



**adaptTo()**

**APACHE SLING & FRIENDS TECH MEETUP**  
**BERLIN, 25-27 SEPTEMBER 2017**

**Pattern Lab for Sling** – Atomic Design approach for building Sling based websites

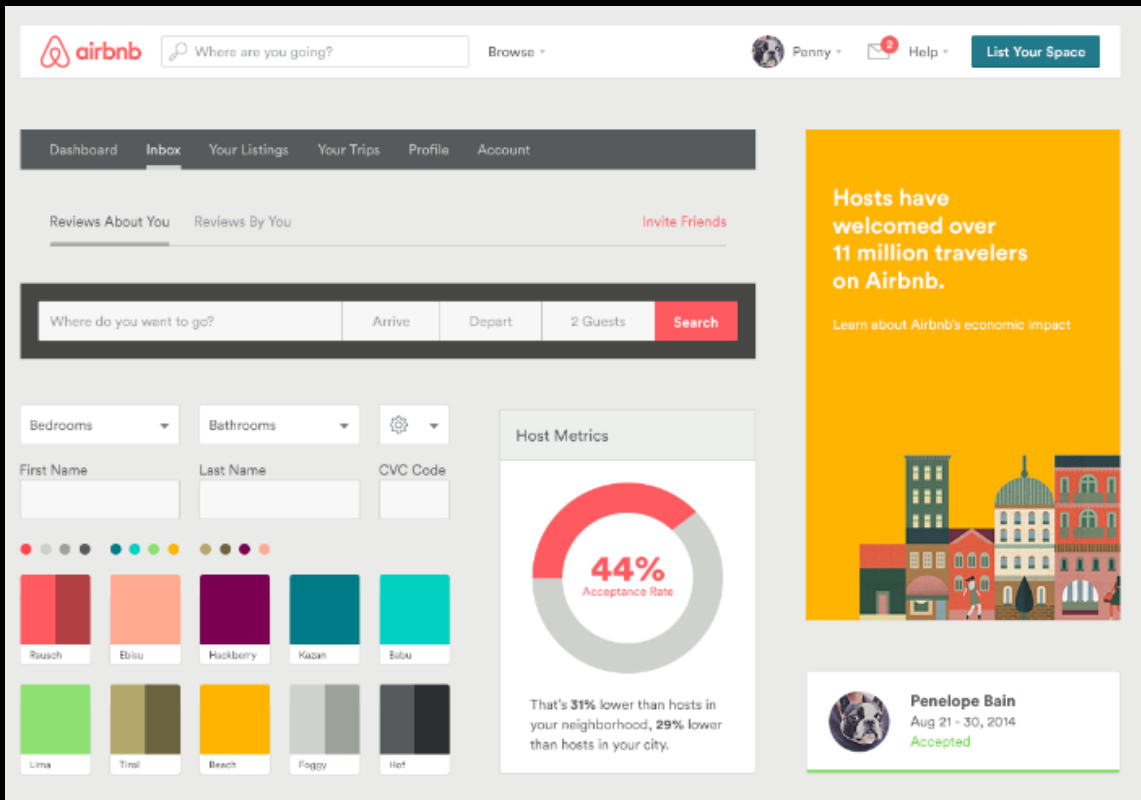
Kamil Ciecierski, Freelance AEM Consultant

# Presentation plan

1. Importance of website style guides.
2. Atomic Design methodology.
3. Pattern Lab for Sling.

# Importance of website style guides

# Why do we need website style guides?

A screenshot of the Airbnb website interface, showing the top navigation bar with the Airbnb logo, a search bar, and user links. Below the navigation bar is a dashboard with tabs for Dashboard, Inbox, Your Listings, Your Trips, Profile, and Account. The main content area includes a search bar with fields for destination, dates, and guests, and a section for Host Metrics showing a 44% acceptance rate. On the right, there is a large orange banner with text about hosts welcomed over 11 million travelers, and a profile card for Penelope Bain.

airbnb Where are you going? Browse Penny Help List Your Space

Dashboard Inbox Your Listings Your Trips Profile Account

Reviews About You Reviews By You Invite Friends

Where do you want to go? Arrive Depart 2 Guests Search

Bedrooms Bathrooms

First Name Last Name CVC Code

44% Acceptance Rate

That's 31% lower than hosts in your neighborhood, 29% lower than hosts in your city.

Hosts have welcomed over 11 million travelers on Airbnb. Learn about Airbnb's economic impact

Penelope Bain Aug 21 - 30, 2014 Accepted

# Why do we need website style guides?

*„Education is as important as documentation. A style guide can show clients that websites are systems rather than collections of pages.”*

Anna Debenham, „Front-End Style Guides”

# Why do we need website style guides?

- keep information about design language
- promote consistency and cohesion across a user interface
- allow fast prototyping and validation of designs
- help to keep neatness in FE code structure

