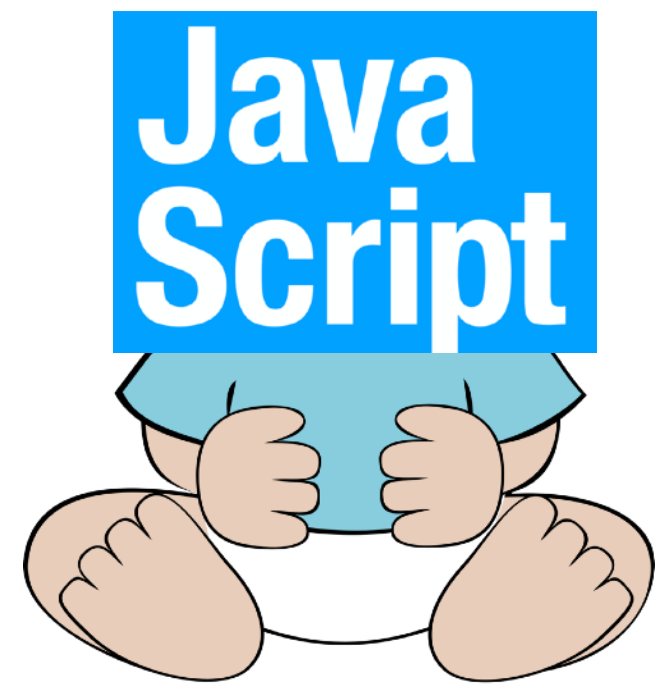


An Adventure with Client-Side XSLT to an Architecture for Building Bridges with Javascript

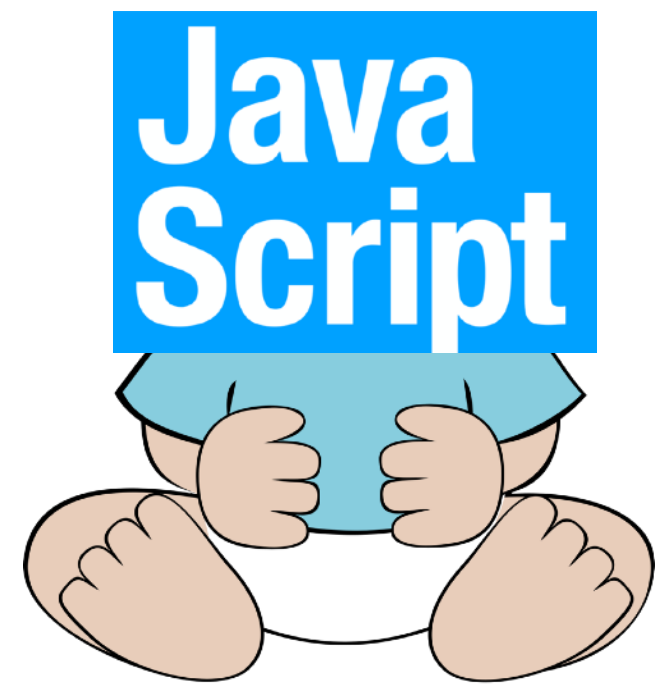
Balisage 2018

Katherine Ford
Will Thompson
O'Connor's

1999



1999



XSLT

Java
Script

Java
Script

Java
Script

Java
Script

Java Script

XSLT

**Java
Script**

XSLT

Java
Script



XSLT

Forms for Attorneys

FORM 4D:1

TEXAS FAMILY LAW FORMS
CHAPTER 4. SUIT FOR DISSOLUTION WITHOUT CHILDREN
FORM 4D:1 DIVORCE – FINAL DECREE

★

III. JURISDICTION

4. The Court finds that it has jurisdiction over this suit and the parties and that all persons entitled to citation were properly cited. The Court further finds that {28 at least 60 days/less than 60 days} have elapsed since the suit was filed. {See Tex. Fam. Code §6.702(a); O’Connor’s Fam. Law Handbook, “Basis for jurisdiction,” ch. 3-A, §16.4.6, p. 268.}

{CHOOSE ONE OF THE FOLLOWING IF APPLICABLE}

A

The Court waives the 60-day waiting period to render a final judgment for divorce because {29 name of respondent} has {30 finally been convicted of/received deferred adjudication for} an offense involving family violence against {31 {name of petitioner}/a member of {name of petitioner}’s household}. {See Tex. Fam. Code §6.702(c)(1).}

B

The Court waives the 60-day waiting period to render a final judgment for divorce because there is an active {32 protective order under Texas Family Code title 4/magistrate’s order for emergency protection} based on a finding of family violence committed by {33 name of respondent} during the marriage. {See Tex. Fam. Code §6.702(c)(2).}

IV. RESIDENCY & DOMICILE

5. The Court finds that

{CHOOSE ONE OF THE FOLLOWING}

A

{34 name of petitioner} and {35 name of respondent} were domiciled in Texas for the six months before suit was filed and {36 name of petitioner or respondent} was a resident of {37 county} for the 90 days before suit was filed. {See Tex. Fam. Code §6.301.}

B

{38 name of petitioner} was domiciled in Texas for the six months before suit was filed and was a resident of {39 county} for the 90 days before suit was filed. {See Tex. Fam. Code §6.301.}

C

{40 name of respondent} was domiciled in Texas for the six months before suit was filed and was a resident of {41 county} when suit was filed. {See Tex. Fam. Code §6.302.}

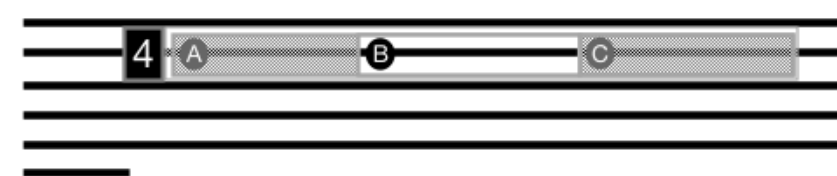
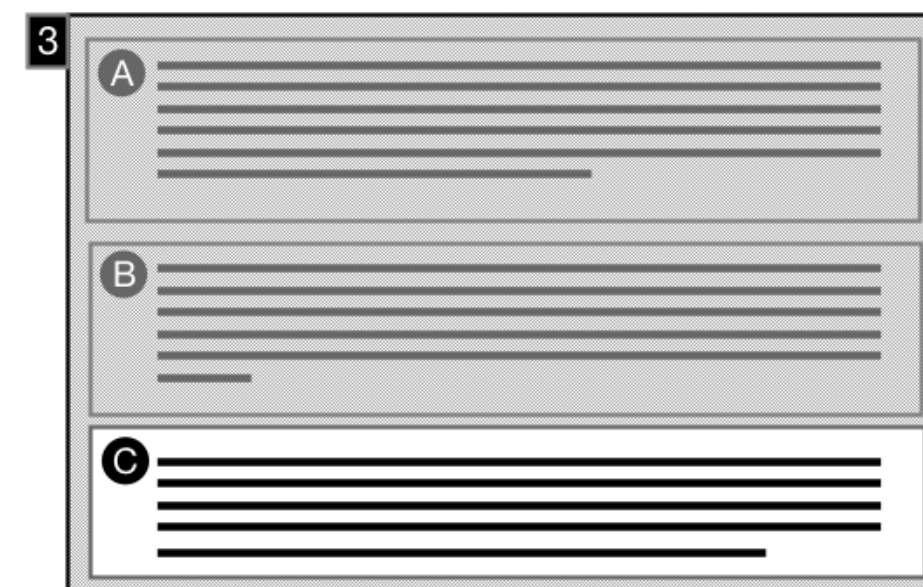
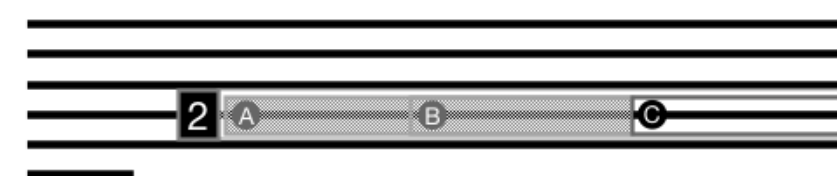
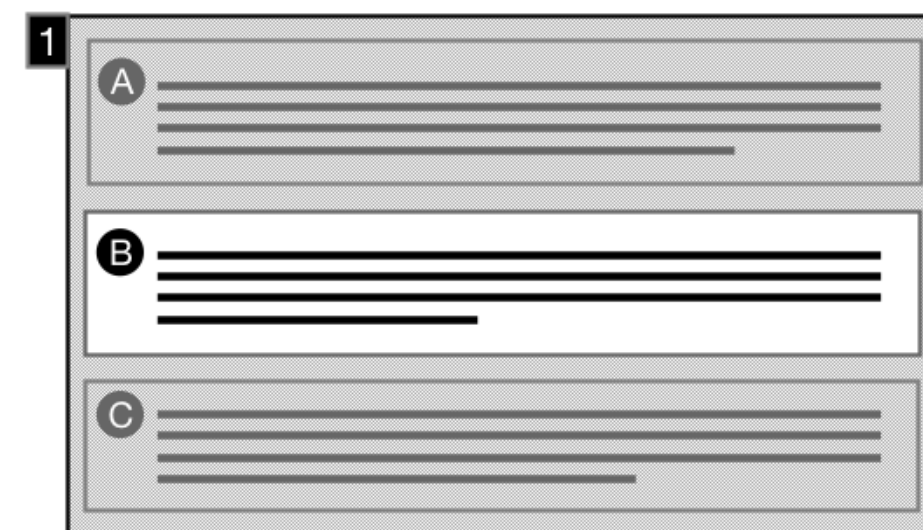
D

{42 name of petitioner or respondent} is a {43 member/spouse of a member} of the armed forces {44 add if applicable: and accompanied {his/

