



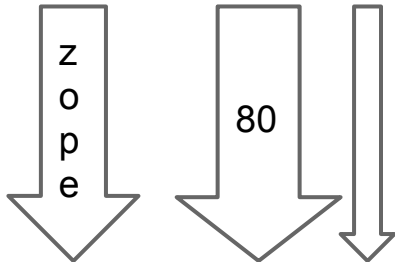
the Python-only web framework

Iwan Vosloo

About



10



reahl™

26 600 loc
(40% tests)

15 Python

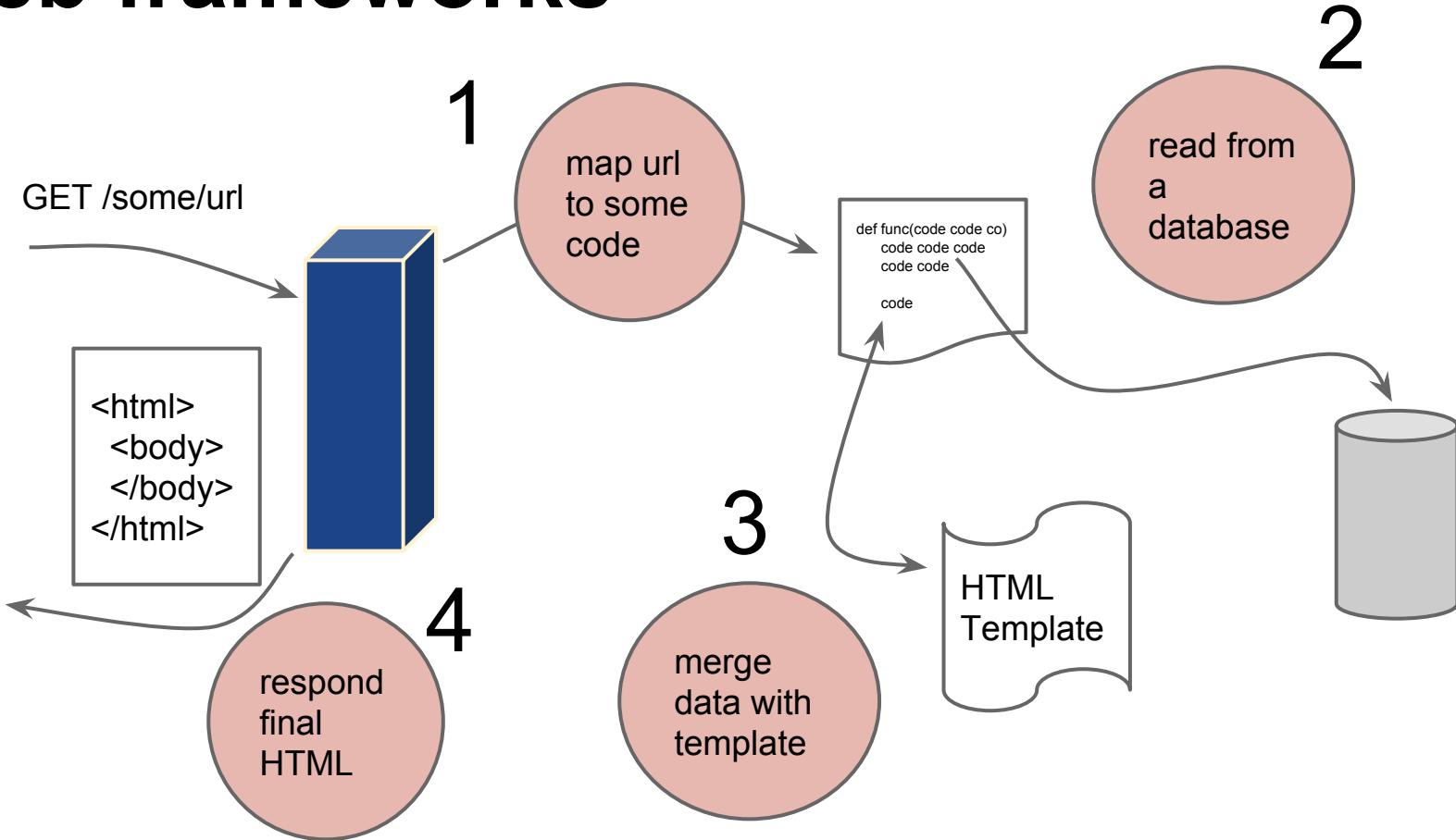
Financial industry / in-house development



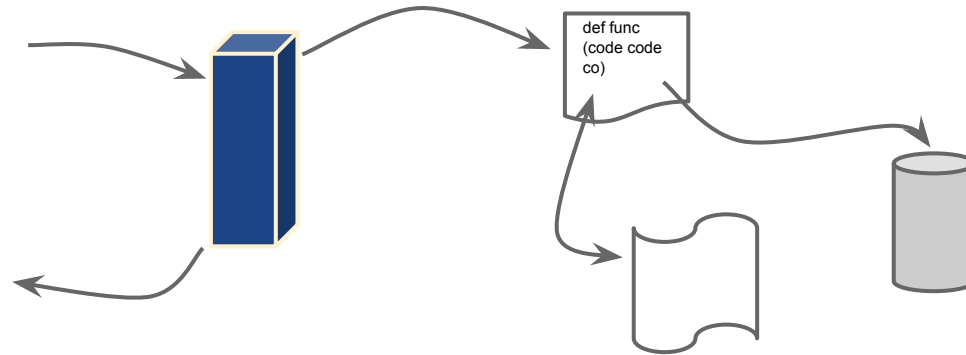
the Python-only web framework

- Background
- What it is
- How it works
- Why you should care
- Strategy
- Status
- Questions

Web frameworks



Web frameworks



Technology focus

Javascript (js libraries)

