button, Figure 5.3
Expected Results	<ul style="list-style-type: none"> Error box appear Error prompt removed on one field (when it's been filled) Error box will appear even with one unfilled field

Figure 5.1. Error box appear

The screenshot shows the 'Steve's Cruise Line' registration form. The form includes fields for 'Cruise Itinerary', 'Departure Date', 'Ship', 'Number of Guests', 'First Name', 'Last Name', 'Phone Number', 'Date Of Birth', 'Address', 'City', 'Country', and 'Email'. A blue 'NEXT: STATEROOM >' button is at the bottom right. A modal dialog box is open in the center with the text 'Please fill up every boxes correctly' and an 'OK' button. The dialog box is positioned over the 'First Name' and 'Last Name' fields.

Figure 5.2. Error prompt removed on one field

This screenshot is similar to Figure 5.1, showing the 'Steve's Cruise Line' registration form. In this state, the 'City' field has been filled with 'New Westminster'. The modal dialog box with the message 'Please fill up every boxes correctly' and an 'OK' button remains open, still positioned over the 'First Name' and 'Last Name' fields. The 'NEXT: STATEROOM >' button is visible at the bottom right.

Figure 5.3. Error prompt removed on all except one field

Steve's Cruise Line

Cruise Itinerary7-DAY PASSAGE FROM Willow Creek TO Phillipsburg

Departure DateOctober 30, 2016

ShipNS Nucleon

Number of Guests0

First Name *

Last NameTommy

Phone Number15361563

Date Of BirthJanuary 30, 1900

Addresscsis 3540

CityNew Westminster


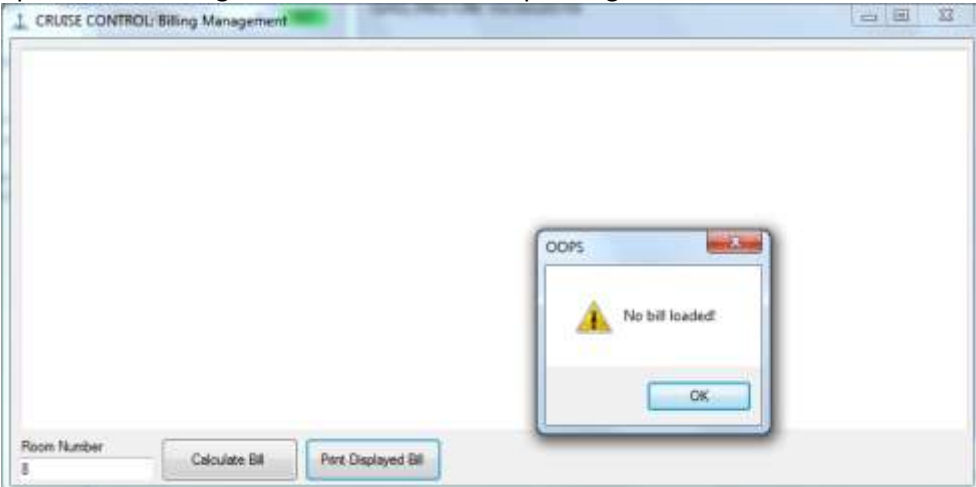
CountryCanada

Emailtommy@sad.com

Please fill up every boxes correctly

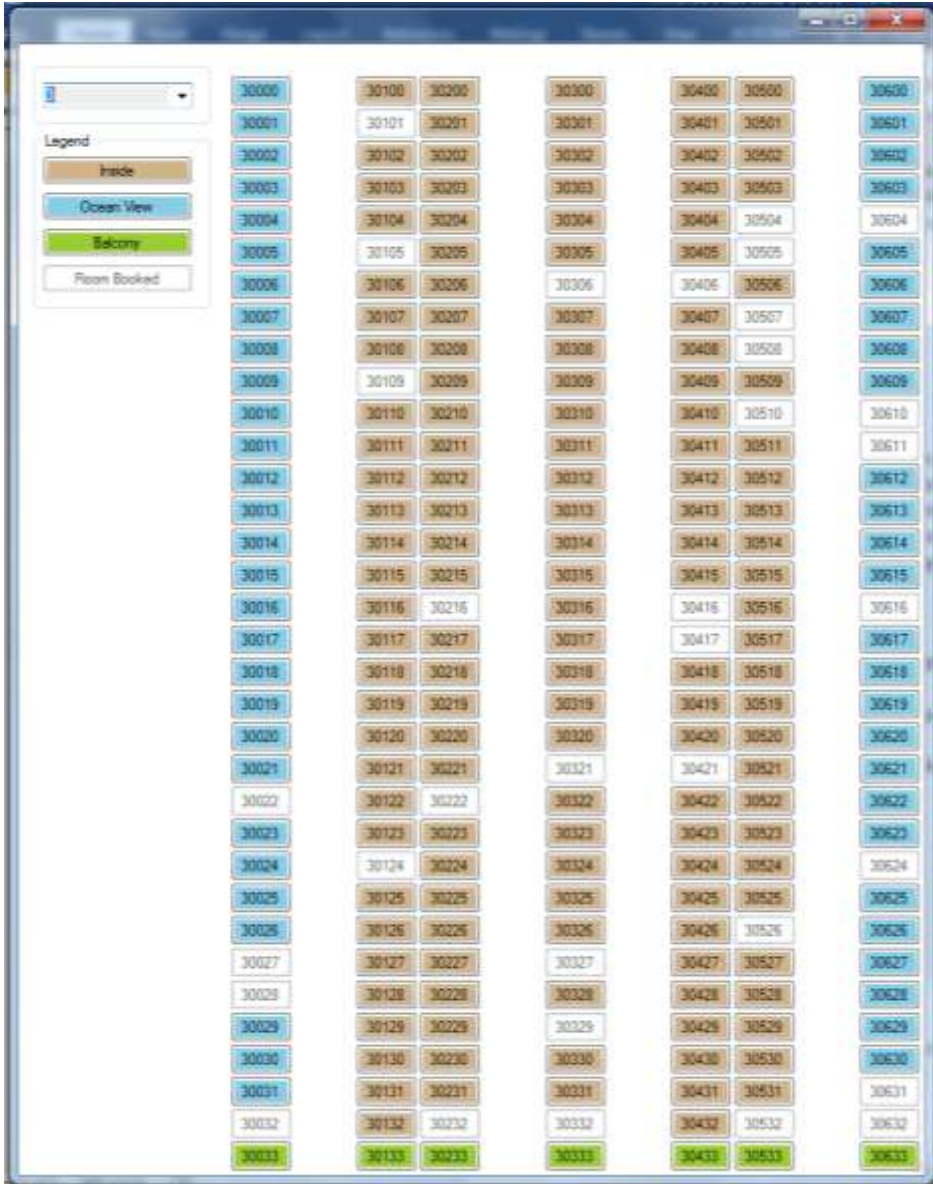
NEXT: STATEROOM>

ID	6																														
TITLE	Billing Calculations																														
PRE-CONDITIONS	<div>1. System must be connected to the database.</div> <div>2. Passenger must be a Bill Holder</div>																														
