

1 Description

The scope of this project is to write a simple console application to play Battleship (Schiffe versenken).

2 Work plan

The work consists of the following units:

- ✓ Develop a console based application which allows for two players to play against each other. The application should provide two 20x20 matrix playing fields, one for each player.
- ✓ At the start of a new game, the console should ask each player where to place their ships. The player must then input the ships position. The system should recognize invalid positions (such as an overlap with an already placed ship).
- ✓ Next, the application takes turns in asking the players at what position they want to fire. The players give answers by guessing one of the board squares of the other players field. If the square they guess contains part of a ship, it is a hit. Otherwise it is a miss. They sink a ship when all squares containing that particular ship have been uncovered. The application should give feedback back to the player about hit/miss, sinking a ship and winning/loosing the game.
- ✓ At the beginning of every turn, print the enemy field (displaying shots that were fired/-ships sunk by you) as well as your own field (displaying shots fired/hits by the opponent) on the console for the player to see.
- ◇ Develop a simple strategy to play the game and write a computer algorithm such that a human opponent can play against the computer instead of another player.
- ◇ Add a GUI window that displays the playing field with all information instead of printing it on the console. The GUI should swap the fields between each players turn.

3 Scope

The project counts as completed if the system can be demonstrated implementing the functionality of all ✓-items. The ◇-items are optional items for extra points.