458 O’CONNOR’S TEXAS FAMILY LAW FORMS

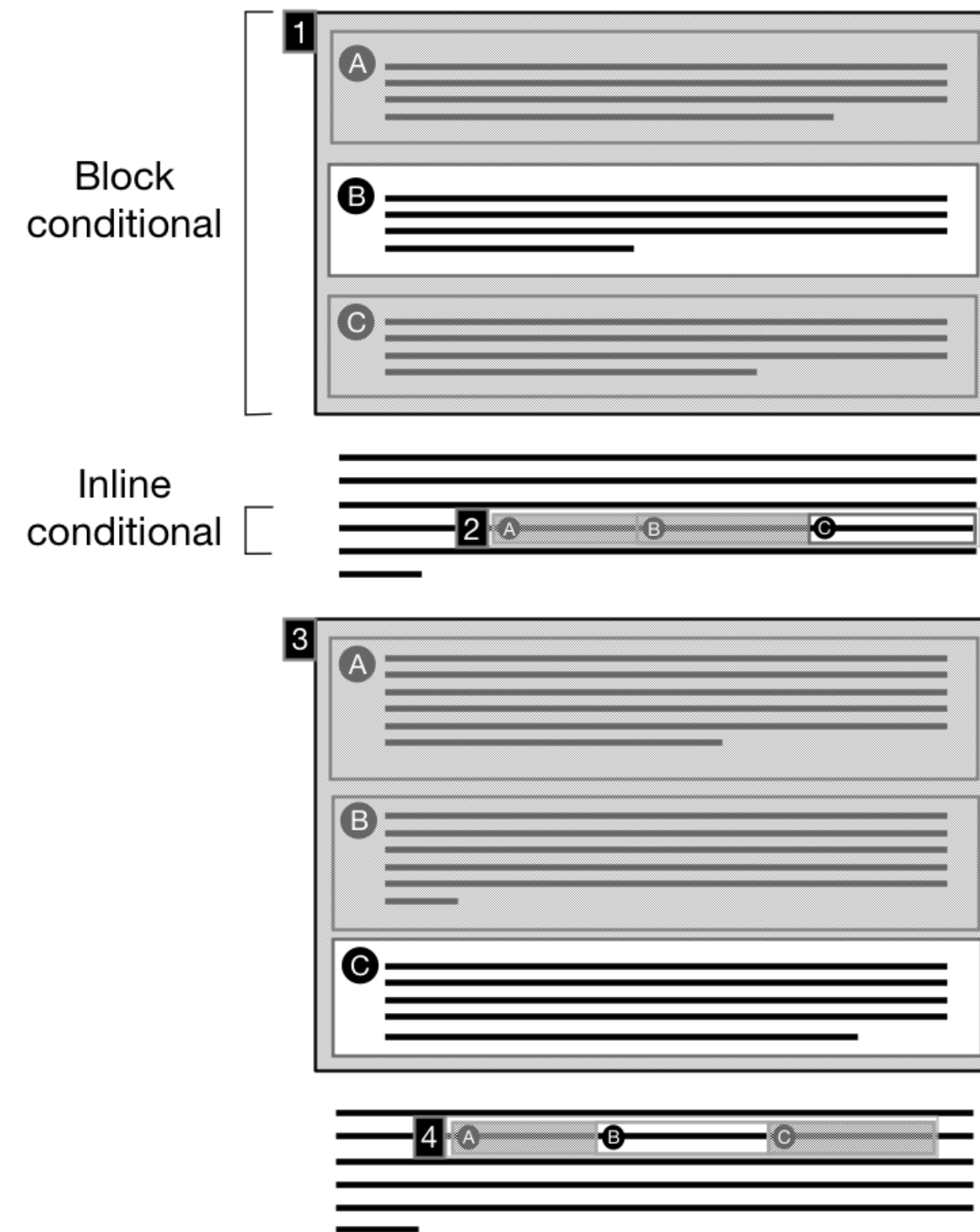
User Interface

WYSIWG



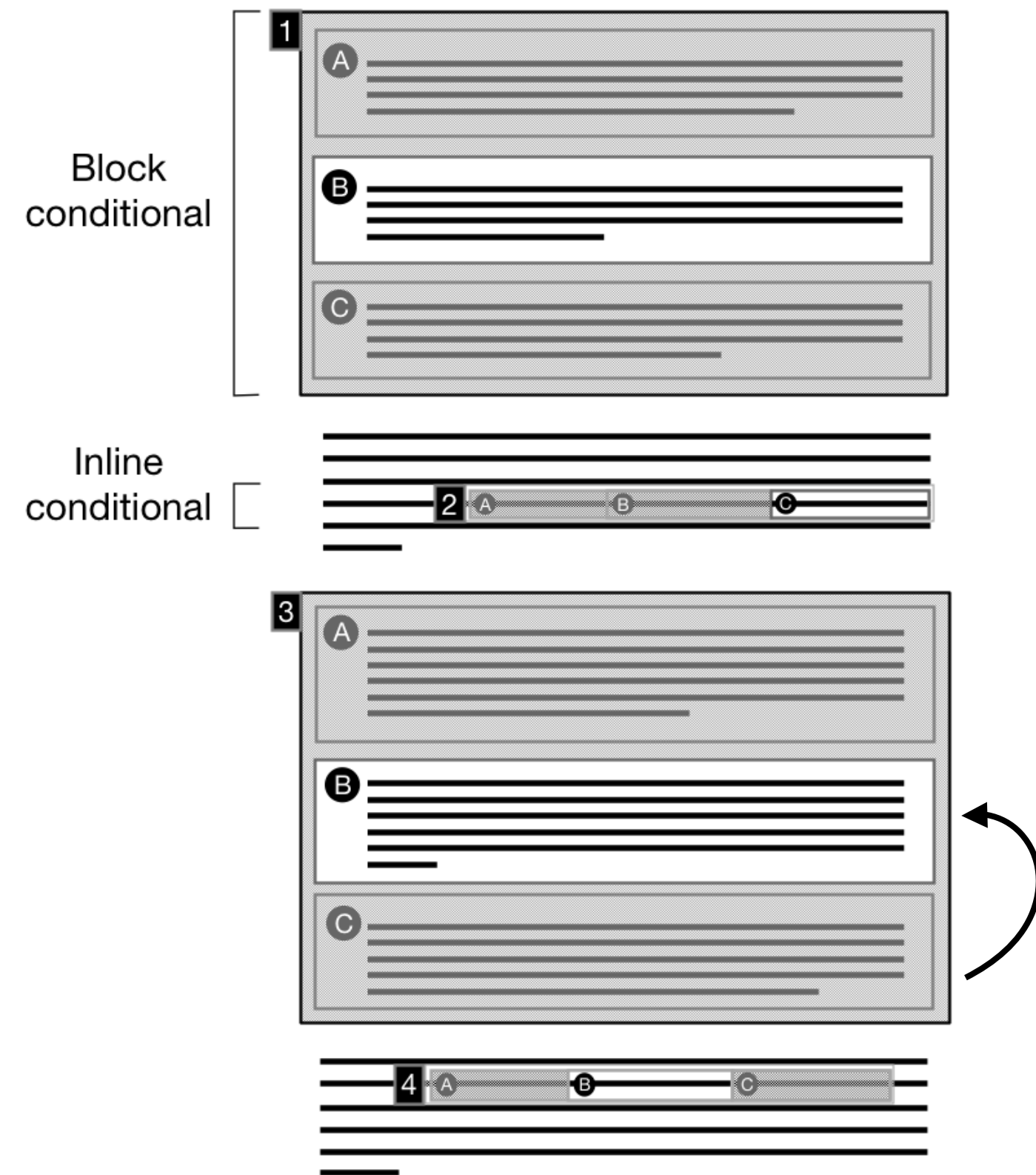
User Interface

WYSIWG



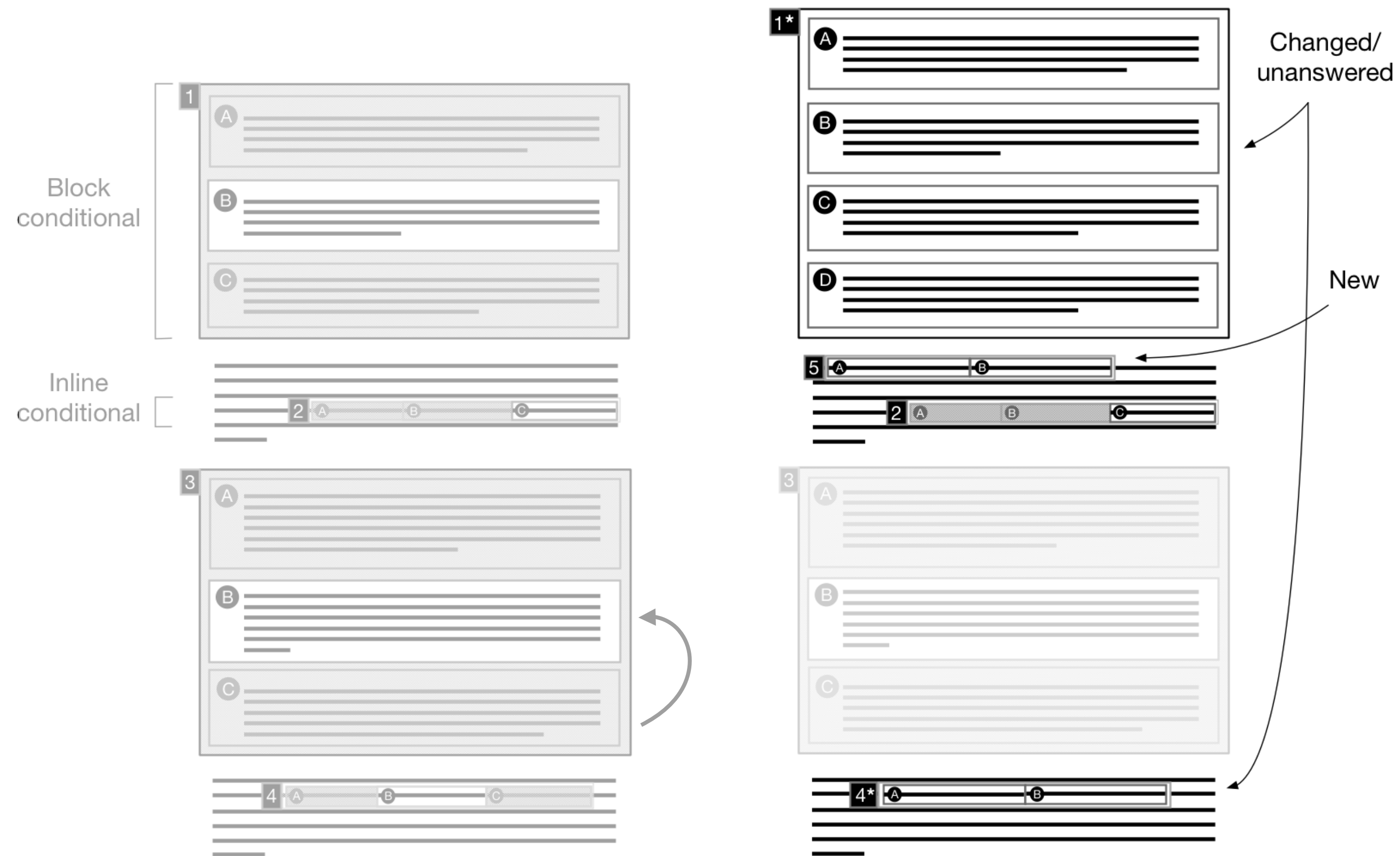
User Interface

WYSIWG



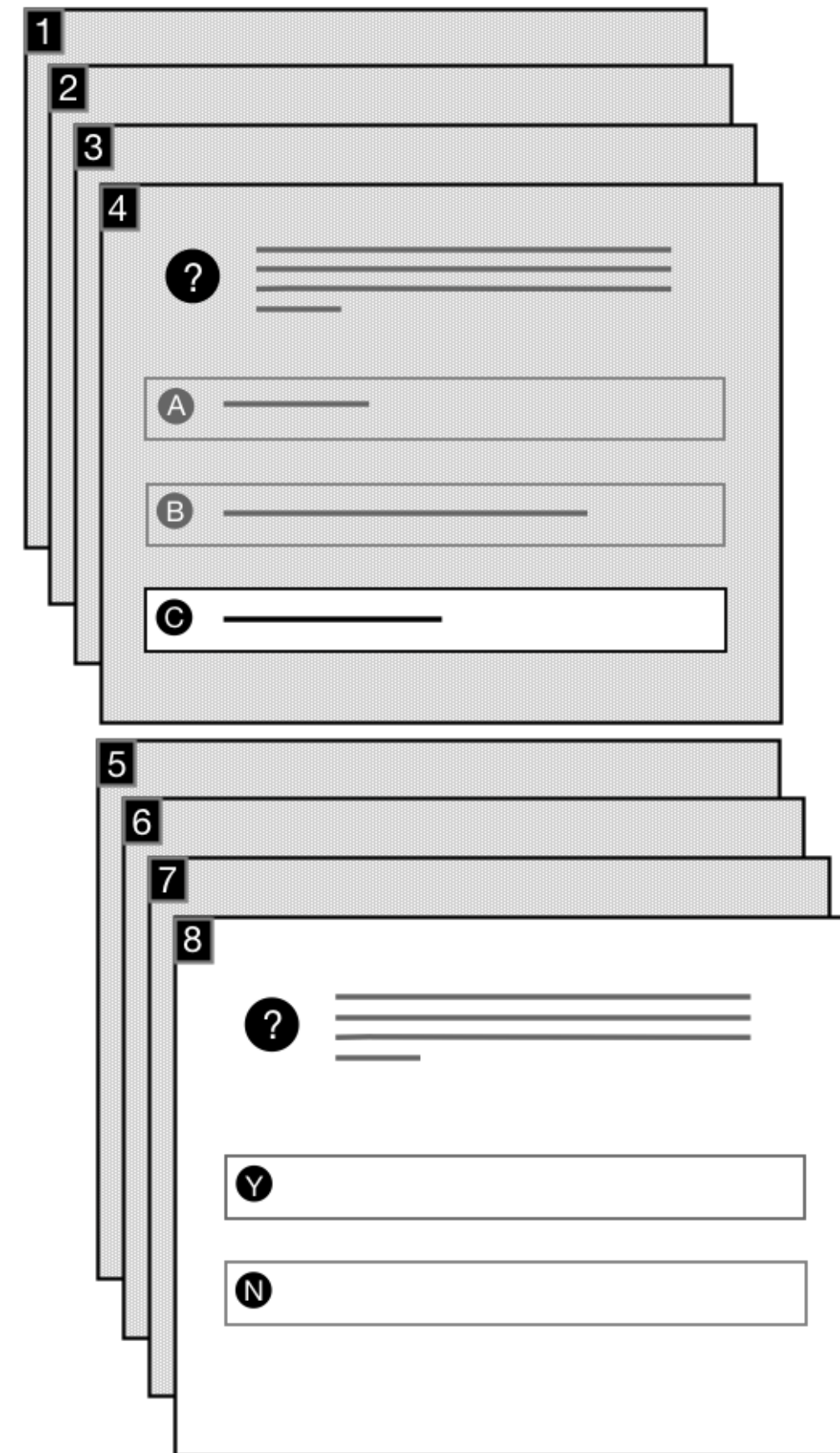