TEST STEPS	<div>1. Enter Room number. For ex. Room number is 22</div> <div>2. Click on "Calculate Bill" button.</div> <div>3. To print out the bill, click on "Print Displayed Bill" button.</div>																														
EXPECTED RESULTS	<div>1. Your bill will be calculated on the basis of items purchased by all the passengers in the room when you are onboard and the calculated total bill will be shown in the "textbox" on the screen along with the Bill Holder's name and room number on the top of it.</div> <div><div><div>CRUISE CONTROL: Billing Management</div><div><div>ROOM 00022</div><div>BILL HOLDER: Martin Fisher</div><table><tr><th>ITEM</th><th>PRICE</th><th>PURCHASE DATE</th><th>CUSTOMER</th><th>LOCATION</th><th>STAFF</th></tr><tr><td>Pants</td><td>\$17.33</td><td>2016-11-01 20:01:00</td><td>Martin Fisher</td><td>9</td><td>Carlos</td></tr><tr><td>Smirnoff</td><td>\$16.61</td><td>2016-11-02 15:59:00</td><td>Martin Fisher</td><td>13</td><td>Stephanie</td></tr><tr><td>Knife</td><td>\$29.68</td><td>2016-11-04 00:41:00</td><td>Martin Fisher</td><td>9</td><td>Kimberly</td></tr><tr><td>TOTAL</td><td>\$63.62</td><td></td><td></td><td></td><td></td></tr></table><div>THANK YOU FOR SAILING WITH STEVE'S CRUISE LINE WE HOPE TO SEE YOU AGAIN SOON!</div><div><div>Room Number22</div><div>Calculate Bill</div><div>Print Displayed Bill</div></div></div><div>SUCCESS</div><div>Bill saved!</div><div>OK</div></div></div> <div>2. A message in the message box "Bill saved!" tells that the bill is printed out successfully.</div>	ITEM	PRICE	PURCHASE DATE	CUSTOMER	LOCATION	STAFF	Pants	\$17.33	2016-11-01 20:01:00	Martin Fisher	9	Carlos	Smirnoff	\$16.61	2016-11-02 15:59:00	Martin Fisher	13	Stephanie	Knife	\$29.68	2016-11-04 00:41:00	Martin Fisher	9	Kimberly	TOTAL	\$63.62				
ITEM	PRICE	PURCHASE DATE	CUSTOMER	LOCATION	STAFF																										
Pants	\$17.33	2016-11-01 20:01:00	Martin Fisher	9	Carlos																										
Smirnoff	\$16.61	2016-11-02 15:59:00	Martin Fisher	13	Stephanie																										
Knife	\$29.68	2016-11-04 00:41:00	Martin Fisher	9	Kimberly																										
TOTAL	\$63.62																														

