Elm: Signals, Mailboxes & Ports

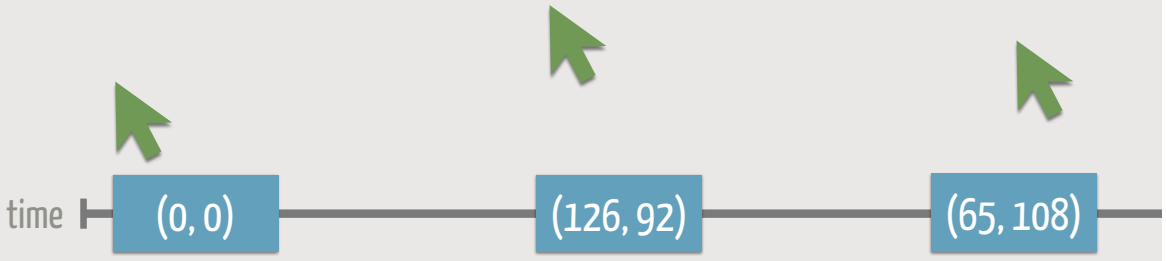
Cheat Sheets

The Pragmatic Studio

Mouse Position Signal

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio

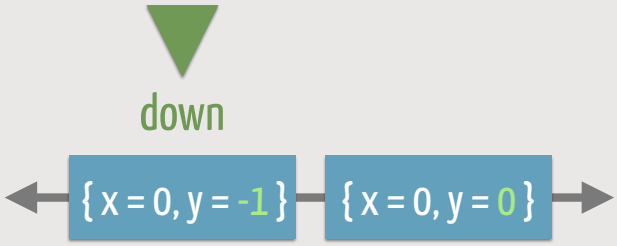
Mouse.position : Signal (Int, Int)



Keyboard Arrow Signal

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio

Keyboard.arrows : Signal { x : Int, y : Int }



right ▶ { x = 1, y = 0 }
left ◀ { x = -1, y = 0 }
up ▲ { x = 0, y = 1 }
down ▼ { x = 0, y = -1 }

