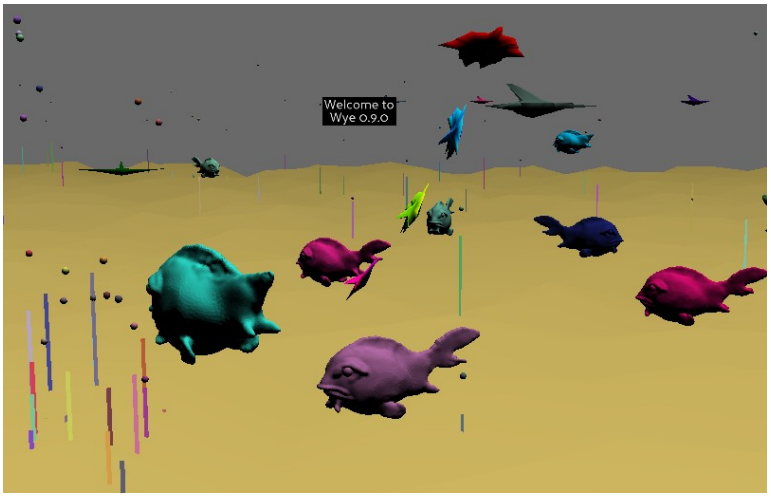
Wye V0.9 Alpha Test Release Notes

Eben Gay, 3/30/2025



Overview:

Wye **will be** an IDE for interactive VR characters.

This Alpha release is testing the underlying runtime engine that the goal-directed objects will be built on and is a first pass at an edit and debug UI.

If you just want to check ths release out, read the **User Interface** half-page below then skip to **I Want To Play** at the end of this document.

When the alpha starts it loads the demo library TestLib.py. You can also load, edit, and save user defined libraries. The alpha release ships with several example libraries loadable from the Wye Libraries dialog.

The current level of Wye code editing requires a detailed understanding of the underlying engine. In other words, in-world editing is not recommended without a tutorial from someone who knows how it works. In the future, this level of detail will only be available to wizards who enjoy breaking things at the core level.

The main sections of the Wye environment are sketched in:

- runtime engine
- editing Wye library “verbs”,
- debugging running objects.

The libraries are absolutely minimal. However, the action you’re seeing in the test world is exercising different core functions such as finding objects, getting and changing their position/orientation in many different ways (absolute, relative to the object, relative to another object, changing their color, generating a sound when they are touched or do an action). Also 3d sound and Midi sound.

There is no HMD immersion support yet. This is PC screen only. That’s a whole ‘nuther 3d library I have to get working. Later.

User interface:

Moving with the mouse:

- Left mouse button turns and goes fwd/back.
- Shift-Left mouse slides sideways and tilts up/down
- Right mouse button slides left/right, up/down
- Center button (press on scroll wheel) resets to start position and orientation.
- Shift center button keeps the current position and resets orientation.

Clicking on an object may cause it to do something (change direction, make a sound, wiggle).

Control-clicking on an object will open the object in the editor dialog.

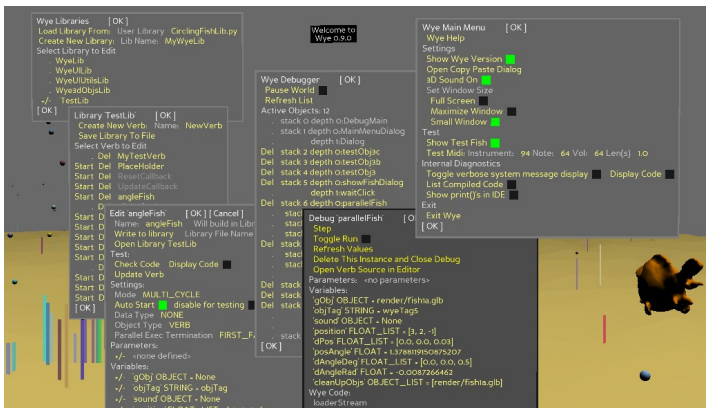
Alt-clicking on an object will open the running object instance in the debug dialog.

F11 will cycle between full screen, maximum window size, and small window size.

Wye user interface Dialogs

Dialogs open relative to where you are. In general, if you move, they will stay where they are. Dialogs with keyboard shortcuts will reposition to a visible location if you repeat the key/click combo when they are lost somewhere else in the world.

Repositioning dialogs:
You can drag a dialog around by clicking on any of the gray background and dragging.
You can move a dialog closer or push it away by shift-click and dragging up/down.



Wye Main Menu dialog:

Control-Alt-left-mouse-click brings up the Wye main menu dialog which has a varied selection of functions like turning off the in-world Wye version, bringing the cut-paste dialog to the front, and exiting Wye.

