Software Engineering Laboratories

Universal Game System
System Runtime

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1. Game Server execution. Single server instance organizes only one championship. No other games are controlled in this time. Server application must use the following initial command line parameters to initiate championship mode:

   ```
   --championship "YY" XX --port ZZZZ
   ```

   where **YY** is id of the game, for example "checkers", **XX** is the number of players who must connect before championship may start and **ZZZZ** is the port number to listen on. Please note, that XX should not be confused with number of players needed to perform single game nor with number of players winning a game. For example in case of tic tac toe XX may be for example be 16 or 8 (number of players for one game will be 2 and number of winning players will be 1).

2. Players behaviour. Players cannot check results of other games in which they were not playing. A disconnected player cannot reconnect and continue. A player cannot be banned. Game ID contains only one string.

   Players cannot choose between normal and championships mode. Players must accept games offered by the server.

3. Players execution. Player application must accept following command line parameters:

   ```
   --connect_to IP:PORT
   --nick NICK
   ```

   where **IP:PORT** is the address of the game server and **NICK** is the player's nick. Nick name cannot contain white space characters.

4. Master execution. Master application must accept following command line parameters:

   `--connect_to IP:PORT`

   where **IP:PORT** is the address of the game server

5. Championship Mode. If a multiplayer game in championship mode lost one of the players:
   a) The lost player looses in this game.
   b) Rest of the players wins.
   c) If number of players that may win is smaller than wining players must be chosen randomly.

6. GUI. We do not need any GUI for this project, neither for server or for player. All the playing process for server, client and master must be 100% automatic. No interaction with a human user must be required.