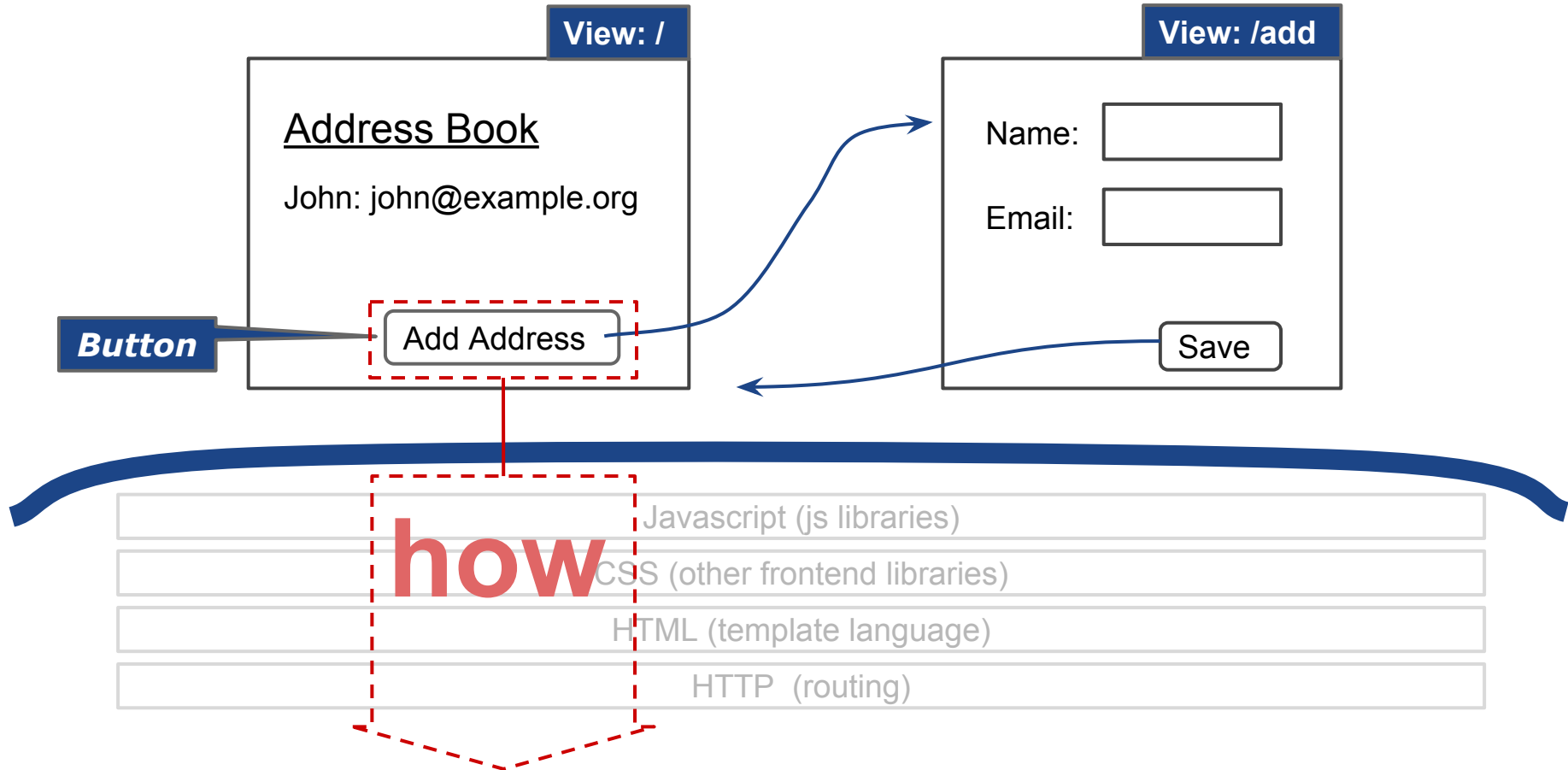
CSS (other frontend libraries)

HTML (template language)

HTTP (routing)