# Style guides in website integration process

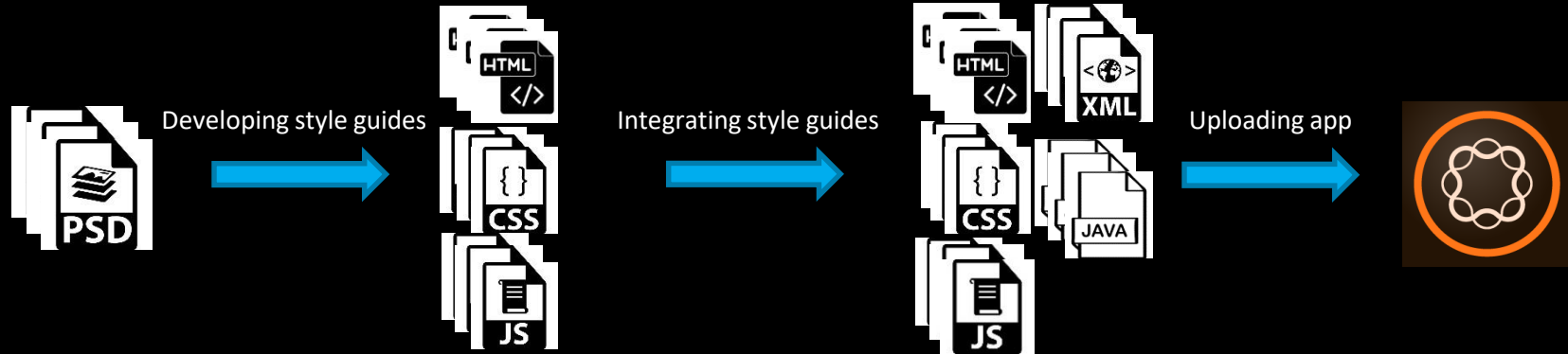
# Website integration process

Designers  
Site designs

FE Developers  
Style guides

AEM Developers  
AEM package

QA, Designers, PO  
AEM integration





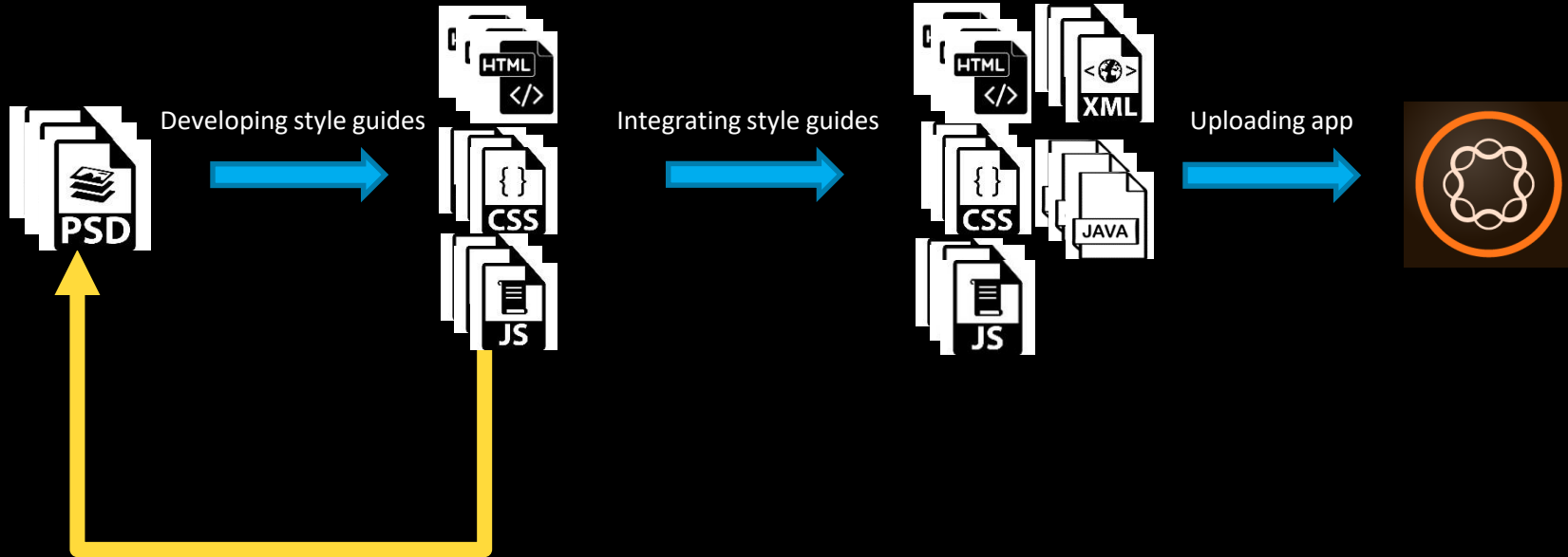