You may notice that the window is a fixed size. Resizing the window can be done from the main settings window. You can also cycle between window sizes by pressing F11.

Debugging dialogs:

Alt-clicking on an object will pause that running object instance bring it up in a Debug dialog showing its parameters and variables and allows live editing of values. You can also stop the object, which will stop that running instance and remove any graphic objects it has from the active world.

- Changing ints, floats, and strings works reliably. Editing arrays of ints, floats and strings works reliably but the object may have issues if you add or delete entries. Editing objects or lists of objects doen't work well as internal object lookup is not yet supported by the debug dialog.
- **Step** will execute one computation cycle and refresh the displayed values.
- **Run** toggles running the object on and off.
- **Refresh Values** is useful to see variable value changes as the object is running.

Shift-Alt-clicking on empty space brings up the list of all the currently running objects and lets you debug or stop them. You can also pause the entire world. When the world is paused, a debug window for an object will step or run just that object.

Library and Verb dialogs:

Control-clicking on an object in the world or clicking on a verb in the Wye Libraries dialog will bring up the verb editing dialog. This edits the source for the verb in the library. It does not modify the running objects.

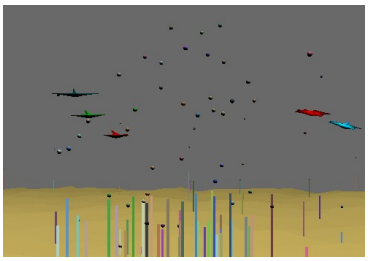
The current level of code editing requires a detailed understanding of the underlying engine. In other words, editing is not recommended without a tutorial from someone who knows how it works. In the future, this level of detail will only be available to wizards who enjoy breaking things at the core level.

Shift-Control clicking on empty space brings up the Wye Libraries dialog that shows all the libraries currently loaded. From here you can load user defined libraries. The Alpha release comes with several fun example libraries. You can save a library to a file and create a new library from here.

You can also click on a library to bring up the Library dialog that shows all the verbs in it. You can create new verbs in the library, delete verbs from the library, and save the library to a file.
Click on a verb to bring it up in the Edit dialog.

I want to play. What to try?

First, fly around the world and check it out. Try sliding up high with the left mouse and then tilting down with shift right-mouse to look at the world from above. Note for later: this is a particularly good viewpoint after you've opened a bunch of fish libraries so there's lots going on.

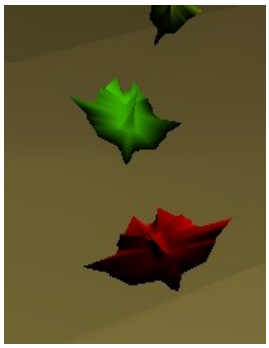


Fly over the grove of bubble plants. When you get close to the bubbles you can hear them "pop".

Now let's explore the things you can click on.

Interactive elements:

- Click on the static green fish to make it wiggle and say "pew"
- "Click to set fish angle" lets you change the angle of the green fish AND the angle of the "sun". You can click on a number and edit it (left/right arrows, delete key). You can also click on a number and use the up/down arrow keys or scroll wheel to change it.



- Click on the red leader fish leading a little flock of colored fish. It will change direction and say "pop"

Changing world settings:

Ctrl-Alt-click the mouse to bring up the Wye Main Menu.

The most useful setting is the window size.

You can also show/hide the version number and the light-angle fish, and turn the 3d sound on and off. You can bring up the cut/paste menu if it's not already showing (useful when editing).

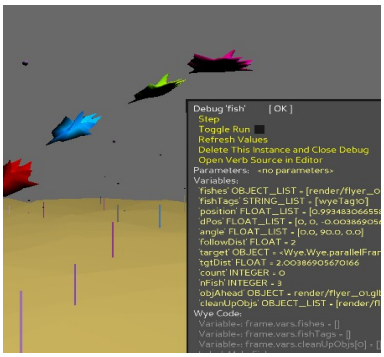
The most fun setting here is playing midi notes. Type in values between 0 and 127 (or use the scroll wheel or up/down arrows) and click Test Midi to play the note.

Debugging:

Check out the object debugger by alt-clicking on any of the three fish following the red leader (not the leader itself).

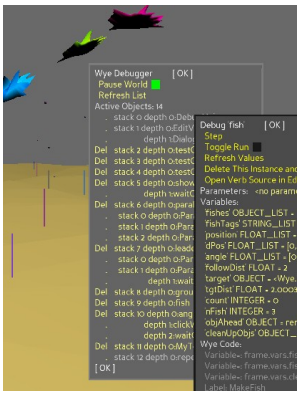
Try clicking **Step** and toggling **Run** on/off.