User Interface

WYSIWG

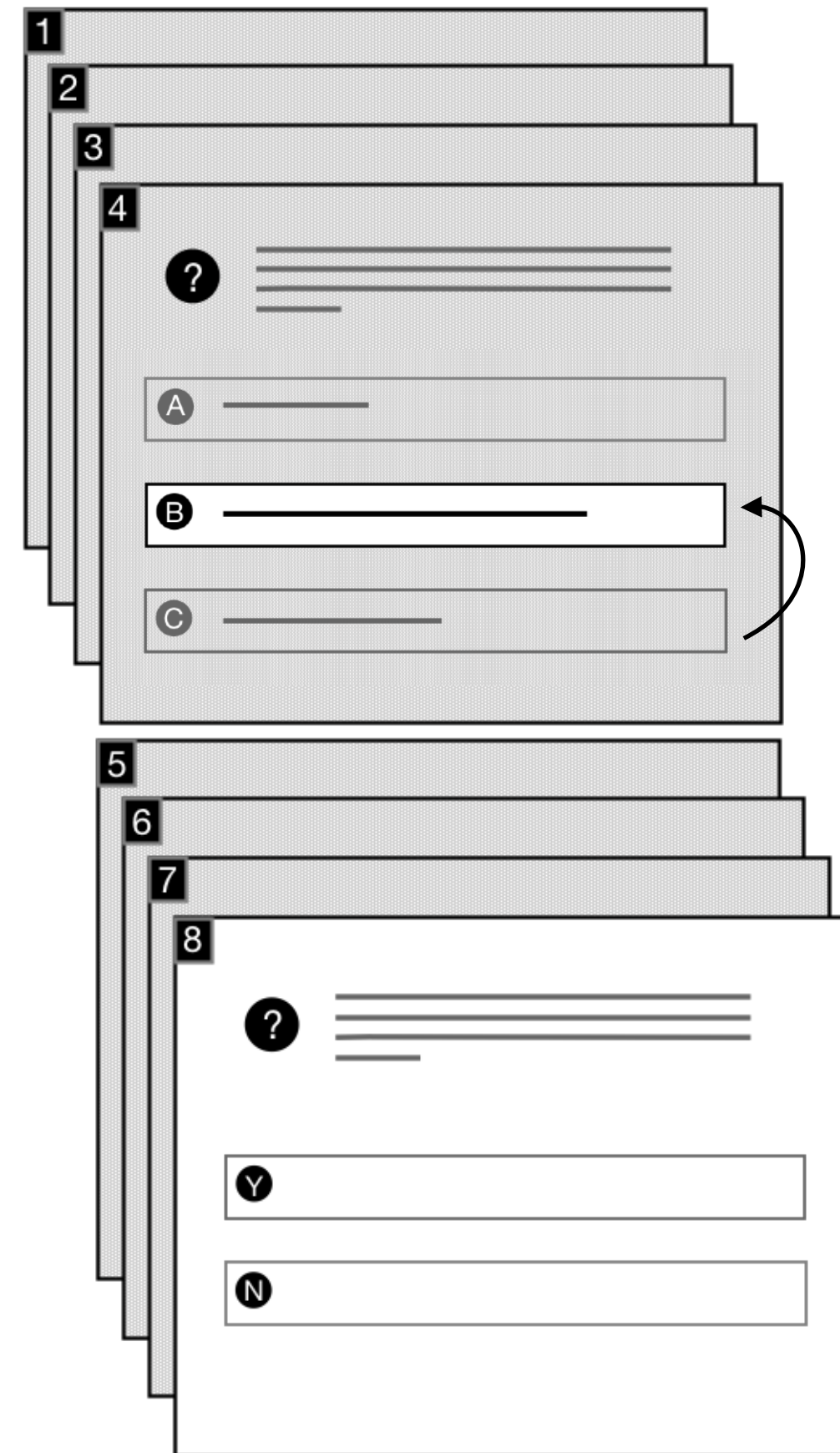


User Interface

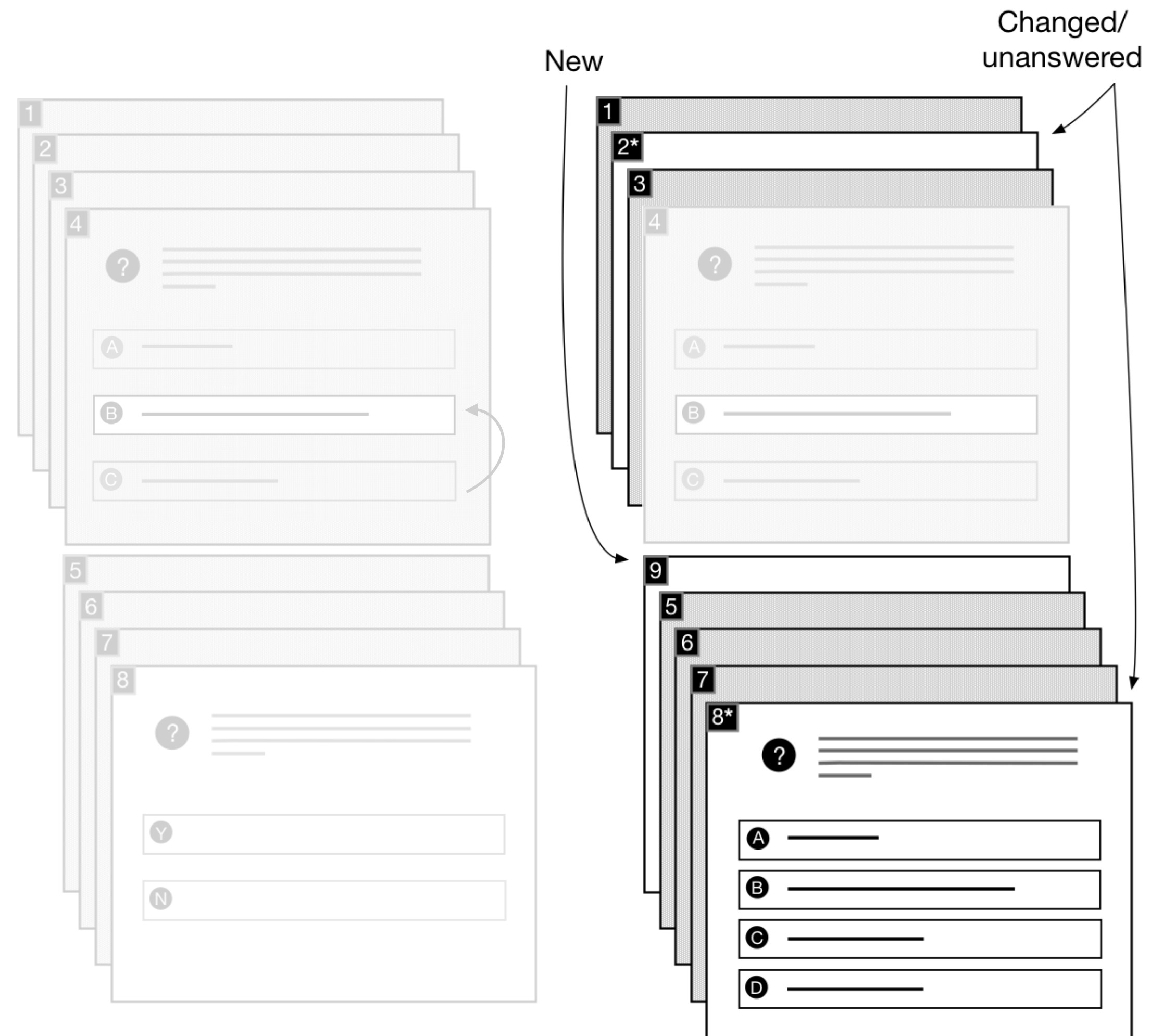
Wizard



User Interface Wizard



User Interface Wizard

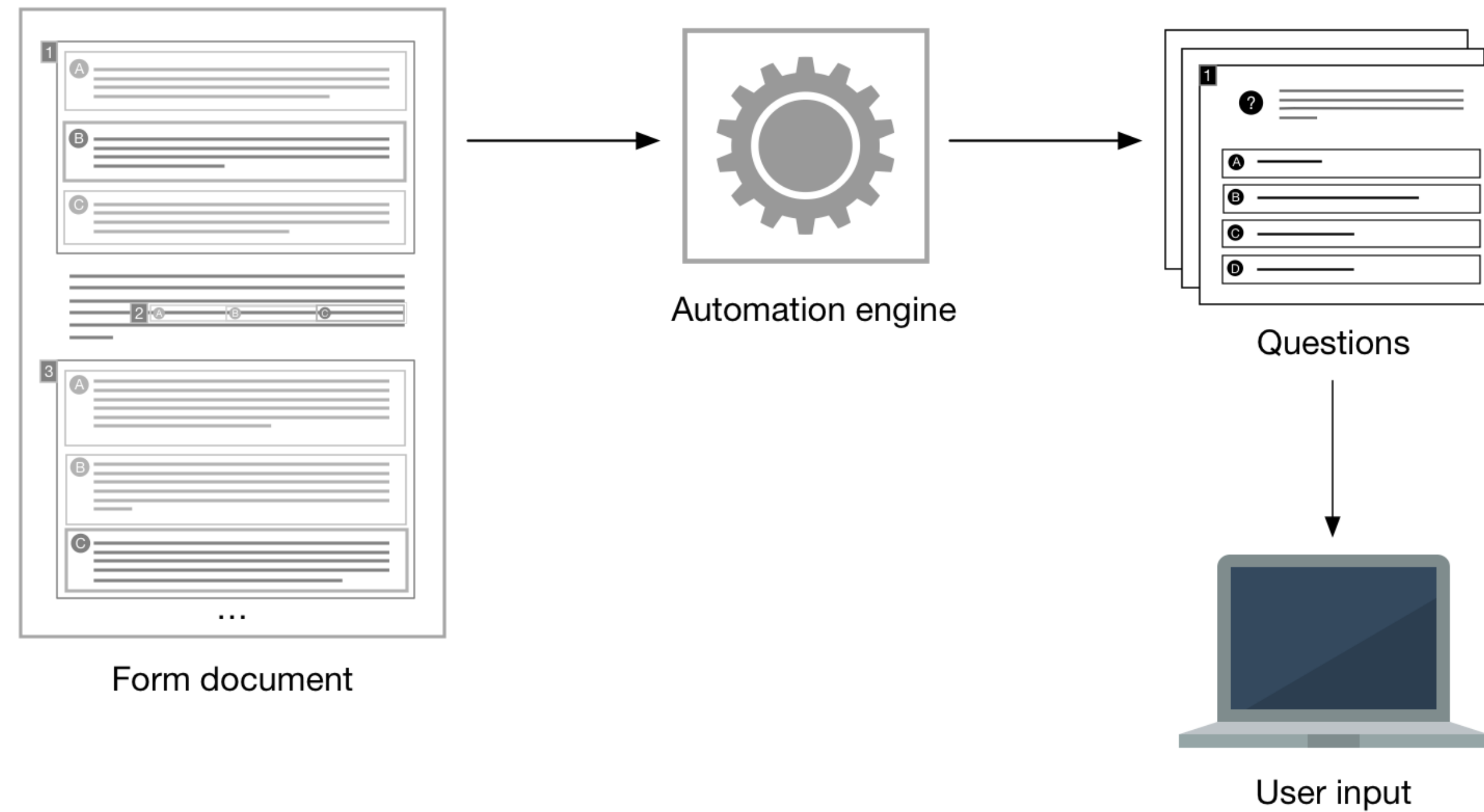


User Interface Wizard