# Website integration process – feedback loop

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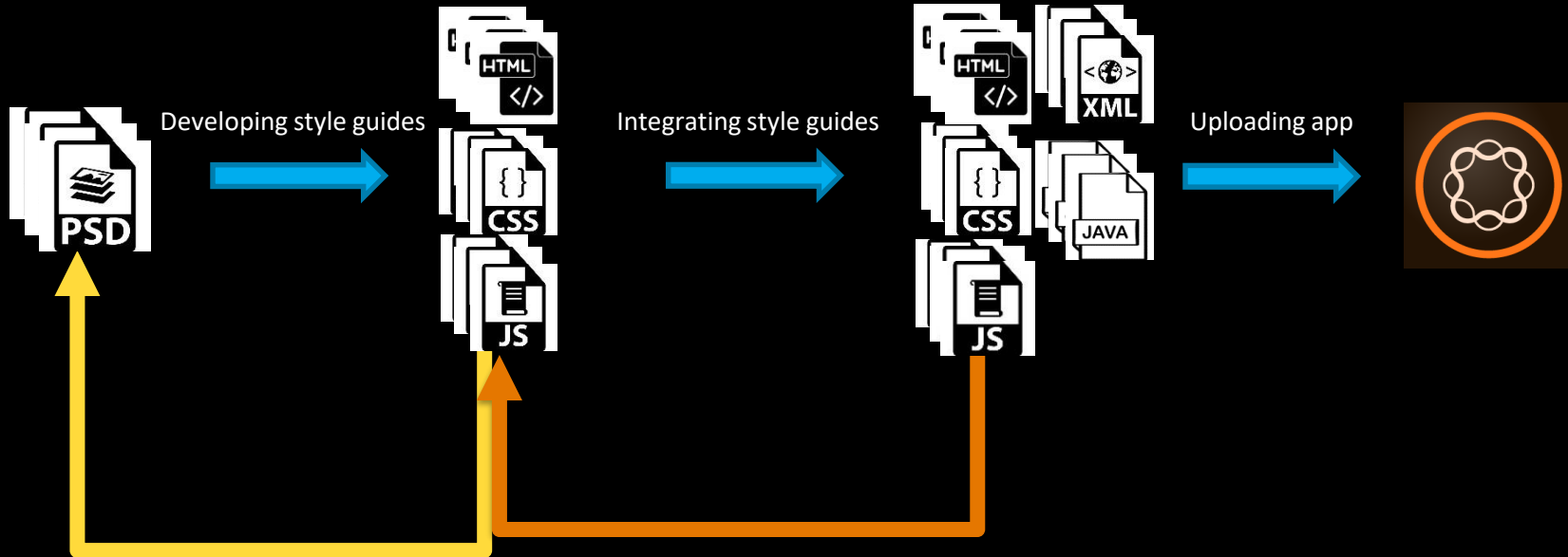
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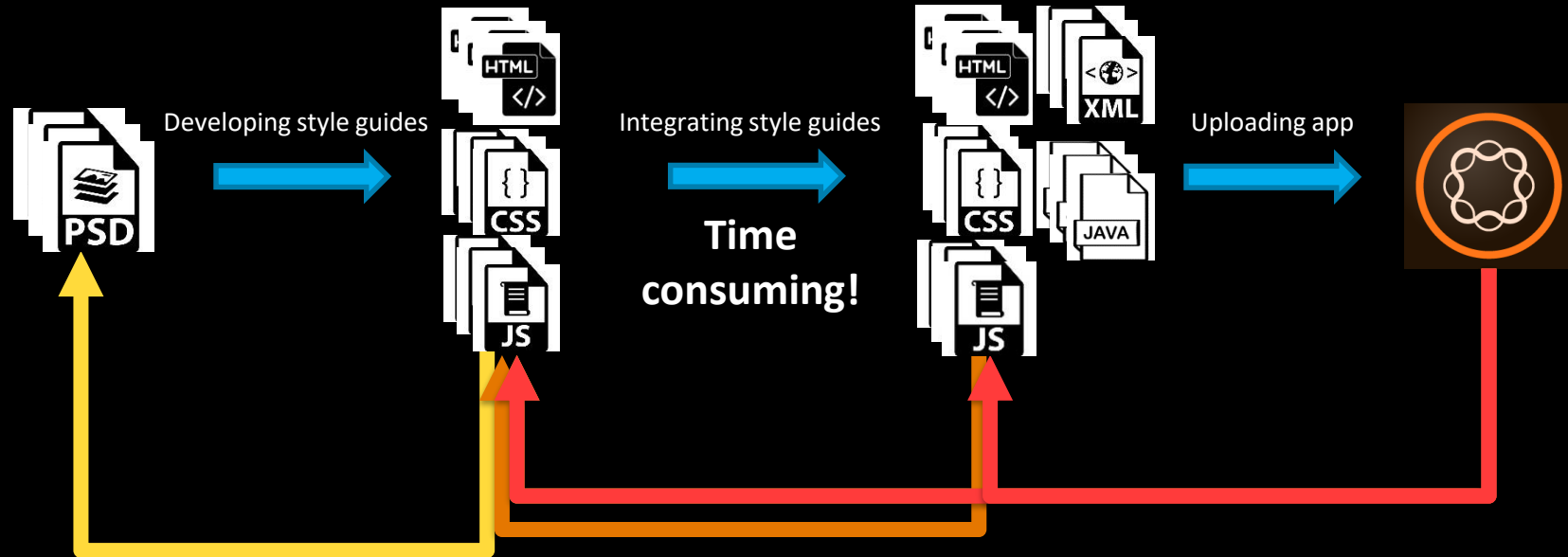
# Website integration process – feedback loop

