Managing State in Single Page

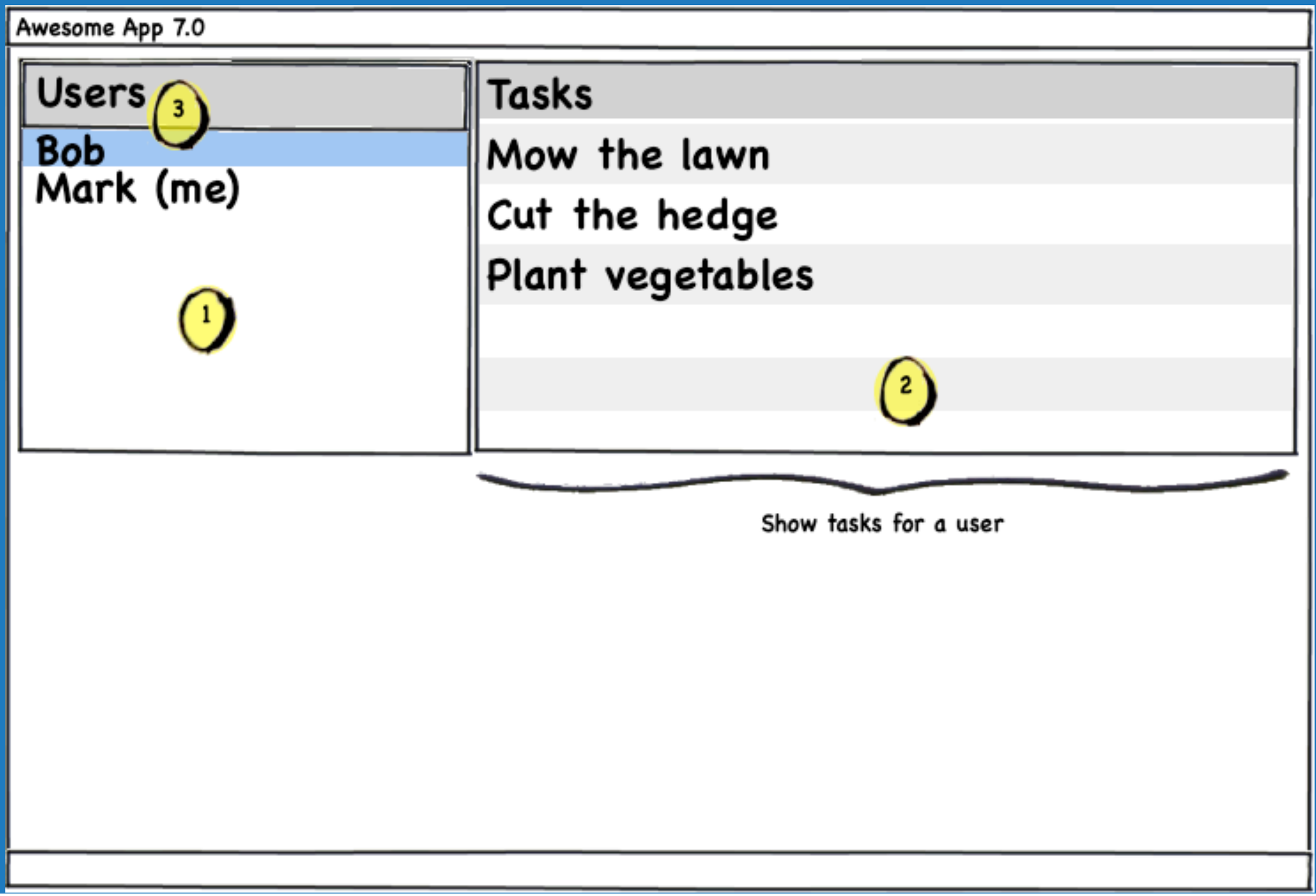
with Ember.js

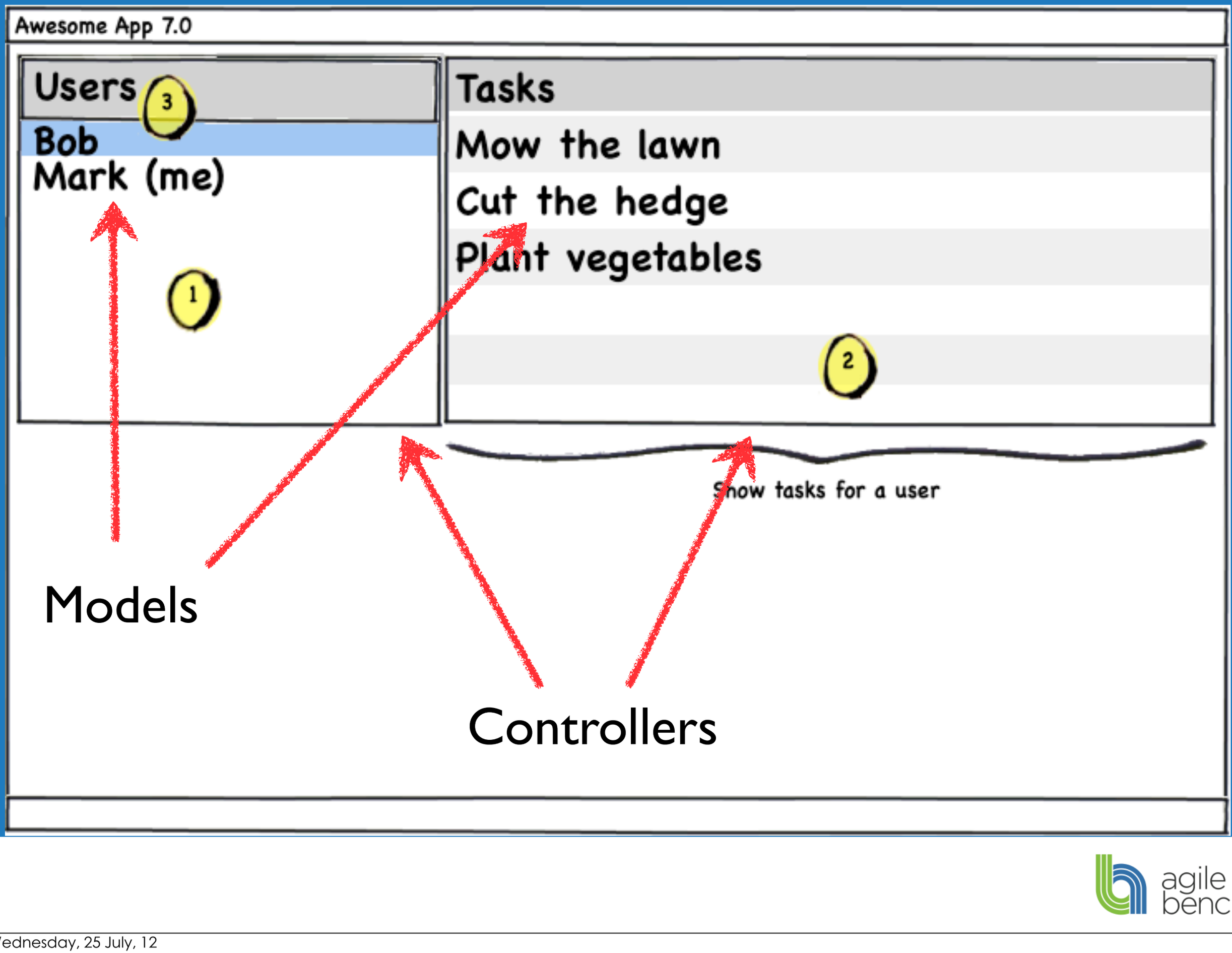
16 Feb

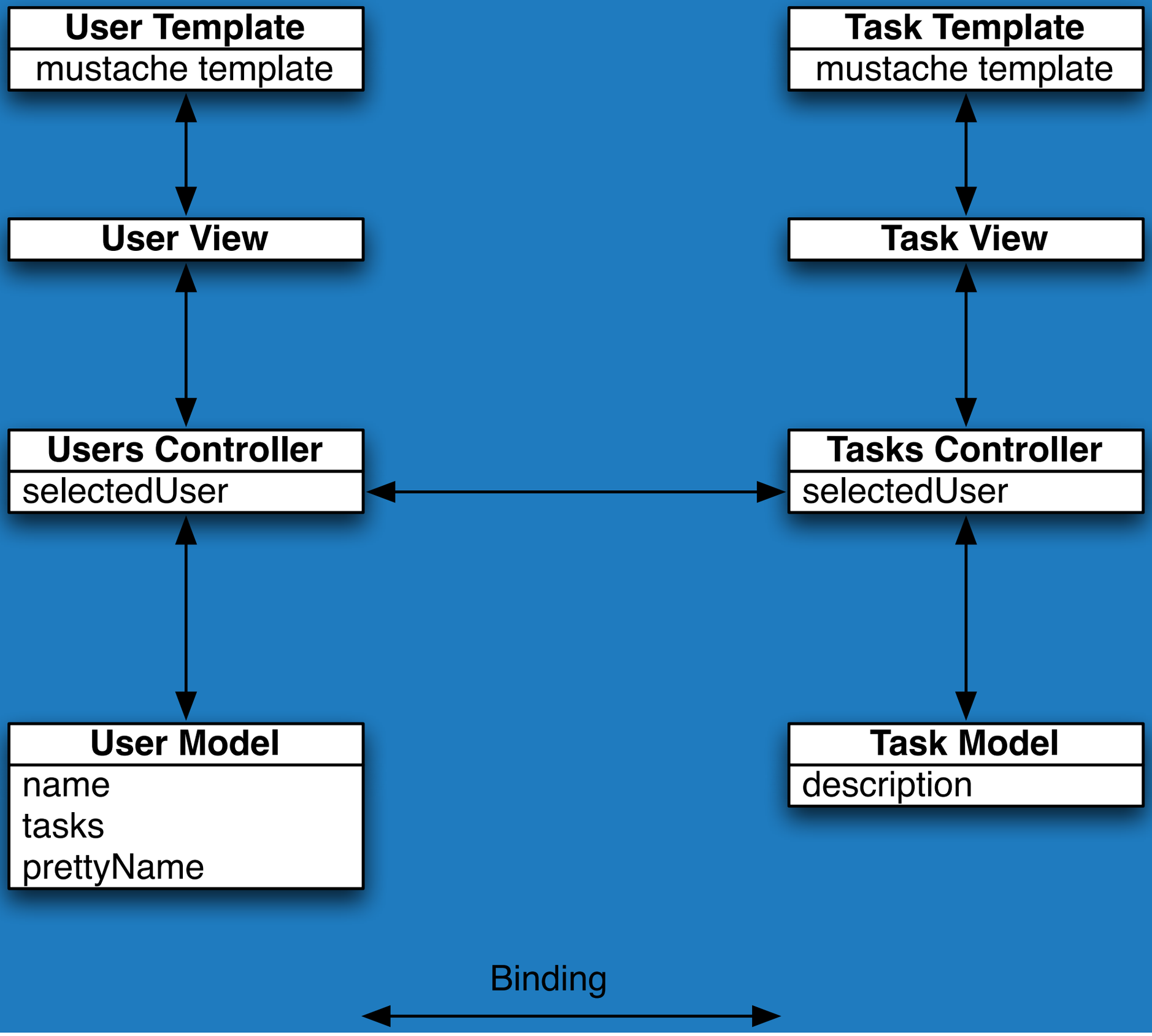
Ember.js

- This is only to pique your interest
- Browser based MVC framework
- Builds on JQuery
- Beyond event driven abstractions
- Auto updating of DOM

agile bench


Awesome App 7.0
Users
3
Bob
Mark (me)
1
Tasks
Mow the lawn
Cut the hedge
Plant vegetables
2
Show tasks for a user


Awesome App 7.0
Users
3
Bob
Mark (me)
1
Tasks
Mow the lawn
Cut the hedge
Plant vegetables
2
Show tasks for a user
Models
Controllers


User Template
mustache template
Task Template
mustache template
User View
Task View
Users Controller
selectedUser
Tasks Controller
selectedUser
User Model
name
tasks
prettyName
Task Model
description
Binding

