An introduction to Ember JS for building ambitious web applications

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Something about me

I’m from from **Turin, Italy**

I moved to London one year and a half ago for working as *front end developer* in **Workshare** (an online document collaboration system similar to Dropbox)

Currently I’m a *senior software engineer* at **Crowdstrike** where I’m involved in the development of a *real time anti breach, virus and malware platform*.

I’m an *engineer*, I got a master degree in computer science at the **Politecnico of Turin**

In Italy I worked for an automotive company - **Magneti Marelli** as software architect and for an e-learning company - **Docebo** as full stack developer.
Something about me (2)

I am really addicted to front end technologies such as javascript and its frameworks.

I’m continuously studying patterns for building robust web applications.

In my spare time I like cooking italian food, travelling and hiking around the world.
Introduction to Front End Development
When I have to tell which is my job...

I am a Front End Developer.

....this is the people reaction....
WHAAAT?
I am a Front End Developer - What does it mean?

Everyday we are using web applications via our browser like amazon, dropbox, facebook, barclays for internet banking, spare room, gum tree and so on.

“A front end developer builds the user interface of an application. “

On a web site like amazon, the front end developer is responsible for building components like:

SEARCH FORM - WRITE A REVIEW - VIEW THE RELATED PRODUCTS

Each component of the user interface usually has an html/css part, then a javascript part for handling the interaction with the user or for retrieving the data from the server.
How a “normal” user sees the amazon web site

A place where people can spend a lot of money for buying new stuff :-)
How a front-end developer (sees) the amazon site

A front end developer sees the amazon site as a collection of web components : )
There is also a back end developer

A web site without data is NOTHING!!

All the data you see on a web site are stored persistently somewhere (hopefully on a database).

The front end developer is responsible for asking data to the back end.

The back-end developer GIVES the answers with data!

Usually he/she works with the database.
There is also a back end developer

The search component asks to the server the *products list* containing the word *coffee* by invoking a proper URL (like www.mydomain.com/search?name=coffee)

The back end developer wrote a piece of code that reads the name from the URL and then search the products matching the word coffee in the database and return the list to the client (search component).

The component wait for the response, then when it's ready, it updates the search suggestions with the results.
Where can I learn how to code?

You don’t know, but all the knowledge it’s in your pockets thanks to internet.

Online:

- CodeSchool [https://www.codeschool.com/](https://www.codeschool.com/)
- Code Academy [https://www.codecademy.com/](https://www.codecademy.com/)
- Code Avangers [https://www.codeavengers.com/](https://www.codeavengers.com/)

Offline:

- Go to Codebar - [https://codebar.io/](https://codebar.io/) - [http://tutorials.codebar.io/](http://tutorials.codebar.io/)
- Attend to Meetup about Javascript, Web Development, Ember
- Attend to event organized by Skills Matter [https://skillsmatter.com/](https://skillsmatter.com/)
Meetup in London

- http://www.meetup.com/AngularLabs/
- http://www.meetup.com/js-monthly-london/
Ember
Introduction to the concept of Framework

A framework:

- makes life easier for a developer.
- help to structure your code in order to address a particular problem
- allow developers to focus on business logic of the application

The most famous Javascript framework are:
What is Ember JS

- A Javascript framework for creating ambitious web applications
- Based on a model-view-controller (MVC)
- Designed for Single Page Application
- Provides standard application architecture
- Follow Convention Over Configuration Pattern
- Use Handlebars as Template Engine with TWO-WAY data binding

Who is using Ember?

YAHOO!  Groupon  NETFLIX  KICKSTARTER  EatWith

http://emberjs.com/ember-users/
From an URL, the router translates an URL to a specific route. So after parsing the URL the router activates a route.

A Route is responsible for:
• fetching a model from a server
• providing the model to the controller

The route sets up a controller that decorates the model by adding new properties. In the controller you can also specify the actions for handling the user interactions.

And finally the template is loaded and shown to the user.
Ember 5 Key Concepts

1. Router
2. Route
3. Model
4. Template
5. Controller

Everything starts from an **URL** - in Ember **URLs** on a web application are **really important**. They are like a “map” that drive your application to the specific page via a **route**!

Ember **Router** maps the current URL to one or more **route** handlers.

The **route** is responsible for giving the **model (data)** to the **template**.

The **template** defines the **layout** and the **user interface of a page/component**. Template in Ember support **two-way data bindings**, so it will auto update when the related model changes!

The **controller** in Ember decorates the model object. Properties specified in the controller can be accessed by a template as if they were declared in the model.
Question??

Given an URL like:

```
http://www.shop.com/products
```

How Ember knows from an **url** which is the related **route**, **controller** and **template**? How these blocks are connected each other?

How does Ember know that??
Convention Over Configuration Pattern in Ember

Ember knows the proper route, controller and template thanks to

“a naming convention and a standard application folder structure”

http://www.shop.com/products

- app/controllers/products.js
- app/routes/products.js
- app/template/products.hbs
Demo Time!!

Catalog your music collection with Ember.js

New band
Add

Pearl Jam
Led Zeppelin
Kaya Projecttt
Foo Fighters
Radiohead
Red Hot Chili Peppers

Details
Songs

Rating ↓  Rating ↑  Title ↓  Title ↑

Start Typing

New Led Zeppelin song
Add

Achilles Last Stand
Black Dog
Immigrant Song
Resources about Ember

Reading this fabulous book “Rock and Roll with Ember.js” written by Balint Erdi.

You will learn step by step how to develop the application shown on the demo.


Other Links:

- http://emberweekly.com/
- http://emberjs.com
- https://www.codeschool.com/courses/try-ember
Thank YOU!

Q & A