

Idris

A Programming Language with Dependent Types

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What is Idris?

"Idris is a general purpose pure functional programming language with dependent types."

The Idris Website

- **Version 0.1.3** of Idris was released in December of 2009.
- **Version 1.2.0** is the latest stable release and was released on January 9, 2018.
- Idris was named after the singing dragon in the 1970s UK children's television program *Ivor the Engine*.
- Idris development is led by Edwin Brady at the University of St. Andrews.

The Obligatory Picture of This Madman



Properties of Idris

- Idris can be **interpreted, transpiled, or compiled**
- Idris is **statically typed**
- Idris is **strongly typed**

As you will see as this presentation goes on, Idris is **only typed**.

Idris Features

Idris Syntax

What Makes Idris Unique?

What is a Dependent Type?

Using Idris as a Proof Assistant

Quotes From Our Exploration

"The concept of a programming language in which the possibility of inline assembly is an entirely foreign concept hurts my brain."

"Where do I put it? Do I put it in the type?"

"When your Rust program compiles, you know it won't seg-fault, or give you any undefined behavior at runtime. When your Idris program compiles, you throw away your executable, and publish your dissertation."

Questions?