User Template
mustache template

Task Template
mustache template

Magic

User View

Task View

Users Controller
selectedUser

Tasks Controller
selectedUser

User Model
name
tasks
prettyName

Task Model
description

Binding

agile bench

Ember Models

```
User = Ember.Object.extend({
    name: null,
    tasks: []
});
```

Ember Models

```
User = Ember.Object.extend({
    name: null,
    tasks: []
});

/* create two users */
bob = User.create({ name: "Bob" });
mark = User.create({ name: "Mark" });

bob.get("name"); //=> "Bob"
mark.get("name"); //=> "Mark"
```

agile bench

Users Controller

```
// A standard Ember Object
MyApp.usersController = Ember.Object.create({
    users: [],
    selectedUser: null,
});
```

```
MyApp.usersController.set("users", [bob, mark]);
```

Users Controller

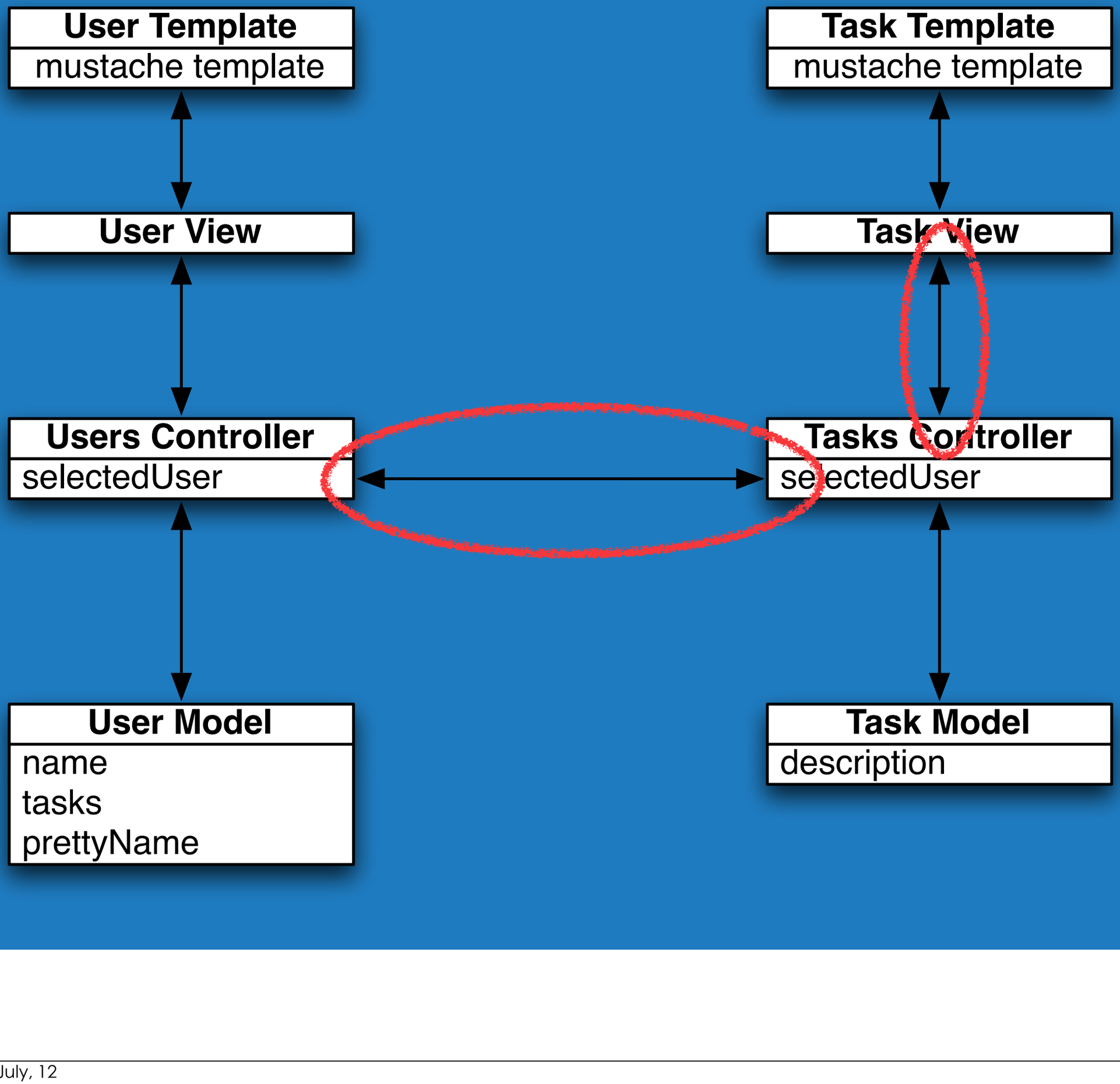
```
// A standard Ember Object
MyApp.usersController = Ember.Object.create({
    users: [],
    selectedUser: null,
});

MyApp.usersController.set("users", [bob, mark]);

// fake a <click> event
MyApp.usersController.set(“selectedUser

MyApp.usersController.getPath("selectedUser.name");
//=> "Bob"
```

