



# Moving to numem



*What's new in Dplug?*



Meeting  
Dec 18th 2025

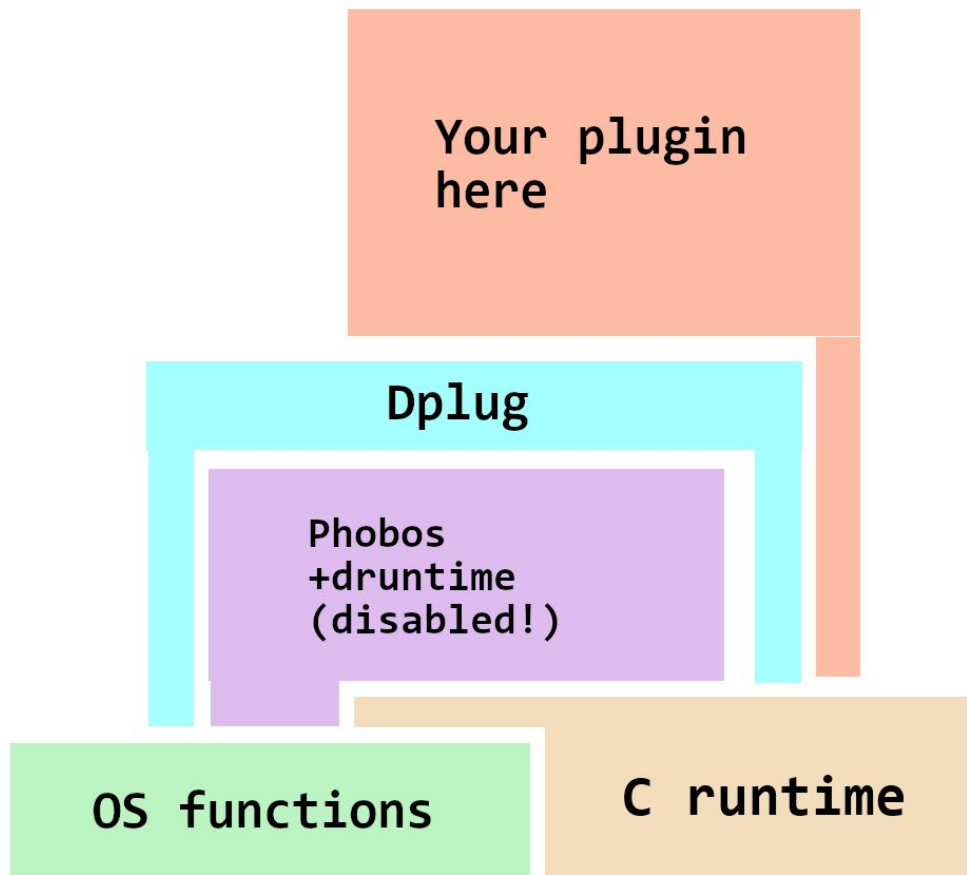


# Executive Summary



- Dplug v16 now depends upon **numem** package
  - End goal is to allow an alternative D runtime (nurt)
- For now on using Dplug 16+ you need to move to LDC 1.41 (works in macOS 10.15+, Ubuntu 22.04+, Windows 7+)
- You don't have to change anything else (not yet).

