

What it is:

Better optimized geogebra and matplotlib in normal language

For who:

- People want fast graphing tool
- People that hate python
- C++ lovers
- Mathematicians

Libs:

- Cwindow

What I want:

- 2D/3D
- Camera movement
- Script hot swap ✓
- Update base on changes

- Flags

- Run from path ✓

- Auto init ✓

- Local templates [Examples]

- Access to window

- Simple UI

- Config

- Easy install ✓

- Install and write ✓

- Error handling

- Compute code SSBO

- Swapping

- Stability

- Modularity

- Plug in system for community

- Window system

- View ports/multiple canvases [plots]

- Timming

- Save output

- User I/O

- Logging/debugging/Profiling

- Test/docs

- Architecture

- Live edition ✓

- Math lib

- Points

- Lines

- Surfaces

- Plot

- Polynomials

- Equations

- Trigonometry

- Function

- Integral/derivative etc

- Exp/Log

- Parametric functions

- Matrices/vectors

- Coordinates

Phases:

[Main focus, Features, Diagram, Decisions, Tests, Notes]

✓ 0.0.0 (Prototype)

Main focus:

Not optimisation
just minimal
working project
with no errors

Tests:

None.

Notes:

- Points Render is extremely inefficient.
- No edge cases.
- No Tests
- No C/C++

- Weak Shaders

- Weak modularity

- Just simple slow code and testing

- Waste of mem

- Points uses Heaps too much

- Good option could be SSBO
- No architecture and future plan.

- Script seg fault

Features:

- 1) Window initialization.

- 2) Script run-time compile.

- 3) Simple script interface.

- 4) Point class with render.

- 5) Multiple points render.

- 6) Simple 3D example.

- 7) Simple instancing via camera.

- 8) Resolution.

- 9) License.

- 10) Code of conduct.

- 11) Contributing.

- 12) Security.

- 13) Issue templates.

- 14) Run without provide.

- 15) Simple Flags

- 16) Init if doesn't exist.

- 17) App menu loop.

- 18) Installing interfaces.

Decisions:

- Multiple points render each one creates his own **uniform** shade, mesh uses **void*** because DLL's need to allocate mem. And rendering issues will be changed for using plot system and probably SSBO for prototype is ok.
- Dynamic script loading for easy editability we are checking last write time and compile → swap.
- Installs include interfaces for compilation and vs code snippet.

Diagram:

v1.0.0-Stability, Modularity, Points optimization