Static site generators *e.g.* Jekyll

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What we will do

What does "having a website" mean?

An example of static site generator: Jekyll
  Source structure
  The configuration file
  The front matter
  Formatted content: Markdown
  Integrating data and content into `.html`: Liquid
  Running Jekyll

Hands on example

What does "having a website" mean?   An example of static site generator: Jekyll   Hands on example

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Overview

What does "having a website" mean?

An example of static site generator: Jekyll

Hands on example

What does "having a website" mean?

Content

+ Structure

+ Layout and styling

What does "having a website" mean?

+ More pages and hyperlinks

About me | Biography | Awards | Gallery

About me: Charlie Chaplin
16.04.1889

[Homepage] →
charliechaplin.com

Occupation:
· Actor
· Director
· Composer
· Screenwriter
· Producer
· Editor

*I was hardly aware of a crisis because
we lived in a continual crisis; and,
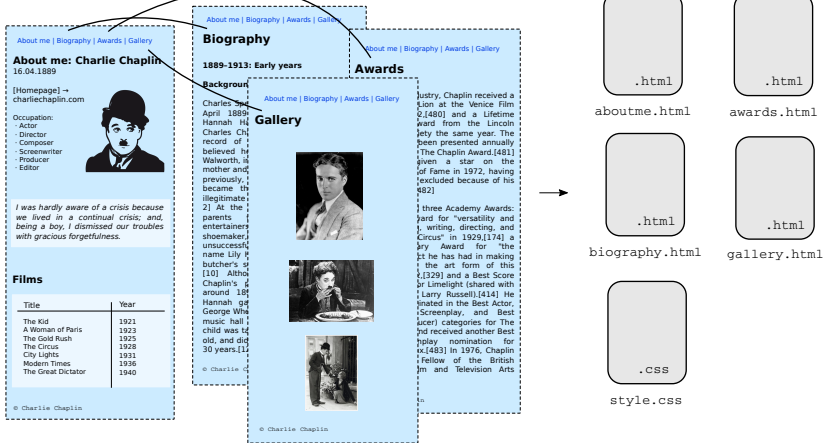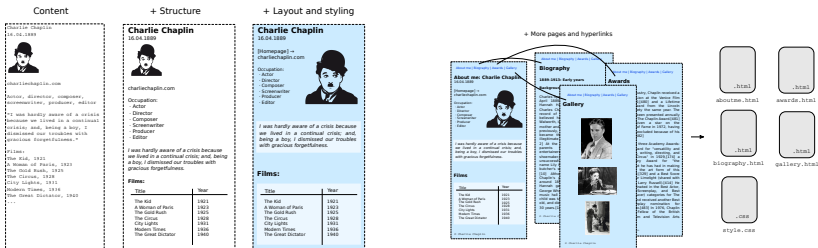being a boy, I dismissed our troubles
with gracious forgetfulness.*

Films

Title	Year
The Kid	1921
A Woman of Paris	1923
The Gold Rush	1925
The Circus	1928
City Lights	1931
Modern Times	1936
The Great Dictator	1940

© Charlie Chaplin

About me | Biography | Awards | Gallery

Biography

1889–1913: Early years

Background

Charles Sp... ...
April 1889... ...
Hannah H...
Charles Ch...
record of ...
believed h...
Walworth, i...
mother and ...
previously, ...
became th...
illegitimate ...
2] At the ...
parents ...
entertainers...
shoemaker,...
unsuccessf...
name Lily P...
butcher's s...
[10] Altho...
Chaplin's g...
around 18...
Hannah ga...
George Whi...
music hall t...
child was t...
old, and did...
30 years.[1...

© Charlie Chaplin

About me | Biography | Awards | Gallery

Awards

...lustry, Chaplin received a
...tion at the Venice Film
...2,[480] and a Lifetime
...ward from the Lincoln
...iety the same year. The
...been presented annually
...The Chaplin Award,[481]
...given a star on the
...of Fame in 1972, having
...excluded because of his
...482]

...three Academy Awards:
...ward for "versatility
..., writing, directing, and
...Circus" in 1929,[174] a
...ry Award for "the
...ct he has had in making
... the art form of this
...[329] and a Best Score
...or Limelight (shared with
... Larry Russell).[414] He
...inated in the Best Actor,
..., Screenplay, and Best
...ucer) categories for The
...nd received another Best
...nplay nomination for
...x.[483] In 1976, Chaplin
...Fellow of the British
...lm and Television Arts
...n

About me | Biography | Awards | Gallery

Gallery

© Charlie Chaplin

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.html
aboutme.html

.html
awards.html

.html
biography.html

.html
gallery.html

.css
style.css

What does "having a website" mean?

Content   + Structure   + Layout and styling   + More pages and hyperlinks

Once the .html/.css source is ready, it can be served to visitors.

Working directly with .html is painful

- ► Hard to read, tags clutter the content
- ► Structure not obvious. <table>, <th>, <tr>, <td> anyone ?
- ► Redundancy as soon as #{pages} > 1: *simple* changes to common parts require editing *all* files. For example: layout, styling and navigation.

Pages can be drawn directly (Click-o-dromes like Google Sites), but lack of control, trap you, and cannot host on UniVie servers.

Pages can be generated by the server at each request (*dynamic* setup), but complex + dangerous (database, one more language) and trap you (less), and cannot host at UniVie.

When user interaction is not needed, we can generate pages *statically* using simple text files.