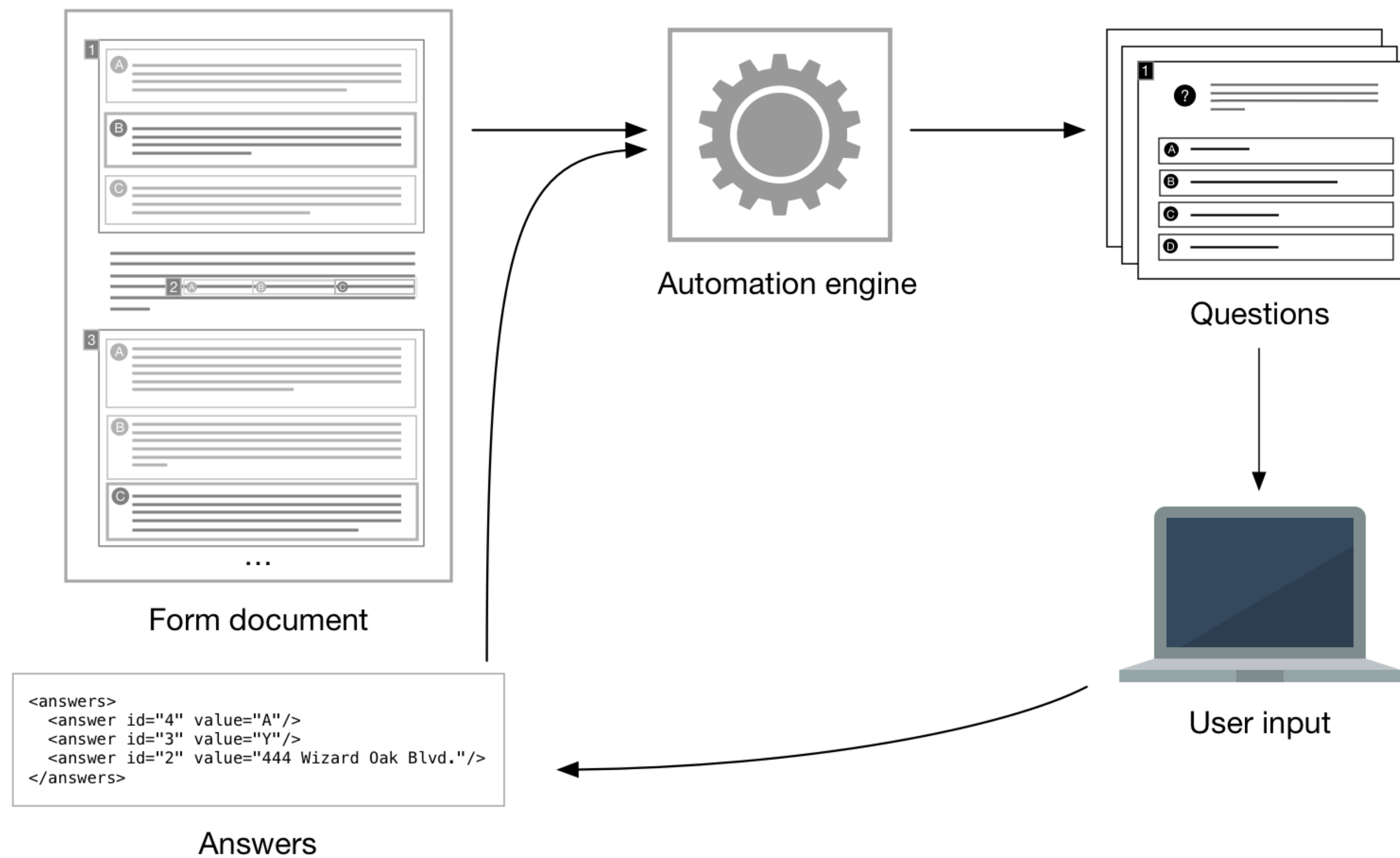
User Interface

Automation architecture



User Interface

Automation architecture



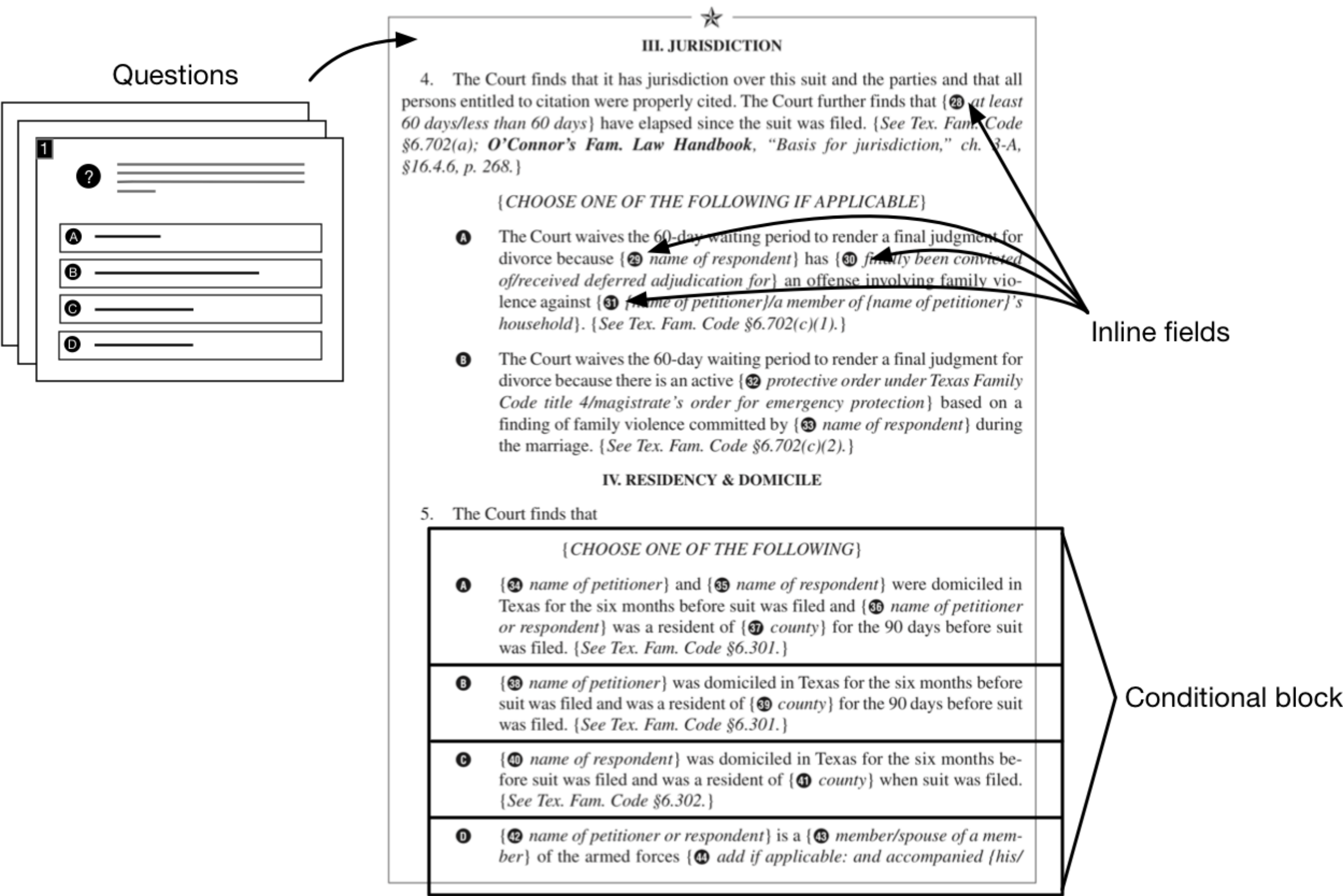
Requirements

- *Authoring system integration*
- *Online product integration*
- *UX/UI consistency*
- *Feasible*

