# **Java Project Proposal Document, group 3**

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**Project outline:** We will implement the game Gomoku in Java, using object-oriented design. Gomoku is a board game where two players take turns putting stones at a board, trying to get 5 in a row (counting horizontally, vertically and diagonally). The board will consist of 19 rows and 19 columns and the first stone needs to be placed in the middle of the board. The player needs to place exactly 5 stones in a row (not more) to win. We chose the game category because we find game-development motivating and interesting. We also aren’t too experiences in computer networking and therefore didn’t want to make a project within networking. When we considered which game to choose, we emphasized games that would work in the terminal, as we weren’t allowed to make a graphical user interface (GUI). We were also inspired to make a Korean game.

**Implementation:** The application’s main function will be an infinite while-loop that queries the user what he/she wants to do. The options will be singleplayer, multiplayer, ranking and quit. A switch statement will use the user input to determine which functions to use. After game/ranking viewing is complete, the loop will start a new iteration and will present the choice to the user again. We will have classes for Multiplayer, Singleplayer, Ranking, Board and Move.

The Move class will inherit from the Board class and will use the information to consider whether a move is legal and whether the move will result in a win.

The Multiplayer class will ask the users for their names and the players take turns inputing the moves they want to make, in an infinite while-loop. The Board and Move classes will be used to print and update the board and check if the moves are legal and result in a victory.

The Singleplayer class will provide the user with a computer-controlled opponent. We’re not entirely sure how to implement this yet, but we’re considering scanning the board and appraising the empty slots with numbers from 1-6, indicating the potential of putting a stone there.

The Ranking class will make use of an external .txt-file to store records outside the current game execution. A ranking board will show who beat who, in how many moves.