Stateful Simulations

Agenda

- Why we need Stateful Simulations

Agenda

- Why we need Stateful Simulations
- The Hoverfly State Store

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- Why we need Stateful Simulations
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- Using State in Templating

Agenda

SpectoLabs

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- Modelling State Machines

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Stateful Responses

Stateful Responses

SpectoLabs

/api/v1/shopping-basket

Stateful Responses

SpectoLabs

/api/v1/shopping-basket

↓

```
{
    "items": ["eggs", "bacon"]
}
```

Stateful Responses

/api/v1/shopping-basket

⬇

```
{
    "items": []
}
```

Stateful Responses

/api/v1/shopping-basket

↓

```
{
    "items": []
}
```

	Matcher	Response
GET	/api/v1/shopping-basket	```{ "items": ["eggs", "bacon"]}```
GET	/api/v1/shopping-basket	```{ "items": []}```

As a State Machine

As a State Machine

SpectoLabs

GET /api/v1/shopping-basket

As a State Machine

```
GET /api/v1/shopping-basket
              ↓
    {
        "items": []
    }
```

As a State Machine

GET /api/v1/shopping-basket

↓

```
{
        "items": []
}
```

↓

POST /api/v1/shopping/basket

↓

GET /api/v1/shopping-basket

As a State Machine

```
GET /api/v1/shopping-basket
                    ↓
    {
            "items": []
    }
                    ↓
  POST /api/v1/shopping/basket
                    ↓
  GET /api/v1/shopping-basket
                    ↓
  {
      "items": ["eggs", "bacon"]
  }
```

State Store

SpectoLabs

State Store

SpectoLabs

- Simulates the Internal State of an API

State Store

SpectoLabs

- Simulates the Internal State of an API
- A Key-Value Store

State Store

SpectoLabs

- Simulates the Internal State of an API
- A Key-Value Store
- Orchestrated via Matching & the CLI

State Store

SpectoLabs

State Store

SpectoLabs

```
$ hoverctl state-store get-all
The state for Hoverfly is empty
```

State Store

SpectoLabs

```
$ hoverctl state-store get-all
The state for Hoverfly is empty

$ hoverctl state-store set basket eggs
Successfully set state key and value:
"basket"="eggs"
```

State Store

SpectoLabs

```
$ hoverctl state-store get-all
The state for Hoverfly is empty

$ hoverctl state-store set basket eggs
Successfully set state key and value:
"basket"="eggs"

$ hoverctl state-store get-all
State of Hoverfly:
"basket"="eggs"
```

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Templating State

SpectoLabs

Templating State

```
{
    "item":"eggs"
}
```

SpectoLabs

```
{
    "item":"{{ State.basket }}"
}
```

Templating State

SpectoLabs

Templating State

```
$ hoverctl state-store set basket ham
```

Templating State

SpectoLabs

```
$ hoverctl state-store set basket ham
```

⬇

```
{
    "item": ["ham"]
}
```

Templating State

```
$ hoverctl state-store set basket ham
```

⬇

```
{
    "item": ["ham"]
}
```

⬇

```
$ hoverctl state-store set basket fish
```

Templating State

```
$ hoverctl state-store set basket ham
```

↓

```
{
    "item": ["ham"]
}
```

↓

```
$ hoverctl state-store set basket fish
```

↓

```
{
    "items": ["fish"]
}
```

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State Machine Modelling

SpectoLabs

```json
{
  "request": {
     "requiresState": {
          "foo" : "one"
     }
 },
  "response": {
   "transitionsState" : {"foo":"two"},
   "removesState" : {"bar"}
  }
}
```

State Machine Modelling

Matcher	Response Body	Requires State	Transitions State	Deletes State

State Machine Modelling

SpectoLabs

	Matcher	Response Body	Requires State	Transitions State	Deletes State
GET	/api/v1/shopping-basket	{"items": []}			

State Machine Modelling

SpectoLabs

	Matcher	Response Body	Requires State	Transitions State	Deletes State
GET	/api/v1/shopping-basket	{"items": []}			
POST	/api/v1/shopping-basket			basket=eggs	

State Machine Modelling

	Matcher	Response Body	Requires State	Transitions State	Deletes State
GET	/api/v1/shopping-basket	{"items": []}			
POST	/api/v1/shopping-basket			basket=eggs	
GET	/api/v1/shopping-basket	{"items": ["eggs"]}	basket=eggs		

State Machine Modelling

	Matcher	Response Body	Requires State	Transitions State	Deletes State
GET	/api/v1/shopping-basket	{"items": []}			
POST	/api/v1/shopping-basket			basket=eggs	
GET	/api/v1/shopping-basket	{"items": ["eggs"]}	basket=eggs		
DELETE	/api/v1/shopping-basket				basket

State Machine Modelling

	Matcher	Response Body	Requires State	Transitions State	Deletes State
GET	/api/v1/shopping-basket	{"items": []}			
POST	/api/v1/shopping-basket			basket=eggs	
GET	/api/v1/shopping-basket	{"items": ["eggs"]}	basket=eggs		
DELETE	/api/v1/shopping-basket				basket
GET	/api/v1/shopping-basket	{"items": []}			

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