Designers  
Site designs

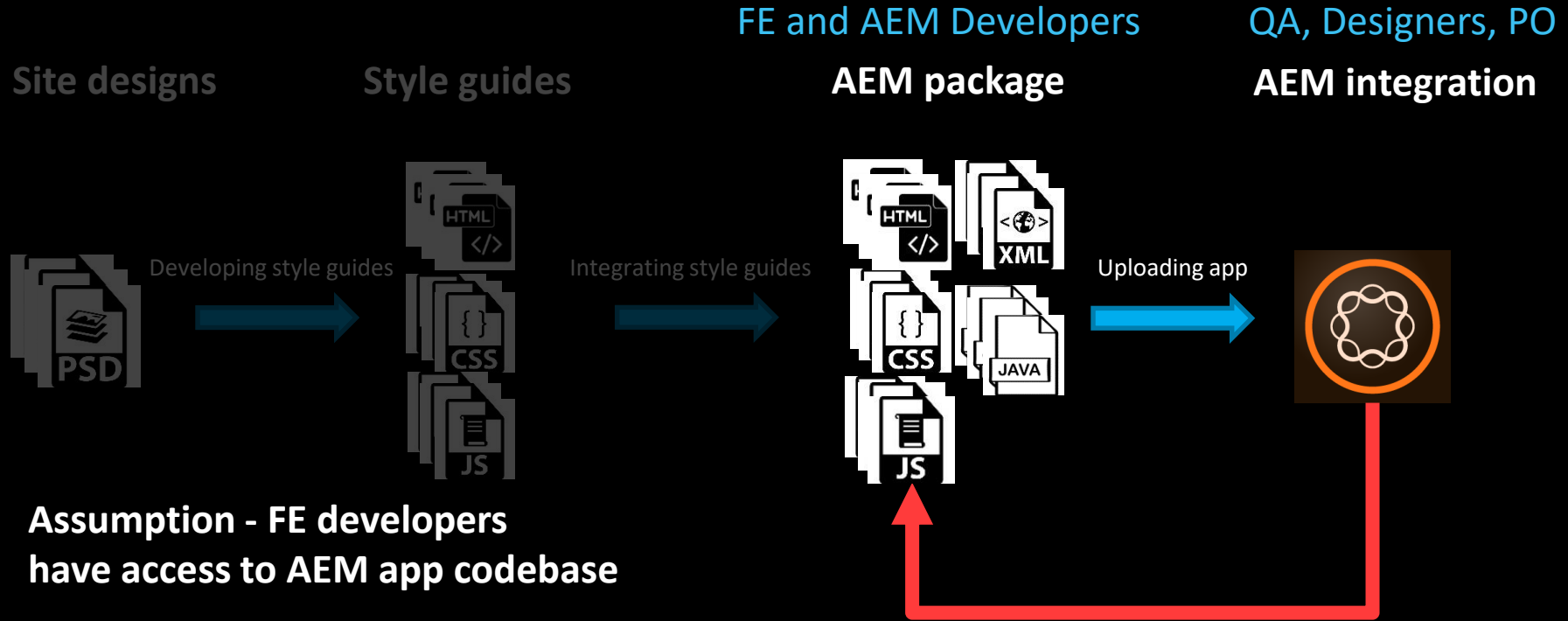
FE Developers  
Style guides

AEM Developers  
AEM package

QA, Designers, PO  
AEM integration



# Abandoning style guides



# What about new website features?

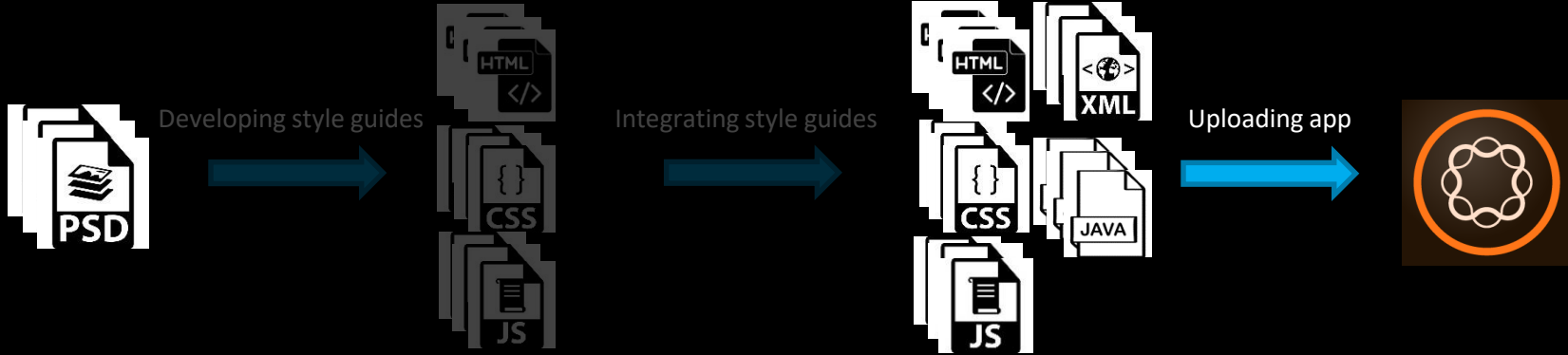
# Usual AEM site integration process

Designers  
Site designs

FE Developers  
Style guides

AEM Developers  
AEM package

QA, Designers, PO  
AEM integration



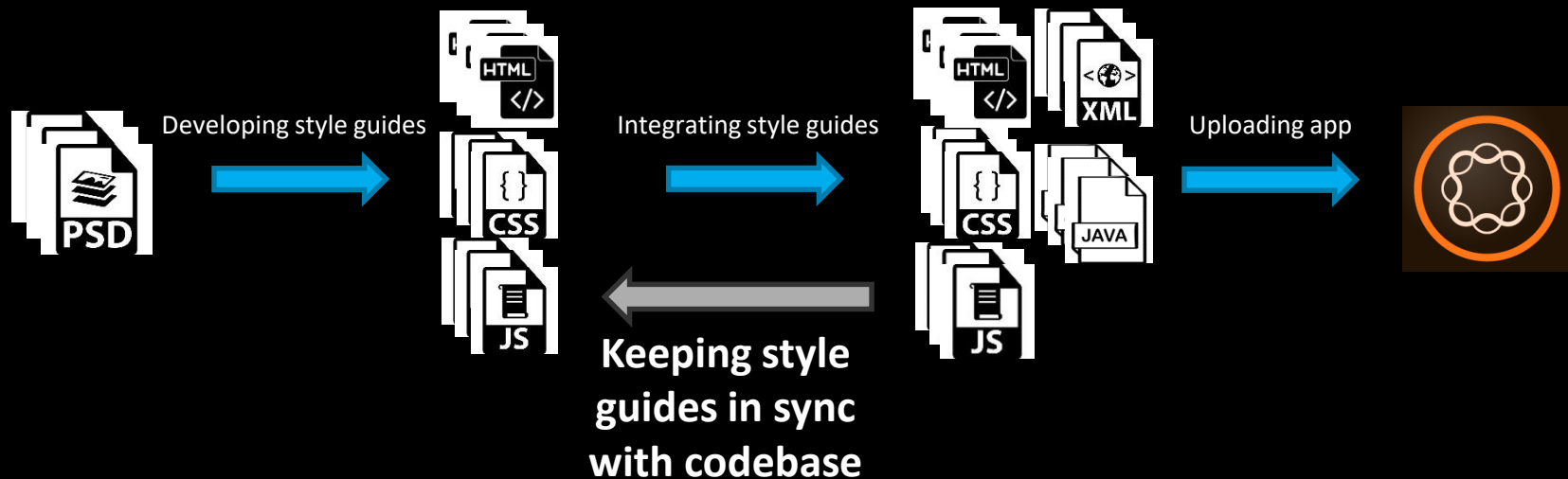
# Style guides regression

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AEM integration



# Style guides integration challenges

- present only few content scenarios
  - no readiness for dynamic content
  - features for design authoring not taken into account
- lack of components modularity
  - dependencies between components
- aligning with authoring features
- manual rewriting of HTML examples into HTL scripts
- considered as auxiliary project rather than designs foundation
- lack of **clear methodology**



# Website style guides integration improvements

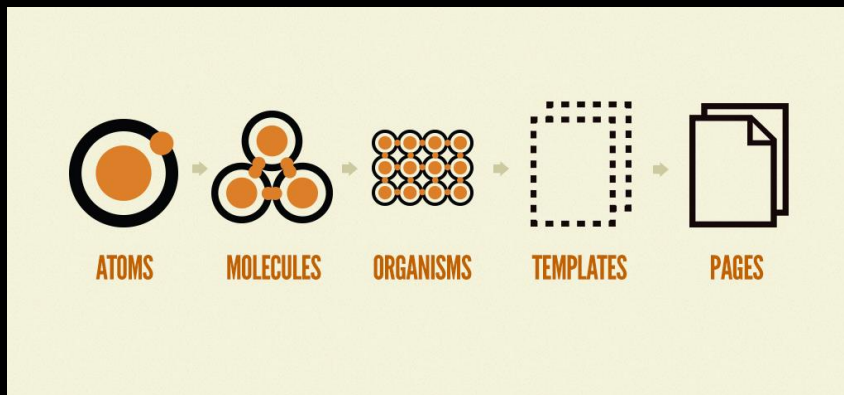
- designs sessions to produce content more examples
- sharing information about authoring features
- testing style guides separately
- style guides integration automation – requires additional assumptions:
  - AEM application and style guides integrated with templating language
    - dependency on custom solutions
  - rendering website client-side
- introducing modularity to style guides components
  - building **pattern libraries**

# Atomic Design

## methodology for building living style guides

# Introduction to Atomic Design

*„Atomic design is a methodology composed of five distinct stages working together to create interface design systems in a more deliberate and hierarchical manner.“*