# Current situation

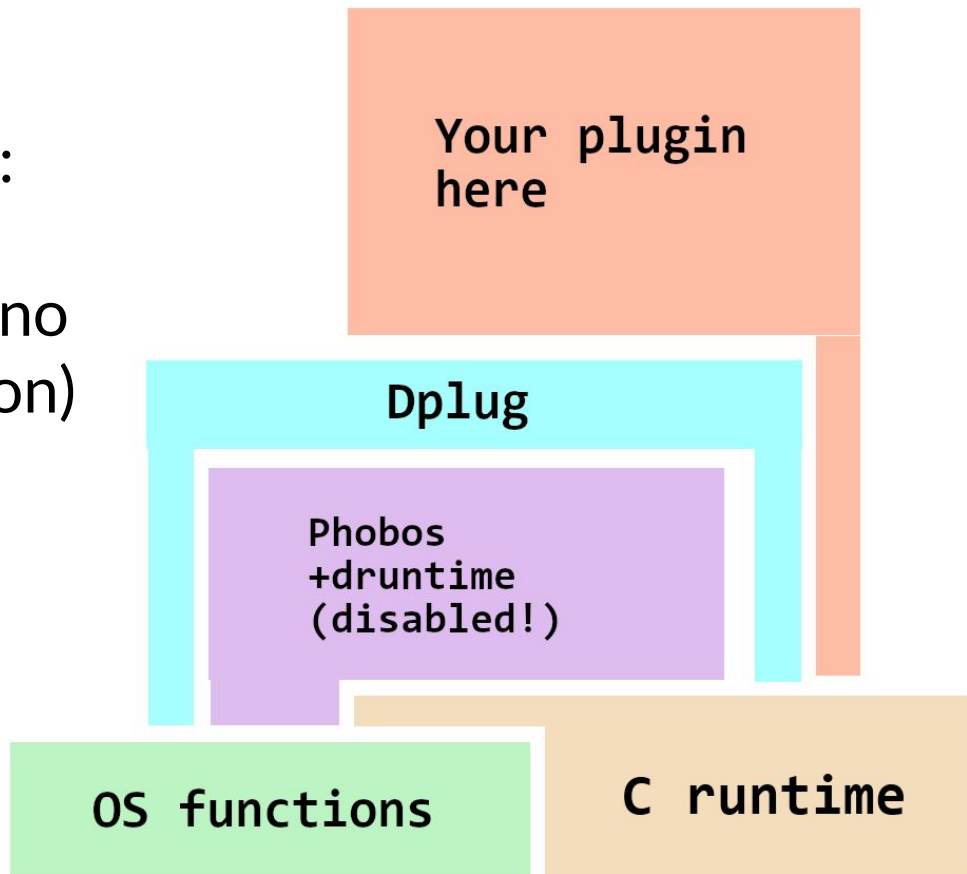


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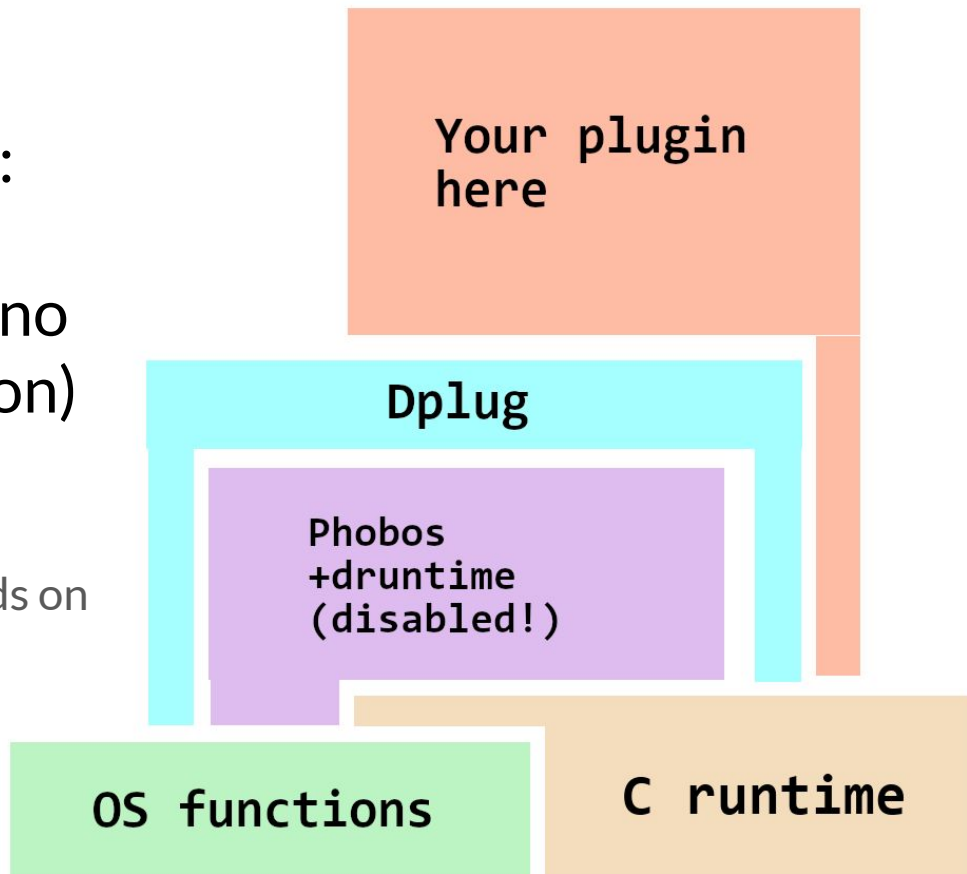
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## Consequence

Can only use libraries made that depends on

- the C runtime
- A disabled D runtime
- and/or `dplug:core`

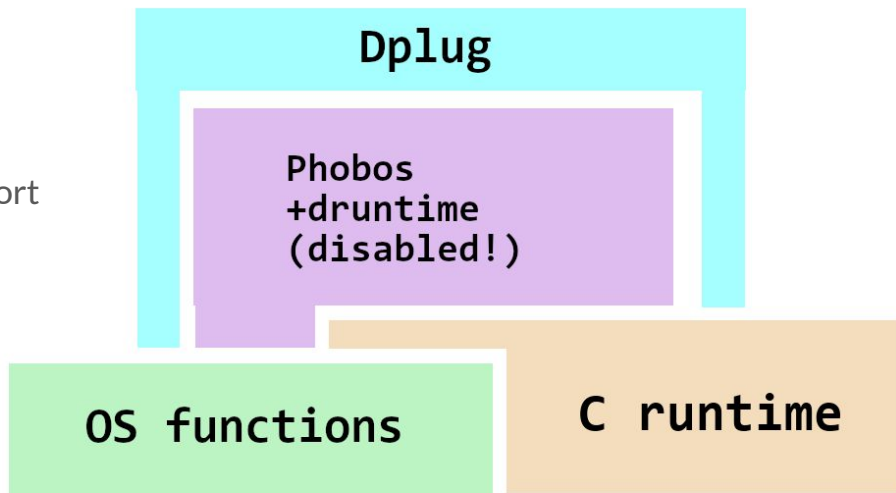
And are `@nogc`.