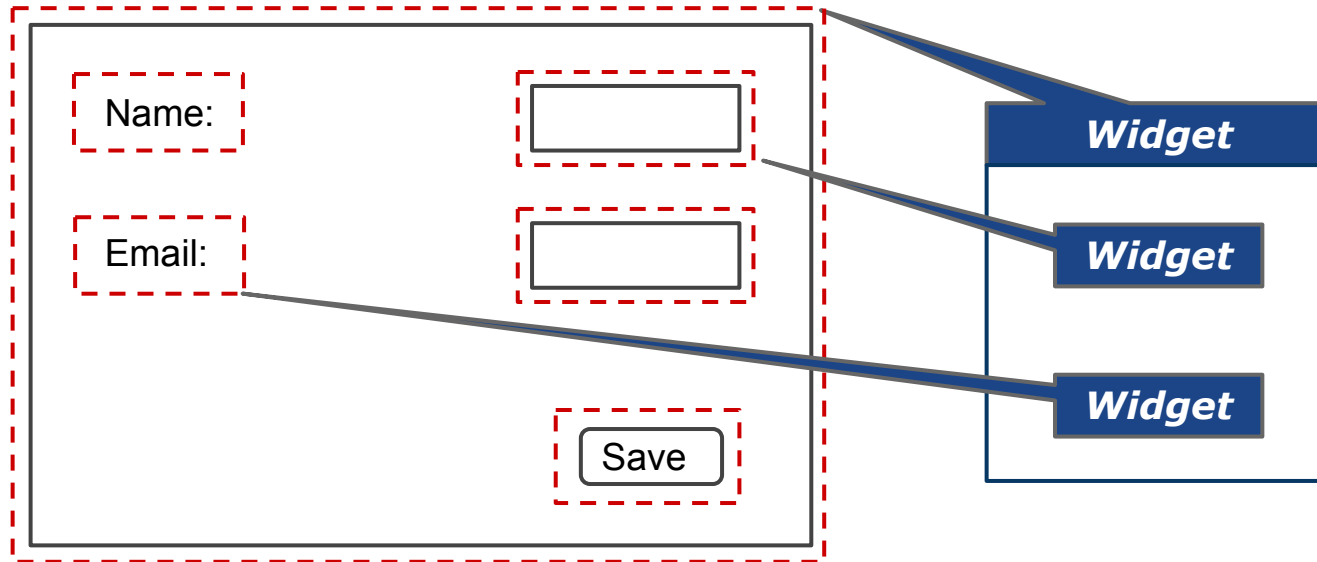
What it is

Goal focus



What it is

Pages are widgets

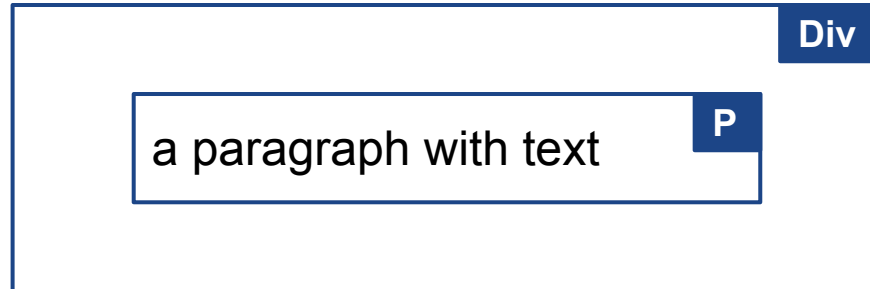


What it is

Composing widgets

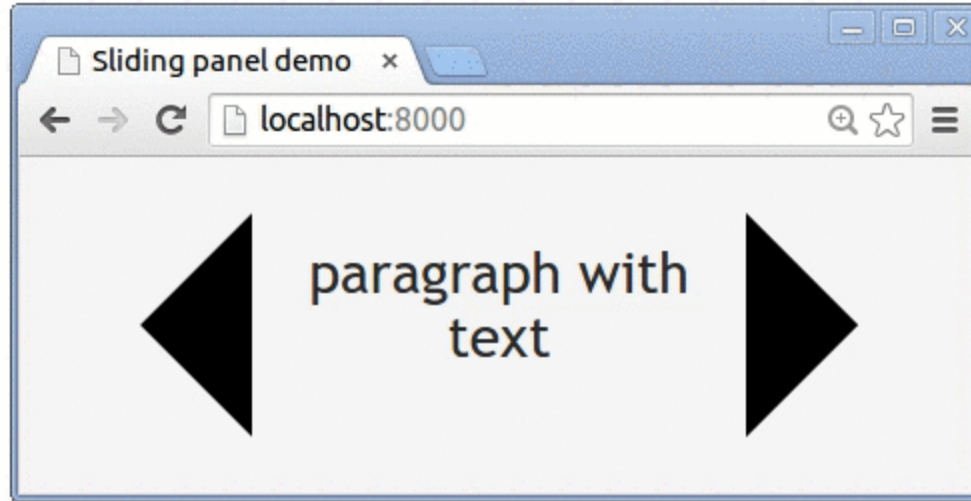


```
panel1 = Div(view)
panel1.add_child( P(view, text='a paragraph with text') )
```



What it is

Widgets are not HTML



What it is



Widgets are not HTML

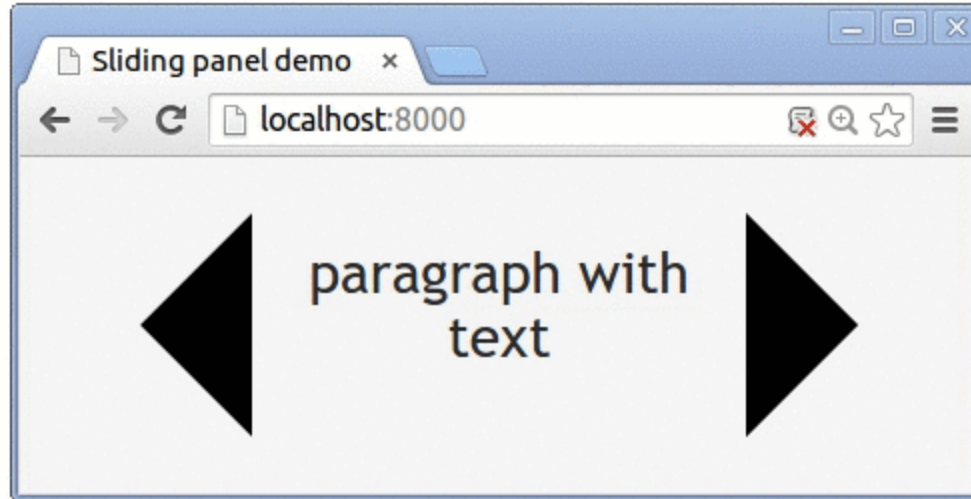
```
sliding_panel = SlidingPanel(view)
```

```
panel1 = sliding_panel.add_panel(Div(view))  
panel1.add_child(P(view, text='a paragraph with text'))
```

```
panel2 = sliding_panel.add_panel(Div(view))  
panel2.add_child(P(view, text='a different paragraph'))
```

