GuiltySpark

Version 1.0.43, for Halo Custom Edition 1.08
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What is GuiltySpark?

GuiltySpark (GS) started as an experiment to see what kinds of automation I could do with just knowledge of the player's coordinates and simulated keyboard input. It has evolved into something much more general and flexible. At its heart, it's still just reading data from Halo and simulating user input to control your player. However, in between those two processes is an AI system that you can build or modify to suit your needs.

You might use GS for:

- Background actors in your machinima
- Occupying a slot in your otherwise empty server
- Performing simple tasks when testing your own apps
- Key macros
- Entertainment!

GS runs beside Halo and takes your place as the user when activated. It's not a tool to add bots to your multiplayer map—you can't run multiple instances of GS to get multiple bots. All it does is control the game for you. If you want to play against GS, you'll have to set up Halo and GS on another computer and join the same server.

To get it working, you'll need the latest .NET framework and Halo Custom Edition 1.08. If you're running on a different version of Halo, I've included the 1.08 executable and version changer in this download. I also recommend running GS as administrator.

Definitions

Node Graph

The node graph is a set of interconnected points that tells the bot how to navigate a level. Each node represents a location in the map and can be linked to other nodes to represent a path of movement. When the bot navigates the map, it will follow these paths to its destination.

AI Script

The AI script determines the bot's behaviour and is just a simple text file that can you can write. It works by defining tasks. Each task can be made of subtasks and has a priority associated with it. The *refresh rate* of the AI determines how long it waits between determining which task it should be performing.

Aimbot

The aimbot is how GS aims at targets. The AI system is responsible for giving the aimbot a target. It can lead to compensate for projectile velocity, target velocity, and network latency and can perform ballistic aiming for projectiles affected by gravity. To perform more like a human, aiming is smoothened to avoid "snapping" and a slight wobble causes more missed shots.

Walkthrough

It is recommended that you play Halo in windowed mode when using GS (provide the argument –windowed). The next thing you'll want to do is make sure Halo uses the default control scheme. If you need to, create a new profile just for GuiltySpark. Start a game in Blood Gulch.

When you first start GS, you will be at the Node Graph tab. Click Open and select *bloodgulch.wmap* from the *graphs*\ folder included with GS.

The graph view will show you your current position within the graph. Drag with the left mouse button to pan along the XY-plane, drag with the right mouse button to rotate, and use the scroll wheel to zoom in/out. If "Follow Player" is checked, the view will automatically pan as you move ingame. If "Use Camera" is checked, the program will use the camera's coordinates instead of your player. "Auto-rotate" makes the view align with your ingame view direction. Lowering the "Link Size" makes the link arrows thinner and the circles smaller.

On the left side you'll see a text box with a run button next to it. Type *help* into the box and click run or hit enter. This will display all the commands available to you. They exist to allow the creation and testing of node graphs. Checking "Look-Ahead" forces the bot to always look forwards when walking along a path. The "Node Radius" tells the bot how close it should come to a node before moving on to the next one in the path.

To see the bot walk, try the command *goto 120*. Switch back to Halo and your player should start walking on its own. You can stop the bot at any point by using the *stop* command. Once it has finished walking, switch to the Artificial Intelligence tab. Click "Load AI" and select *wander.txt* from *ai*\. The AI output window should tell you it successfully loaded the task tree. Click the "Start" button and switch back to Halo, or press F11 ingame. The *wander.txt* script walks to random destinations, where the destination changes every 10 seconds. To stop the AI, press F12 or click "Stop".

Now that you know the basics of using GS, the next step is to read the included tutorials on making node graphs and AI scripts.

Known Issues/Not Yet Implemented

Here's a list of things I didn't feel were immediately necessary for release or are outstanding issues:

- The "simple" target visibility data source doesn't work when the frame rate graph is open, or the target is too far away or too far from the reticule. Instead consider using advanced target visibility.
- Support for vehicles is lacking. This may be addressed in a future remake.
- GuiltySpark is not be able to distinguish between weapons types in custom maps.
- On multi-monitor setups, placing GS on one screen and running Halo fullscreen in the other causes GuiltySpark's node graph display to disappear. Run Halo windowed instead.
- GuiltySpark bot sometimes stops targeting any players after the only opponent dies.
- Sometimes it requires two presses of AI Stop to fully bring the bot to a halt.

Notes

Thanks to everyone who helped me over IM, you know who you are. This is my first real Halo app, so it really helps to have knowledgeable people like you around. Next, I would like to thank my beta testers and everyone at Modacity who commented in the thread. Your feedback shaped GS.

Contact

If you have questions, comments, bugs to report, or features to request, please contact me in one of the following ways:

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