Mapping Window Signals

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio

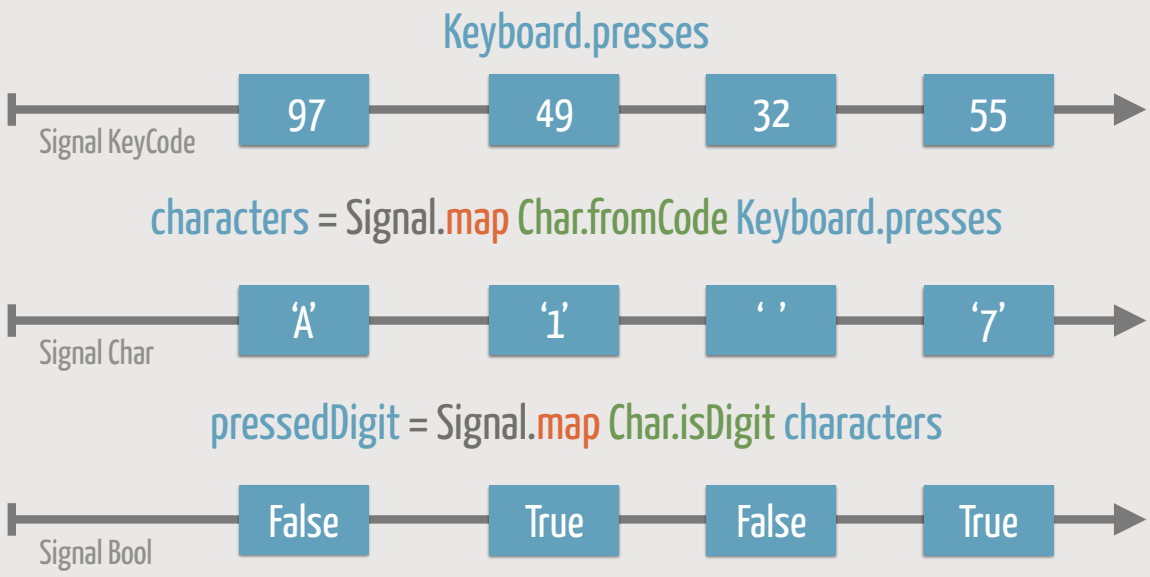
Window.dimensions

windowArea = Signal.map area Window.dimensions

main = Signal.map show windowArea

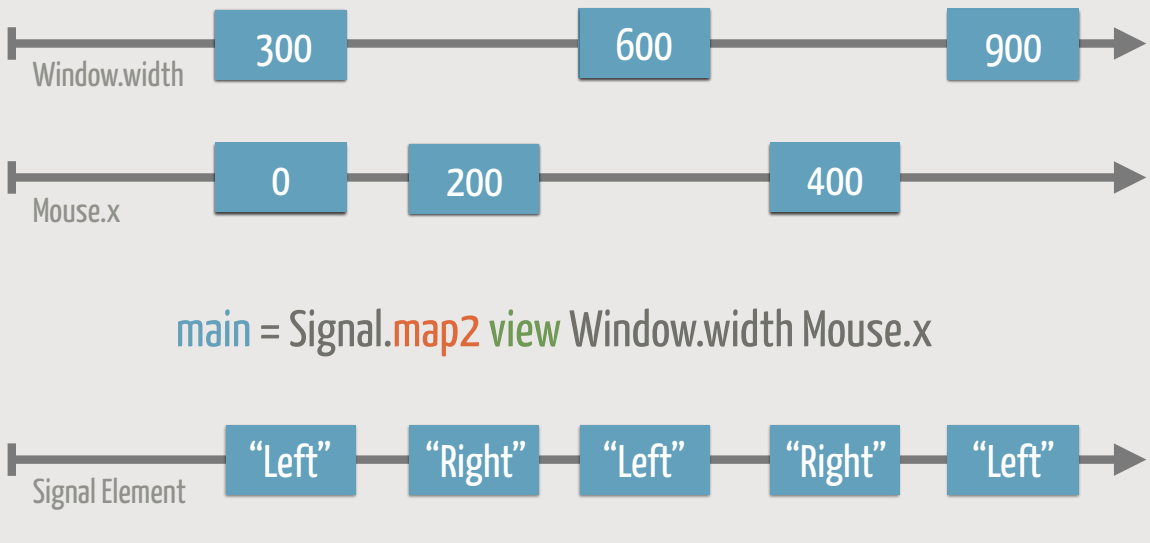
Mapping Keypress Signals

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio



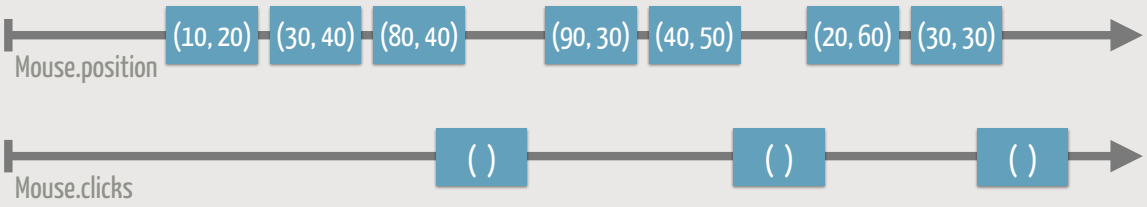
Combining Two Signals

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio



Sampling Signals

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio



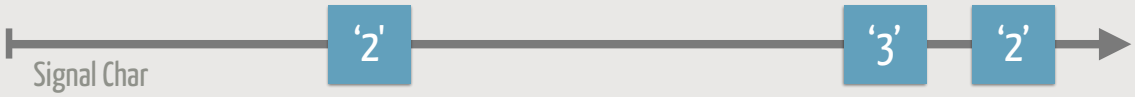

```
Signal.sampleOn Mouse.clicks Mouse.position
```

Filtering Keypresses

```
characters = Signal.map Char.fromCode Keyboard.presses
```

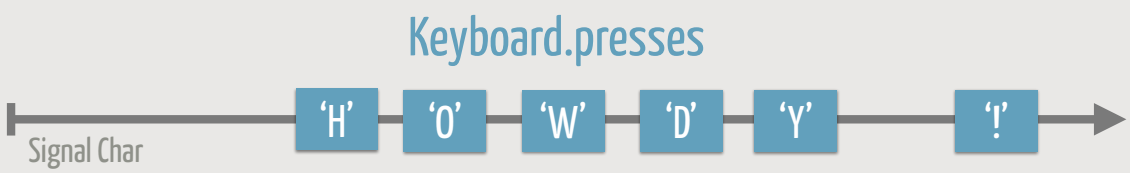
```
numbers = Signal.filter Char.isDigit '1' characters
```

```
noDups = Signal.dropRepeats numbers
```