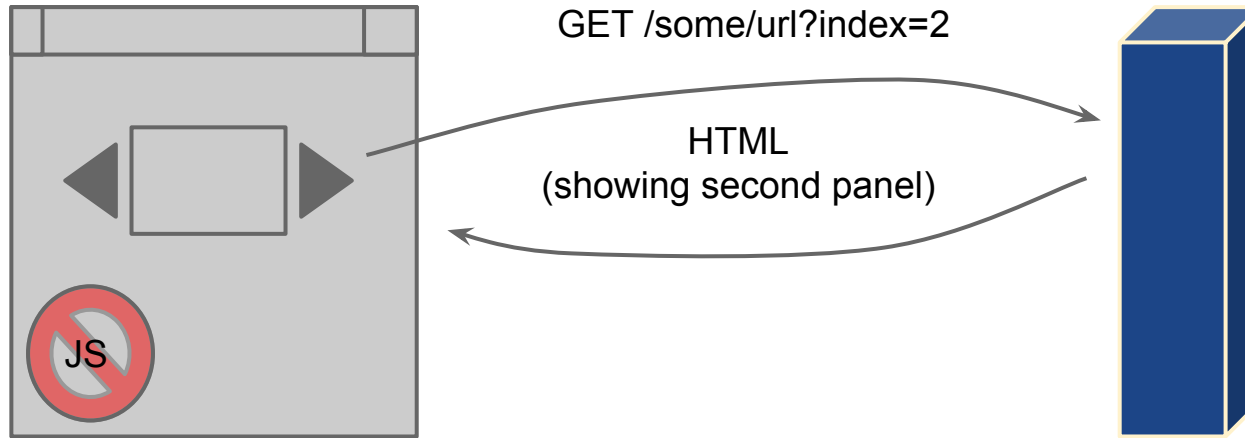
What it is

Widgets are not HTML



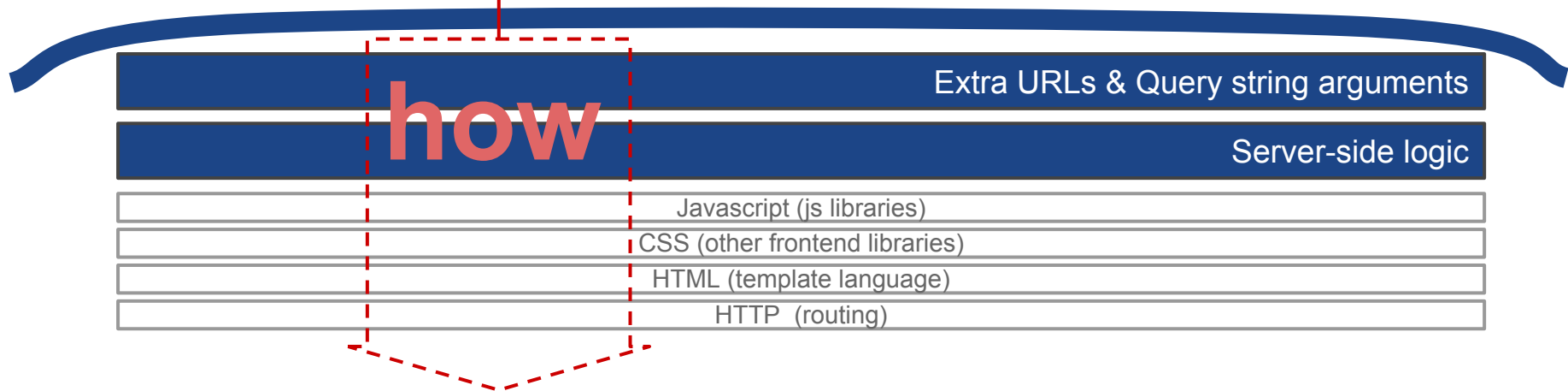
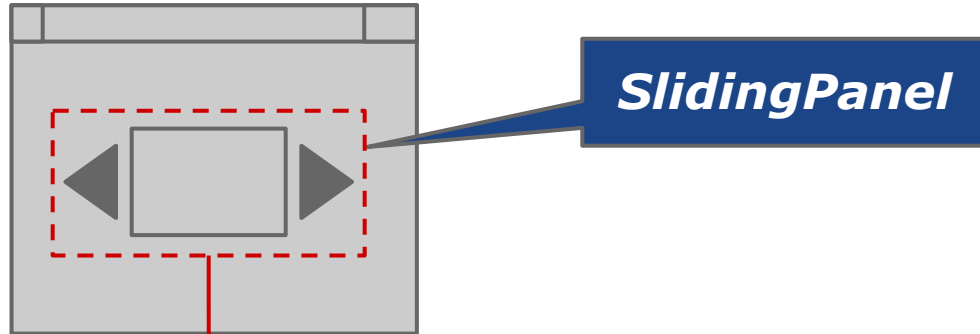
How it works