A Third-party solution

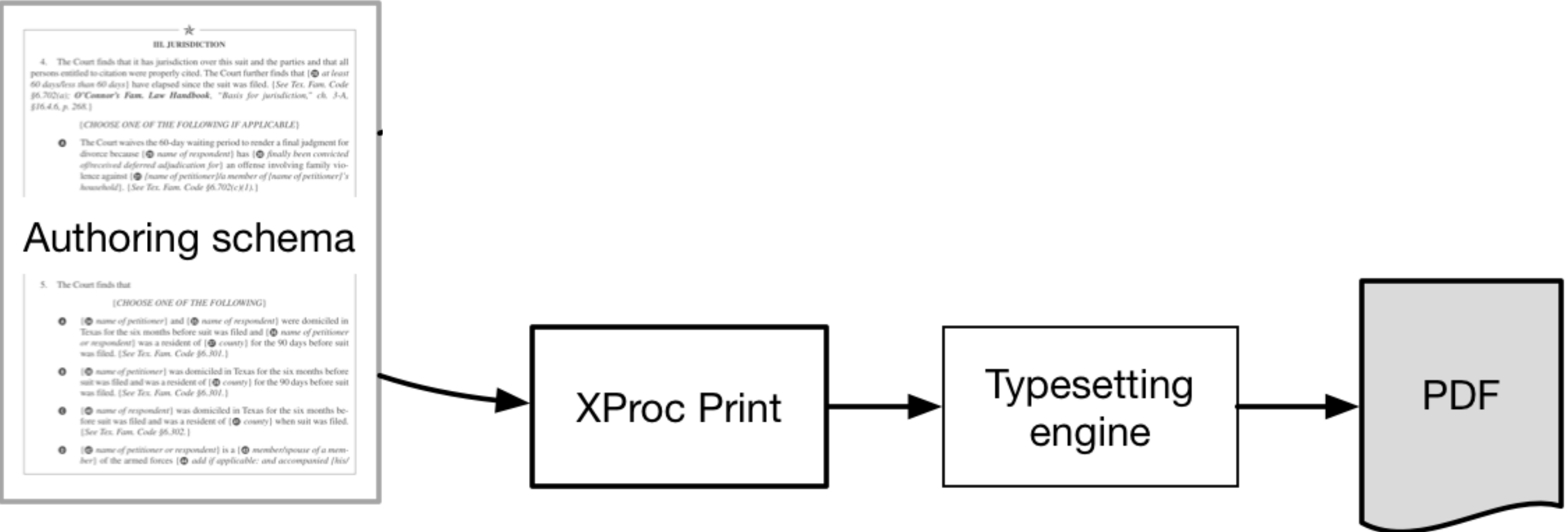
Implementation

Hybrid schema



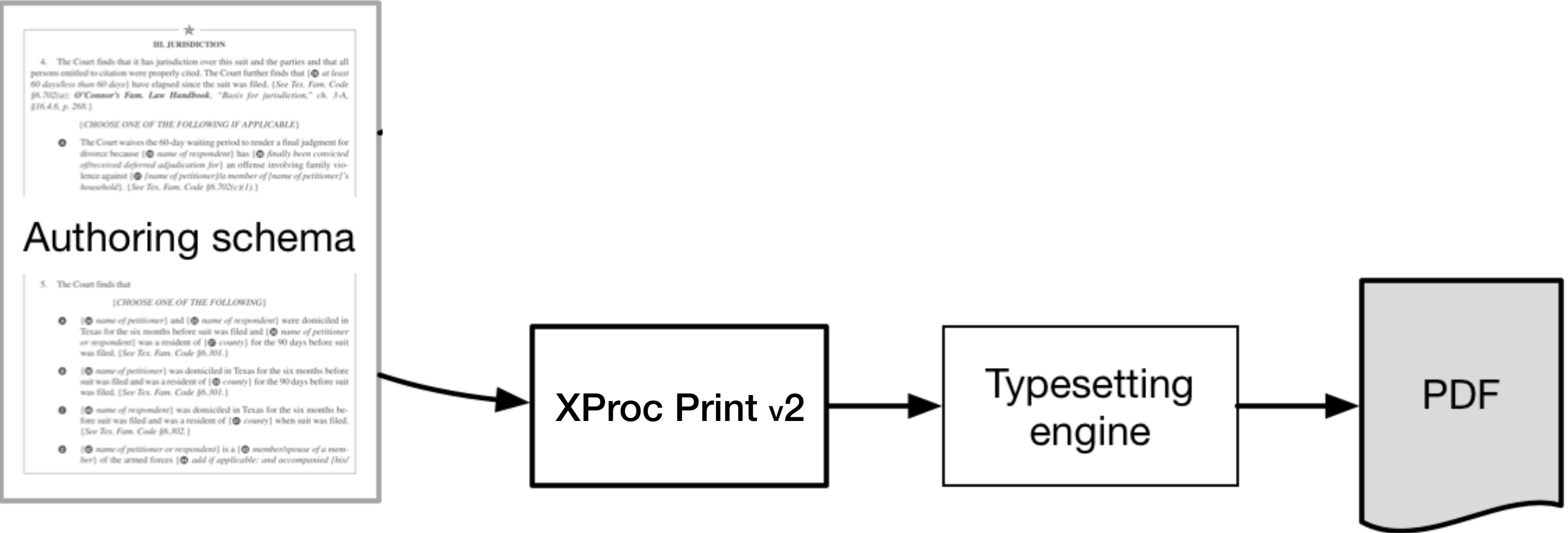
Implementation

Pipelines

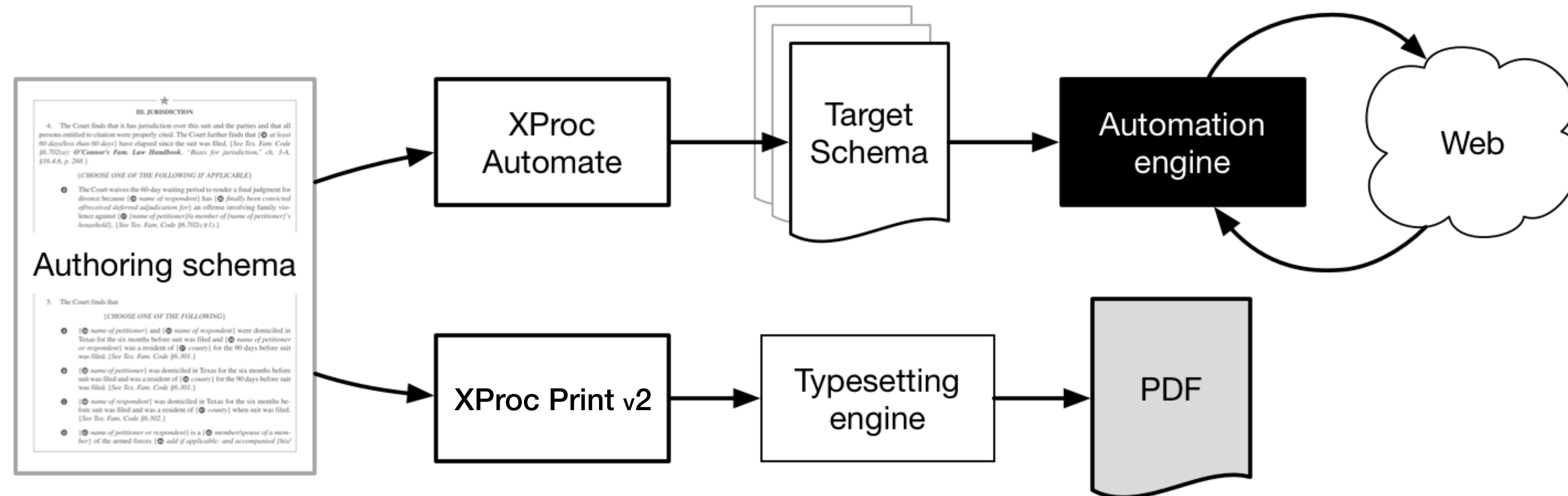


Implementation

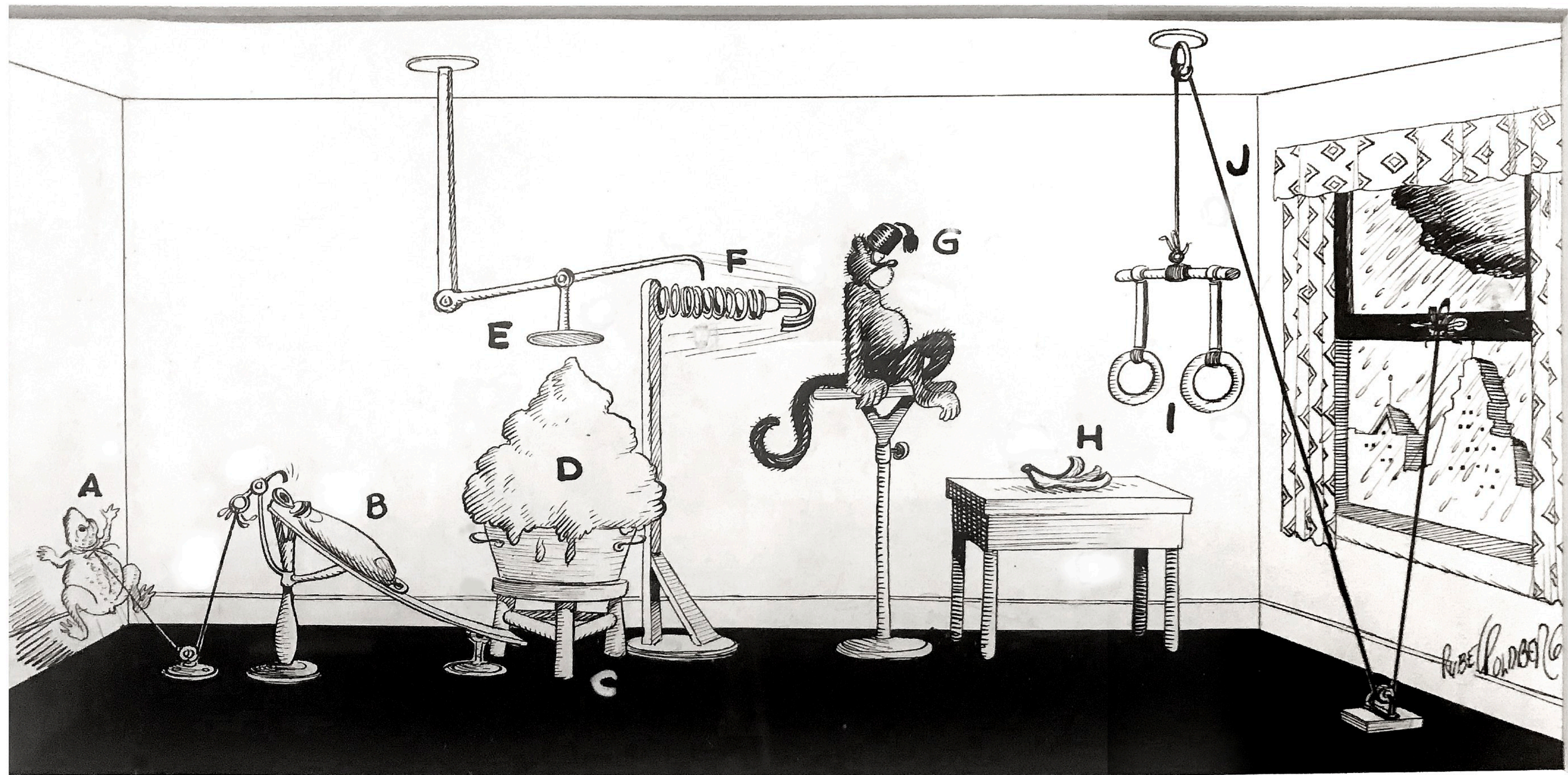
Pipelines



Implementation Pipelines



Implementation Layers



A New Approach

Refined Goals

- *Portable*
- *Client-side processing*
- *Low-dependency*
- *JavaScript UI*

XSLT Implementation

Client-side options

- **frameless.io, Saxon-CE, Saxon-JS**
- **Browser-native XSLT 1.0?**

XSLT Implementation

Desktop testing

	Edge 41	IE 11 [10]	Chrome 66 (desktop)	Firefox 59 (desktop)	Safari 11 (desktop)
document()	Yes	Yes	No	Yes	No
xsl:include	Yes	Yes	Yes	Yes	No
node-set() namespace	msxsl	msxsl	exsl	exsl	exsl
xsl:message	No	No	No	No	No
<i>Non-string stylesheet parameters</i>	No	Yes	No	Yes	No

XSLT Implementation

Mobile testing

	Chrome 65 (Android)	Firefox 59 (Android)	Firefox 11 (iOS)	Safari 11 (iOS)
document()	No	Yes	No	No
xsl:include	Yes	Yes	No	No
node-set() namespace	exsl	exsl	exsl	exsl
xsl:message	No	No	No	No
<i>Non-string stylesheet parameters</i>	No	Yes	Yes	No

XSLT Implementation

Limitations

EASIER

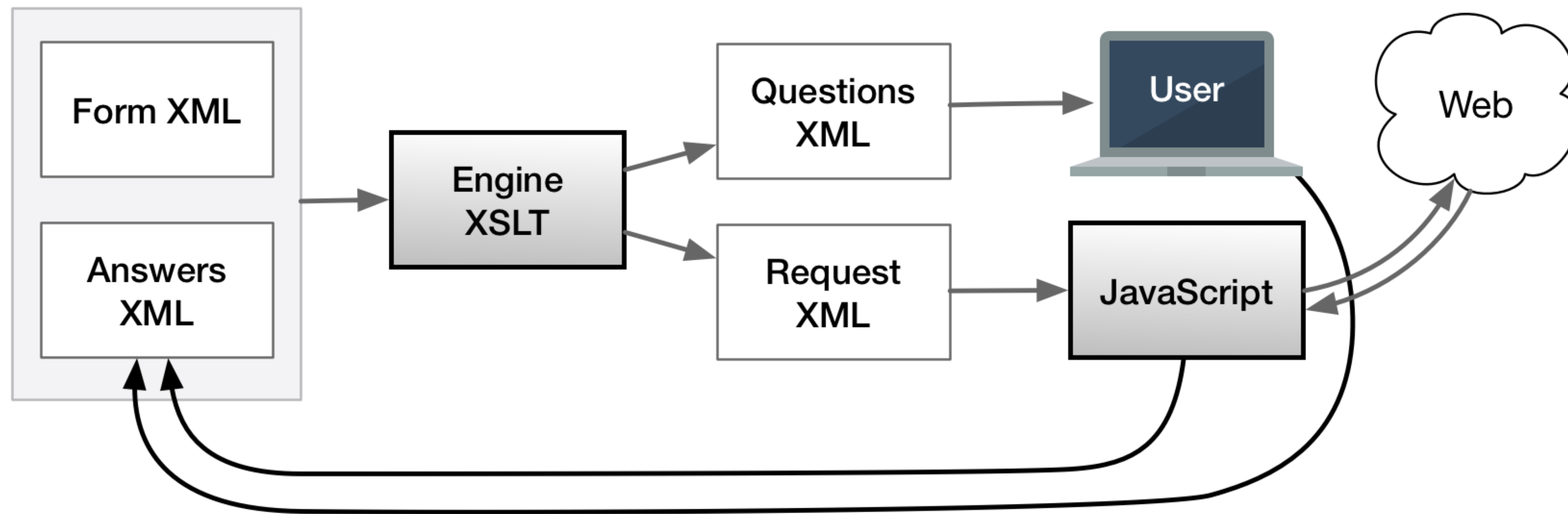
- *Weak string processing features*
- *Weak grouping tools*
- *No `xsl:include`*

