

Goals of the Luau Type System

Lily Brown Andy Friesen Alan Jeffrey



Human Aspects of Types and Reasoning Assistants 2021

Needs of the Roblox Platform

A platform for creating shared immersive 3D experiences:

- ▶ **Many:** 20 million experiences, 8 million creators.
- ▶ **At scale:** e.g. *Adopt Me!* has 10 billion plays.
- ▶ **Young:** 200+ kids' coding camps in 65+ countries.
- ▶ **Professional:** 345k creators monetizing experiences.

A very heterogenous community.

All developers are important:

- ▶ **Learners:** energetic creative community.
- ▶ **Professionals:** high-quality experiences.
- ▶ **Everyone inbetween:** some learners become professionals!

Satisfying everyone is sometimes challenging.

Demo time!

Learners have immediate goals

Professionals have long-term goals

Goals of the Luau Type System

Infallible types

Strict types

Nonstrict types

Mixing types

Type inference

Thank you!