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Battleship User Guide

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Introduction

The purpose of this document is to familiarize the user with the operation of the Battleship software project. Battleship is a software simulation of a popular board game, also called Battleship. Its purpose is to entertain a user, providing all the fun of the original Battleship game, even when the board game is not available. This makes it especially suited to situations such as meetings and waiting for airplanes. Battleship is supported on any platform that supports the Java Standard Edition 10.0.2 Runtime Environment, including support for the Swing Application Programming Interface.

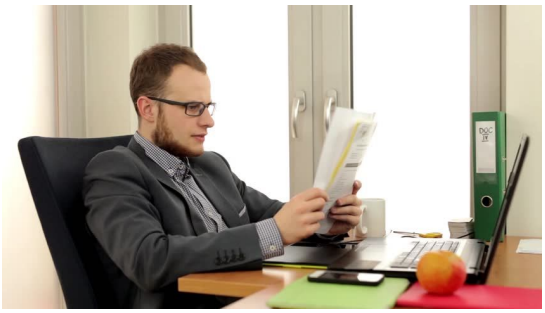
Battleship was analyzed, designed, and implemented by Sam Haskins, a high school student residing in Ottawa, Ontario, Canada.

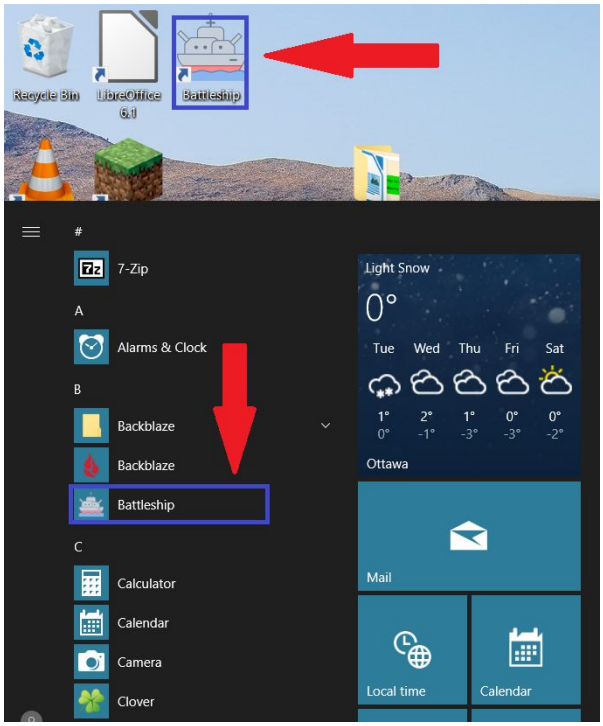
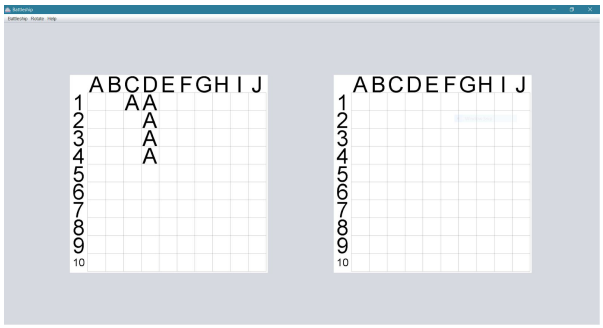
The most recent version of Battleship, 1.0.1, was released on November 27th, 2018, with two future releases anticipated.