# This is our “runtime surface”



Larger = More difficult to port



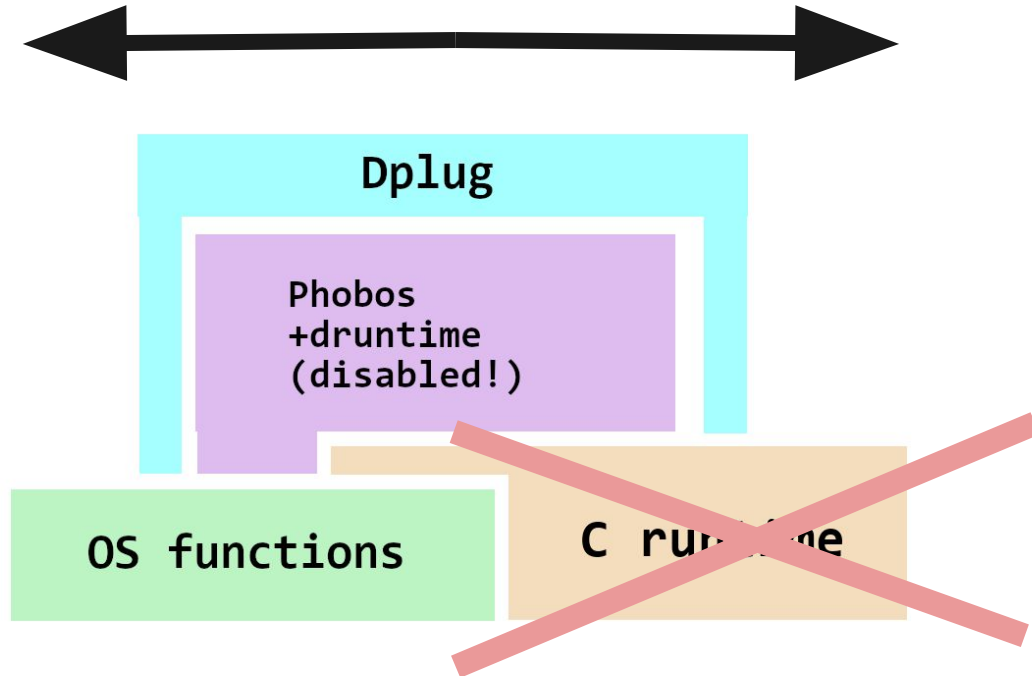
## Risks and opportunities : Web

FL Studio is now on the web: <https://fl.studio>

And we have no support for WASM



# There is no libc in WASM





# Risks and opportunities: disabled Druntime is DANGEROUS

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+  
druntime (disabled)

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- Might as well not link with it, and get a link error
- Right now we *do* depend on some stuff being linked, like some std.math functions and more. UNKNOWN

# Risks and opportunities: disabled Druntime is DANGEROUS

Phobos  
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**Issue #912** was a crash for every macOS user of every Dplug plugin.

☐ ☒ **Sequoia 15.4 breaks everything** **URGENT**

#912 · by p0nce was closed on Apr 3

*Still getting support about it, and for years to come.*

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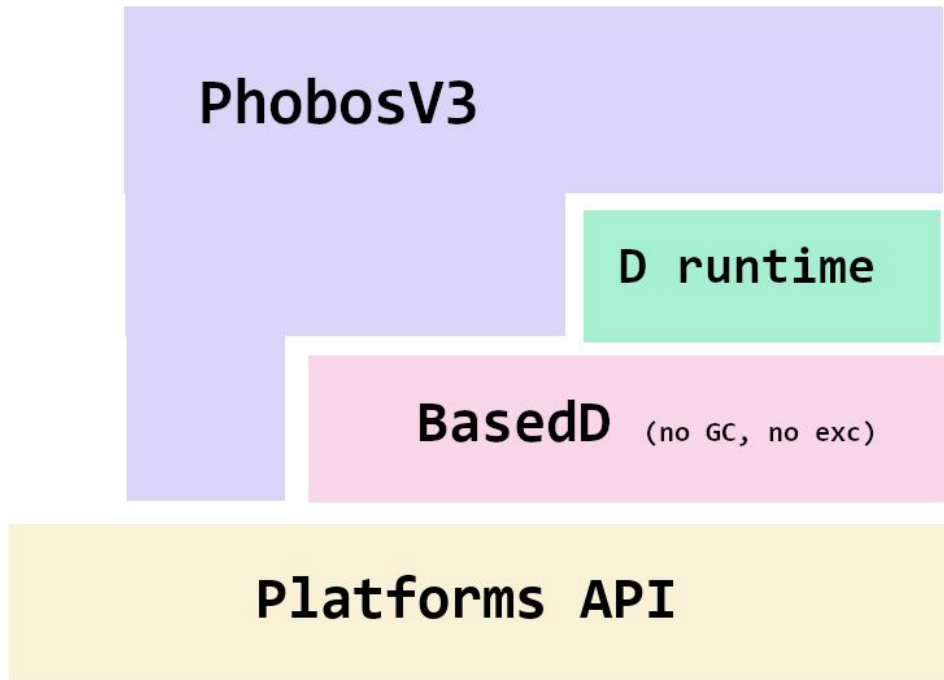
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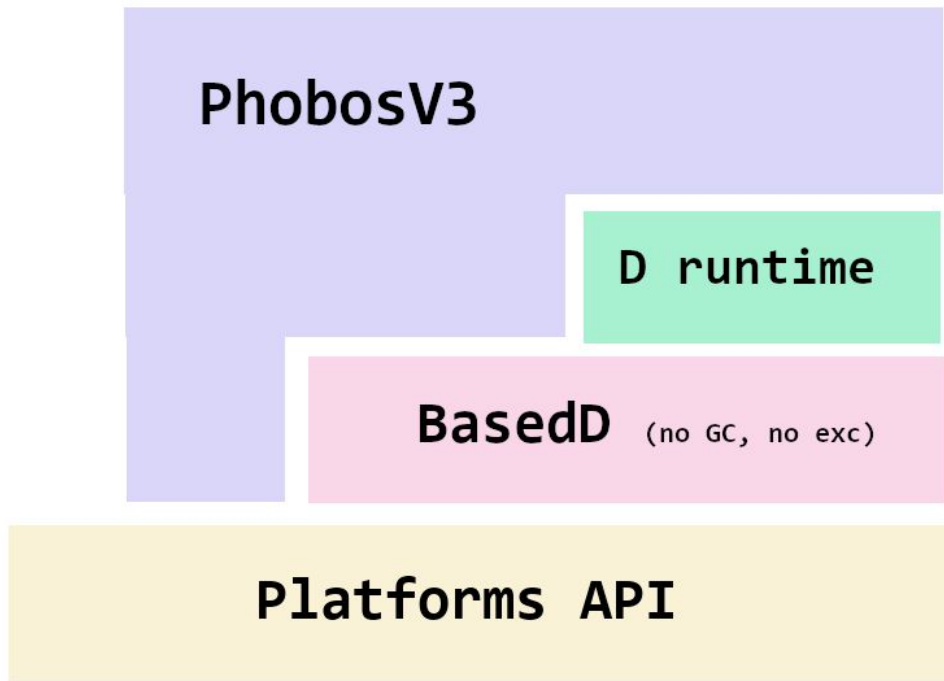
*Large instabilities incoming. I don't want us to be at the mercy of whatever Phobos does.*

