# Internal flow of artificial intelligence players

The decided upon flow plan for the internal components of the different AI difficulties was one built for maximal code reuse and minimal complexity. AI flow shown visually in figure **REPLACE\_WITH\_FIGURE\_NUMBER**. During the setup of a game, players will choose the number and difficulties of artificial intelligence players. Upon game start a new AI object will be created for each one of these players, storing their player number, difficulty, and a randomly chosen name with the suffix “bot”.

These objects will wait until the server calls on them to provide a move of accurate level for their difficulty at which point the AI will create a data structure containing all game states currently able to be reached by the board in one move. Note that restrictions will be applied to reduce redundancies and increase response speed. During this process the AIs will gage the moves based on their individually customized heuristics, saving the preferred move to be sent back to the server either after all possibilities have been processed, or a time limit has been reached. This process repeats whenever the server calls on the artificial player for a move, or until the game ends at which point all AI objects are destroyed.