Hello hello_xr

# Goals of the talk

- Hello_xr isn't documented, so here is some documentation for it.
- Code is more concrete than Brian or Ryan's talks so might be helpful as a reference.
- Perhaps this talk will lead to more talks and better understanding of VR systems.

# Agenda

- Demo the application
- Preview code organization
- Show graphics handling
- Show input handling

# Goals of hello_xr

1. Draws cubes:
    a. Local space cubes
    b. Stage, stage left, stage right cubes
    c. View space + 2M cube (so your head isn't in the cube)
    d. Left and right hand cubes
2. Input handling
    a. Grab Action to scale cubes and generate haptics.
    b. Updates hand cube positions based on poses
3. Process Session State/Events
4. Handles Quit action
5. Validate the openxr design - does it blend?

# Basic layout
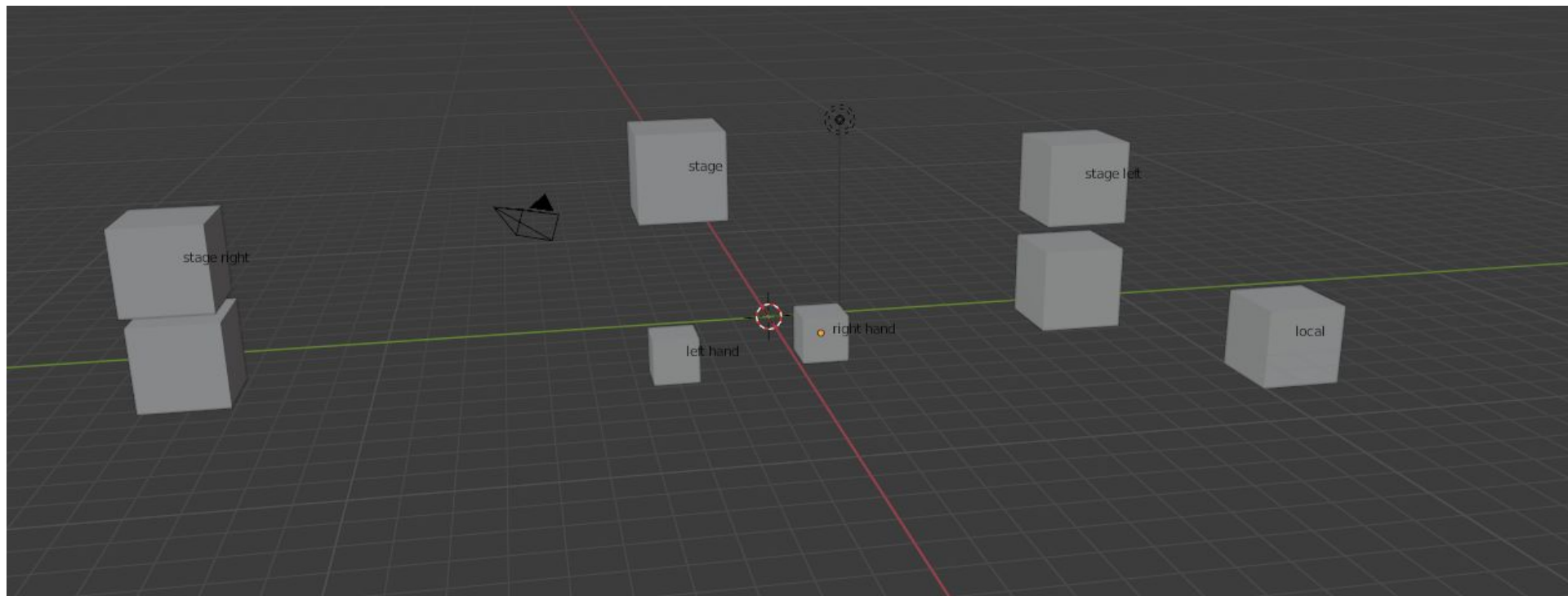
# Shaky cam In VR
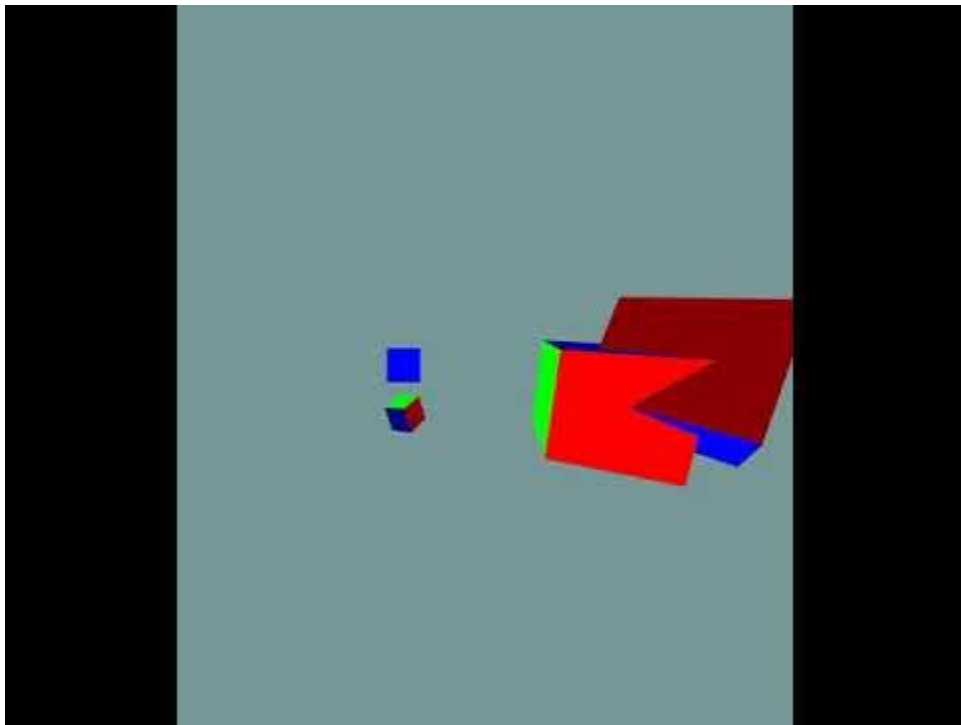
# Not short like K&R "Hello World"

