

# Elm: Functional front-end in practice

Bea Jakubcová & Tomáš Horáček



# Basic Syntax

```
-- single line comment
```

```
add : Int -> Int -> Int
add a b =
    a + b
```

```
five =
    add 2 3
```

```
hello : Int -> String
hello id =
    "Hello, " ++ (toString id) ++ "!"
```

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# Types Syntax

- Tuple

`(x, y)`

- Record

```
type alias SomeRecord =
  { x : String
    , y : Int
  }
```

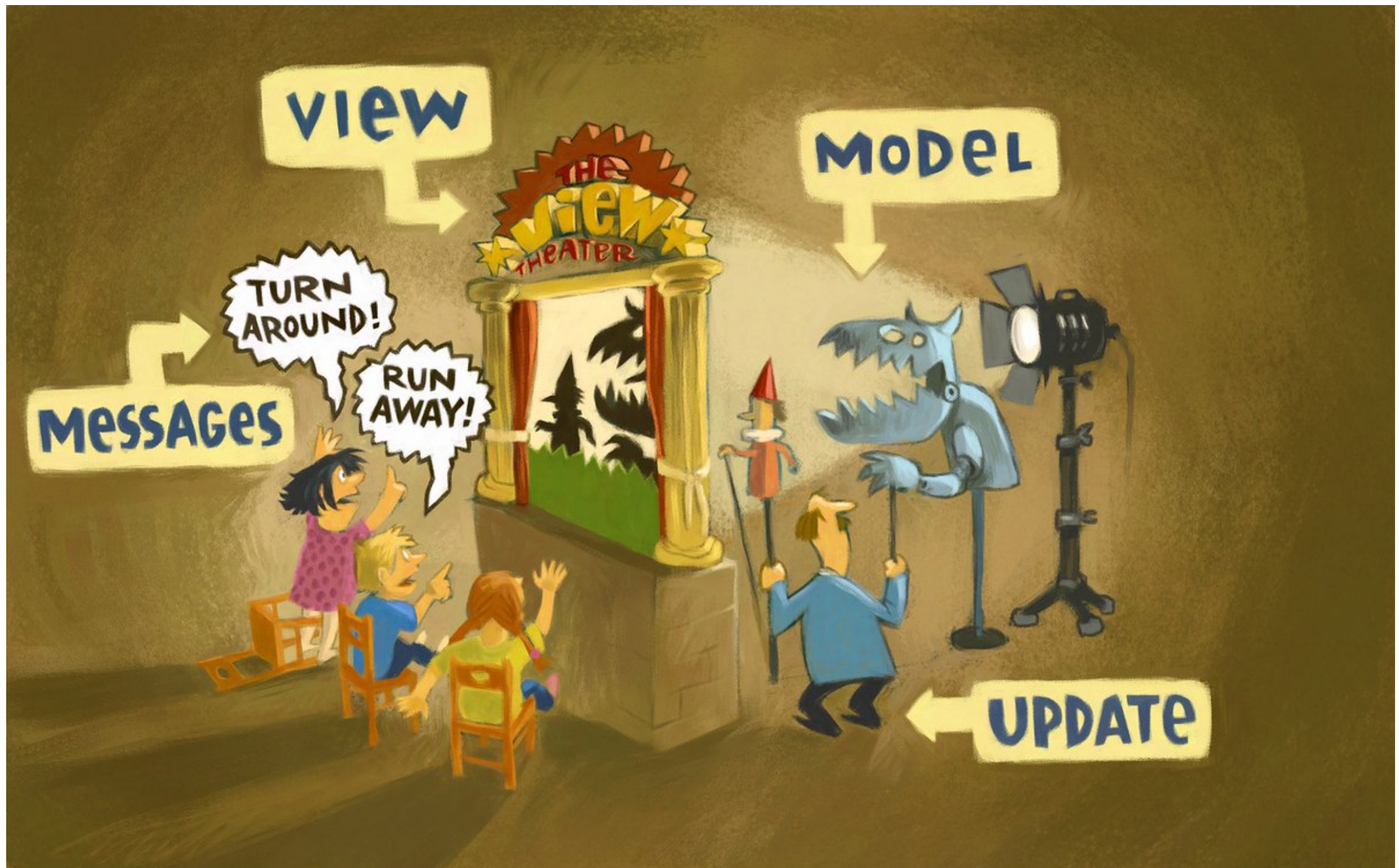
- Union type

```
type AppState
  = NotLoaded
  | Loading
  | Ready SomeRecord
  | Error Int String
```