In the “Debug fish” dialog, click on the variable “followDist”. Change it from 1 to 2 or to .5. Then click **Run** and the fish will change the distance they follow each other at.



You can alt-click on the red leader and click on the Variable “posStep” to change its value. Make it something bigger. When you click OK the fish will zoom.

You can see everything that is running by alt-clicking empty space to bring up the list of all running objects.

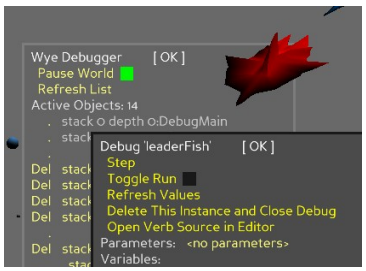


You can delete running objects. Don’t worry. Critical system objects are not debuggable or deletable.

If you stop objects in the default TestLib world you can start new copies by opening TestLib and clicking Start next to them. Note that the “ground” object includes all the weeds and bubbles.

Click **Pause World** to pause the entire world.

When the world is paused, Alt-click an object and click the **Run** checkbox in its debug dialog to run just that object.



Editing**:**

Wye Libraries dialog:

Shift-click to bring up the Wye Libraries dialog listing all the currently loaded libraries. Click on TestLib to see the verbs that make up the current active world. Note that some libraries, such as WyeUILIb have verbs that are coded directly in Python rather than Wye so they are not editable in Wye and show in gray.

Click on the file name next to **User Library** to get a drop down list of user libraries on disk in the UserLibraries folder.

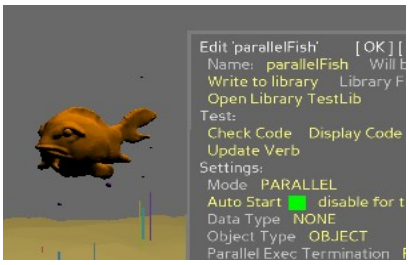
Click Load Library From: to load the selected library.

When you load a library it will update any in-memory version of that library and start new instances of any library verbs that have AutoStart set on. Repeatedly loading a library will start many instances of the verbs. Repeatedly loading a library is one way to create a school of fish!

You can manually start a individual verb by clicking **Start** next to the verb. For instance, if you open up MyFlashingFishLib.py you can create many copies of a given fish verb by repeatedly clicking on **Start**.

Note: if a verb has parameters then it is intended to be called from another verb's code. The library will not show a **Start** button for this verb since it is not a stand alone object.

Verb Editor dialog:



Check out the editor. Ctrl-Click on any of the fish objects to see their internal definition. You can edit the parameters, verbs, and code. If you change the verb name it will create a new verb when you click **Update** or close the editor with **OK**. If you change the library the verb will be created in the library you selected. You can also write the verb out to a library file.

Wye code editing requires a detailed understanding of the underlying engine. In other words, in-world editing is not recommended without a tutorial from someone who knows how it works.

If you want to hack around, Wye is pretty resilient and will put up a "helpful" error and keep running even if a verb crashes. If the verb left a "dead" graphic object in the world, you can Alt-click it to bring up the Debug dialog and click on **Delete This Instance and Close Dialog** to remove it from the world.

Note that once a verb is running, editing its source will not change that running instance. You can even delete the verb from the library and that instance will stay running.

Have fun!

Don't worry about breaking anything. The world is supposed to be resilient and if you find a bug that takes out the whole world, you can always restart it.

- If an object crashes, the world will put up a crash message and stop just that object. If you are editing the object you should still be able to find it in its library and continue to edit and test it.

- If the crashed verb left a graphic in the world, alt-click it to bring up the debugger menu and click **Delete This Instance and Close Debug** to make it go away. If you've crashed a lot, you may have to repeat this many times to get rid of all the copies!

- If you write out to a library file that already exists, Wye will ask if you want to overwrite or write to a new revision of the file. Currently there's no way to delete files from Wye. You'll have to do that in the UserLibraries folder outside of Wye.

  Note: Don't rename library files. Wye expects the file name to match the internal library object name.

- The demo TestLib is built into the executable. If you delete the library while in Wye it will return the next time you start Wye.

- Note that TestLib is not saveable to a file. If you modify verbs in TestLib, save them out to a new library name. You can do this directly while editing the verb or you can use the library menu to create a new library, save the verbs to it (when editing the verb), and then save that library out from either the verb editor or the library menu.

- If you find a nice reproduceable bug, please let me know how to reproduce it so I can fix it. Thanks!

- If you find random unreproduceable bugs, I guess I want to know about them too so I can worry about when they will show up next...