HARDER

- *No debugging tools*
- *No `document ()`*
- *String external parameters only*

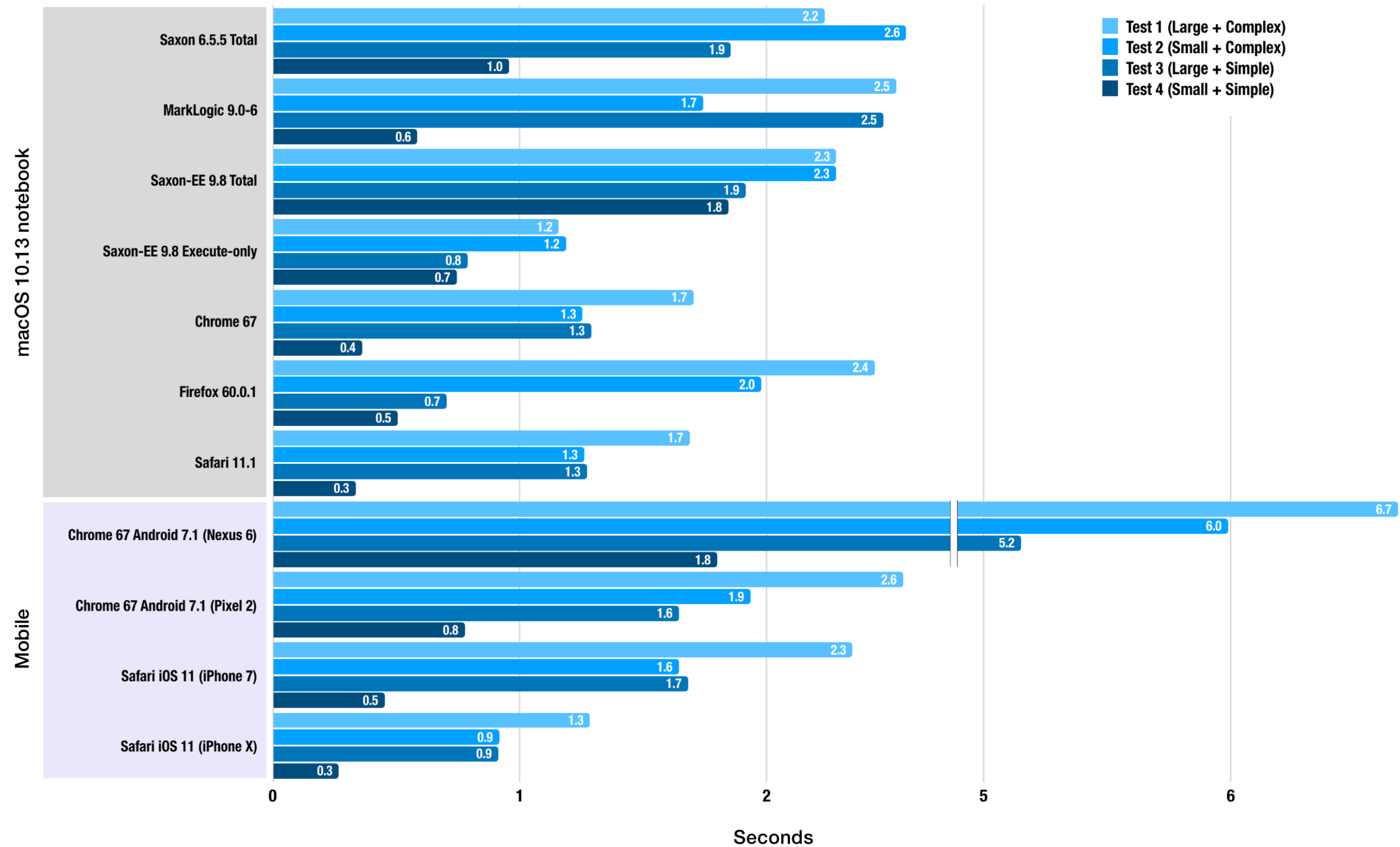
XSLT Implementation

Message passing



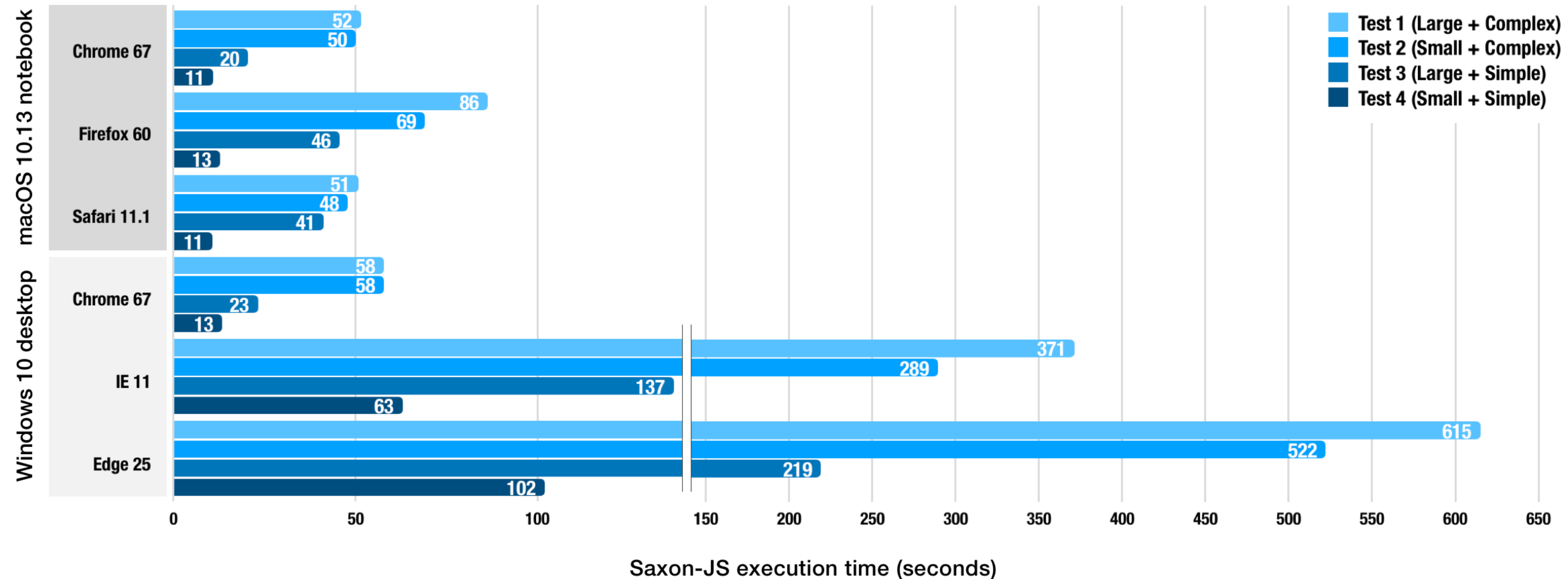
XSLT Implementation

Native XSLT performance



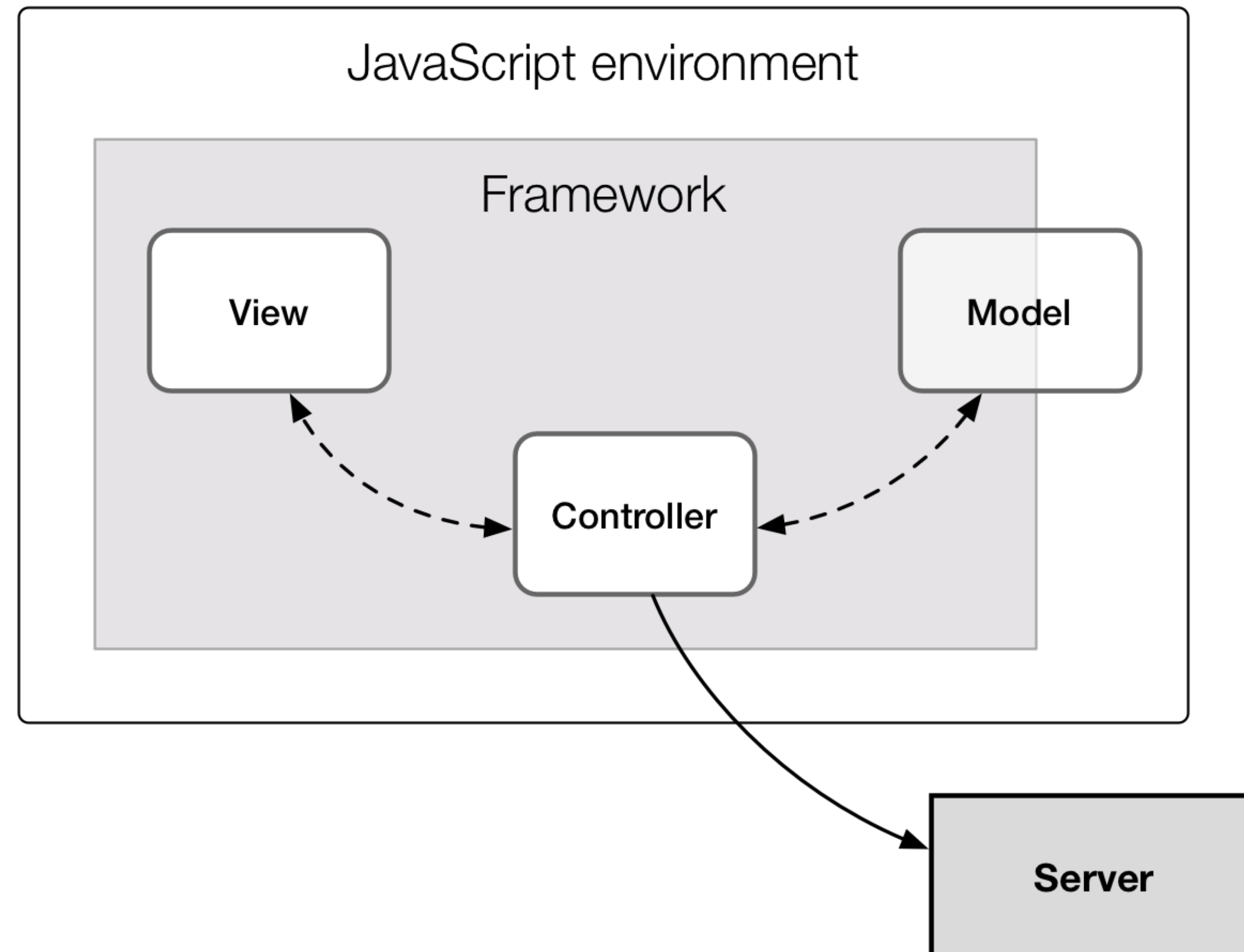
XSLT Implementation

Saxon-JS performance



JavaScript

Data-binding



JavaScript virtualDOM

- *Tracks content in the DOM*
- *Fast diff-optimized data structure*
- *Optimizer converts diffs into patches*