ID	7
TITLE	Billing Calculations
PRE-CONDITIONS	<ol style="list-style-type: none"> 1. System must be connected to the database. 2. Passenger must be a Bill Holder.
TEST STEPS	<ol style="list-style-type: none"> 1. Enter Room number. For ex. Room number is 8. 2. Click on "Calculate Bill" button. 3. To print out the bill , click on "Print Displayed Bill" button.
EXPECTED RESULTS	<ol style="list-style-type: none"> 1. A message in the message box "No passenger in the selected room!" tells that there is no passenger staying in the given room and bill can be calculated only for the rooms having bill holders staying in them.  2. A message in the message box "No bill loaded!" shows that there is no bill to save or print out for the given room as there is no passengers in it. 

ID	8
TITLE	Drink Inventory Control by Increasing and Decreasing its Stock.
PRE-CONDITIONS	<ol style="list-style-type: none"> 1. System must be connected to the database. 2. Passenger must click Increase or Decrease button.
TEST STEPS	<ol style="list-style-type: none"> 1. Select the Row of Drink Inventory value. <div data-bbox="542 283 1354 848" data-label="Image"> </div> 2. Enter the amount, you would like to increase or decrease the inventory. 3. Click the “Increase” button to increase the stock or Click the “Decrease” button to decrease the stock of Drinks. <div data-bbox="526 951 1370 1713" data-label="Image"> </div> 4. To check the new updated Inventory Click “Show ship inventory” button.
EXPECTED RESULTS	Selected drink’s inventory value will be updated according to the amount entered. And it updates the original database at the backend.

ID	9
TITLE	Gifts Inventory Control by Increasing and Decreasing its Stock.
PRE-CONDITIONS	<ol style="list-style-type: none"> 1. System must be connected to the database. 2. Passenger must click Increase or Decrease button.
TEST STEPS	<ol style="list-style-type: none"> 1. Select the Row of Gifts Inventory value. <div data-bbox="488 279 1421 896" data-label="Image"> </div> 2. Enter the amount, you would like to increase or decrease the inventory. 3. Click the “Increase” button to increase the stock or Click the “Decrease” button to decrease the stock of Drinks. <div data-bbox="472 1001 1442 1684" data-label="Image"> </div> 4. To check the new updated Inventory Click “Show ship inventory” button.
EXPECTED RESULTS	Selected Gift’s inventory value will be updated according to the amount entered. And it updates the original database at the backend.

ID	10
Title	Display Map
Pre-Conditions	Select trip 1 in the previous form
Test Steps	<ol style="list-style-type: none"> Select deck 3 in the combo box. Note the state of each room drawn  <ol style="list-style-type: none"> Select deck 1 in the combo box. Note the changes in the states of the rooms Close the ship map and select trip 4 in the previous form Select deck 3. Compare the rooms with the map from step 2 and 3 Book room 30000 in trip 1, deck 3. Refer to the booking section of the user manual Find room 30000 by selecting trip 1 deck 3 again Note the changes to the map
Expected Results	<ol style="list-style-type: none"> The maps noted in the steps should differ from each other. The map in step 1 should match the provided picture Room 30000 should be disabled in step 8 when compared to the map in step 2

SECTION V: Work Distribution

This section details the work distribution that was followed during the development of the system.

DATABASE MODULE

Schema:	Matthew Lai
Data Generation:	Matthew Lai
Data Cleaning:	Matthew Lai Shaun Yerui Lu Manjot Sangha

RESERVATION MODULE

Customer Input Form:	Shaun Yerui Lu
Room Selection Form:	Amanda Lee
Invoice Generation Form:	Shaun Yerui Lu
Final Integration:	Shaun Yerui Lu

CRUISE CONTROL

Main Form:	Matthew Lai
Trip Planning Form(s):	Manjot Sangha
Passenger Deck Map:	Amanda Lee
Scheduling Form:	Matthew Lai
Bill Generation Form:	Pawanpreet Kaur
Gift Inventory Form:	Manupreet Kaur
Bar Inventory Form:	Manupreet Kaur
Dinner Control Form(s):	Amanda Lee
Final Integration:	Matthew Lai

FINAL REPORT

Preamble:	Matthew Lai
User Manual(s):	Manupreet Kaur Pawanpreet Kaur Matthew Lai Amanda Lee Shaun Yerui Lu Manjot Sangha
Test Cases:	Manupreet Kaur Pawanpreet Kaur Amanda Lee Shaun Yerui Lu Manjot Sangha
Formatting:	Matthew Lai Manjot Sangha