

ISLAMIC UNIVERSITY OF TECHNOLOGY



VISUAL PROGRAMMING LAB

CSE 4402

Battleship Game

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1 Tasks

You are tasked with implementing the classic game of “Battleship” using JavaFX and SceneBuilder. Battleship is a turn-based game wherein two players strategically place their pieces on a 9×9 grid. Each player remains unaware of their opponent’s piece placements, with each grid square capable of accommodating only a single piece. Following the placement phase, players take turns to target and destroy their opponent’s pieces by firing shots.

The game includes three types of pieces: a battleship, two destroyers, and three submarines, which occupy 3, 2, and 1 grid squares respectively. Players can place the pieces vertically or rotate them and place them horizontally. A piece is deemed destroyed once all grid squares it occupies have been hit. The objective is to eliminate all of the opponent’s pieces to secure victory.

Bonus: Additional marks will be awarded for incorporating the functionality allowing players to maneuver pieces by 1 grid square after sustaining damage, provided they remain intact.

Follow figure:1 for reference.

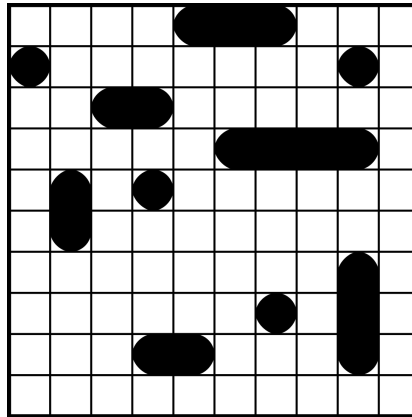


Figure 1: Battleship placement.

Use JavaFX and SceneBuilder for creating this application. Bonus points will be added for good UI design with dark/light mode switching.