Battleships Technical Specification

Group Project

Git Repo: <https://github.com/DrGrimshaw/BattleshipsJavaGame>

**Ship**

State

* Length
* Health
* Starting Position
* Orientation

Behaviours

* Construct with length, starting position and orientation
* Get length
* Check whether ship exists at co-ordinates
* Take a hit
* Check whether the ship is sunk

**Orientation**

* Right
* Down

**Cell State**

* Nothing
* Miss
* Ship Hit
* Ship not hit
* Ship Sunk

**Player Board**

What is a board?

* A board has a grid of cell states
* A board has a list of ships
* A board has a width and height

How do we interact with it?

* Create a board with a width and height
* Get width
* Get height
* Place a ship on to board
* Get cell state at co-ordinates
* Check whether co-ordinates have been guessed before
* Get ship at co-ordinates if any
* Get number of ships remaining
* Get an unmodifiable list of ships
* Check for game over

**Enemy Board**

State

* Board has a grid of cell states
* Board has width
* Board has height

Behaviour

* Fire on co-ordinates then return state of the cell
* Get number of ships remaining
* Check whether co-ordinates have been guessed before
* Check for game over
* Get cell state at co-ordinates, returning “nothing” in place of “ship not hit” and “ship hit” in place of “ship sunk”
* Get Width
* Get Height