# Future shape of Phobos/druntime





# Future shape of Phobos/druntime



Kind of what we need?

- Except not sure if we'll have class
  - virtual dispatch is a NEED
- Except it doesn't exist yet!

# What if I told you...

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...other people are making consumer software in D?

# Inochi2D



Inochi2D

Open Source Real-time 2D Animation

Verified

466 followers

Denmark

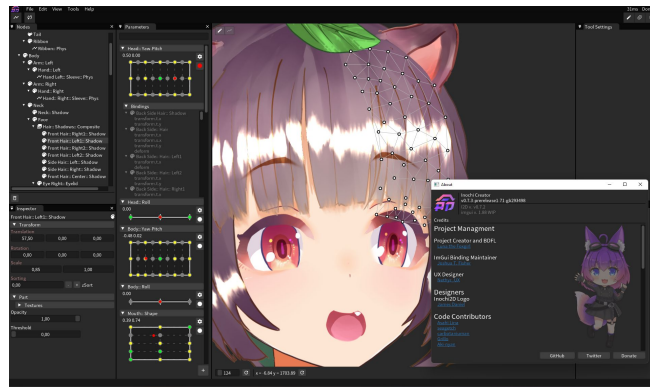
<https://inochi2d.com>

[@Inochi2D](https://twitter.com/Inochi2D)

<https://bsky.app/profile/inochi2d.com>

[dev@inochi2d.com](mailto:dev@inochi2d.com)

*Inochi2D* is a framework for realtime 2D puppet animation — by creating 2D meshes and layering creating the illusion of depth and movement from using 2D artwork.



## Some of the libraries built for Inochi2D by Luna



Niobium => 3D graphics API abstraction

Hairetsu <= Font library



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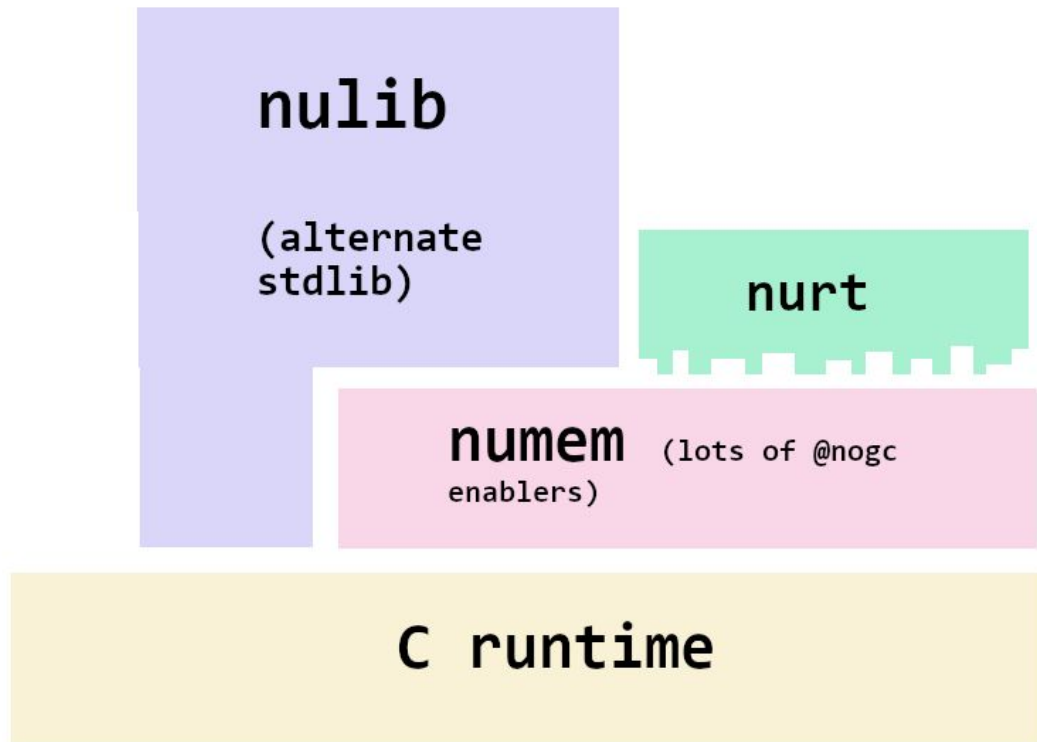
Hairetsu <= Font library