Brad Frost

# Atomic Design patterns - atoms

SEARCH THE SITE

LABEL

ENTER KEYWORD

INPUT

SEARCH

BUTTON

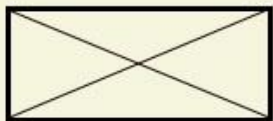
# Atomic Design patterns - molecules

SEARCH THE SITE

ENTER KEYWORD

SEARCH

# Atomic Design patterns - organisms



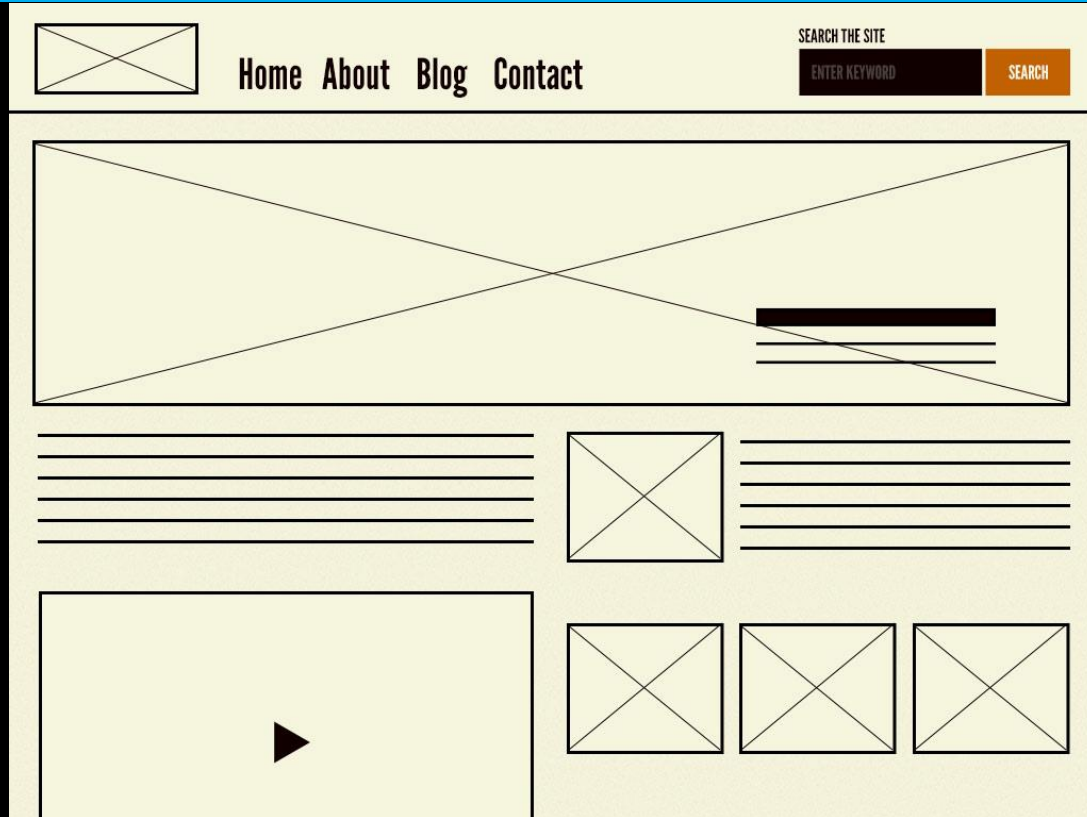
[Home](#) [About](#) [Blog](#) [Contact](#)

