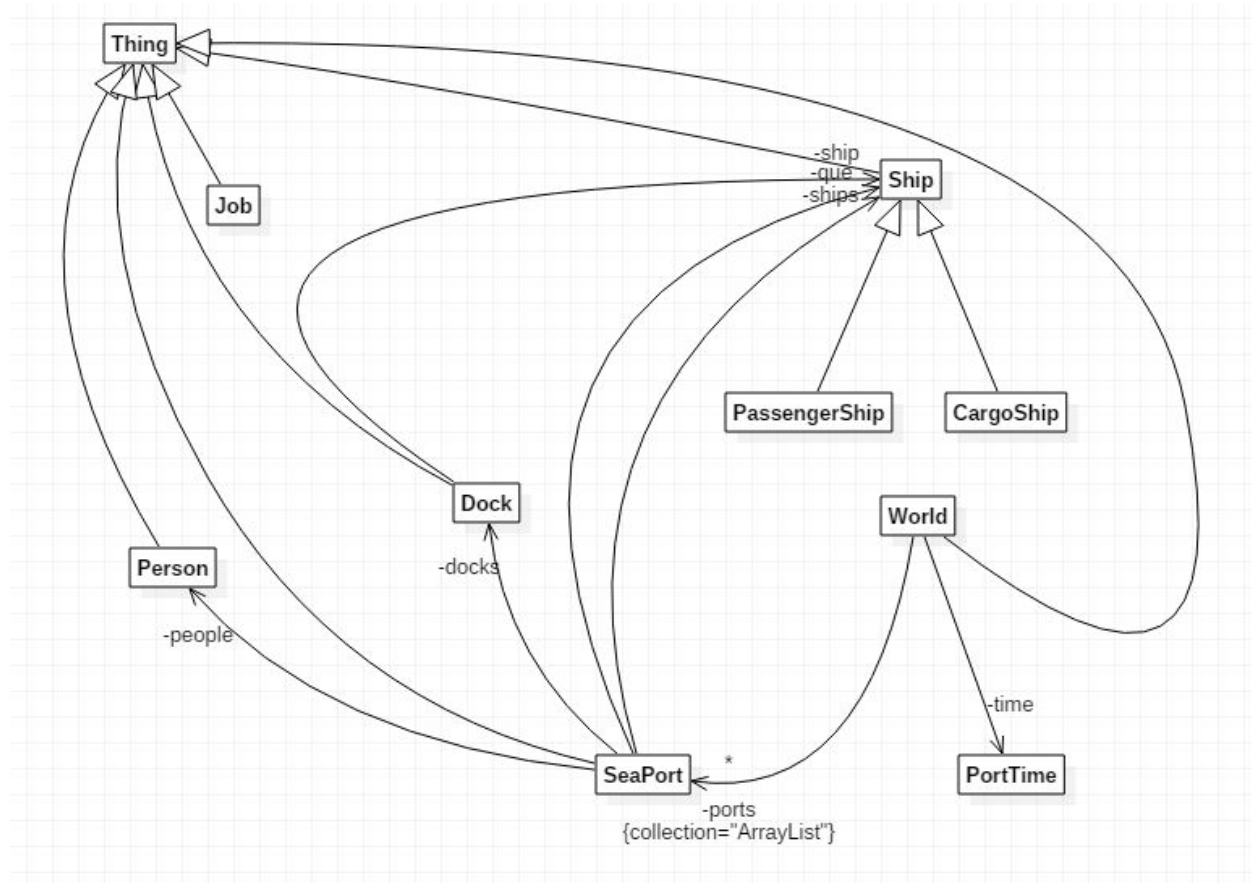
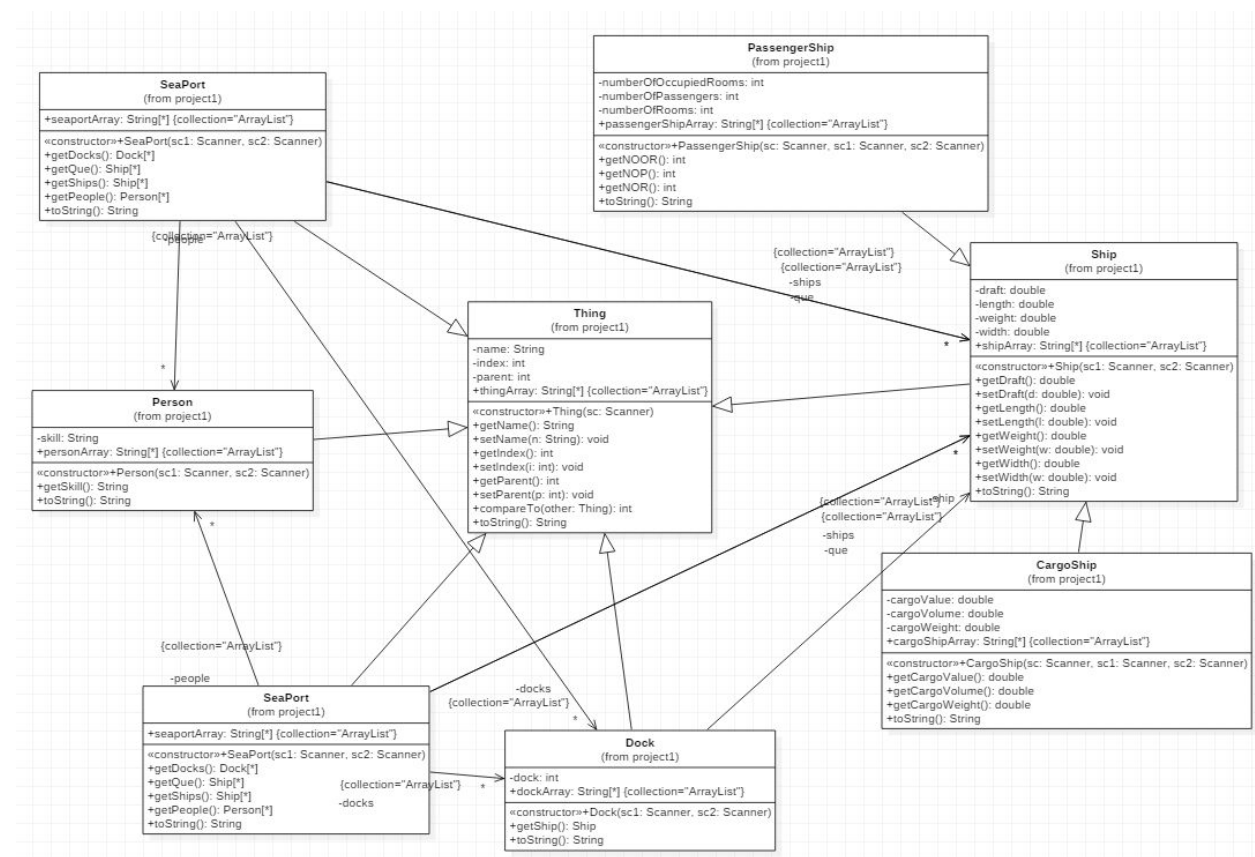


