Introduction to ReasonML

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#### Introduction to ReasonML

Ryan Watkins

July 31, 2018

#### Outline

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 $\bullet \ \mathsf{ES6} \ (\mathsf{Babel} + \mathsf{Webpack})$ 

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- ES6 (Babel + Webpack)
- Template literals

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- ES6 (Babel + Webpack)
- Template literals
- Destructuring (single-branch pattern-matching)

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- ES6 (Babel + Webpack)
- Template literals
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- Promises + (async/await)

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- ES6 (Babel + Webpack)
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- Promises + (async/await)
- Spread operator

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ES6 (Babel + Webpack)

- Template literals
- Destructuring (single-branch pattern-matching)
- Promises + (async/await)
- Spread operator
- Get/set on class definitions (some OOP)

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- No great pattern matching
- Non staticly typed, i.e. you get typed errors at runtime

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- No great pattern matching
- Non staticly typed, i.e. you get typed errors at runtime
- Module system not great, you have to take care of it yourself

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• It's Ocaml with JS-like syntax

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- It's Ocaml with JS-like syntax
- Contains pattern-matching

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- It's Ocaml with JS-like syntax
- Contains pattern-matching
- Several FP features (currying by default)

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It's Ocaml with JS-like syntax

- Contains pattern-matching
- Several FP features (currying by default)
- Solid type system (30+ years of research)

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- It's Ocaml with JS-like syntax
- Contains pattern-matching
- Several FP features (currying by default)
- Solid type system (30+ years of research)
- Extremely fast compilation to JS (10x faster than TypeScript)

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Made possible by bucklescript

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- Made possible by bucklescript
- Human readable output

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- Made possible by bucklescript
- Human readable output
- Ocaml to Native and JS

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- Made possible by bucklescript
- Human readable output
- Ocaml to Native and JS
- But we are not writing Ocaml, ReasonML is a javascript-like syntax of Ocaml.

#### Reason Primitives

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Primitive	Example
Strings	'test'
Characters	'c'
Integers	23, -23
Floats	23.0, -23.0

## Pattern Matching

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## Pattern Matching

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• Javascript already has single-branch pattern matching

## Pattern Matching

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- Javascript already has single-branch pattern matching
- ullet I.e. const foo, bar, baz = props

### Comparing Reason to Elm

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From the FAQ (paraphrased)

## Comparing Reason to Elm

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- From the FAQ (paraphrased)
- TL;DR. Elm is pure, while Reason is pragmatic (support for React).

# References / more useful information

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