CLA Summit 2018 Coding Competition

tronview

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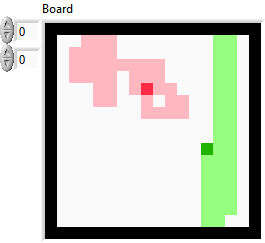
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# Game basics

tronview is a game where two bots are moving through the board, leaving behind impenetrable wall. When the bot moves into the wall, it losses. The objective of the game is to survive longer than opponent.

* Game is played on a square board which consist of NxN fields. The board is limited by the walls.
  + Board size is decided at the beginning of the game.
  + Minimal board size is 16x16, maximum 48x48.
* Bots start at random positions on the board.
  + Starting positions are random.
* Game is played in turns. In each turn each bot makes move (N, E, S or W), leaving the wall on the field it left.
  + Bots move simultaneously.
* If the move finishes in the field with wall, bot losses.
* The game results in a draw when:
  + Both bots moves into a wall in the same turn.
  + Both bots moves into the same field in the same turn.



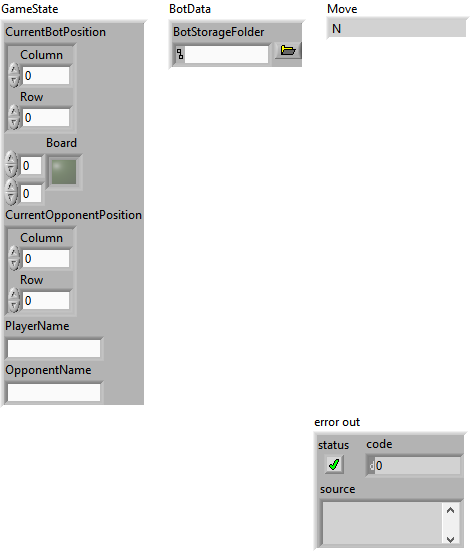
1 An example view of the game board. Green wins, as Red moved into the wall it created itself.

Technical details

## Quick start

1. Download the game code.
2. Copy the TemplateBot.lvlib and its contents. Rename it to YourName.lvlib (YourName = your name ☺)
3. Implement the Bot.vi
4. Have fun!

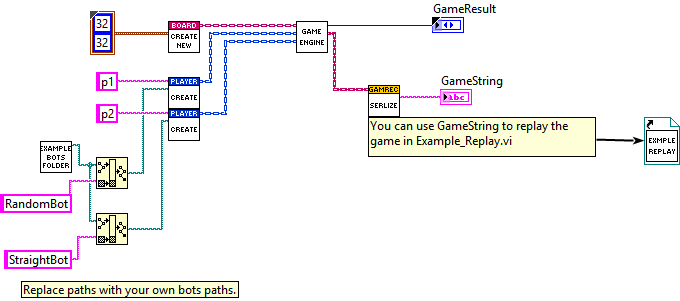
## Bot.vi



|  |  |  |
| --- | --- | --- |
| INPUTS | | |
| GameState | CurrentBotPosition | Current position of your bot. |
| Board | Current state of the fields on the board.  False = field is not occupied.  True = field is occupied. |
| CurrentOpponentPosition | Current position of opponents bot. |
| PlayerName | Your name. |
| OpponentName | Your opponents name. |
| BotData | BotStorageFolder | The folder in which the bot may store any persistent data it wants.  This folder will stay the same during entire competition. |
| OUTPUTS | | |
| Move | | The move your bot make in this turn. |
| Error out | | Error returned by your bot. Error will be logged, so you may use it for further investigation during developement. |

## Testing your bot

* You can test your bot using Example\_Game.vi in Sandbox directory:



# Competition format

**Competition format is provisional and is subject to change before final release.**

* **Competition will be split into two parts: round-robin round and knock-out round.**
* **In round-robin round each bot will play multiple games with each other.**
  + **Standings will be based on the points gained by bots: winner of each game will gain 2 points, loser 0 points. If the game ends with a draw, each bot will gain 1 point.**
* **Best X bots will advance into knock-out round.**
  + **Bots will be paired and will play multiple games. Winner will advance to next round, and the process will be repeated until the final between two bots.**