Loading Instructions

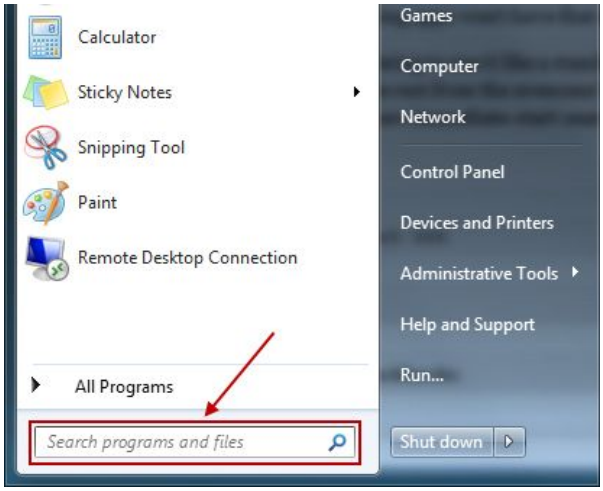
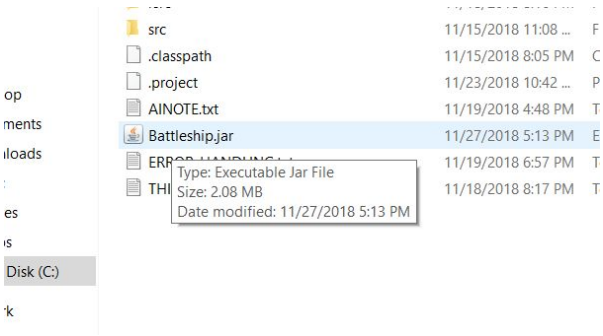
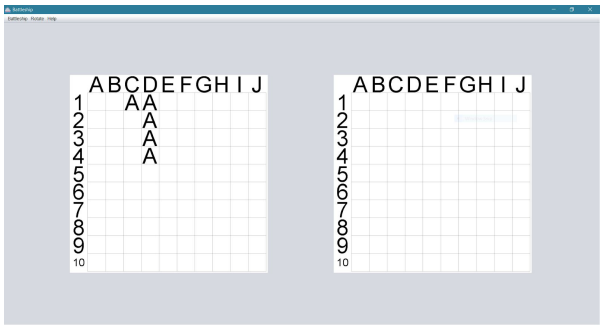
Battleship may be loaded via clicking a provided shortcut or via launching the Battleship Java Archive directly. The first method, using a shortcut, is only available on platforms on which Battleship was installed using the Windows Installer method. For more details, consult Battleship's Installation Instructions. Procedures for both methods are provided in this section.

Procedure 1: Launching Battleship using a Shortcut

Text Instructions	Visual Instructions
1) Ensure that Battleship was installed on the platform using the Windows Installer method. If it was not, this procedure cannot be used. For more details, consult the Battleship Installation Instructions.	 (Berg, 2015)

2) Double click the start menu or desktop shortcut. Both shortcuts work; it is recommended to use whichever is more convenient.	
3) Battleship will start. The procedure is complete.	

Procedure 2: Launching Battleship's Java Archive

Text Instructions	Visual Instructions
1) Locate the "Battleship.jar" file in the directory where Battleship was installed. For more information, consult the Battleship Installation Instructions.	 (Dodd)
2) Invoke the "Battleship.jar" file. On Windows platforms, this is accomplished via two clicks in rapid succession. This is referred to as a "double-click".	
3) Battleship will start. The procedure is complete.	

Using Battleship's Features

This section of the User Guide describes Battleship's features and the procedures for using them. Before utilizing any of Battleship's features, the Battleship application must be launched; to do this, consult the previous section.

Select Type of Game

Description

The Select Type of Game dialog allows the user to select a game against the AI, or a two-player game.

Procedure 3: Select Type of Game

Text Instructions	Visual Instructions
1) To reach the "Select Type of Game" dialog, invoke the "Battleship > Select game type" menu entry. The dialog will also be shown when Battleship is first run.	
2) Enter the desired selection using the provided radio buttons.	

3) Click the “Select” button when complete.	

Sample Input
Sample input for the “Select Type of Game” dialog is “Game against the AI” or “Two-player game.”

Sample Output
Sample output for the “Select Type of Game” dialog is a game against the Battleship AI or a two-player game.

The Battleship Boards

The Battleship Boards are the main component of Battleship’s Graphical User Interface. A board is displayed for each player, including the AI if necessary. Two features of Battleship, placing a ship and firing, are exposed through the Battleship Boards.

Figure 1: The Battleship Boards (Game Start)
An annotated image of the Battleship Boards, describing the association of players to a board.