⇒ Static site generators

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⇒ Static site generators

Static site generators

- Content is described using formatted text (~Wiki)
  ```
  # Charlie Chaplin

  16.04.1889
  ![portrait](photo.jpg)
  [Homepage](http://charliechaplin.com)
  ```

- Layout is described using templating
  ```
  <!doctype html>
      <head><title>{{ page.title }}</title><head>
      <body><div id="main">
      {{ content }}
      </div></body>
  <html>
  ```

- A small program compiles everything into .html files, ready to be uploaded.

Static site generators
.html result (Jekyll)

```
<!doctype html>
<html>
    <head><title></title></head>
    <body><div id="main">
        <h1 id="charlie-chaplin">Charlie Chaplin</h1>
<p>16.04.1889
<img src="photo.jpg" alt="portrait" />
<a href="http://charliechaplin.com">Homepage</a></p>
    </div></body>
</body>
<html>
```

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Pick yours: staticgen.com

StaticGen | Top Open-Source Static Site Generators

Need a CMS to go with a generator below? Check out the brand new **headlessCMS.org** for your top options.

SHARE

| All languages ⇅ | Sorted by stars ⇅ |　　　　　About StaticGen　The Rules　Need a Static CMS?

Jekyll

jekyllrb.com

★	৬	⛏
34037	7506	148
0	0	0

A simple, blog-aware, static site generator.

Language:　Ruby
Templates:　Liquid
License:　MIT

◆ **Deploy** to netlify

Hugo

gohugo.io/

★	৬	⛏
25055	3074	234
0	0	0

A Fast and Flexible Static Site Generator.

Language:　Go
Templates:　Go Templates
License:　APL 2.0

◆ **Deploy** to netlify

Next

learnnextjs.com/

★	৬	⛏
24508	2310	227
0	0	0

A framework for statically-exported React apps

Language:　JavaScript
Templates:　JavaScript
License:　MIT

Get started with 1 click

Introducing the "Deploy to Netlify" button on select generators to help you deploy new sites from generator-specific templates with a single click. Get a site up in minutes, with custom domain, HTTPS and continuous delivery completely free of charge.

Want your own Deploy to Netlify button? Learn more here

Hexo

Gatsby

GitBook

Nuxt

OVERVIEW

Source structure

- `_config.yaml` configuration file
- `_layouts/` directory of `.html` templates
- `_site/` output directory (can be changed)

- `_includes/` reusable bits of templates
- `_data/` structured data, like list of publications

- `_posts/` directory for pages with a fixed publication date (posts)
- `_sass/` directory for `css` on steriods

Files begining with `_` will be used by Jekyll to build the site.
Files with a *front-matter* will be processed into `.html`.
All others are simply copied to `_site`

The configuration file

Used to defined configuration and site-wide variables

- ▶ The configuration file can be empty
- ▶ Variable `foo` defined in the front-matter are accessible with `site.foo`.

Most important options:

- ▶ `baseurl`: at UniVie something like

  `baseurl: "/~jankowiak"`
- ▶ `markdown`: which Markdown processor to use (kramdown is good)

The front matter

aboutme.md:

```
---
layout: default
title: "About me"
---


# Charlie Chaplin
16.04.1889
![alt text](photo.jpg)
[Homepage](http://charliechaplin.com)
```

Variable `foo` defined in the front-matter are accessible with `page.foo`.

Formatted content: Markdown

- ► Very similar to the Wiki language
- ► Block of text are wrapped into <p> tags
- ► Headings:
  - ► `# Title` → `<h1>Title</h1>`
  - ► `## Subtitle` → `<h2>Subtitle</h2>`, etc.
- ► Links: `[link text](http://link.to/someplace)`
- ► Images: `![alt text](url/image.jpg)`
- ► Lists:

                    ```
                    * item foo
                    * item bar
                    ```

    → ...
                    ```
                    1. item one
                    2. item two
                    ```

    → ...
- ► Also easy to do tables, code blocks, blockquotes, etc... :
  `daringfireball.net/projects/markdown/syntax`
- ► Can inlude `html` tags if needed

Templates: Liquid

- ▶ Idea: put variables into `html`, like `php`
- ▶ Uses a language based on Ruby (`if` finishes with `endif`, `for`, `while` finish with `end`)
- ▶ Allows to use variables from the page (`page.foo`) and from the config (`site.foo`)
- ▶ Code is between `{% ... %}` markers (no output in the `html`)
- ▶ Printing is between `{{ ... }}` markers

```
{% if user %}
  Hello {{ user.name }}!
{% endif %}
```

- ▶ The `{{ content }}` tag will render the Markdown of the current page
- ▶ Many fun "filters" `{{ "title" | capitalize }}` → Title
  `{{ "/style.css" | relative_url }}` → /my-baseurl/style.css

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Working with templates and data

Example: navigation

Figure: Remember this?

data/navigation.yaml:　layouts/default.html:

```
- text: "About me"      ...
  url: /aboutme        {% for link in site.data.navigation %}
- text: "Biography"        <a href="{{ link.url }}">
  url: /biography          {{ link.text }}</a>
- text: "Awards"           {% if forloop.last == false %}
  url: /awards                 |
- text: "Gallery"          {% endif %}
  url: /gallery         {% end %}
                         ...
```

RUNNING JEKYLL

- `jekyll build`: Compile all the things!
- `jekyll serve`: Same + start a small server to see the result locally
- `jekyll serve --watch`: Same but recompile every time some file changes (apart from `_config.yaml`)

So basically, only one command.

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Hands on example

Hands on example

- ▶ Download https://github.com/bk2dcradle/researcher
- ▶ or find something you like on http://jekyllthemes.org/
- ▶ Look at the directory structure
- ▶ Generate and visualize the result
- ▶ Upload to the internet
- ▶ Configuration file
- ▶ Edit and play