SEARCH THE SITE

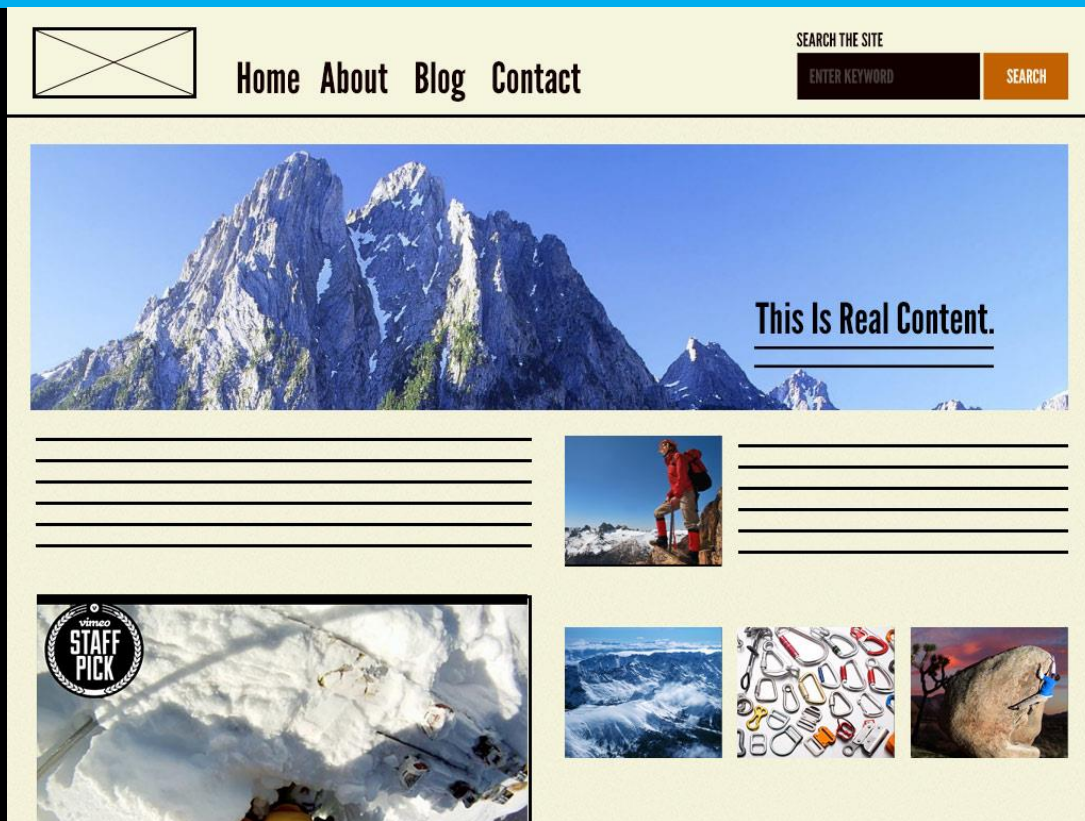
ENTER KEYWORD

SEARCH

# Atomic Design patterns - templates

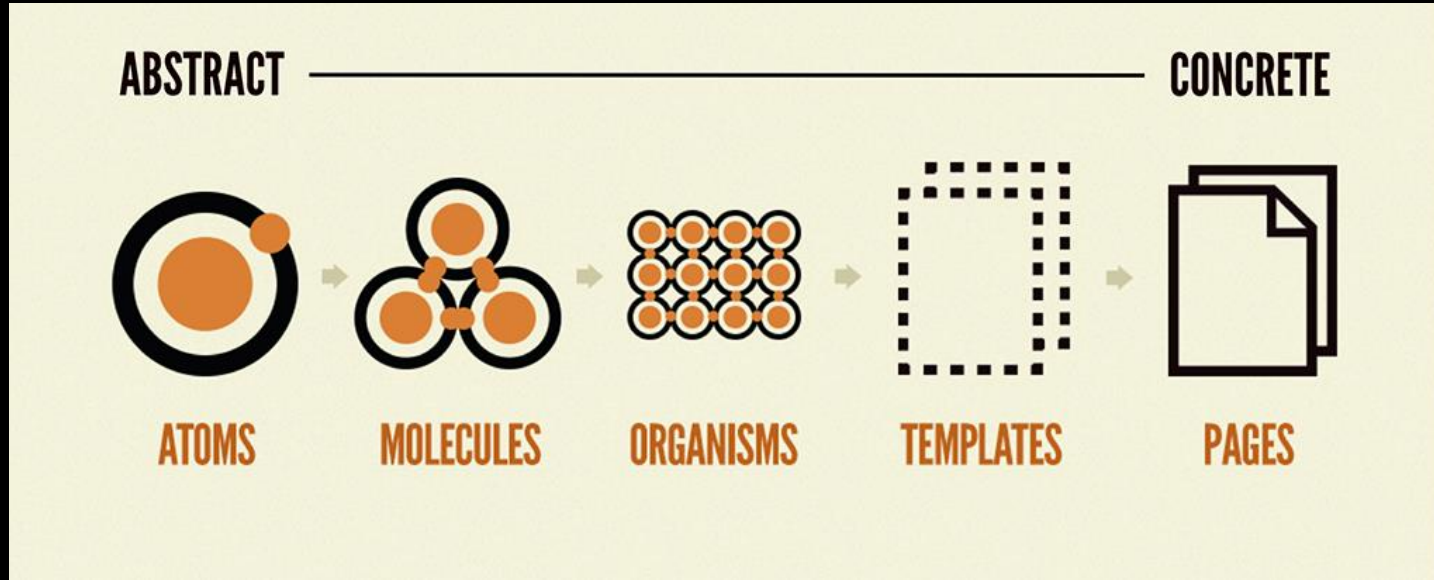


# Atomic Design patterns - pages





# Atomic Design patterns = AEM components?



# Pattern Lab - tool for building atomic design

## adaptTo()systems

ATOMS • MOLECULES • ORGANISMS • TEMPLATES • PAGES • ALL

SIZE 1906PX / 119.1EM S M L FULL RAND DISCO ⚙

### Blocks

#### Hero

The hero is a large block that typically appears at the top of the page and contains a large full-bleed image and a title.

The Hero pattern is included in the following patterns: • [templates-homepage](#)

MUSTACHE

HTML

```
<a href="{{ url }}" class="c-block-hero">
  {{> atoms-hero:c-block-hero_img }}

  <h2 class="c-block-hero__headline">{{ headline.medium }}</h2>

</a><!-- end c-block--hero-->
```

Lorem ipsum dolor sit amet, consectetur adipiscing elit iopa. (76 characters)

1280x720  
16:9

Media Block • [in view](#)

The media block is based on Nicole Sullivan's popular media object pattern. It contains a media element

MUSTACHE

HTML

# Atomic Design for WCM project development

- patterns are suitable for WCM:
  - modular
  - dynamic content ready
  - adaptable to different (also future) channels
  - reusable in different contexts
- nesting of patterns increases code reusability and reduces time needed to apply design changes
- Pattern Lab allows to build easily and quickly modular patterns
- but still, patterns require FE integration with AEM application

# Developing FE in AEM vs developing style guides

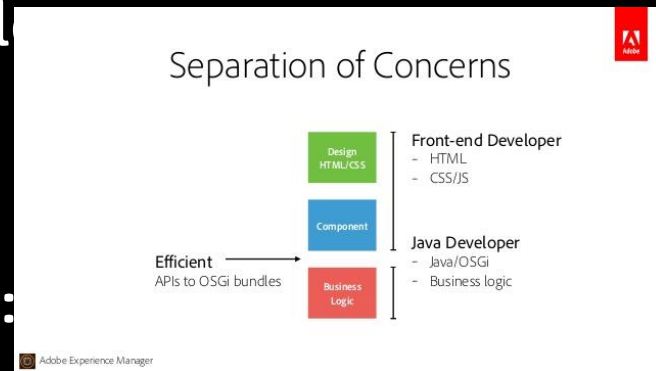
# Developing FE straight in AEM

- thanks to HTL and JS Use API, possible to build view without authoring logic
- easier with tools supporting content repository sync and HTL development:

- Plugins for IDEs: Eclipse, IntelliJ, Brackets
- Slang - Gulp module

- integration of FE build systems with AEM application

- front-end-maven plugin
- AEM Sass compiler



# Developing FE straight in AEM - challenges

- more time consuming than building style guides
  - dependency on components, templates and content creation
- difficult to validate HTL scripts with different data examples
  - dependency on authoring development or script rework required
- less visibility of design dependencies between components
  - might enforce developing new components styles and scripts separately, to reduce impact on the rest of them
- AEM component libraries might not keep enough data about design language to build new features

Developing FE in AEM vs developing style guides

Style guides within Sling/AEM!

## ORGANISMS > GLOBAL

organisms-global-footer-footer

footer.html > footer > footer.json

Contains the following patterns: [molecules-navigation/footer-nav/footernav](#), [molecules-media/logo/footer-link/logofooterlink](#)

Included in the following patterns: [pages-blog-index/blogindex](#), [pages-dashboard-dashboar-default](#), [pages-dashboard-dashboar-backed](#), [pages-dashboard-dashboar-new-user](#), [pages-detail-detail-about](#), [pages-detail-detail-blog](#), [pages-detail-detail-contact](#), [pages-homepage-homepage](#)

HTL

DATA

HTML

```
<template data-sly-template.footer="${@ logoFooterLink, footerNav, info, year, company}">
  <footer class="c-footer" role="contentinfo">
    <div class="l">
      <sly data-sly-use.pattern="patternlab-demo/molecules/media/logo/footer-link.html"
        data-sly-call="${pattern.logoFooterLink @ link=logoFooterLink.link, logo=logoFooterLink.logo, style=logoFooterLink.style}>
      <sly data-sly-use.pattern="patternlab-demo/molecules/navigation/footer-nav.html"
        data-sly-call="${pattern.footerNav @ items=footerNav.items}"></sly>
      <p class="c-footer__info">${info @ context='html'}</p>
      <p class="copyright">&copy; ${year} ${company.name}. All rights reserved.</p>
    </div><!-- end l -->
  </footer><!-- end c-footer -->
</template>
```

**HIKETRACKER**

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This is a demonstration of what's possible with [Pattern Lab](#). [Download Pattern Lab](#), check out the [documentation](#), or learn more about [atomic design](#).