Design

Simple UML Flow diagram



More Detailed UML Diagram



Both of these PNG files are included in zip file in case they are hard to read

User's Guide

1. Open the JAR file named "Project 2" (this opens the program)
2. Click the "Choose File" button (this lets the user choose their file)
3. Click the button that you want to view information based on the label of the button as well as the label to the left of the buttons (all information, or sorted names)
4. Enter text and hit "Find" button according to needed information based on label on left hand side. If information is not valid, no information will be provided under the title of what is expected.

Test Plan

The program is expected to allow the user to first choose a 'txt' data file with the 'Choose File' button, one that has a format similar to the one provided to use in the project instructions. This means the data in the file should have a word at the beginning of each line of data that is to be used labelling what it is for IE port, dock, pship, cship, person. Without these keywords at the beginning of each line, the program will ignore the line. After they click this they will be notified if the file was valid with a helpful message indicating what they should do next.

The next step is clicking one of the various buttons provided so that they can view the information they are looking for, or the user can narrow their search by entering in the text field provided information based on what is labelled to the left of the text field. It is very intuitive and easy to understand. The user may also view all information for each type of object they are looking for, or they can reduce the amount of information provided by choosing the object they'd like in the 'Sorted Names' line of buttons to just see the names of the object sorted alphabetically. In the testing phase I only tested the new buttons added to the GUI which include each of the object buttons in the 'Sorted Names:' line as well as the next four lines which let the user enter information in the text field provided in order to narrow their search when hitting the 'Find' button. Since there are technically nine additional functions added from Project 1 to Project 2, I will include nine test cases, one to test each new function. I did not do any test cases that failed compilation due to format of the text file, as that was tested in the last project and there was no need to test it this time around. The way the data is stored is different now as it is stored in HashMaps rather than Arrays, but overall the functionality is the same. I focused on testing

the functionalities of the added buttons and methods using a correctly formatted text file instead,
therefore only one text file is included.

Test 1 - Success

Test the 'Ports' button on the 'Sorted Names:' line

Expected to list the ports from the text file alphabetically

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, there are two identical tables. The first table has columns: 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. The second table is identical. Below these tables, there are four rows of search functionality, each with a text input field and a 'Find' button. The first row is 'Find Ship by Index', the second is 'Find Job by Passenger Name', the third is 'Find Cargo Weight by Ship Name', and the fourth is 'Find Number of Passengers by Ship Name'. Below these search rows, there is a section titled '---Sorted Port Names---' which contains a list of port names: '[Future, Lanshan, Notlanshan, Zultan]'. The window has a standard Windows-style title bar with minimize, maximize, and close buttons.