Magic

agile bench

Encapsulation

- Users View should only care about the Users Controller
- Tasks View should only care about the Tasks Controller


User Template
mustache template
Task Template
mustache template
User View
Task View
Users Controller
selectedUser
Tasks Controller
selectedUser
User Model
name
tasks
prettyName
Task Model
description

agile bench

Tasks Controllers

```
    // A standard Ember Object
MyApp.tasksController = Ember.Object.create({
    selectedUserBinding: 'MyApp.usersController.selectedUser'
});
```

```
MyApp.tasksController.getPath("selectedUser.name");
//=> "Mark" (or "Bob")
```

Tasks Controllers

```
// A standard ect
MyApp.tasksCo  Ember.Object.create({
    selectedUserBinding: 'MyApp.usersController.selectedUser'
});
```

Magic

```
MyApp.tasksController.getPath("selectedUser.name");
//=> "Mark" (or "Bob")
```

agile bench

Observers

```
MyApp.tasksController = Ember.Object.create({
    selectedUserBinding: 'MyApp.usersController.selectedUser',
    filterResults: function() {
        document.write("filter the results");
        // triggers a re-render
    }.observes('selectedUser')
});
```

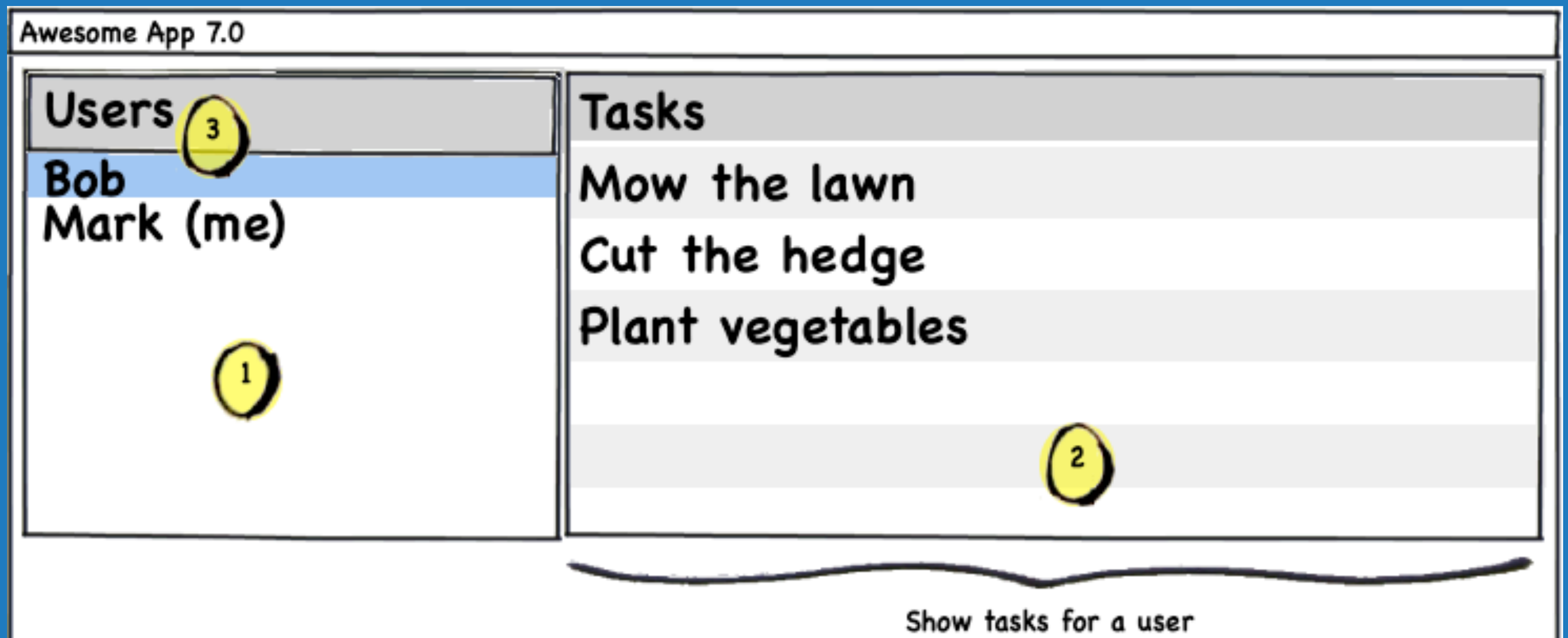
Observers

```
MyApp.tasksController = Ember.Object.create({
    selectedUserBinding: 'MyApp.usersController.selectedUser',
    filterResults: function() {
        document.write("filter the results");
        // triggers a re-render
    }.observes('selectedUser')
});
```