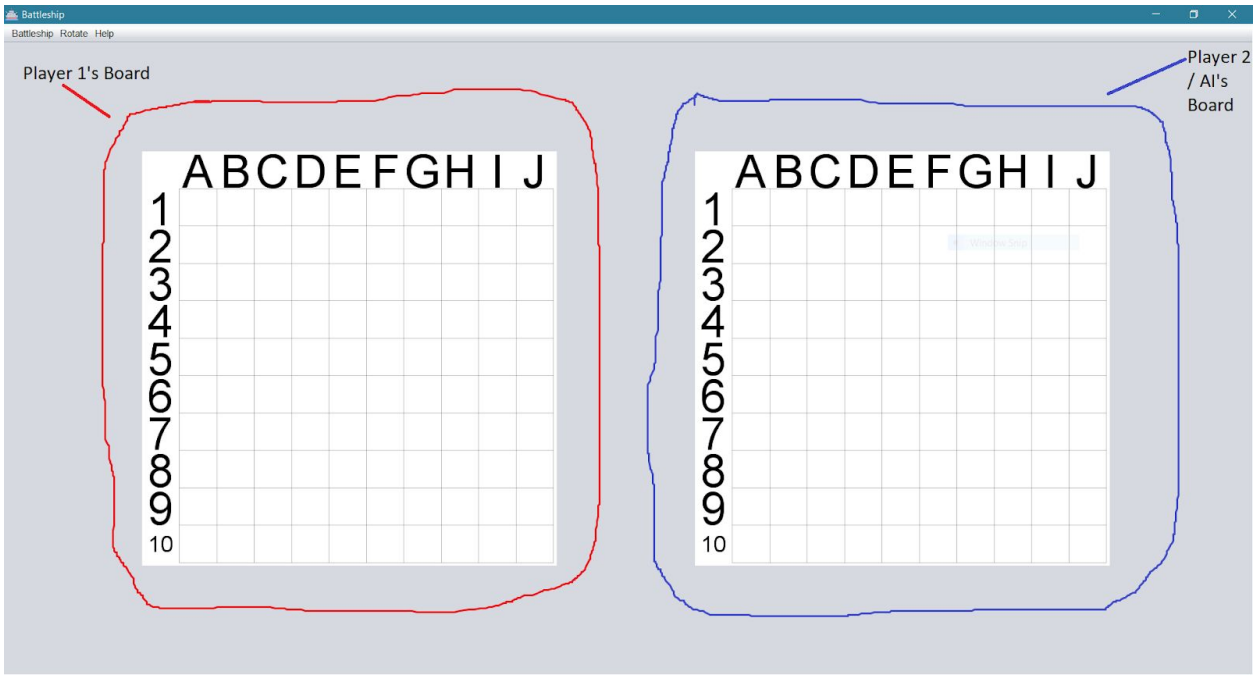
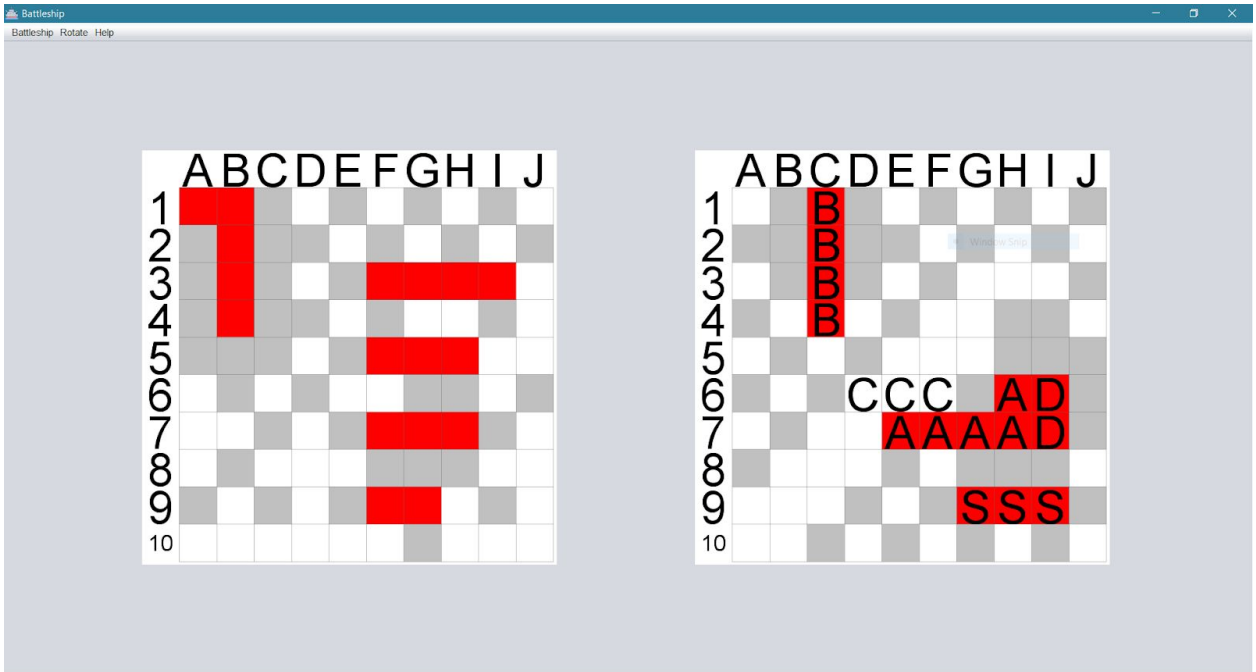


Figure 2: The Battleship Boards (Game End)
Red squares are hit ships; Grey squares are hit yet empty.