Behind the SlidingPanel



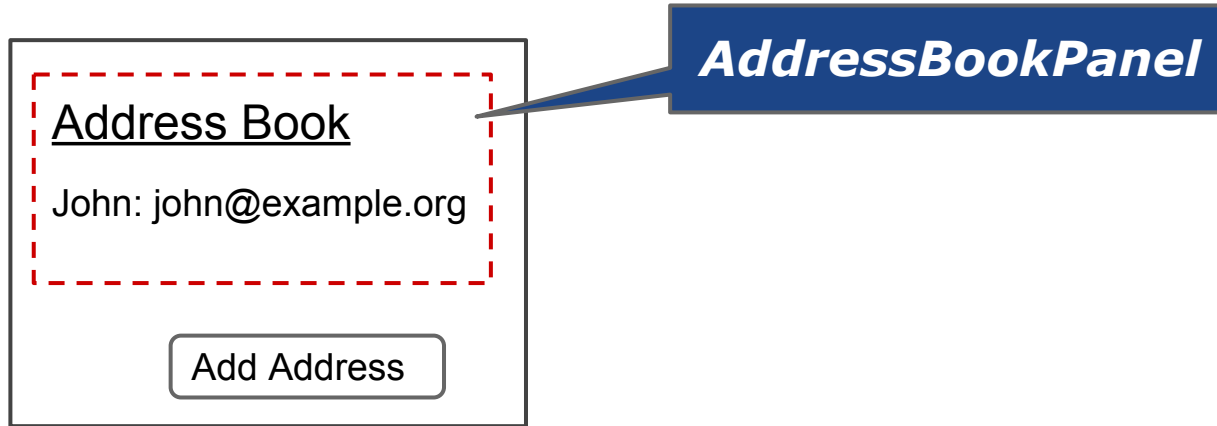
How it works

Behind the SlidingPanel



How it works

Widget lifetime



Widget lifetime

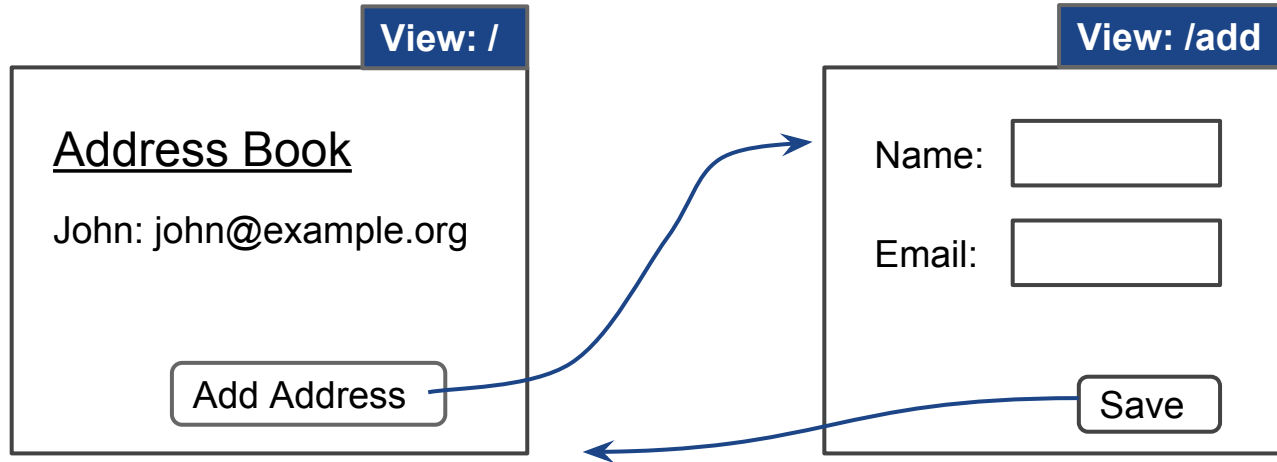
```
class AddressBookPanel(Div):
    def __init__(self, view):
        super(AddressBookPanel, self).__init__(view)

        self.add_child(H(view, 1, text='Address Book'))

        for address in Session.query(Address).all():
            self.add_child(AddressBox(view, address))
```


How it works

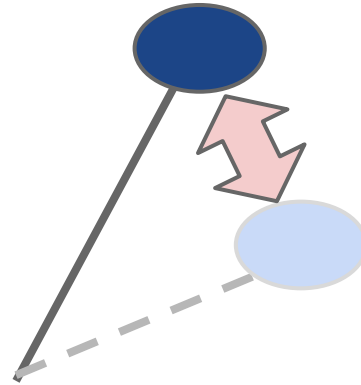
Defining a UserInterface



Defining a `UserInterface`

```
class AddressBookUI(UserInterface):  
  
    def assemble(self):  
  
        addresses = self.define_view('/', title='Addresses')  
        addresses.set_page(HomePage.factory())  
  
        add = self.define_view('/add', title='Add an address')  
        add.set_page(AddPage.factory())  
  
        self.define_transition(Address.events.save, add, addresses)
```

Why you should care



Why you should care

Knowledge & focus



Widget

Event

Button

Action

TextInput

Field

Layout

CheckboxInput

TabbedPanel

ValidationConstraint

Menu



forget technological details

Why you should care



Re-use

Widget

Button

Event

Menu

TextInput

Action

Field

Layout

ValidationConstraint

concurrency

double submit

security issues

quirks

access control

i18n

graceful
degradation

accessability

forget technological details

Why you should care

Complicated requirements

A screenshot of a web browser window. The browser's address bar shows "localhost:8000". The page content includes a pagination bar with a brown background and white text, showing page numbers 1 through 5 and navigation arrows. Below this is a table with four columns: "Name", "Twitter", "No", and an empty column. The table contains three rows of data, each with an "Edit" link in the fourth column.

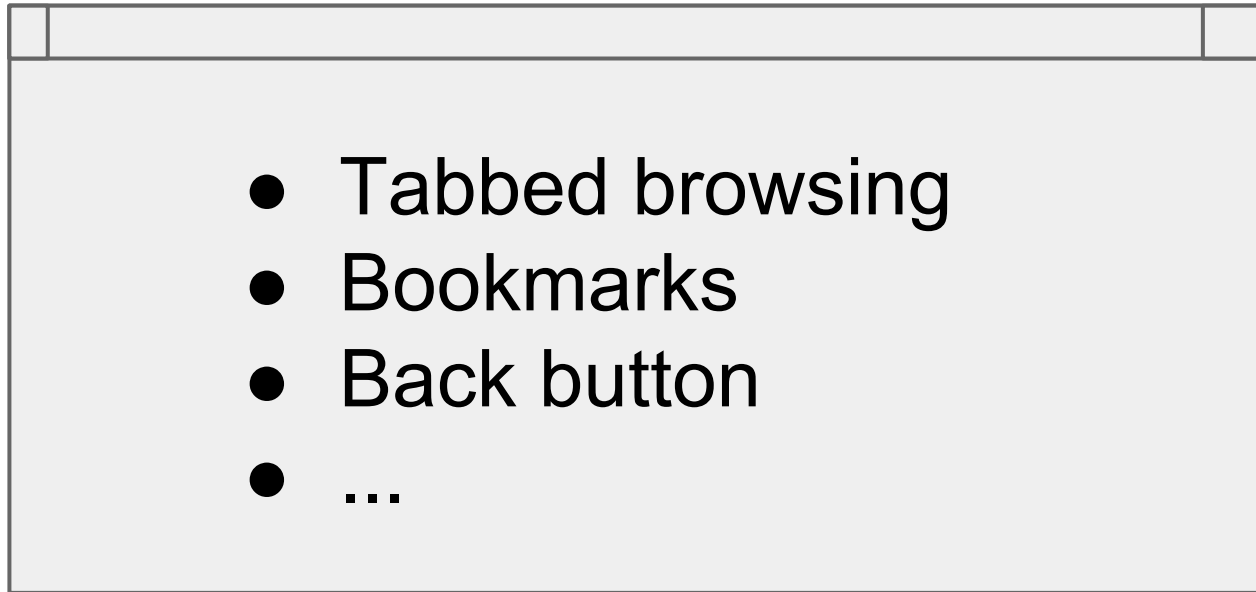
Name ▲ ▼	Twitter ▲ ▼	No	
Adam Byrtek	@adamb...	1	Edit
Adam Forsyth		2	Edit
Adriano Petrich	@fractal	3	Edit