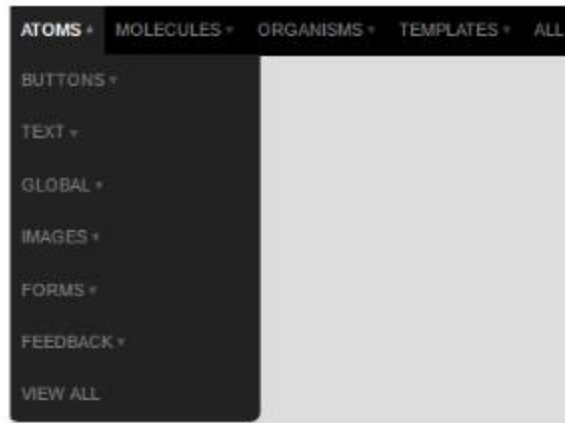
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# Pattern Lab for Sling

apps.patternlab-demo

- ▼ atoms
  - ▶ buttons
  - ▶ feedback
  - ▶ forms
  - ▶ global
  - ▶ images
  - ▶ text
- ▶ molecules
- ▶ organisms
- ▶ templates



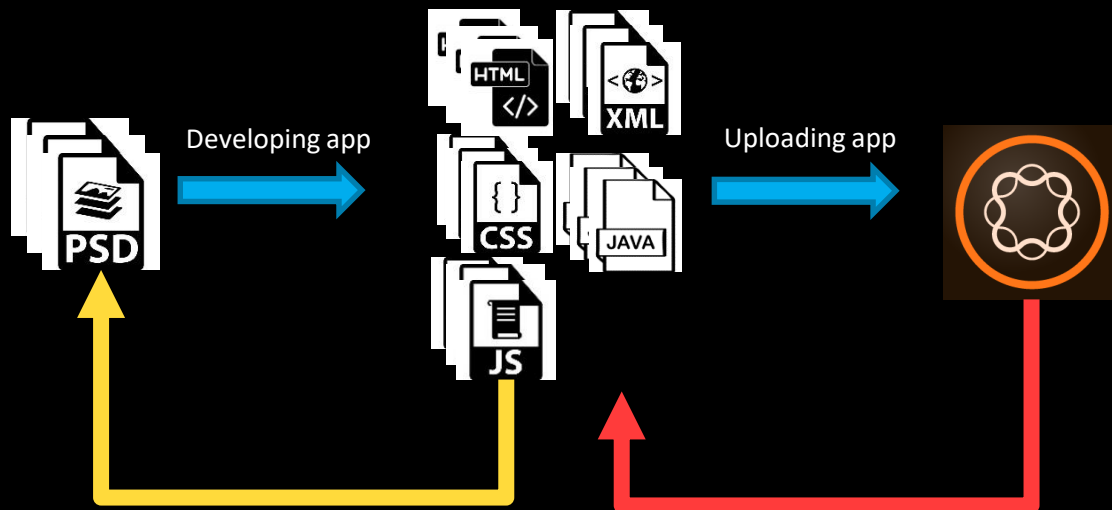
# Demo

# Simplified workflow with Pattern Lab for Sling

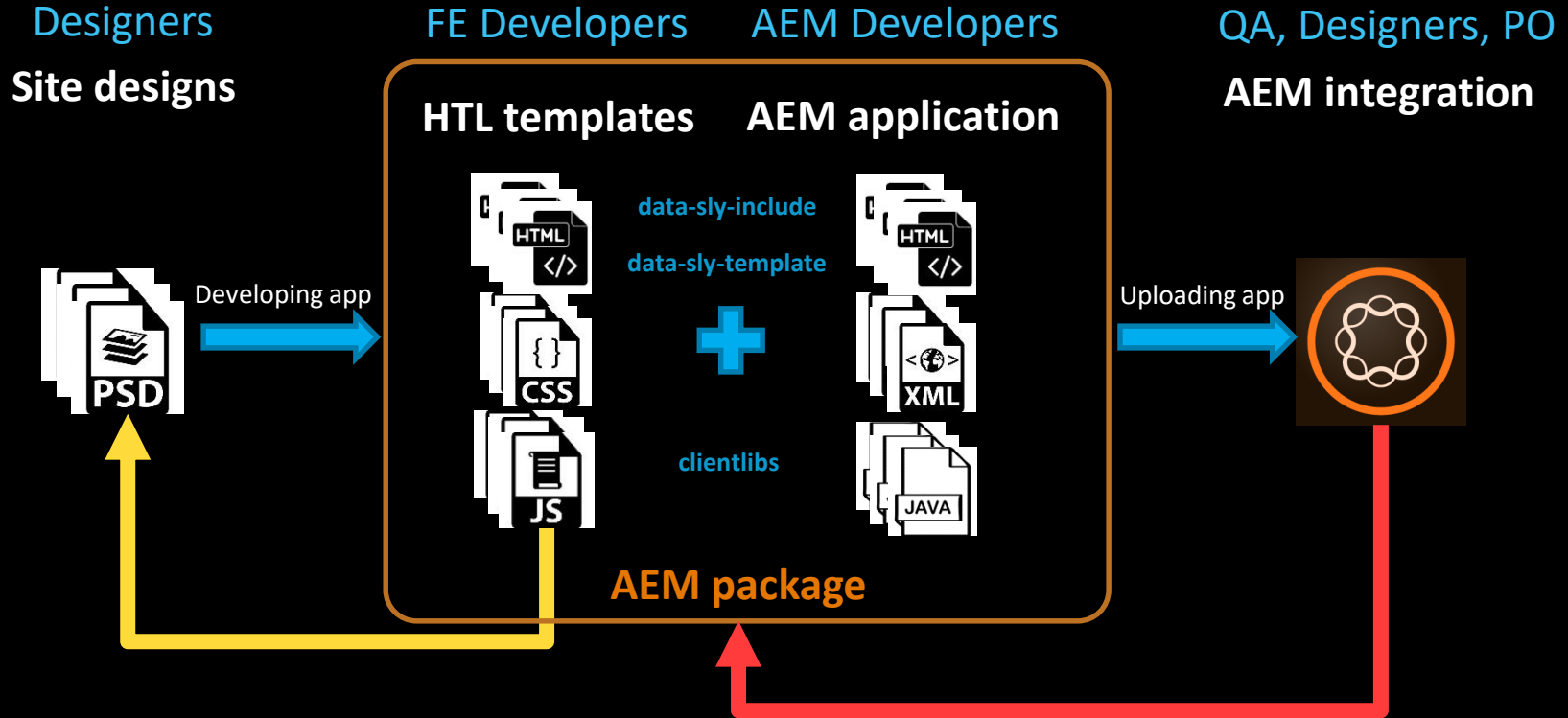
Designers  
Site designs

FE and AEM Developers  
AEM package  
with Pattern Lab

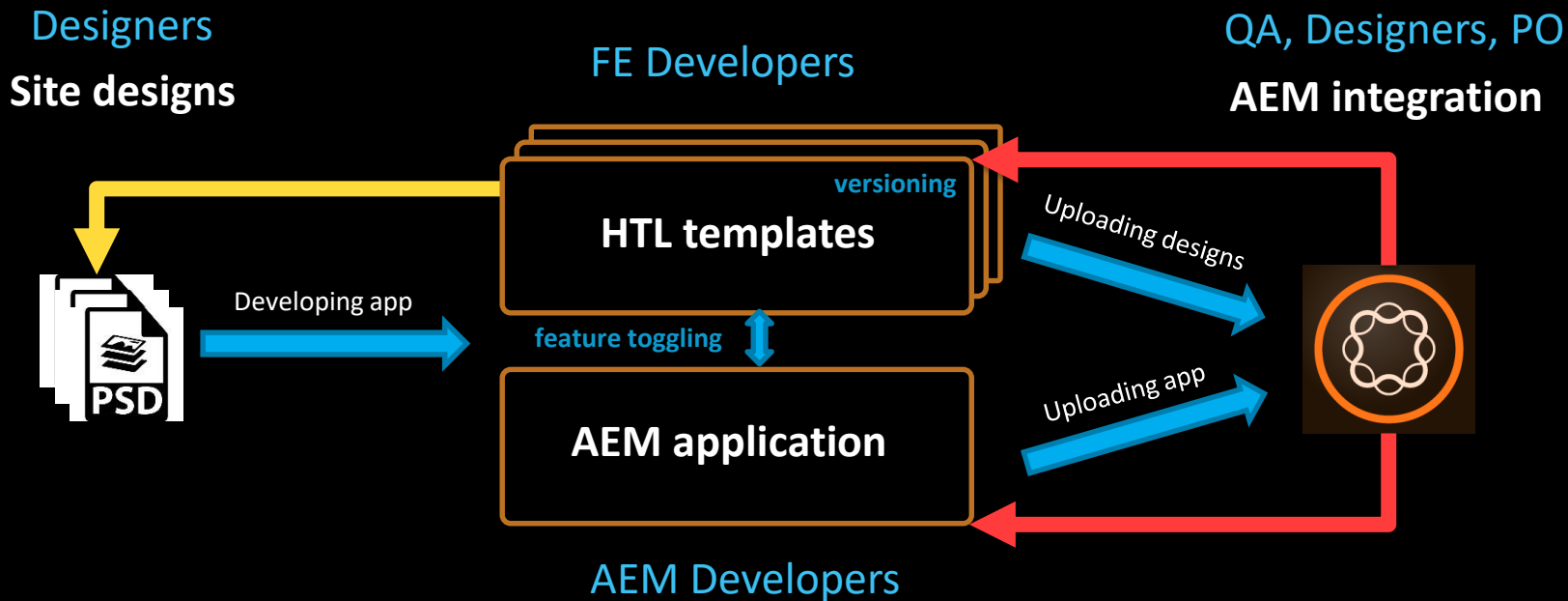
QA, Designers, PO  
AEM integration



# Simplified workflow – segregation of duties



# Simplified workflow – view and logic separation



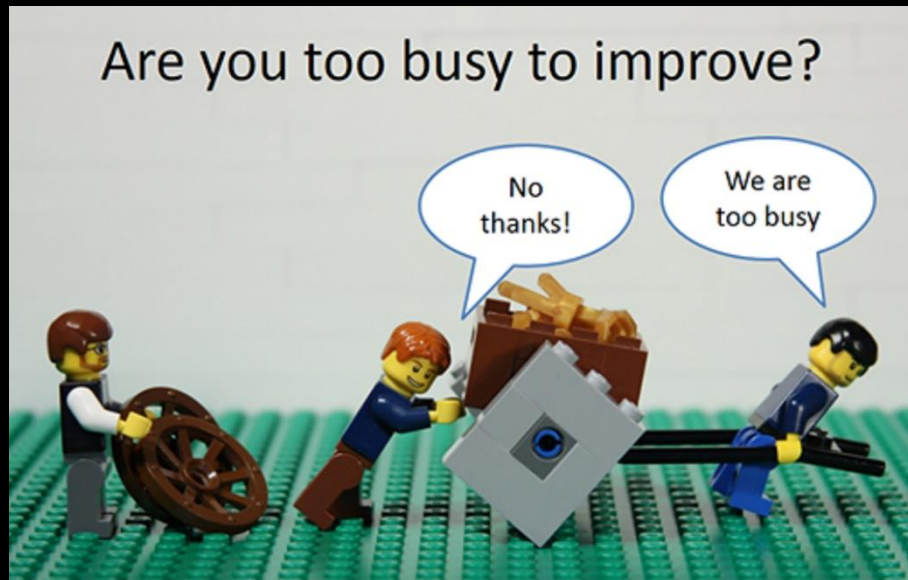
# Pattern Lab for Sling – benefits

- no more style guides integration
- style guides are not only auxiliary projects anymore
  - design language embedded in codebase
- true separation of view and business logic
  - testing view without logic using *raw* patterns
- segregation of duties
  - FE and AEM developers can do their best in what they love
  - flexibility on organizing developers workflow
- fast designs prototyping and validation straight on Sling/AEM instance
- ~~no dependency on custom solutions or client side rendering~~

# Future work

- Integration with AEM
  - Pattern Lab Template
  - Pattern component
  - AEM Annotations
  - AEM projects - tasks
- Patterns presenting different Sling context
  - mocking Sling bindings like resource, request