Place Ship

Description

Placing ships is an important feature within the Battleship software project. To place a ship, click on the Battleship Board at the desired position. This can only be done on the board belonging to the current player. For example, on Player 1's turn, click on the first Battleship Board. Ships are always placed in the sequence of Aircraft Carrier, then Battleship, then Cruiser, then Submarine, then Destroyer.

Table 1: Types of Ships

This table contains information about the types of ships available in Battleship. It is organized by the order in which they are placed.

Name	Image
Aircraft Carrier	
Battleship	
Cruiser	
Submarine	

Destroyer	D D

Procedure 4: Place Ship

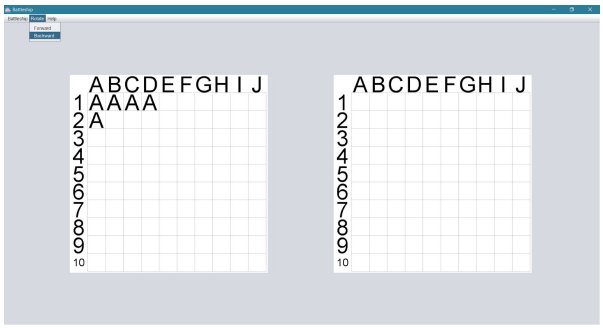
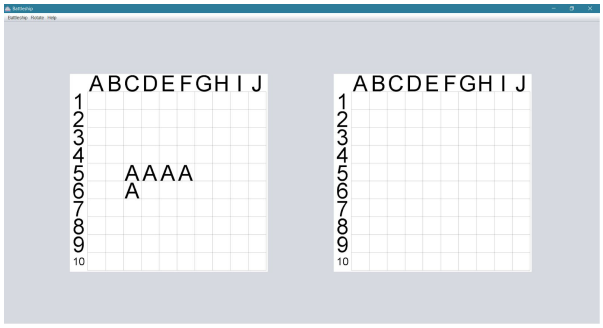
Text Instructions	Visual Instructions
1) Rotate the ship to the desired position using the keys “a” and “d” or the menu items “Rotate > Forward” and “Rotate > Backward”.	
2) Place the ship at the desired position by clicking on the desired grid square. Hovering the cursor will preview the ship’s placement. If the placement succeeds, the other player will subsequently be allowed to place a ship.	
3) If the previous step did not succeed, go to step 2. Otherwise, the procedure is complete. The ship has been placed.	(Ciciliano, 2018)