Strategy

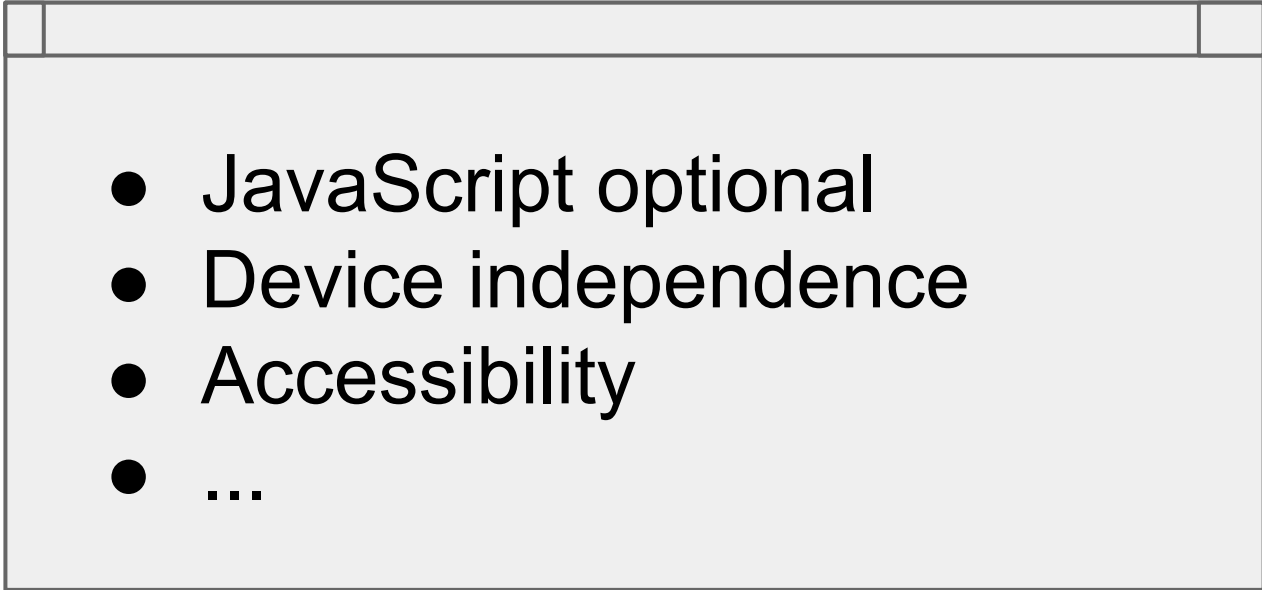
“No-html” frameworks



Maintain web semantics

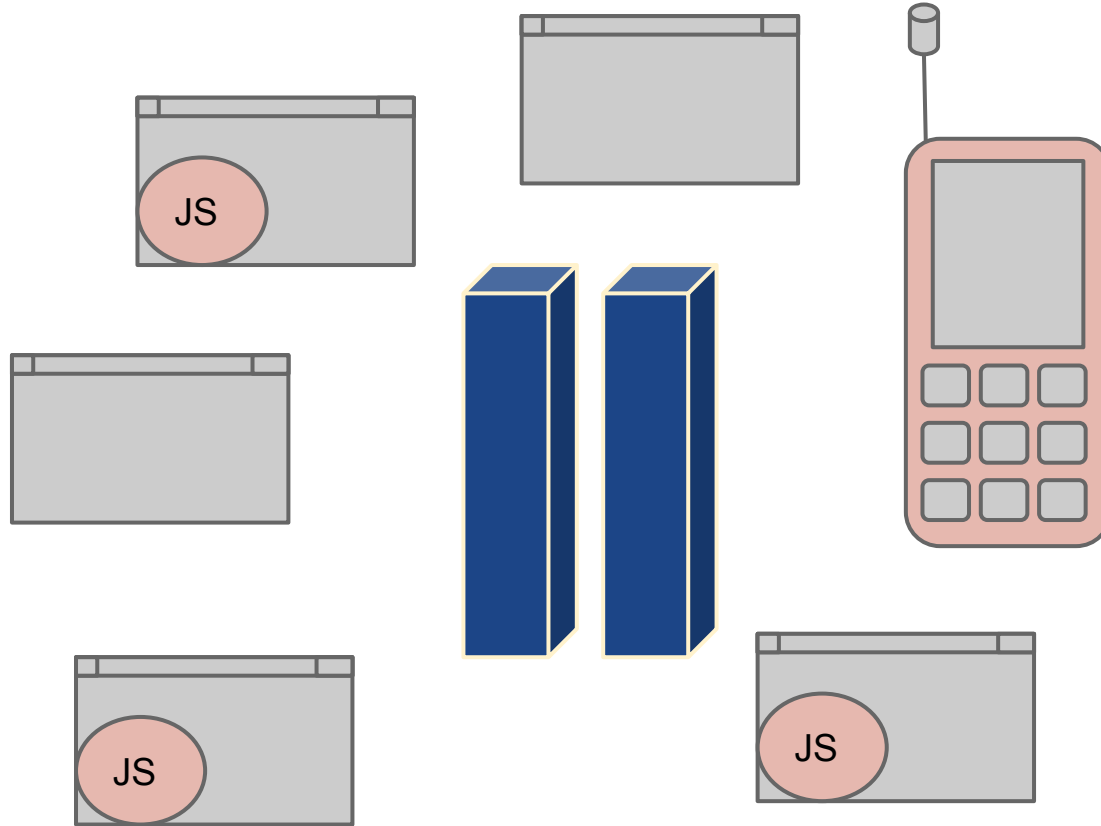


Support web ideals

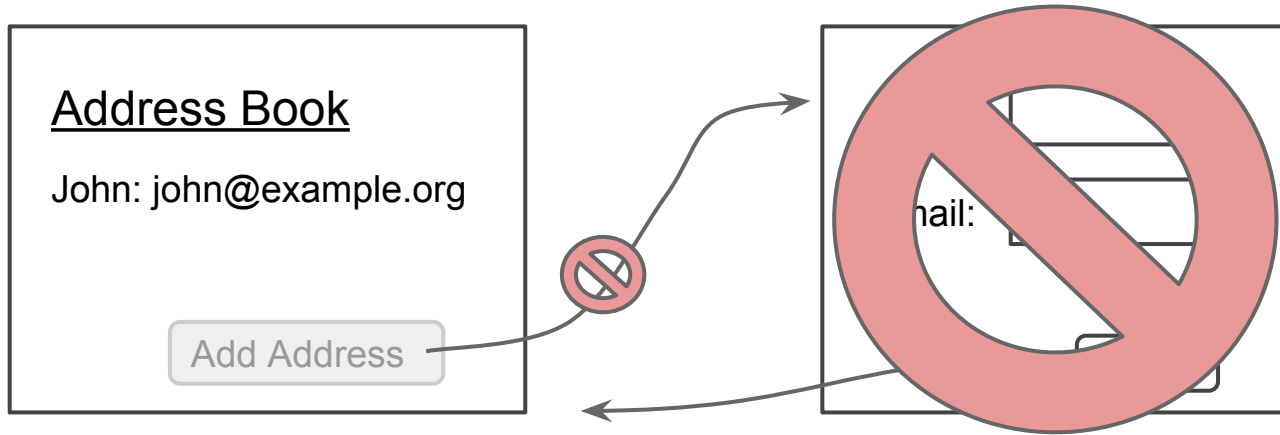
- 
- A light gray rectangular box with a thin black border, containing a bulleted list of web ideals. The list items are: JavaScript optional, Device independence, Accessibility, and an ellipsis (...).
- JavaScript optional
 - Device independence
 - Accessibility
 - ...