All Information:	Ports	Docks	Passenger Ships	Cargo Ships	People
Sorted Names:	Ports	Docks	Passenger Ships	Cargo Ships	People

Find Ship by Index	Find
Find Job by Passenger Name	Find
Find Cargo Weight by Ship Name	Find
Find Number of Passengers by Ship Name	Find

---Sorted Port Names---

[Future, Lanshan, Notlanshan, Zultan]

Test 2 - Success

Test the 'Docks' button on the 'Sorted Names:' line

Expected to list the Piers from the text file alphabetically, and sense they are all starting with the word 'Pier', it will list them in lowest to highest numbered Pier.

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, there are two identical tables labeled 'All Information:' and 'Sorted Names:'. Each table has five columns: 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. Below these tables, there are four search options, each with a text input field and a 'Find' button:

- Find Ship by Index
- Find Job by Passenger Name
- Find Cargo Weight by Ship Name
- Find Number of Passengers by Ship Name

At the bottom, there is a text area labeled '---Sorted Dock Names---' which contains the output: '[Pier_1, Pier_2, Pier_4, Pier_7, Pier_9]'. The window has standard Windows-style title bar controls (minimize, maximize, close) in the top right corner.

Test 3 - Success

Test the 'Passenger Ships' button on the 'Sorted Names:' line

Expected to list the names of the passenger ships from the text file alphabetically

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, there are two rows of buttons. The first row is labeled 'All Information:' and the second row is labeled 'Sorted Names:'. Both rows have five buttons: 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. In the 'Sorted Names' row, the 'Passenger Ships' button is highlighted. Below these rows are four search options, each with a text input field and a 'Find' button: 'Find Ship by Index', 'Find Job by Passenger Name', 'Find Cargo Weight by Ship Name', and 'Find Number of Passengers by Ship Name'. At the bottom, there is a text area labeled '---Sorted Passenger Ship Names---' which contains the text '[Gallo, Preanesthetic, Richard, Shasta, Zedicus]'. The window has standard Windows-style window controls (minimize, maximize, close) in the top right corner.

All Information:	Ports	Docks	Passenger Ships	Cargo Ships	People
Sorted Names:	Ports	Docks	Passenger Ships	Cargo Ships	People

Find Ship by Index Find

Find Job by Passenger Name Find

Find Cargo Weight by Ship Name Find

Find Number of Passengers by Ship Name Find

---Sorted Passenger Ship Names---

[Gallo, Preanesthetic, Richard, Shasta, Zedicus]

Test 4 - Success

Test the 'Cargo Ships' button on the 'Sorted Names:' line

Expected to list the cargo ships from the text file alphabetically

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, the interface is divided into two main sections. The left section, labeled 'All Information:', contains four search options: 'Find Ship by Index', 'Find Job by Passenger Name', 'Find Cargo Weight by Ship Name', and 'Find Number of Passengers by Ship Name'. Each option has a corresponding input field and a 'Find' button. The right section, labeled 'Sorted Names:', contains a table with five columns: 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. The 'Cargo Ships' button is highlighted. Below the table, there is a text area labeled '---Sorted Cargo Ship Names---' which displays the list: '[Abracadabra, Aristotle, Barcelona, Kielbasas, Plato]'. The window has a standard Windows-style title bar with minimize, maximize, and close buttons.

All Information:	Ports	Docks	Passenger Ships	Cargo Ships	People
Sorted Names:	Ports	Docks	Passenger Ships	Cargo Ships	People

Find Ship by Index

Find Job by Passenger Name

Find Cargo Weight by Ship Name

Find Number of Passengers by Ship Name

Find

Find

Find

Find

---Sorted Cargo Ship Names---

[Abracadabra, Aristotle, Barcelona, Kielbasas, Plato]

Test 5 - Success

Test the 'People' button on the 'Sorted Names:' line

Expected to list the person's names from the text file alphabetically

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, there are two rows of buttons. The first row, labeled 'All Information:', contains buttons for 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. The second row, labeled 'Sorted Names:', contains buttons for 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. The 'People' button in the 'Sorted Names' row is highlighted. Below these buttons, there are four search options, each with a text input field and a 'Find' button: 'Find Ship by Index', 'Find Job by Passenger Name', 'Find Cargo Weight by Ship Name', and 'Find Number of Passengers by Ship Name'. At the bottom, there is a text area labeled '--Sorted Persons Names--' which displays the names '[Betsy, Descartes, Duane, Thomas, TomHanks]'.