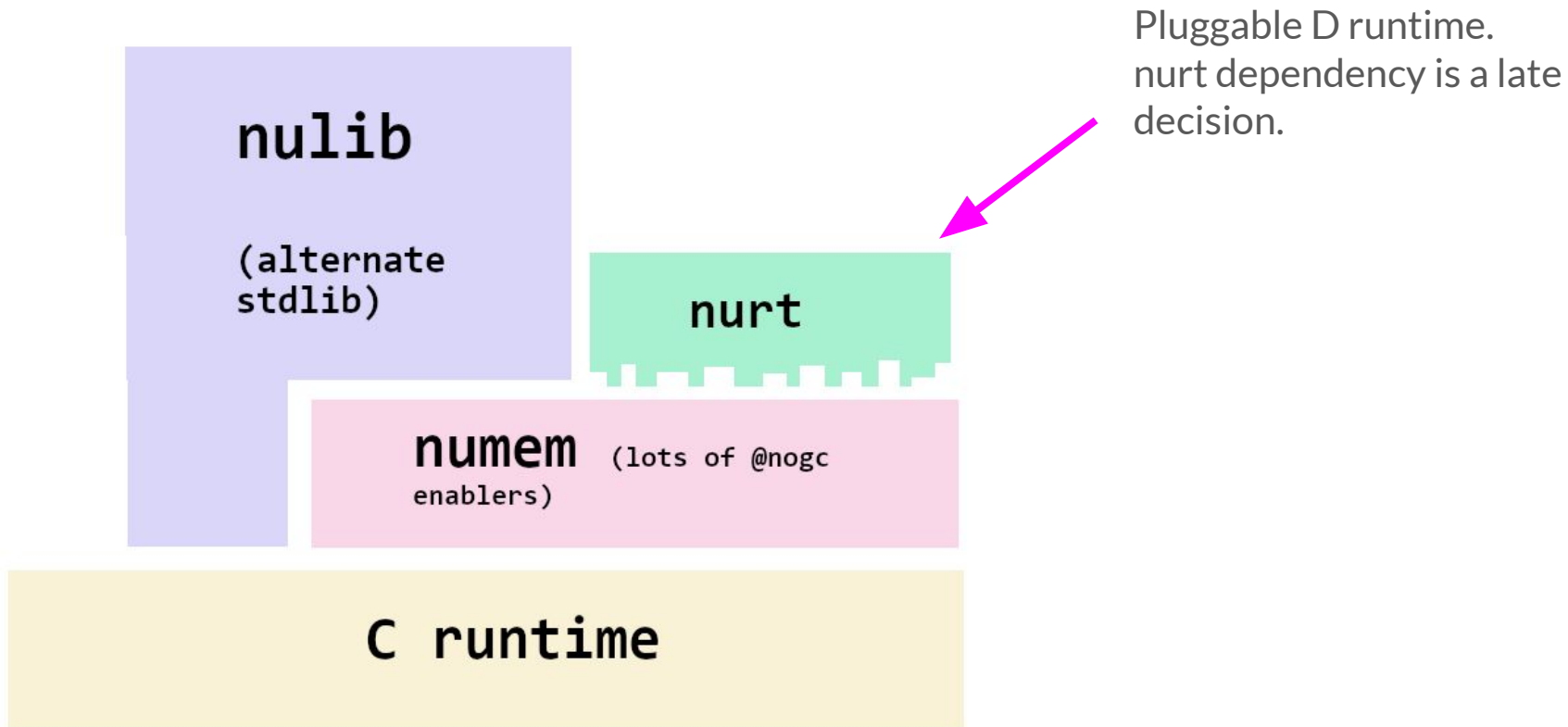
and: many Apple bindings using the new Objective-C binding method, also by Luna... **Goal of this stack is serve the needs of Inochi2D, not ours.**