Maintaining State: Counting Keypresses

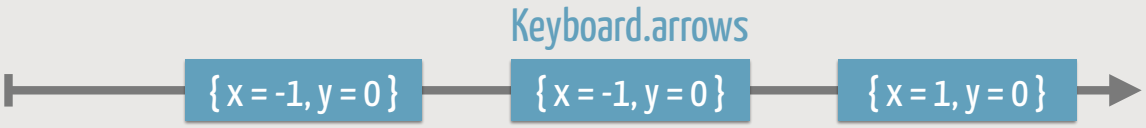
Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio




```
state = Signal.foldp (\_    count -> count + 1) 0 Keyboard.presses
```

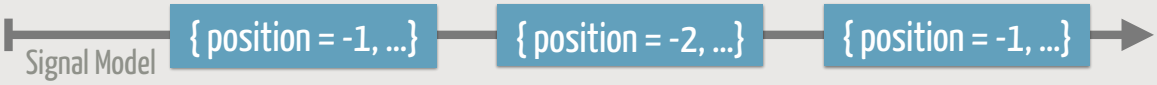
Game Signals

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio




```
direction = Signal.map .x Keyboard.arrows
```

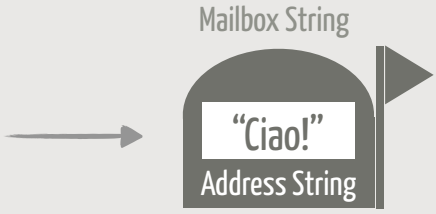
```
model = Signal.foldp update initialShip direction
```




```
main = Signal.map view model
```

Mailboxes

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio




```
type alias Mailbox a =
  { address : Address a,
    signal  : Signal a
  }
```

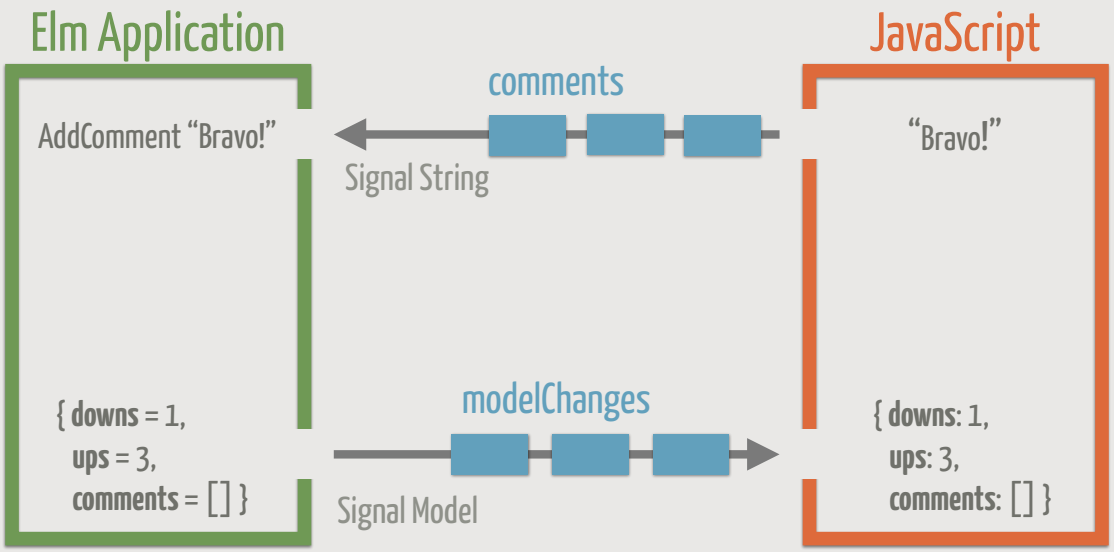
HTML App Signals

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio

```
inbox =Signal.mailbox NoOp
actions = inbox.signal
```

```
model = Signal.foldp update initialModel actions
```

```
main = Signal.map (view inbox.address) model
```

Incoming and Outgoing Ports

Elm: Signals, Mailboxes & Ports Online Course
http://pragmaticstudio.com/elm-signals
Copyright © The Pragmatic Studio