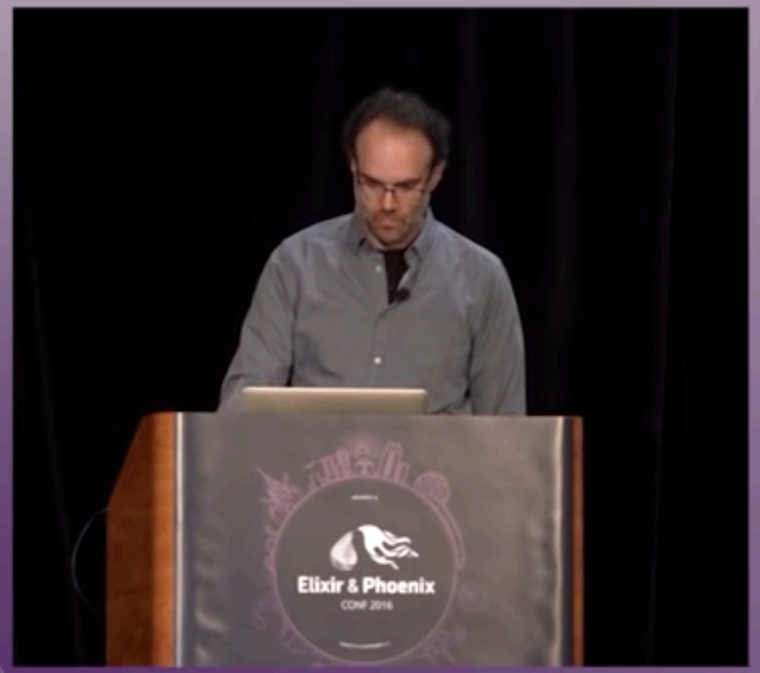
Intro to Scenic

Elixir & Phoenix
CONF 2016



ui

user input

drawing primitives / overall model

GPU

So what is Scenic?

Scenic is a UI library written directly on the Elixir/Erlang/OTP stack

Primarily aimed at fixed screen connected devices (IoT), but can also be used to build portable applications

Goals

- **Available**_ take advantage of OTP to create robust applications.
- **Small and Fast**_ The only core dependencies are Erlang/OTP and OpenGL.
- **Self Contained**_ The logic to run should be on the device (remains operational without service).
- **Maintainable**_ Each device knows how to run itself.
- **Remotable**_ devices know how to run themselves, but can still be accessed remotely.
- **Reusable**_ Collections of UI can be packaged for reuse with, and across applications (controls, graphs, and more).
- **Flexible**_ Scenic uses matrices similar to game development to position everything.
- **Secure**_ Scenic is designed with an eye towards security. For now, the main effort is to keep it simple.

Non-Goals

- **Browser_** Scenic is not a web browser. It is aimed at a fixed screen devices and certain types of windowed apps. It knows nothing about HTML.

- **3D_** Scenic is a 2D UI framework. It uses techniques from game development, but it does not support 3D drawing at this time.

- **Immediate Mode_** In graphics speak, Scenic is a retained mode system. If you need immediate mode, then Scenic isn't for you.

Hardware Support(ed)

- Raspberry Pi (all models)

Theoretically all Pis, but only tested on the 3 😞

Dependencies

```
macOS> brew install glfw3 glew pkg-config
```

```
Ubuntu18> sudo apt-get install pkgconf libglfw3
          \ libglfw3-dev libglew2.0 libglew-dev
```

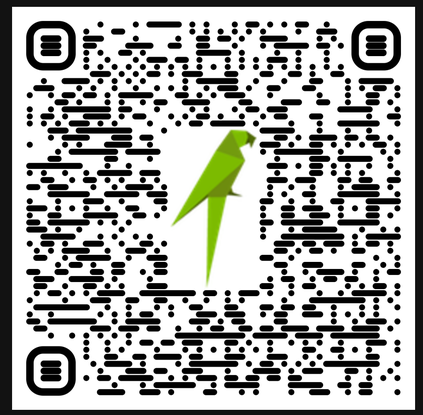
```
Archlinux> sudo pacman -S glfw-x11 glew
```

Also listed in documentation: Fedora, Ubuntu 16

Getting Started

```
> mix scenic.new <project>
```

References



- https://github.com/boydm/scenic
- https://hexdocs.pm/scenic/
- https://youtu.be/h_NvYwveeMc?t=2090
- https://youtu.be/77FW-jrCyCs?t=27
- https://youtu.be/1QNxLNMq3Uw?t=48