# Are you ready for your next project? 😊



*„The hard part  
is building the machine  
that builds the product.”*

Dennis Crowley, Foursquare CEO



# Appendix

# References

- Atomic Design: <http://atomicdesign.bradfrost.com/>
- Pattern Lab: <http://patternlab.io/>
- Pattern Lab for Sling: <https://github.com/deepthinkit/patternlab-for-sling>
- Pattern Lab for Sling – demo content: <https://github.com/deepthinkit/patternlab-for-sling-demo>
- Front end style guides: <http://maban.co.uk/projects/front-end-style-guides/>

# Useful tools for building FE in AEM

- Gulp Slang: <https://www.npmjs.com/package/gulp-slang>
- AEM Developer Tools: <https://eclipse.adobe.com/aem/dev-tools/>
- AEM Brackets Extension: <https://docs.adobe.com/docs/en/aem/6-3/develop/dev-tools/aem-brackets.html>
- Frontend-maven-plugin: <https://github.com/eirslett/frontend-maven-plugin>
- AEM Sass Compiler: <https://github.com/mickleroy/aem-sass-compiler>

# Images used in presentation

- Slide 3 - <https://1.bp.blogspot.com/-XeE07u3bQRU/WBvCieou3DI/AAAAAAAAAC2I/WPdjK6hRwHUR2WNxbphb3mG453ft8YM8wCK4B/w1200-h630-p-k-no-nu/airbnb.png>
- Slide 18-25 - <http://bradfrost.com/blog/post/atomic-web-design/>
- Slide 28 - <https://image.slidesharecdn.com/aem-best-practices-150904054458-lva1-app6891/95/aem-best-practices-for-component-development-6-638.jpg?cb=1441617960>
- Slide 38 - <https://fernandofranzini.files.wordpress.com/2017/01/too-busy-to-improve.png>