Table 2: Place Ship Sample Input

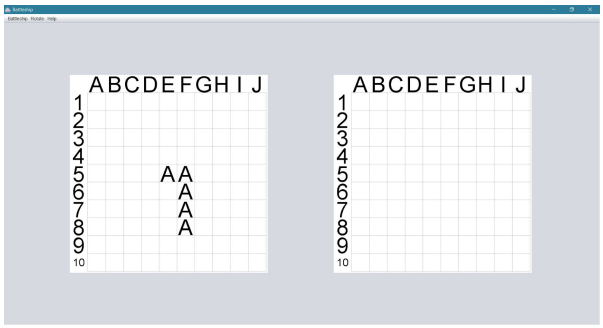
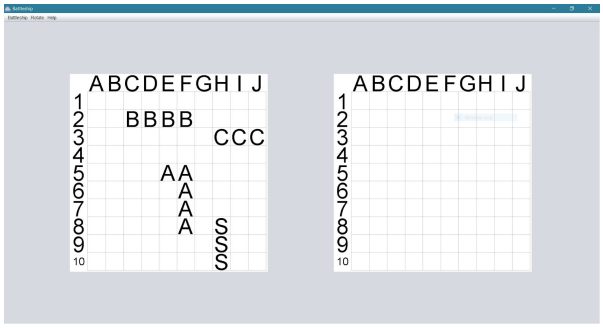
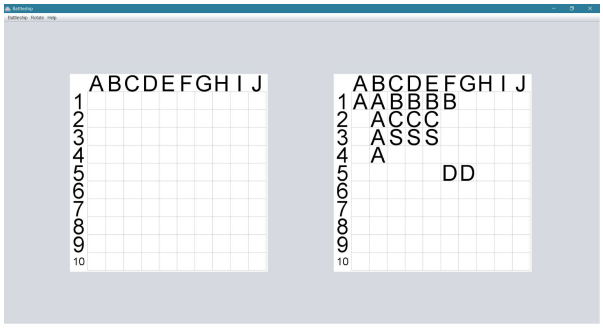
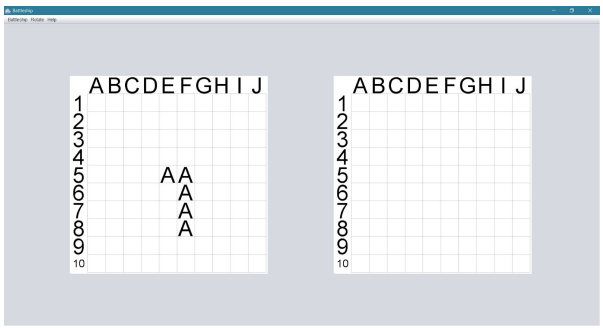
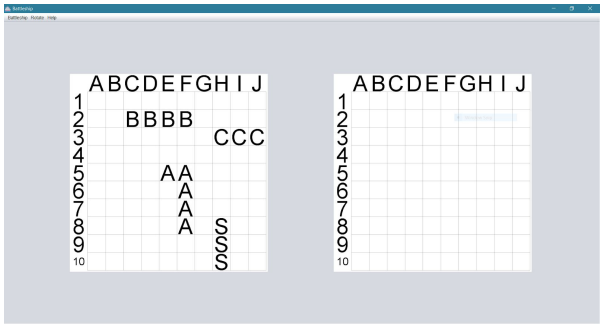
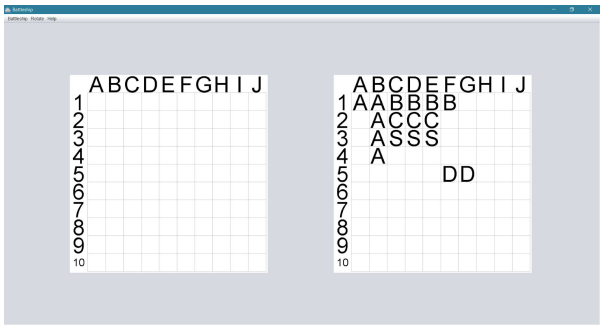
Description	Image
Player 1 placing an Aircraft Carrier with the default rotation at E-5.	
Player 1 placing a rotated Submarine at H-10.	
Player 2 placing a Destroyer with the default rotation at F-5.	

Table 3: Place Ship Sample Output

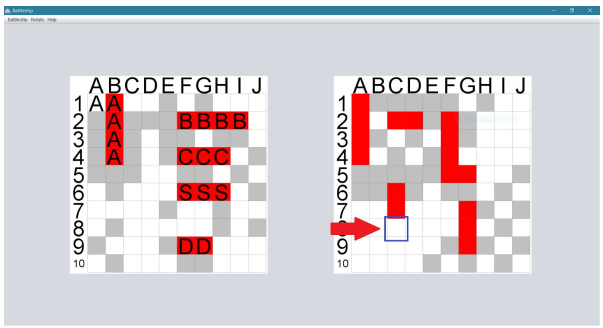
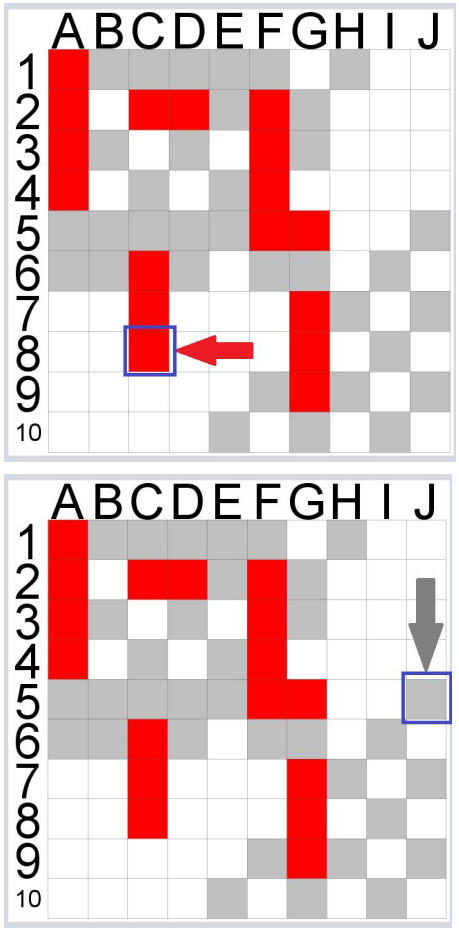
Description	Image
Player 1 placed an Aircraft Carrier with the default rotation at E-5.	
Player 1 placed a rotated Submarine at H-10.	
Player 2 placed a Destroyer with the default rotation at F-5.	