Observers

```
MyApp.tasksController = Ember.Object.create({
    selectedUserBinding: 'MyApp.usersController.selectedUser',
    filterResults: function() {
        document.write("filter the results");
        // triggers a re-render
    }.observes('selectedUser')
});

// somehow the selected user is changed!
MyApp.usersController.set("selectedUser", mark);

MyApp.tasksController.getPath("selectedUser.name");
//=> "Mark" (or "Bob")
// side effect of "filter the results and re-render"
```

agile bench


Awesome App 7.0
Users
3
Bob
Mark (me)
1
Tasks
Mow the lawn
Cut the hedge
Plant vegetables
2
Show tasks for a user

Awesome App 7.0

Users	Tasks
Bob	Mow the lawn
Mark (me)	Cut the hedge
	Plant vegetables

1

2

3

Show tasks for a user

Computed Props

```
User = Ember.Object.extend({
    name: null,
    currentUserBinding: 'MyApp.currentUser',

    // computed property
    prettyName: function() {
        if(this == this.get("currentUser"))
            return this.get("name") + " (me)";

        return this.get("name");
    }.property("name")
});

bob.get("prettyName");  //=> "Bob"
mark.get("prettyName");  //=> "Mark (me)"
```

agile bench

Computed Props

```
User = Ember.Object.extend({
    name: null,
    currentUserBinding: 'MyApp.currentUser',

    // computed property
    prettyName: function() {
        if(this == this.get("currentUser"))
            return this.get("name") + " (me)";

        return this.get("name");
    }.property("name")
});

bob.get("prettyName");  //=> "Bob"
mark.get("prettyName");  //=> "Mark (me)"
```

agile bench

Computed Props

```
User = Ember.Object.extend({
    name: null,
    currentUserBinding: 'MyApp.currentUser',

    // computed property
    prettyName: function() {
        if(this == this.get("currentUser"))
            return this.get("name") + " (me)";

        return this.get("name");
    }.property("name")
});

bob.get("prettyName");   //=> "Bob"
mark.get("prettyName");  //=> "Mark (me)"
```

agile bench

Computed Props

```
User = Ember.Object.extend({
    name: null,
    currentUserBinding: 'MyApp.currentUser',

    // computed property
    prettyName: function() {
        if(this == this.get("currentUser"))
            return this.get("name") + " (me)";

        return this.get("name");
    }.property("name")
});

bob.get("prettyName");   //=> "Bob"
mark.get("prettyName");  //=> "Mark (me)"
```

MOAR Magic

agile bench

The Run Loop

- Pops a function on the queue
  - (sync, actions, destroy, timers)
- Triggered each Browser Event Loop
- JavaScript FAST - DOM slow

agile bench

The Ru… Loop

- Pops…
  - (sync,…
- Triggered…ent Loop
- JavaScri…

Magic just got real!