Strategy

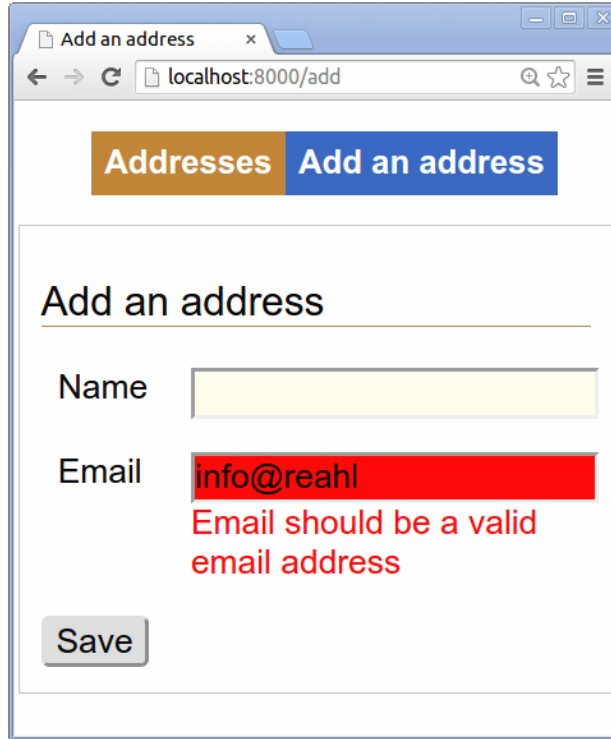
Web-grown API



Aim: higher level issues



Leverage existing wisdom



Browser window: Add an address x
localhost:8000/add

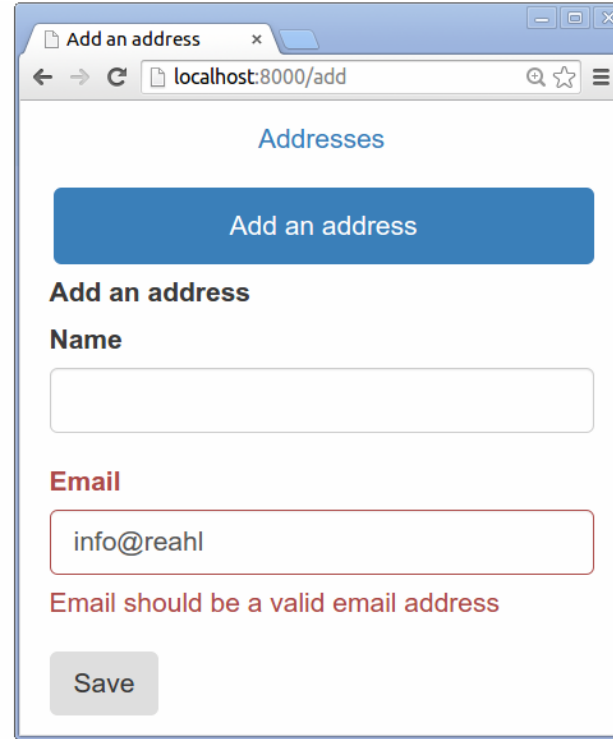
Addresses Add an address

Add an address

Name

Email **info@reahl**
Email should be a valid email address

Save



Browser window: Add an address x
localhost:8000/add

Addresses