Configuration Multiplication

|  |  |
|---|---|
| Graphics binding: | (d3d11 \| d3d12 \| opengl \| opengles \| vulkan) |
| Form factor: | (head mounted display \|  handheld display ) |
| View configuration: | (mono \| stereo \| quad_varjo \| first_person_msft) |
| Environment blend mode: | (opaque \| additive \| alpha_blend) |
| Spaces: | (view \| local \| stage \| unbounded_msft) |
| Suggested Inputs | (simple, oculus, vive, index, microsoft) |

Going to demonstrate: d3d11, head mounted display, stereo, opaque, index

# Preview: Factory functions choose plugins
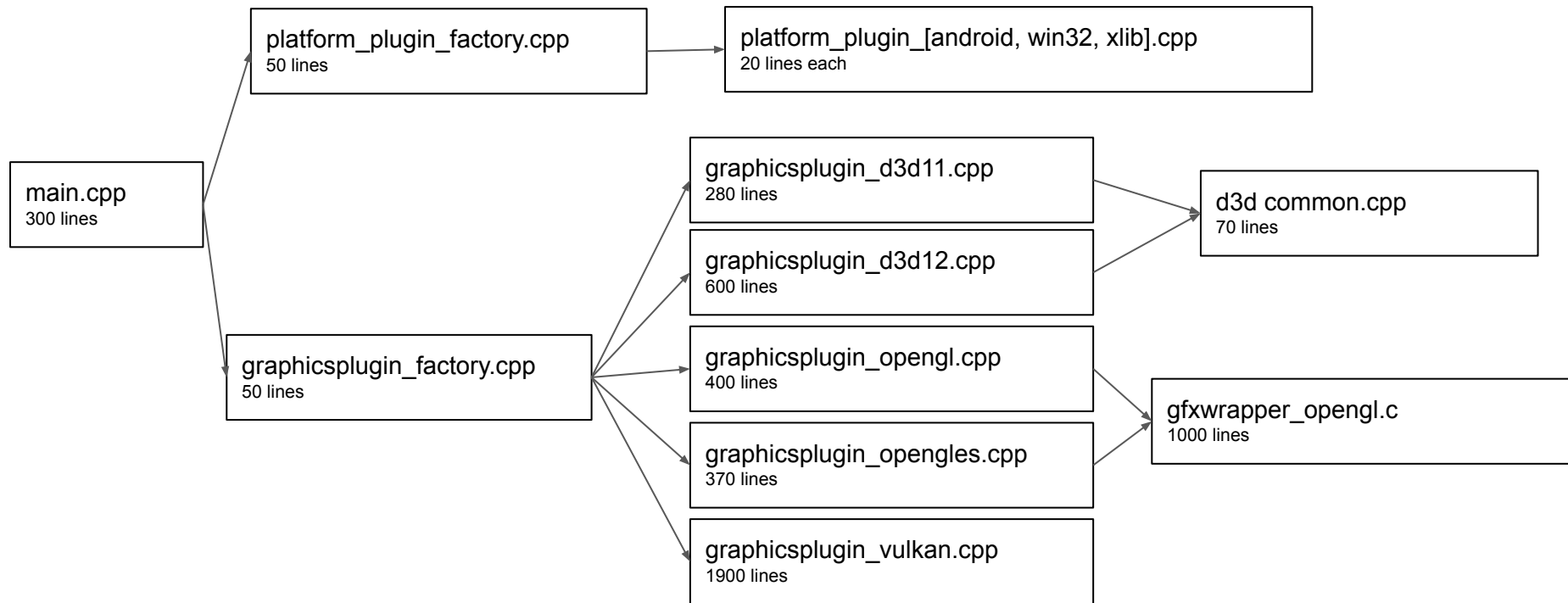
# Preview: d3d11 demo
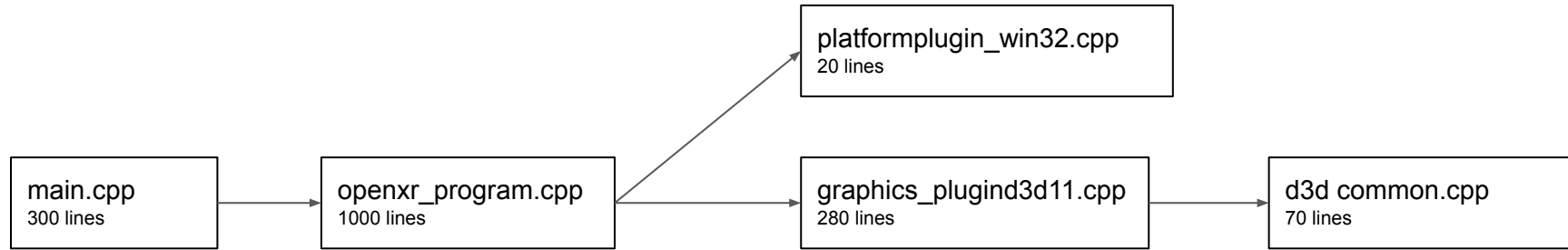
# Preview: openxr_program.cpp

private:

| | | |
|---|---|---|
| m_options | m_visualizedSpaces | m_input |
| m_platform_plugin | m_configViews | actionSet |
| m_graphics_plugin | m_swapChainFormat | grabAction |
| m_instance | m_swapChainImages | poseAction |
| m_systemId | m_views | vibrateAction |
| m_sessionId | m_eventDataBuffer | quitAction |
| m_appSpace | m_sessionState | handSubactionPath |
| | m_sessionRunning | handSpace |
| | | handScale |
| | | handActive |

# Visual Studio Now

Reorganize openxr_program.cpp

Step through graphics

Step through input system

Where to find more information