WHY YOU SHOULD BE EXCITED ABOUT PYGAME 2

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WHAT IS PYGAME

Quoting PyPI page:

pygame is a free and open-source cross-platform library for the development of multimedia applications like video games using Python. It uses the Simple DirectMedia Layer library and several other popular libraries to abstract the most common

*functions, making writing these
programs a more intuitive task.*

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- Heavily focused on 2D games
- Providex expected graphics, audio & input helpers require
- A somewhat "fat" wrapper around SDL - uses SDL for the basic opeations, but provides significant functionality that is not part of the SDL libraries (sprite support, math routines, etc)

PYGAME RELEASES

- PyGame 0.1 - October 2000 (first public release)
- PyGame 1.0 - April 2001
- PyGame 1.7.1 - August 2005
- PyGame 1.9 - August 2009
- PyGame 1.9.6 - April 2019
- PyGame 2.0 - October 2020
- PyGame 2.1.0 - Nov 2021

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So why did PyGame 2 take so long?

SIMPLE DIRECTMEDIA LAYER

SDL 1.2 (FIRST RELEASED IN 2000)

- Video build around the idea of Surfaces - 2d pixel buffers that could be manipulated
- Optimized for area-based blit/update operations - per-pixel drawing operations possible, but slow
- Surfaces could be used with OpenGL, but SDL used no OpenGL operations, just a way to pass surfaces to OpenGL code

SDL 2.0 (FIRST RELEASE IN 2013)

Many improvements and changes - see
https://wiki.libsdl.org/MigrationGuide#overview_of_new

SOME SIGNIFICANT ONES

- More support for "modern" GPU features
- API is still based around 2D operations, but allows more use of GPU operations for faster processing
- Rewritten to support multiple windows / displays

- Various additions / reworks of the imput system - proper unicode input, multi-touch support, etc
- Mobile platforms became first-class citizens of the ecosystem

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Did not attempt to maintain backwards compatibility with SDL 1.2

PYGAME & SDL 2

- Extensive work needed to support SDL 2 changes
- "fat" wrapper approach meant changes more far-reaching than many anticipated
- Desire to keep backwards compatability also added complications

SO WHAT NEW SHINIES ARE THERE?

- SCALED mode
- Significant improvements to PyPy support - further improvements actively being worked on
- Android support as first class targer
- Better support for pinstaller & cx_Freeze
- Various other fixes
- Support for SDL 2 and related features (touch support, multiple windows, etc)
- Type Hints

DEMOS

Watch closely

SUPPORT FOR SDL 2 FEATURES

- Generally works well
- Still a fairly direct wrapper around SDL2 structures
- API is still very much a work in progress

TYPE HINTS

- Type hints for all PyGame functions
- Generally works as expected
- Sometime more restrictive than PyGame itself - specifies pygame.Color where PyGame will accept a tuple or string