agile bench

What we just saw

- Data propagated through multiple objects
  - computed properties
  - observers
  - bindings
- Data updated in batch

agile bench

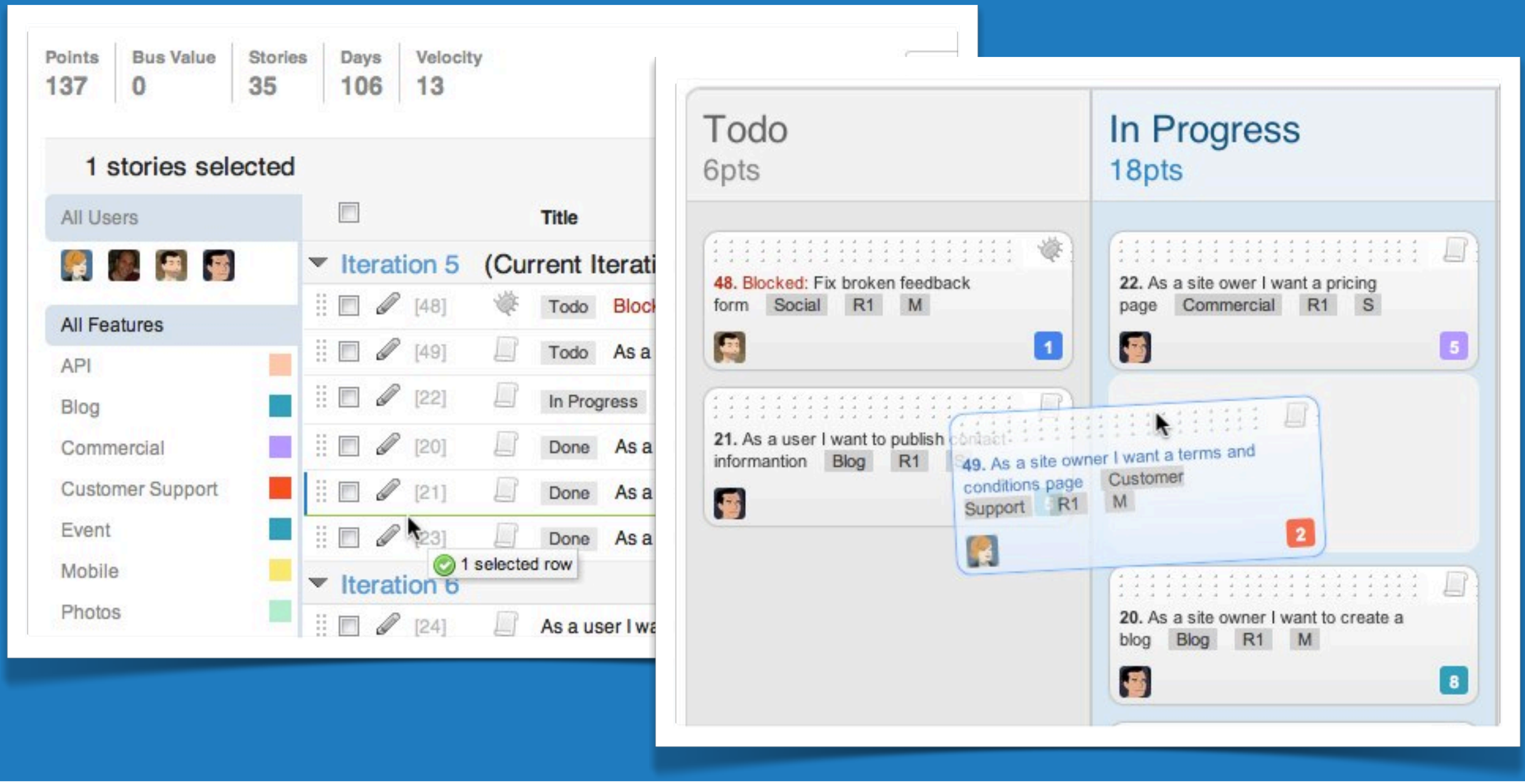
What do I know?

- Very steep learning curve
  - (~4 weeks to get past novice)
- Modern Browsers Only
- Very, very powerful

agile bench

Agile Bench

Planning tool for agile teams



agile bench