

# SMART STATIC SITES

WITH HAKYLL

-Eric Rasmussen

**BACK TO THE 90'S**

# ERIC'S HOME PAGE!!!



Maybe not those 90's

But static sites **are** coming back in style

# WHAT ARE STATIC SITE GENERATORS?

- think of them as build tools
- turn any input into html
- rebuild when content changes

# BUT REALLY... WHY?

- minimalism
- reduce security concerns
- version control
- it's fun

# TEXT FORMAT OF YOUR CHOICE

- markdown
- ReSTructured text
- LaTeX
- MediaWiki

# SYNTAX HIGHLIGHTING

```
match ("about.markdown" .||. "commands.markdown") $ do
  route    $ setExtension "html"
  compile  $ pandocCompiler
           >>= applyBase
           >>= relativizeUrls
```

*"What's hard to ignore about all these platforms is that, your dad will never blog like this."*

-Mike Bayer (author of SQLAlchemy)

# WHY NOT?

- takes time to configure
- the wild wild west
- geek factor

**HAKYLL**

# RULES-BASED EDSL

configuration via code

```
match ("images/*" .||. "js/**") $ do
  route idRoute
  compile copyFileCompiler

match ("css/*" .||. "css/icons/*" .||. "foundation/*") $ do
  route $ setExtension "css"
  compile sassCompiler
```

# FEATURES

- dependency resolution
- simple file metadata
- snapshots (during build)

# HAKYLL BUILT-INS

- tags and tag cloud rendering
- rss/atom feed generation
- code syntax highlighting
- templating

# EXAMPLE: RENDER POSTS

```
match "posts/*" $ do
  route    $ setExtension "html"
  compile $ pandocCompiler
    >>= saveSnapshot "content"
    >>= loadAndApplyTemplate "templates/post.html" postCtx
    >>= loadAndApplyTemplate "templates/base.html" baseCtx
    >>= relativizeUrls
```

# EXAMPLE: CREATE AN ATOM FEED

```
create ["atom.xml"] $ do
  route idRoute
  compile $ do
    loadAllSnapshots "posts/*" "content"
    >>= fmap (take 10) . recentFirst
    >>= renderAtom (feedConfiguration "All posts") feedCtx
```

# EXAMPLE: CREATE A CONTEXT

```
defaultPostCtx :: Tags -> Context String
defaultPostCtx tags = mconcat
  [ dateField "date" "%B %e, %Y"
  , tagsField "tags" tags
  , defaultContext
  ]
```

# EXAMPLE: SASS/SCSS COMPILER

```
sassCompiler :: Compiler (Item String)
sassCompiler =
  getResourceString
    >>= withItemBody (unixFilter "sass" ["-s", "--scss"])
    >>= return . fmap compressCss
```

# PANDOC

- Swiss-army knife of markup
- Can parse several markdown/markup formats
- Can output to html, tex, pdf, and other formats

# GO DYNAMIC WITH JAVASCRIPT

- visual effects
- indexed search (sphinx)
- comments (Disqus, Branch)
- live feeds (twitter, app.net)

# THE HASKELL CONNECTION

- You don't need to know Haskell for Hakyll
- But know that Haskell is awesome
- Modern type systems are expressive and productive
- Beginner friendly community

# **DRAWBACKS**

# HASKELL IS... TOO AWESOME?

*"a monad is a monoid in the category of endofunctors, what's the problem?"*

# FOR COMPLEX SITES

- Haskell knowledge likely required
- DSLs can be hard to hack on
- but there are open source examples

# WHERE TO BEGIN

The Hakyll tutorials are a great starting point  
But if you already have a favorite language, try:

- pelican (python)
- jekyll (ruby)
- nanoc (ruby)
- middleman (ruby)
- high\_voltage (ruby)  
(ruby devs like DSLs)

(but you can find examples in most languages)

# A WORD OF CAUTION

The good news: typically no proprietary format or DB, but...

- Static site generators come and go
- Prepare for breaking changes/tinkering
- No security patches! (good thing)

# DEPLOYMENT

- it's plain html and assets
- so you can deploy just about anywhere
- `rsync -zrv mysite/ user@host:~/mysite/`
- GitHub Pages (<http://pages.github.com/>)

# CSS FOR NON-DESIGNERS

- Don't do it
- Just... don't



# THE EASY WAY

- Use twitter bootstrap
- Or zurb foundation
- Learn grid systems and responsive classes

# DESKTOP

## CHROMATIC LEAVES



### Explore

- Tea
- Music
- Code
- Archive
- About

### Tags

baroque cello code fiction green-tea hakyli haskell humor indian-classical lute modern-era **music** oolong piano quartet romantic-era soapbox symphony **tea** tea-blends tea-shop trics

### Obsession with tea

Initially I began drinking tea as a replacement for soda and other sugary drinks, at a time when I had only tried the most mundane teas and didn't really know what it was all about. My wife set me on the path to discovering quality teas, and since then we have visited tea shops all over California, in New York, and in Paris. I am more tea fanatic than expert, but I have tried many lesser known teas and want to spread enthusiasm and interest in tea drinking.

### Tea vendors

This is a very short list of tea vendors (in no particular order) that I highly recommend. I always keep tea from each of them stocked:

- [Numi Tea](#)
- [Harney & Sons](#)
- [Tea List](#)
- [Mountain View Tea Village](#)

Use grid layouts to design big

# MOBILE

## CHROMATIC LEAVES



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Music  
Code  
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baroque cello code fiction green-tea hakyll  
haskell humor indian-classical lute modern-  
era **music** oolong piano quartet  
romantic-era soapbox symphony **tea**  
tea-blends tea-shop trios

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Design small at the same time

# SASS

- variables -- `$blue: #3bbfce;`
- functions -- `darken($blue, 9%);`
- like coding, but not
- reduces CSS madness boilerplate
- compile with your build process

# CHOOSE YOUR OWN ADVENTURE

## Q&A

- haskell
- hakyll
- javascript + services
- responsive design

# LINKS

- [Chromatic Leaves](#)
- [Haykll](#)
- [Foundation / SASS](#)
- [Geo for Bootstrap](#)
- [reveal.js](#)