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*Regarding the GPU language*

* Imperative / Multi-paradigm Language to CPU/GPU
* Command Line Photoshop vs. Matlab
* Command Line Photoshop vs. Command Line Paint (basic shapes, Logo language)
* DECIDED ON: Command Line Photoshop
* Compile To: GPU code (GLSL with OpenGL, SPIR-V with Vulkan)
  + Can also do OpenGL
* Compile To: CPU code (VIA LLVM, as a last resort if we’re through a chunk of the project and it does NOT feel like it’s working out)

*Names*

* Pixel -> Pexil (buahaha, it’s a medicine?!) ->pxl (C-style ‘what are vowels’ approach) -> Le Pix

*The Idea*

* Matrix / Images as the primitives
* Native pixel type
* Allow ability to **explicitly** convert between pixel types
* Complex support for on-the-fly encoding and decoding for things like movies / animations (GIFs, APNGs, MNGs, Webm, mp4, etc.)
  + What does an interface for realtime encoding and decoding look like?
  + Library component, or language component?
* Will need to at least create an IO module
  + What would that look like?

*Necessary bits in the Language:*

* To-the-bit addressable numeric type: int8,16,32,64, float16, float32, float64
  + int defaults to int32, float defaults to float32?
* string – addressing files
  + necessary for IO / addressing files and things, therefore need this primitive
* Primitive structure: pixel – r,g,b,a float32
  + Necessity of struct access / access operator to get to elements
* Generic structs
* User-defined Functions
* Flow control –for, while, if/then/else/elseif
* Arrays / Matrices
  + indexing / slicing / views of native arrays
* Stretch goals?
  + Unicode identifiers
  + More detailed built-ins (vec2, vec3, …)
  + Real-time suitable elements for 2D things (a la OpenGL wrapper or otherwise)
    - Window drawing / display, Textures, etc
  + Error messages in SNOBBY french