Add an address

Add an address

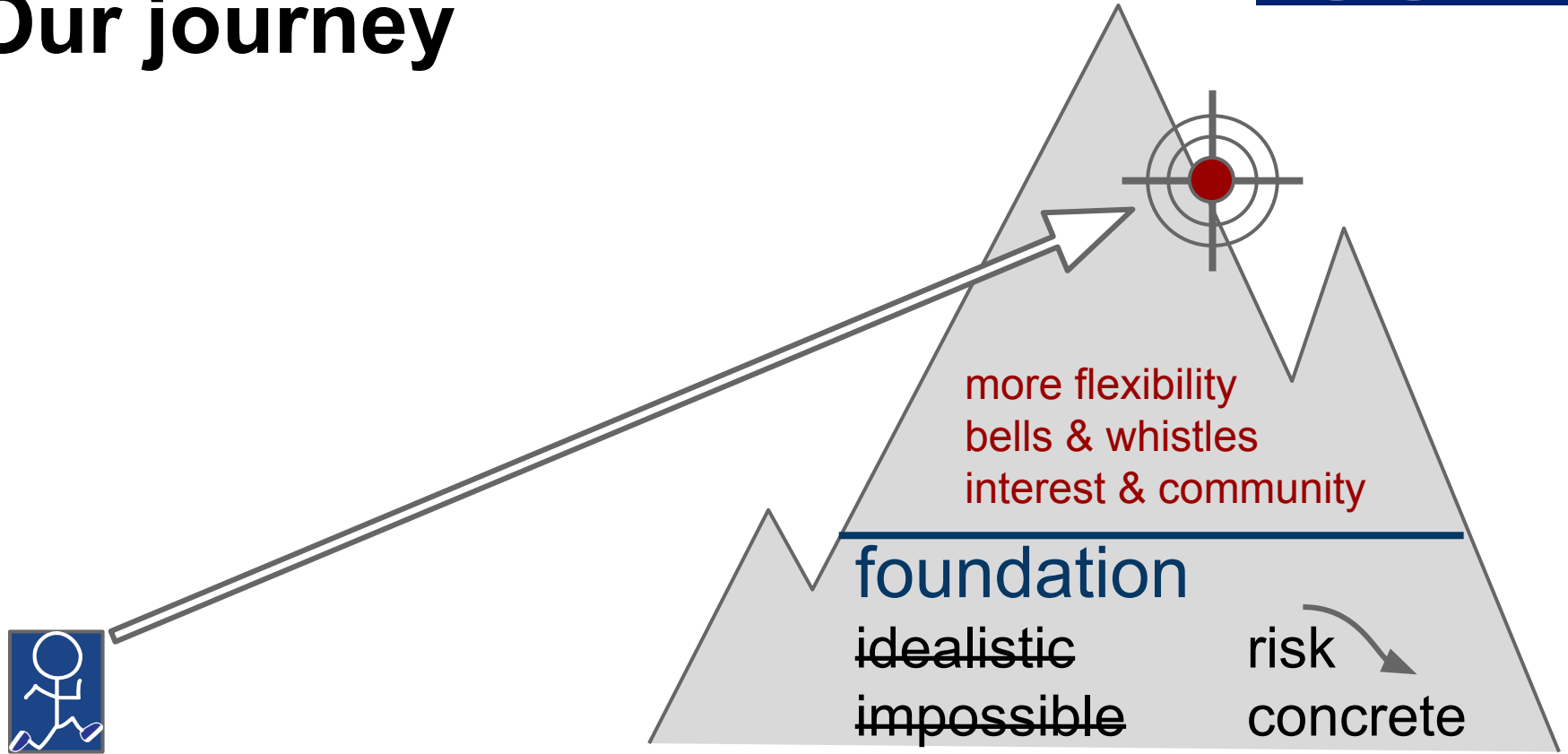
Name

Email
Email should be a valid email address

Save

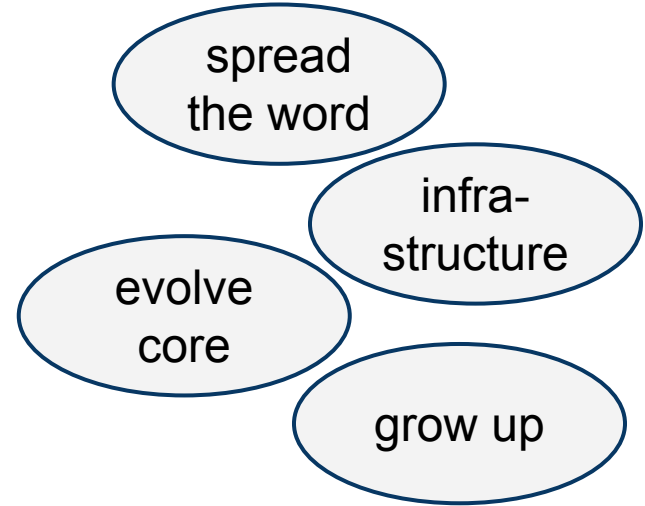
Status

Our journey



You're invited

1. Look at examples
2. Join mailing list(s)
3. Install
4. Follow tutorial
5. Help



Thanks

www.reahl.org
@reahl

On **groups.google.com**:

- [reahl-announce](#)
- [reahl-discuss](#)

iwan@reahl.org