All Information:	Ports	Docks	Passenger Ships	Cargo Ships	People
Sorted Names:	Ports	Docks	Passenger Ships	Cargo Ships	People

Find Ship by Index Find

Find Job by Passenger Name Find

Find Cargo Weight by Ship Name Find

Find Number of Passengers by Ship Name Find

--Sorted Persons Names--

[Betsy, Descartes, Duane, Thomas, TomHanks]

Test 6 - Success

Test the 'Find' button on the 'Find Ship by Index' line and enter 40002 in text field

Expected to return the Ship name associated with that Index which is Aristotle

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, there are two rows of tabs: 'All Information:' and 'Sorted Names:'. Each row has five tabs: 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. The 'Find Ship by Index' section has a text field containing '40002' and a 'Find' button. Below this, there are three more sections: 'Find Job by Passenger Name', 'Find Cargo Weight by Ship Name', and 'Find Number of Passengers by Ship Name', each with a text field and a 'Find' button. The main display area shows the result 'Aristotle' under the heading '---Name of Ship according to Index---'.

All Information:	Ports	Docks	Passenger Ships	Cargo Ships	People
Sorted Names:	Ports	Docks	Passenger Ships	Cargo Ships	People
Find Ship by Index	40002			Find	
Find Job by Passenger Name				Find	
Find Cargo Weight by Ship Name				Find	
Find Number of Passengers by Ship Name				Find	

---Name of Ship according to Index---

Aristotle

Test 7 - Success

Test the 'Find' button on the 'Find Job by Passenger Name' line and enter Descartes in the text field

Expected to return the Job associated with that passenger name which is Philosopher

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, a table with five columns: 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. The table is divided into two sections: 'All Information:' and 'Sorted Names:'. The 'Sorted Names:' section contains four rows of search options, each with a text input field and a 'Find' button. The second row, 'Find Job by Passenger Name', has 'Descartes' entered in the text field. Below the table, a large text area displays the result: 'Philosopher'.

All Information:	Ports	Docks	Passenger Ships	Cargo Ships	People
Sorted Names:	Ports	Docks	Passenger Ships	Cargo Ships	People
Find Ship by Index	40002			Find	
Find Job by Passenger Name	Descartes			Find	
Find Cargo Weight by Ship Name				Find	
Find Number of Passengers by Ship Name				Find	

--Job according to Name entered--

Philosopher

Test 8 - Success

Test the 'Find' button on the 'Find Cargo Weight by Ship Name' line and enter Plato in the text field

Expected to return the Cargo Weight of the Cargo Ship whose name is Plato which is 1002.63

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, there are two identical tables for 'All Information:' and 'Sorted Names:'. Each table has five columns: Ports, Docks, Passenger Ships, Cargo Ships, and People. Below these tables, there are four search options, each with a text input field and a 'Find' button:

- Find Ship by Index: 40002
- Find Job by Passenger Name: Descartes
- Find Cargo Weight by Ship Name: Plato
- Find Number of Passengers by Ship Name: (empty)

Below the search options, there is a text area labeled '---Cargo Weight of Ship Name entered---' which displays the result '1002.63'.

Test 9 - Success

Test the 'Find' button on the 'Find Number of Passengers by Ship Name' line and enter Zedicus in the text field

Expected to return the number of passengers currently associated with the ship named Zedicus which is 3768

The screenshot shows the 'SeaPort Program' window. At the top, there is a 'Choose File' button. Below it, there are two rows of tabs: 'All Information:' and 'Sorted Names:'. The 'Sorted Names:' row is active, showing tabs for 'Ports', 'Docks', 'Passenger Ships', 'Cargo Ships', and 'People'. The 'Passenger Ships' tab is selected. Below the tabs, there are four search entries, each with a text field and a 'Find' button:

Search Type	Text Field	Find Button
Find Ship by Index	40002	Find
Find Job by Passenger Name	Descartes	Find
Find Cargo Weight by Ship Name	Plato	Find
Find Number of Passengers by Ship Name	Zedicus	Find

Below the search entries, there is a large text area with the following text:

--Number of Passengers according to name entered--
3768

Lessons Learned -

The past few weeks have been super busy, as I started a new job and have been in training which started this past Monday. This is actually the reason I wasn't able to participate in the weekly discussion this week (as you may have noticed). I ended up putting it off until Thursday evening as I was working on this Project all week, then when it came time to get it done, I saw that we were asked to provide a GUI to show we new how they worked. I felt this was not something I could learn from so decided it would be better to use that time to continue to work on this project due to the time crunch. As far as what all I learned while doing this project, I did learn how to replace my ArrayLists which I was using before to store each object's information to storing the information in HashMaps. This I found to be super useful as it was easier to narrow down particular bits of information using the HashMap over the ArrayList. This helped a lot in making methods that returned specific information for the user. I also learned how to use a SortedSet when figuring how to provide a sorted list for the user. This is a super helpful tool especially for a project such as this so was a great lesson to learn.