*Let's be RESPECTFUL of the maintainers*

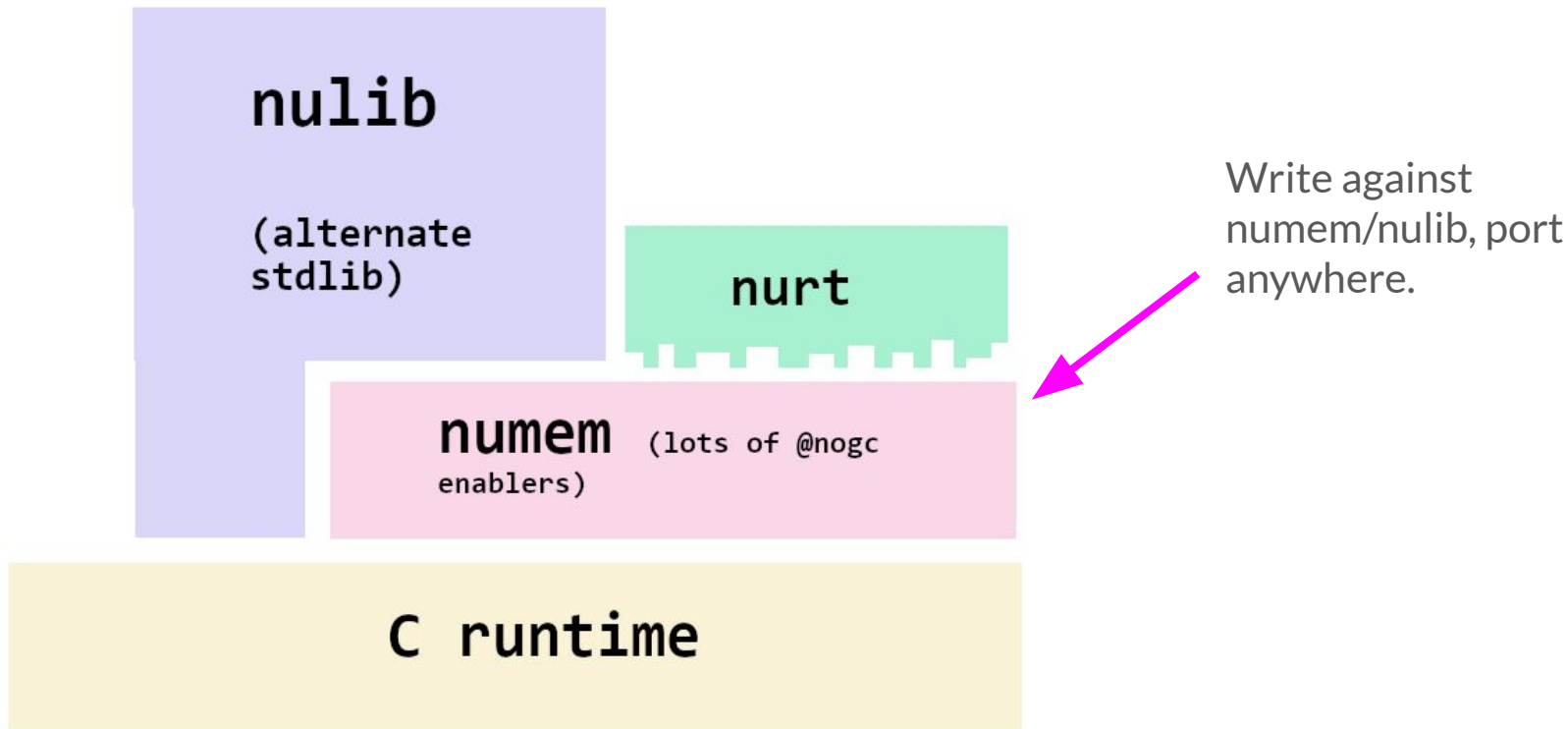
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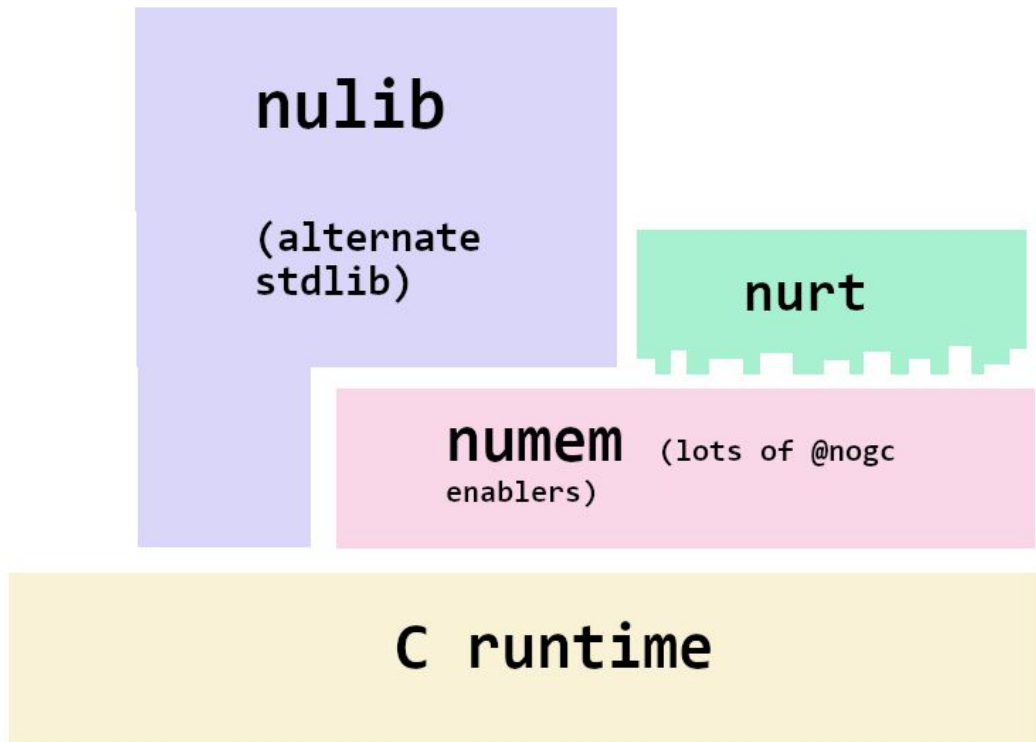