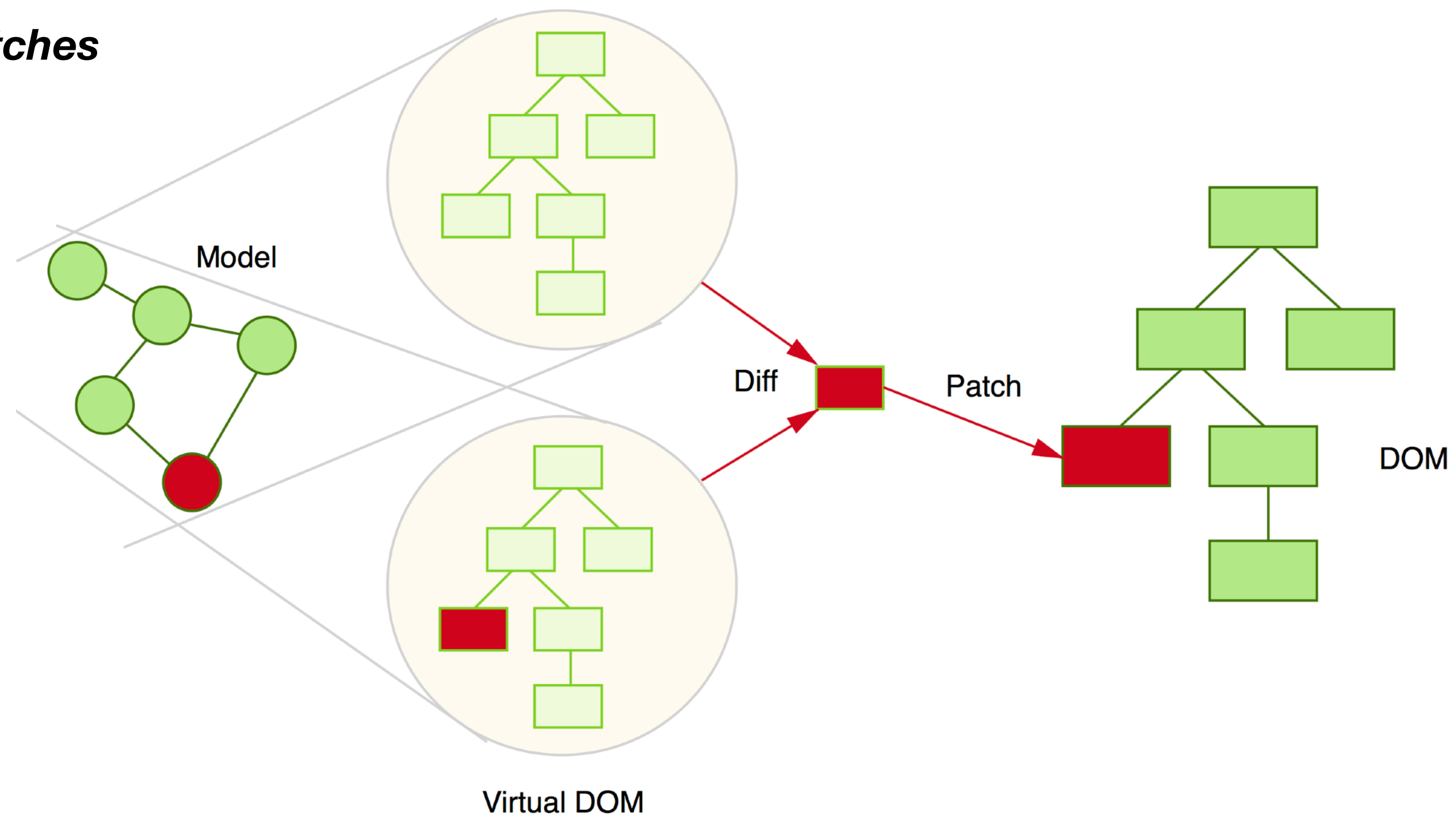


Image: <http://teropa.info/blog/2015/03/02/change-and-its-detection-in-javascript-frameworks.html>

JavaScript

virtualDOM

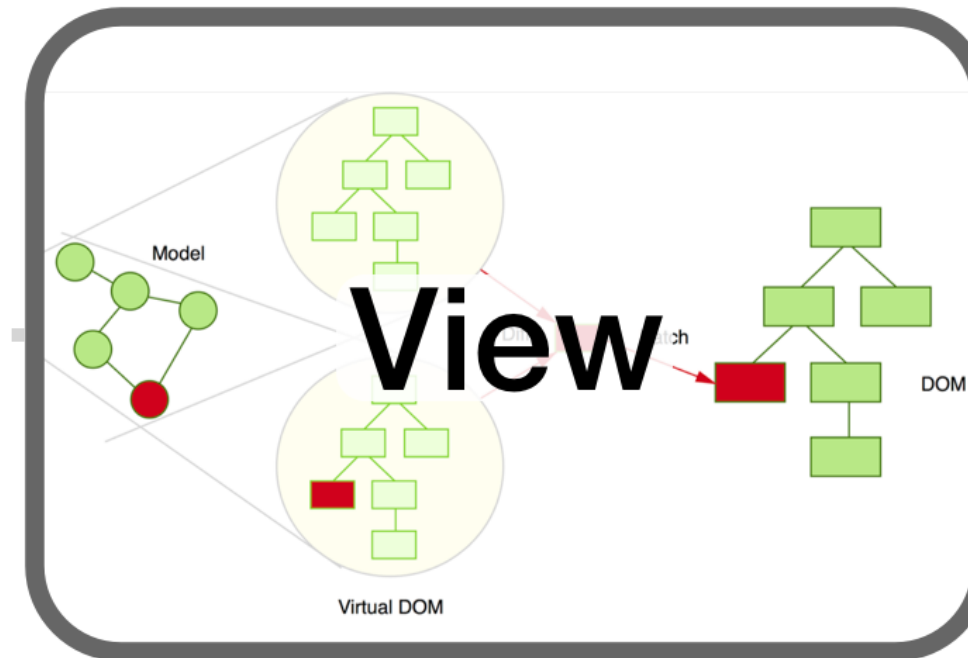
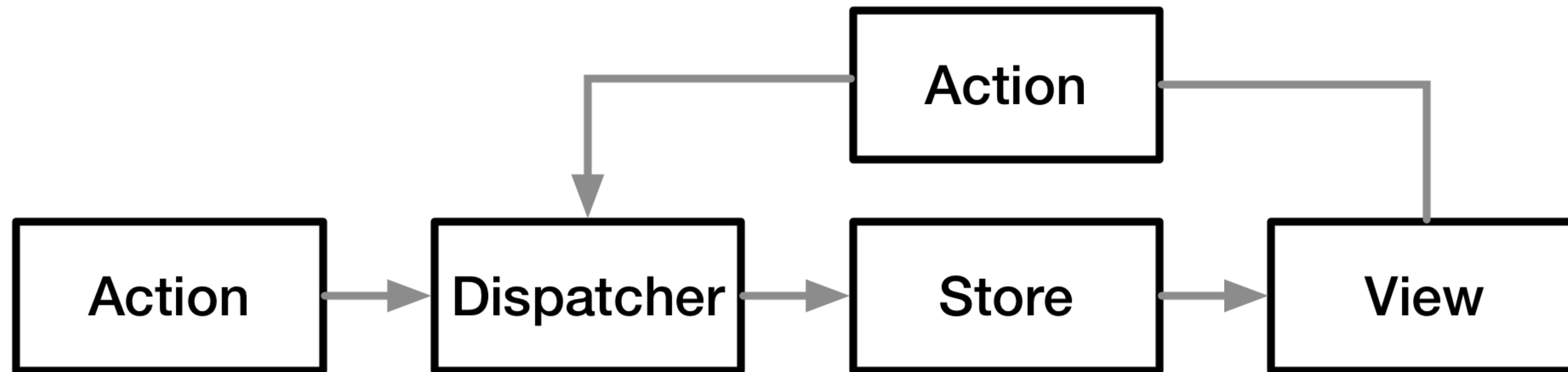


Image: <http://teropa.info/blog/2015/03/02/change-and-its-detection-in-javascript-frameworks.html>

