

Idris

A Programming Language with Dependent Types

Sumner Evans and Sam Sartor
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Mines Linux Users Group
<https://lug.mines.edu>

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

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 segfault, or give you any undefined behavior at runtime. When your Idris program compiles, you throw away your executable, and publish your dissertation."

Questions?