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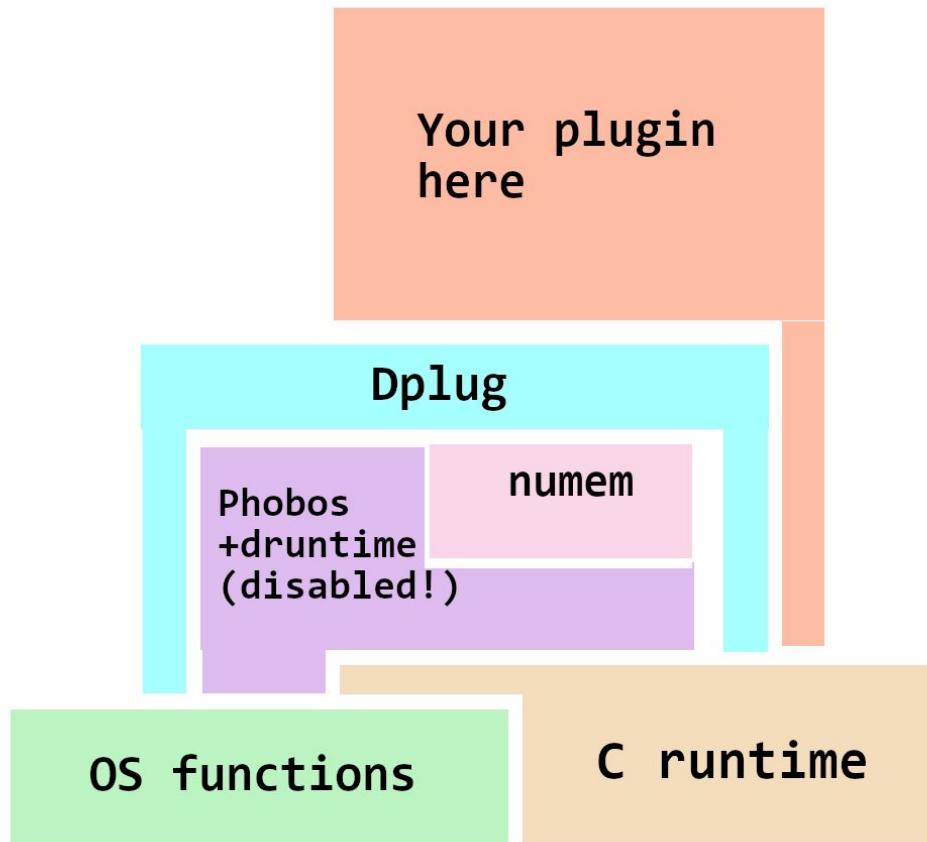


# The Inochi2D “nu” stack



Also kinda pluggable  
with numem “hooks”  
(weak linking)

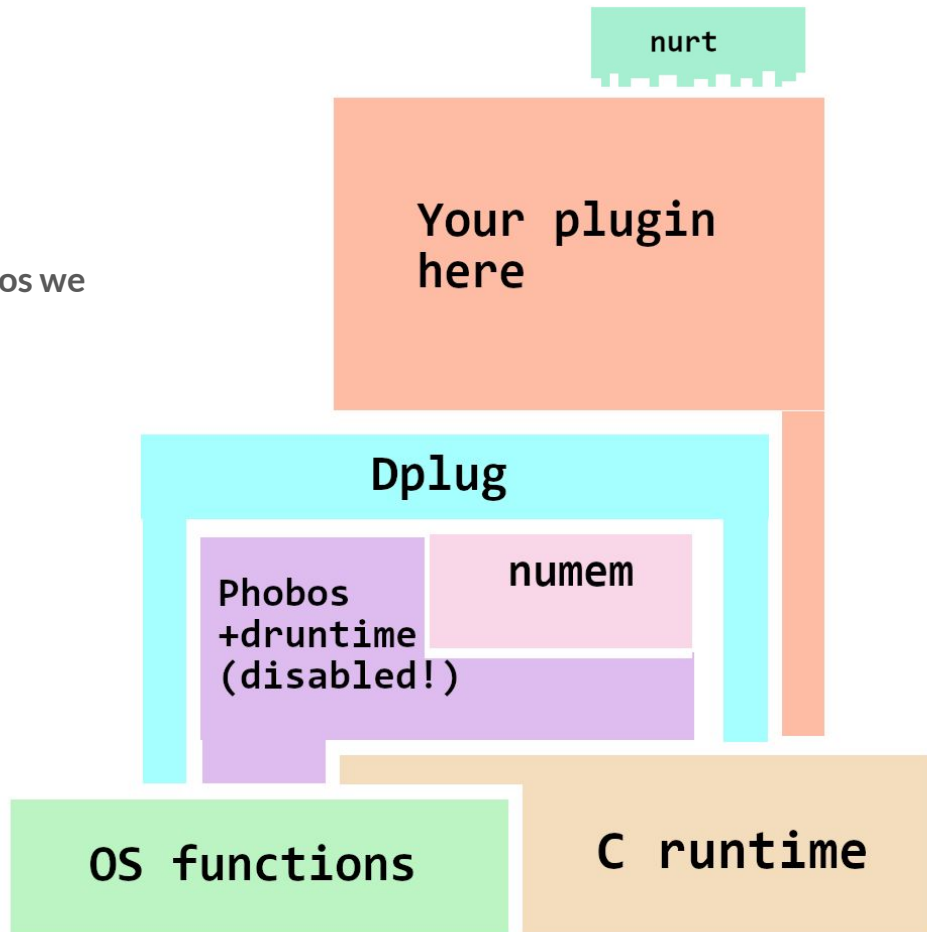
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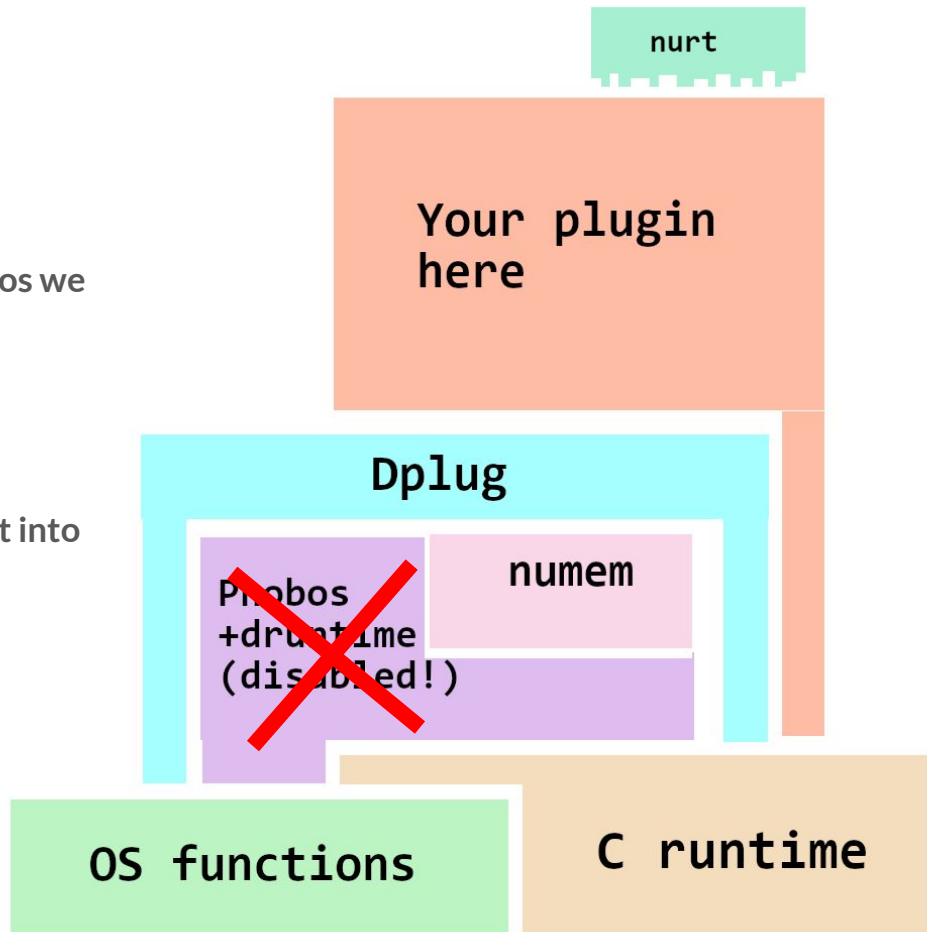


