*John at Valve sent these tips to my psychology students last year, when they were working on the project:*

It may be possible to use the Vscript/Squirrel scripting language to spawn and gather info about objects in the game.

Since you are authoring a custom map you ought to be able to add triggers that execute script code as needed.   For example, when the player reaches the end of a level a trigger could run code that dumps the coordinates of objects to the console (or log to disk if console logging is enabled).

The language you'll be using is called Squirrel.  Squirrel is a object-oriented programming language.  For Valve games we refer to it as Vscript.  Here is the home and documentation for Squirrel:

[**http://squirrel-lang.org/**](http://squirrel-lang.org/)

[**http://squirrel-lang.org/doc/squirrel3.html**](http://squirrel-lang.org/doc/squirrel3.html)

Here is the wiki for Portal2 Vscript functions:

[**https://developer.valvesoftware.com/wiki/List\_of\_Portal\_2\_Script\_Functions**](https://developer.valvesoftware.com/wiki/List_of_Portal_2_Script_Functions)

We don't have an official tutorial for learning squirrel for Portal 2 but there are lots of user created tutorials on the net.  Here is one titled "Portal2 - Intro to vscripting Tutorial" that gives an overview of how to get started and how to use the language:

[**https://www.youtube.com/watch?v=nfL3x8XylGc**](https://www.youtube.com/watch?v=nfL3x8XylGc)

[**https://www.youtube.com/watch?v=WqkkBEkMyIs**](https://www.youtube.com/watch?v=WqkkBEkMyIs)

Many of our games use Vscript.

[**https://developer.valvesoftware.com/wiki/VScript**](https://developer.valvesoftware.com/wiki/VScript)

Not all of the features used in our other games will apply to Portal2 but many of the code patterns are the same.  This link has several tutorials for scripting in our game Left 4 Dead 2 (amongst them, how to write a tic-tac-toe game):

[**https://developer.valvesoftware.com/wiki/L4D2\_Vscript\_Examples**](https://developer.valvesoftware.com/wiki/L4D2_Vscript_Examples)

The Vscript files that shipped with Portal2 can be examined when extracted from the VPK files by using third party programs such as GCFScape.  Perhaps Mike Williams is already familiar with this program.  Here is the wiki:

<https://developer.valvesoftware.com/wiki/GCFScape>

Once extracted you can read the script source code in plain text.  The files have the extension ".nut"

Here's the URL for the steam tools forum:

<http://forums.steampowered.com/forums/forumdisplay.php?f=191>

To get the coordinates of an object is pretty trivial and is in the docs:

|  |  |  |
| --- | --- | --- |
| GetOrigin | Vector GetOrigin() | Returns the origin of the entity in the world. |