# Demo plan

- Project setup
    - [github.com/elm-prague/2018-05-23-mff-demo](https://github.com/elm-prague/2018-05-23-mff-demo)
  - Elm Architecture
  - Impossible State Impossible & HTTP
-

# Elm Architecture



# Making impossible states impossible

-- pick a country --

-- pick a city --



# Making impossible states impossible

- variant 1

```
type alias Model =
  { country : Maybe Country
  , city : Maybe City
  }
```

- variant 2

```
type alias Model =
  { destination : Maybe CitySelection }
```

```
type alias CitySelection =
  { country : Country
  , city : Maybe City
  }
```

---

# Making impossible states impossible

- variant 3

```
type alias Model =  
    { destination : Destination }
```

```
type Destination  
    = NotChosen  
    | ToCountry Country  
    | ToCity Country City
```

VIDEO

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# Sources

- Dev Resources:
    - Elm lang - official
    - Elm packages - packages documentation
    - **Elm Search** - useful tool for searching the functions
  - Books:
    - **Elm programming** (free)
    - Elm in Action
  - Podcasts:
    - Elm town
-

# Tools

- Convertors:
    - [HtmlToElm](#)
    - [JsonToElm](#)
  - Live Editors:
    - [Ellie](#)
    - [Try Elm](#)
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# Community & communication

Slack 

 Twitter

Discourse 

ElmPrague meetups



# What we use

- Elm-css

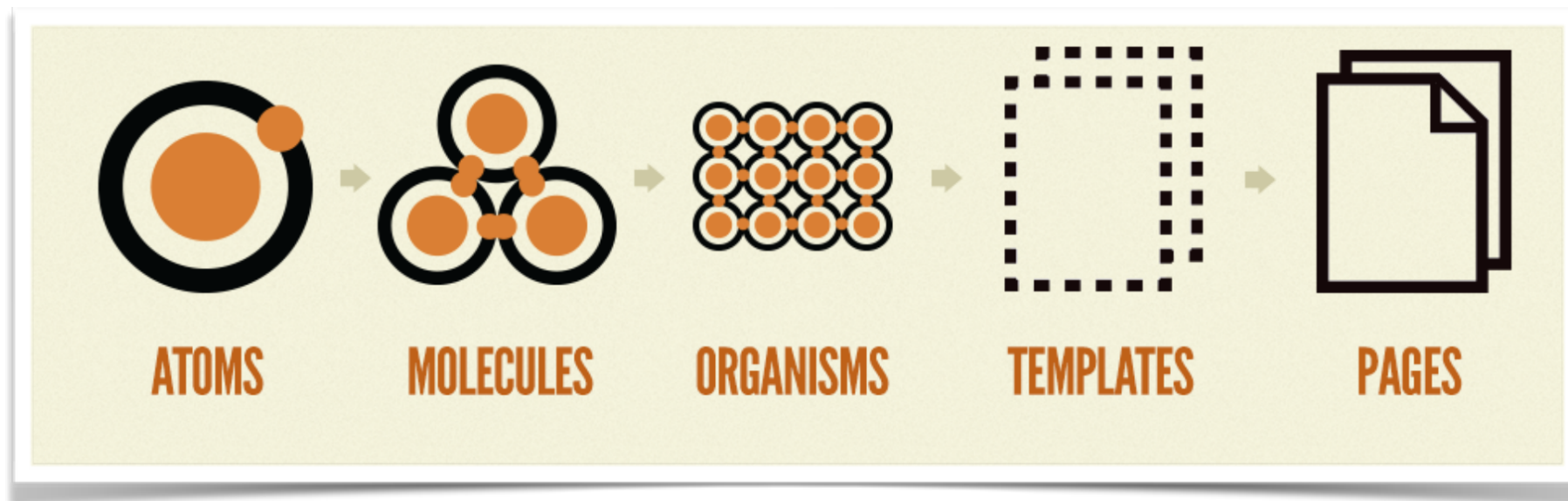


```
Html.div []
[ Html.div
  [ Attributes.css
    [ Css.border3 (Css.px 2)
      Css.dotted
      Css.Colors.red
    , Css.height <| Css.px 20
    , Css.width <| Css.px 110
    , Css.color Css.Colors.green
    , Css.textAlign Css.center
    ]
  ]
[ Html.text "Hello" ] ]
```

```
▼<div>
  ▼<style>
    ._179928cd {
      border: 2px dotted #FF4136;
      height: 20px;
      width: 110px;
      color: #2ECC40;
      text-align: center;
    }
  </style>
  <div class="_179928cd">Hello</div>
</div>
```

# What we use

- Atomic design



- Taco 🌮

“Keep programming.”