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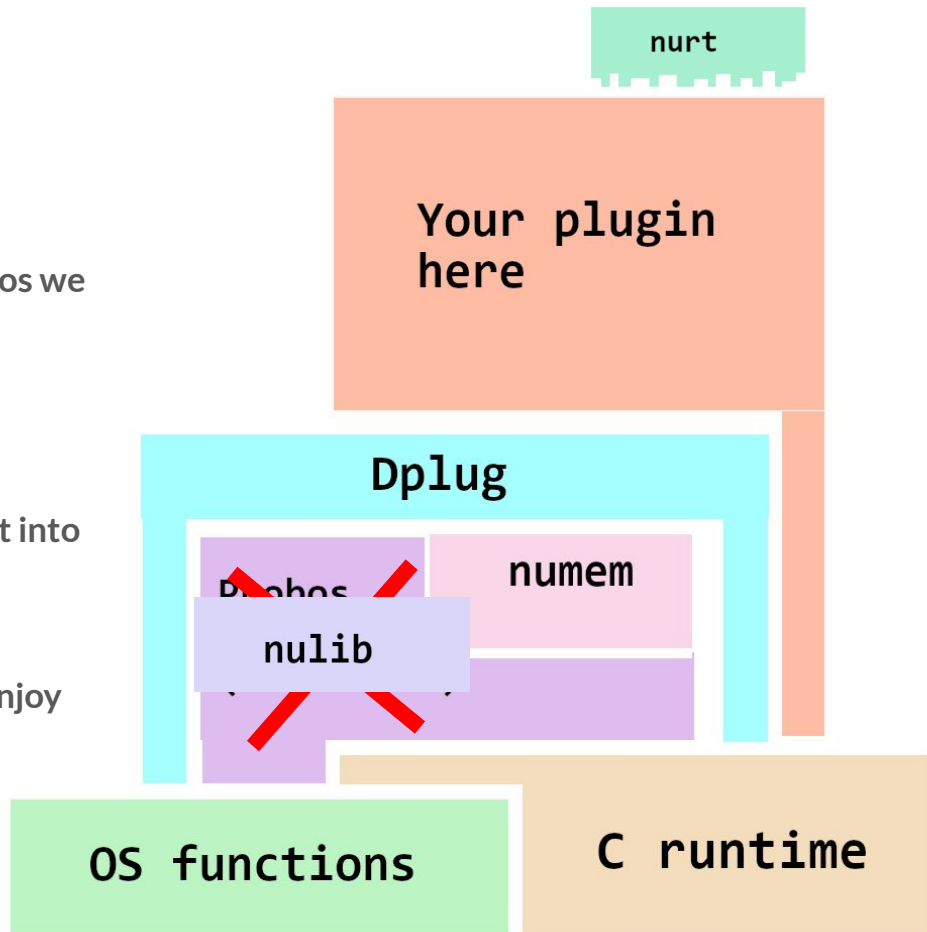


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- 3. Enforces that, drop Phobos and druntime and enjoy increased portability and lower uncertainty, and D runtime as a late binding decision.





## By building new code on top of numem/nulib

You allow people from Dplug and Inochi2D verses to reuse your code.

You do not constrain D code to be used with a particular D runtime (of which, 6 or 7 exist).

Normal D applications and scripts can use them.

Not limited to a (hastily designed) dplug:core + just core.stdc



**Questions?**