Fire

Description

The “fire” feature of Battleship allows a player to fire at their opponent’s board, once on each turn. This feature can only be initiated if it is the initiating player’s turn. To fire, click on the desired cell on the opponent’s board. After firing, the player’s turn ends and control is passed to the other player.

Procedure 5: Fire

Text Instructions	Visual Instructions
1) Click on the cell to be fired upon. This cell must be on the opponent's board.	
2) If the cell fired upon had a ship in it, it will be colored red. Otherwise, it will be colored grey.	

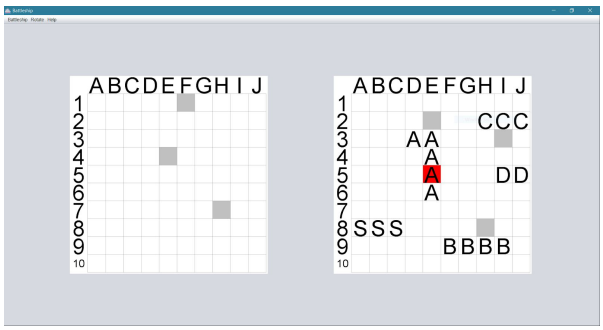
3) If the game has not been won, control passes to the other player. The procedure is complete.	

Table 4: Fire Sample Input

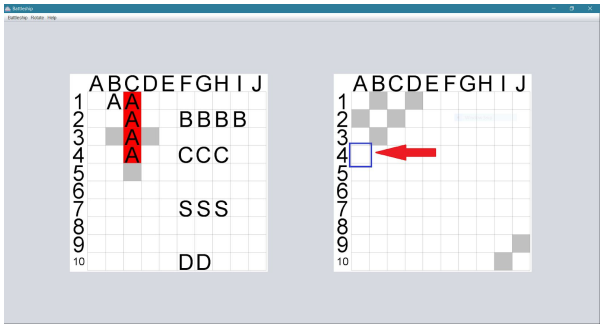
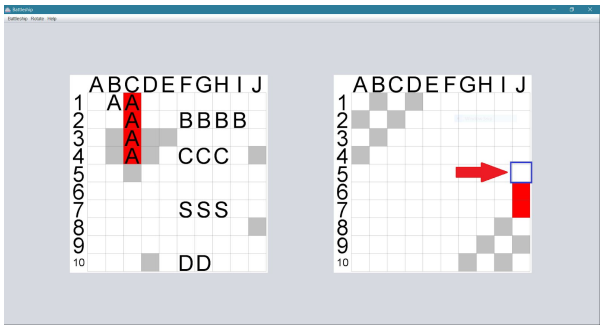
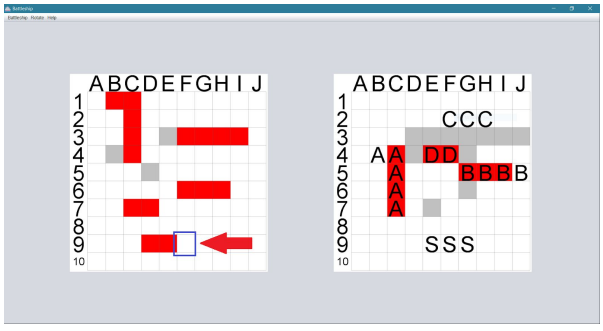
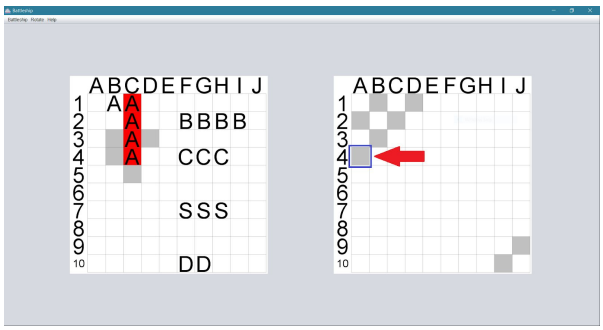
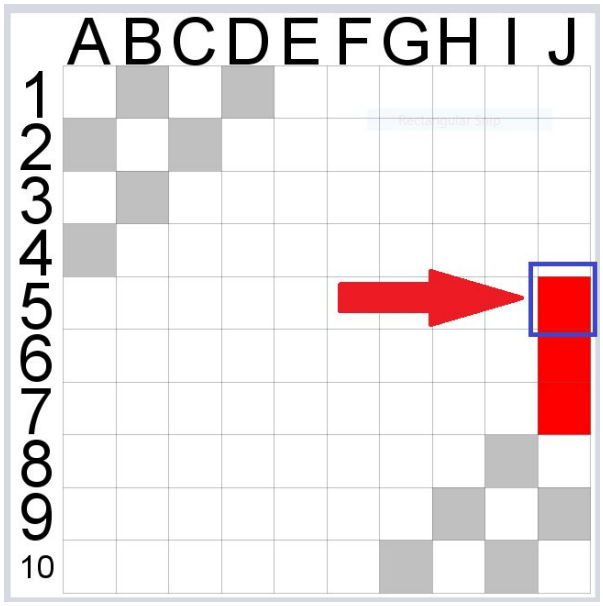
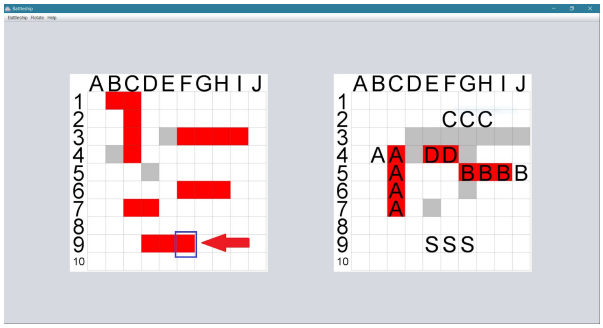
