The Board Game Analyzer should easily portable to a console application. This would allow the console application to run unattended and launch automatically when the OS starts. To facilitate this, the classes will be divided into two areas, the game logic and the controller. The GUI will function as the controller with the option to replace the GUI with a console app controller. The game logic will provide information about how the game progresses.

The generation of a game graph will require generation of available moves for every possible board situation. The initial list of available moves will seed the game. Each available move for every board situation will be played, producing another board situation and corresponding list of available moves. Game play will proceed until a win, lose, or draw is reached. At that point, the last move will be undone, reverting to the previous board situation, and the next move will be played. When all the moves have been executed and undone for a given board situation, the previous move will be undone. This will proceed until the last move from the initial seed list of available moves has been undone. As these moves are executed, the game graph will be saved to persistent storage.

The Win/Lose/Draw prognoses for each move will be propagated back from the end game board situations. If the end game move results in a win, the prognosis is “Win”. If the move results in a draw, the prognosis is “Draw”. If the win results in a loss, the prognosis is “Lose”. The prognosis for a non game ending move is propagated from the collection of subsequent moves. Note some games can enter a blocking situation where the current player doesn’t alternate. Note some games cannot end in a draw so no moves will have a “Draw” prognosis. This table describes the propagation. The rules are considered in this order.

|  |  |  |
| --- | --- | --- |
| Collection Consists Of: | Players Match: | Previous Move Prognosis: |
|  |  |  |
| At least one Win | No | Lose |
|  | Yes | Win |
| At least one Draw | Both | Draw |
|  | No | Draw |
| All Lose | No | Win |
|  | Yes | Lose |