Description	Image
Player 1 firing on A-4.	
Player 1 firing on J-5.	
Player 2 firing on F-9.	

Table 5: Fire Sample Output

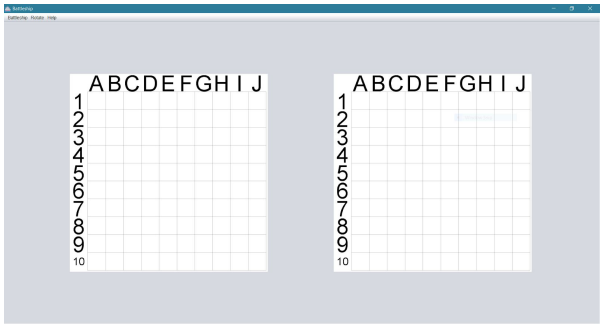
Description	Image
Player 1 fired on A-4, but it was not a hit.	
Player 1 fired on J-5; it hit a ship.	
Player 2 fired on F-9; it hit a ship.	

Start New Game

Description

The Start New Game feature of Battleship allows the user to start a new game of Battleship against the previously-selected opponent. For information on selecting an opponent, consult the “Select Type of Game” section of Battleship’s User Guide.

Procedure 6: Start New Game

Text Instructions	Visual Instructions
1) Invoke the “Battleship > Start new game” menu entry.	
2) A new game of Battleship will be started against the previously-selected opponent. The procedure is complete.	

Sample Input

Sample inputs for the “Start New Game” feature include: start new game with an AI opponent selected, and start new game with a two-player game selected.

Sample Output

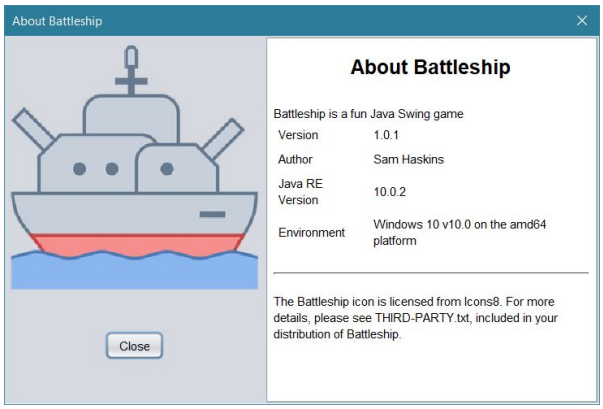
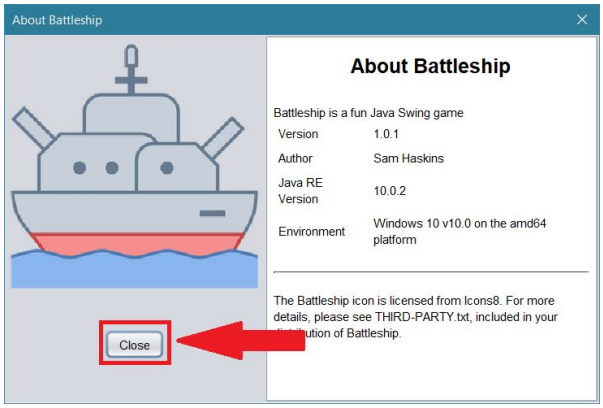
Samples outputs for the “Start New Game” feature include: a new game against an AI opponent, and a new two-player game.

About

Description

To find information about Battleship and the environment upon which it is running, use the “About” feature. This feature displays information about Battleship, Battleship’s version, the version of the Java platform, and the operating system’s architecture and version. To use this feature, consult procedure 7.

Procedure 7: About Battleship

Text Instructions	Visual Instructions
1) To open the “About” dialog, invoke the “Help > About” menu item.	
2) The about dialog will open, displaying information about Battleship and the platform.	
3) To close the about dialog, click the “Close” button.	

Sample Input

Sample input for the “About” feature is limited to invoking the “Help > About” menu item.

Sample Output

The “About” feature will open the about dialog, displaying information about Battleship and the platform.

Rotate Menu

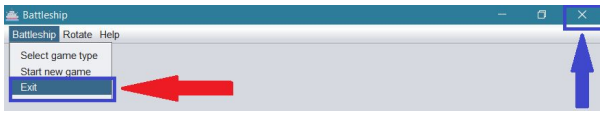
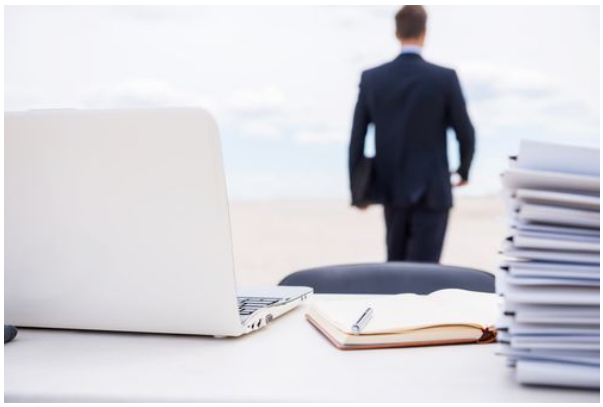
Battleship contains a “Rotate” menu. This menu can be used to rotate ships during ship placement. For more information, consult Procedure 4: Place Ship.

Exit

Description

Battleship contains an “Exit” menu item. This item, when invoked, exits the program. The operation of this feature is detailed in this section of the Battleship User Guide.

Procedure 8: Exit

Text Instructions	Visual Instructions
1) To exit Battleship, invoke the “Battleship > Exit” menu item. Alternatively, the exit button provided by the platform’s window manager may be invoked with the same effect.	
2) Battleship will exit immediately. The procedure is complete.	 (Gothelf, 2016)

Sample Input
Sample inputs for the “Exit” feature include clicking the menu item “Battleship > Exit” and clicking a platform window-manager defined close button.

Sample Output
The output of the “Exit” feature is Battleship immediately exiting.

References

Berg, M. (2015, April 21). HDFootageStock. *Young, handsome man sitting behind the desk.* Retrieved November 27, 2018, from http://hdfootagestock.com/video/9675974/young-handsome-man-sitting-behind-the-desk-he-is-reading-notes-and-getting-angry-because-of-what-he-sees-he-is-throwing-away-notes-and-looking-into-his-phone

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