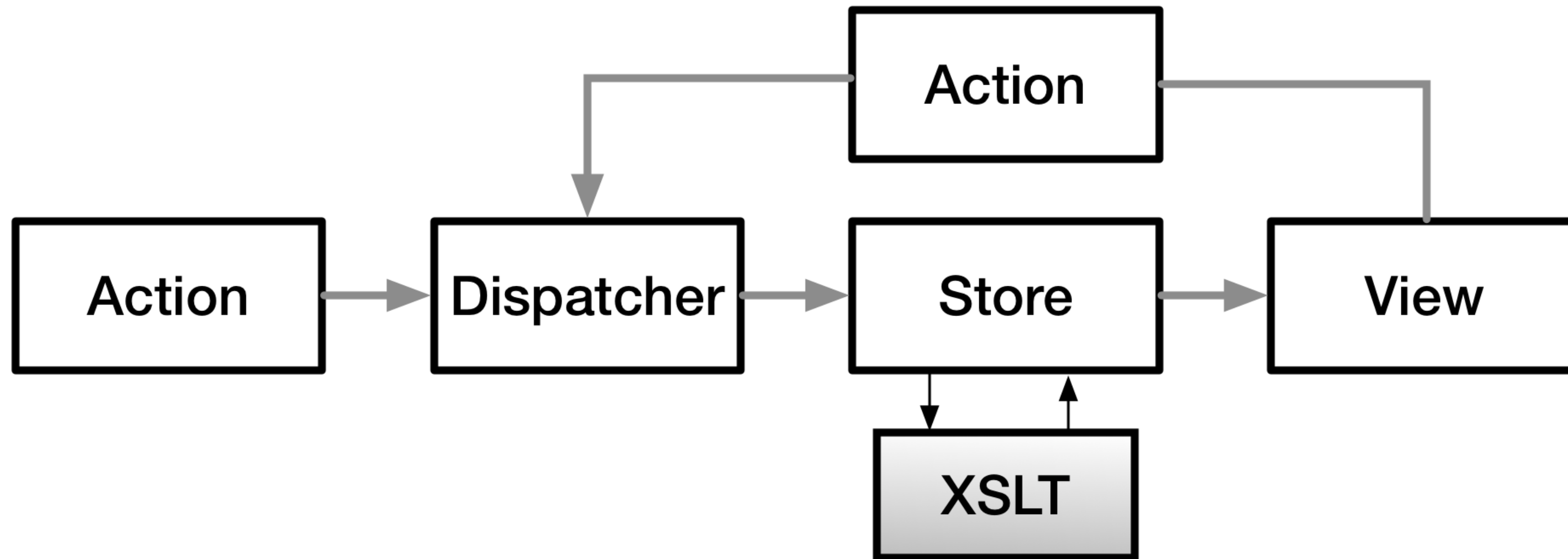
JavaScript

Application architecture



JavaScript

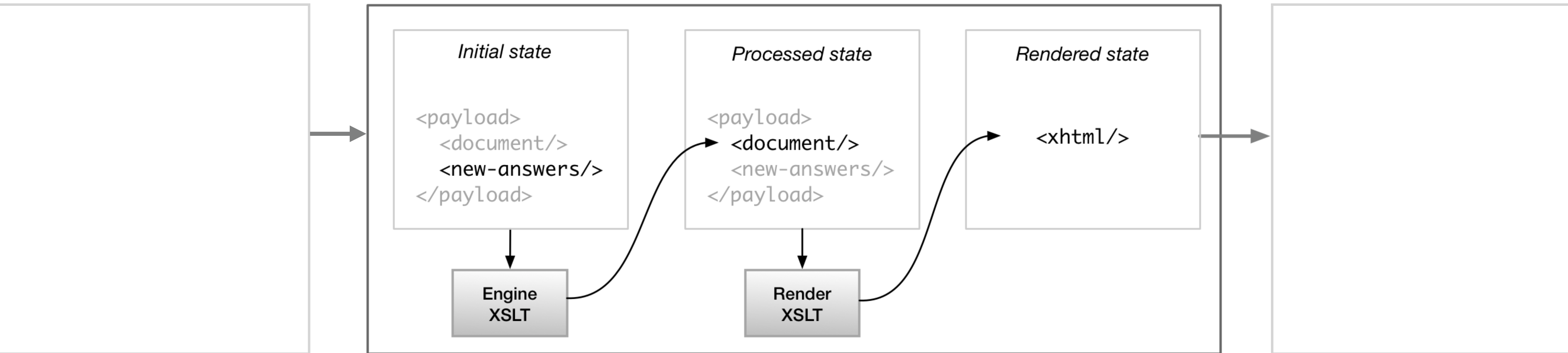
Application architecture



JavaScript

Application architecture

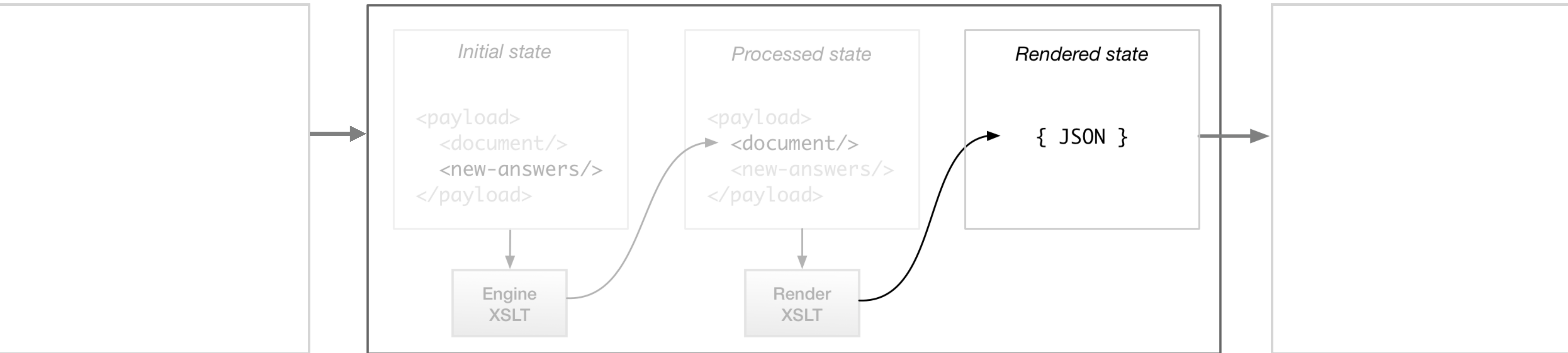
Store



JavaScript

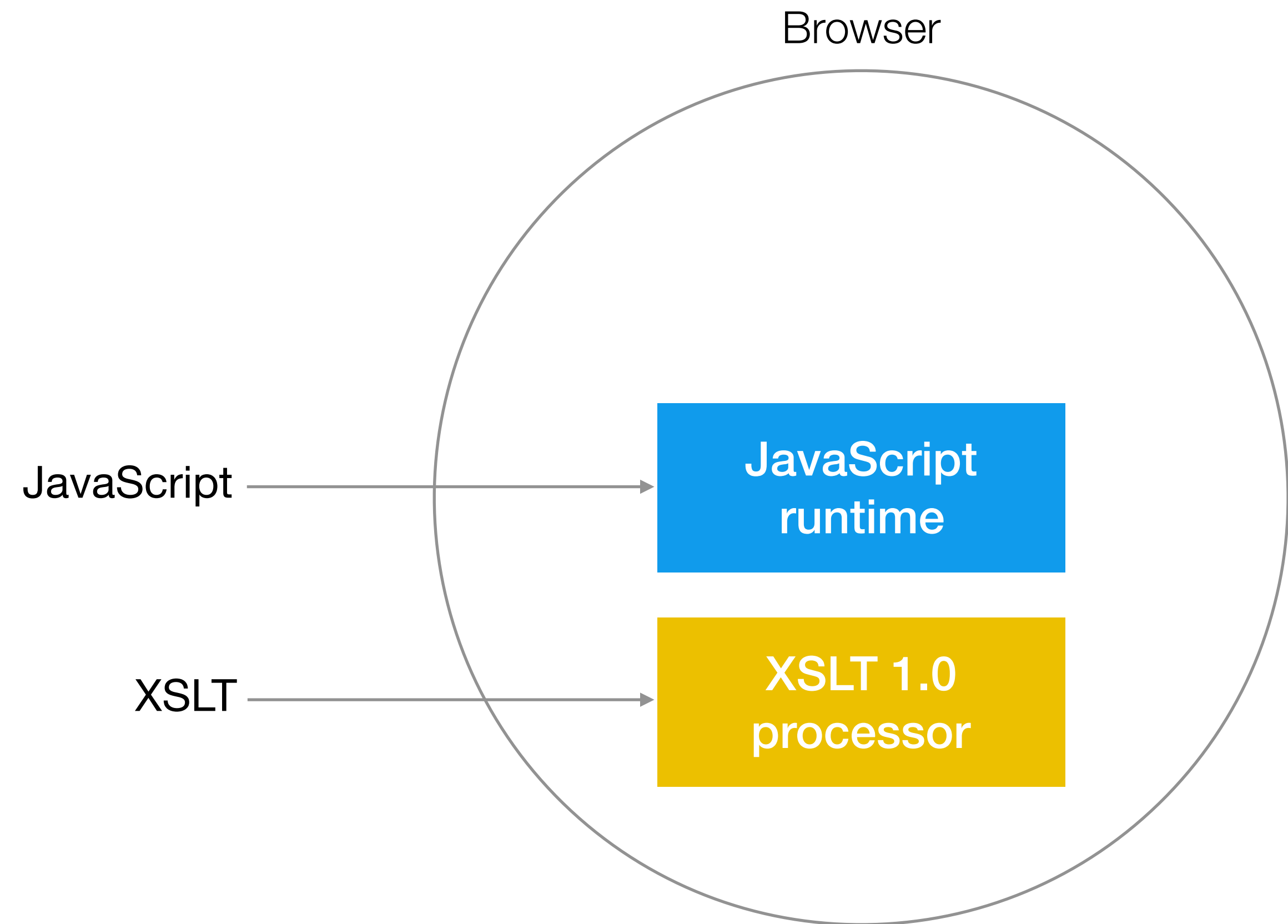
Application architecture

Store



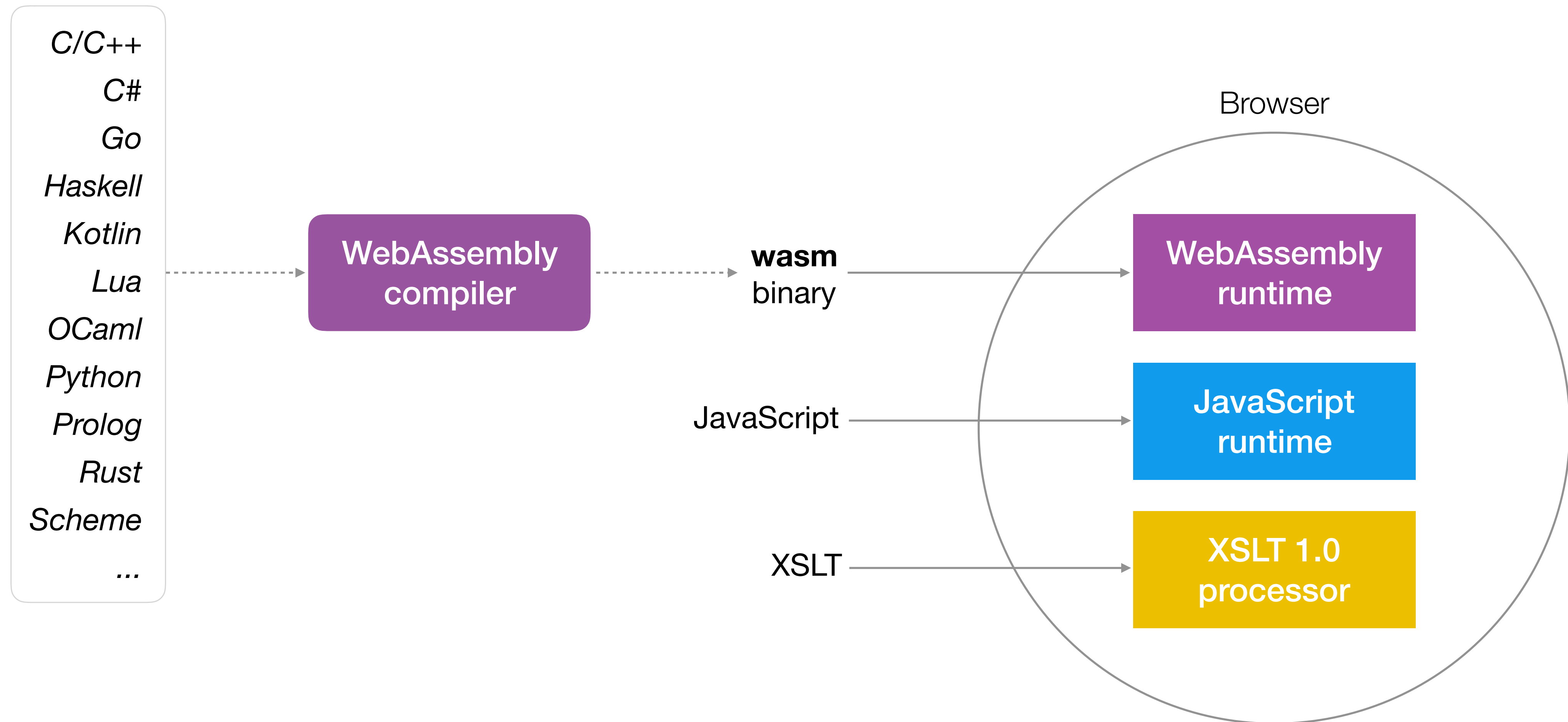
WebAssembly

The future

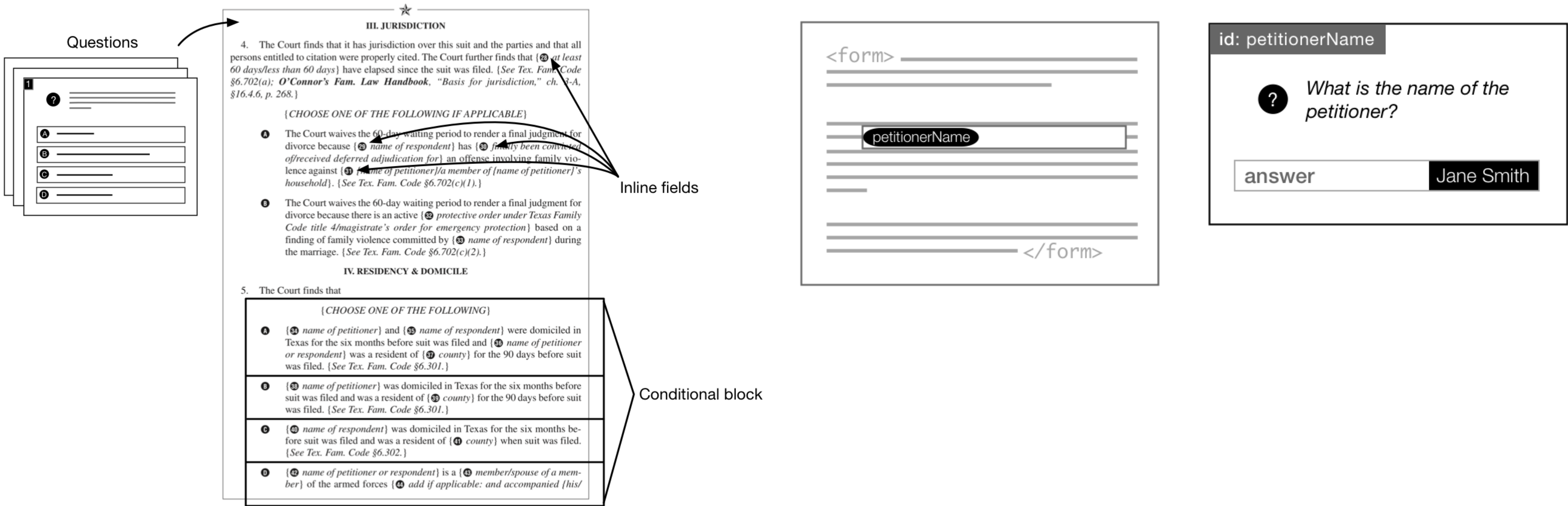


WebAssembly

The future



Redesign Model



Redesign

Visibility dependency

- *Question B will only be asked if Question A has answer "x"*

The diagram shows a form structure within a container. At the top, there is a label `<form>` followed by three horizontal lines representing form fields. Below these, there is a rectangular box containing a 'condition' section and a question area. The 'condition' section has a label 'condition' and a value 'A = x'. The question area contains a label 'B' and a text input field, with several horizontal lines below it representing additional form elements.

Redesign

Evaluation dependency

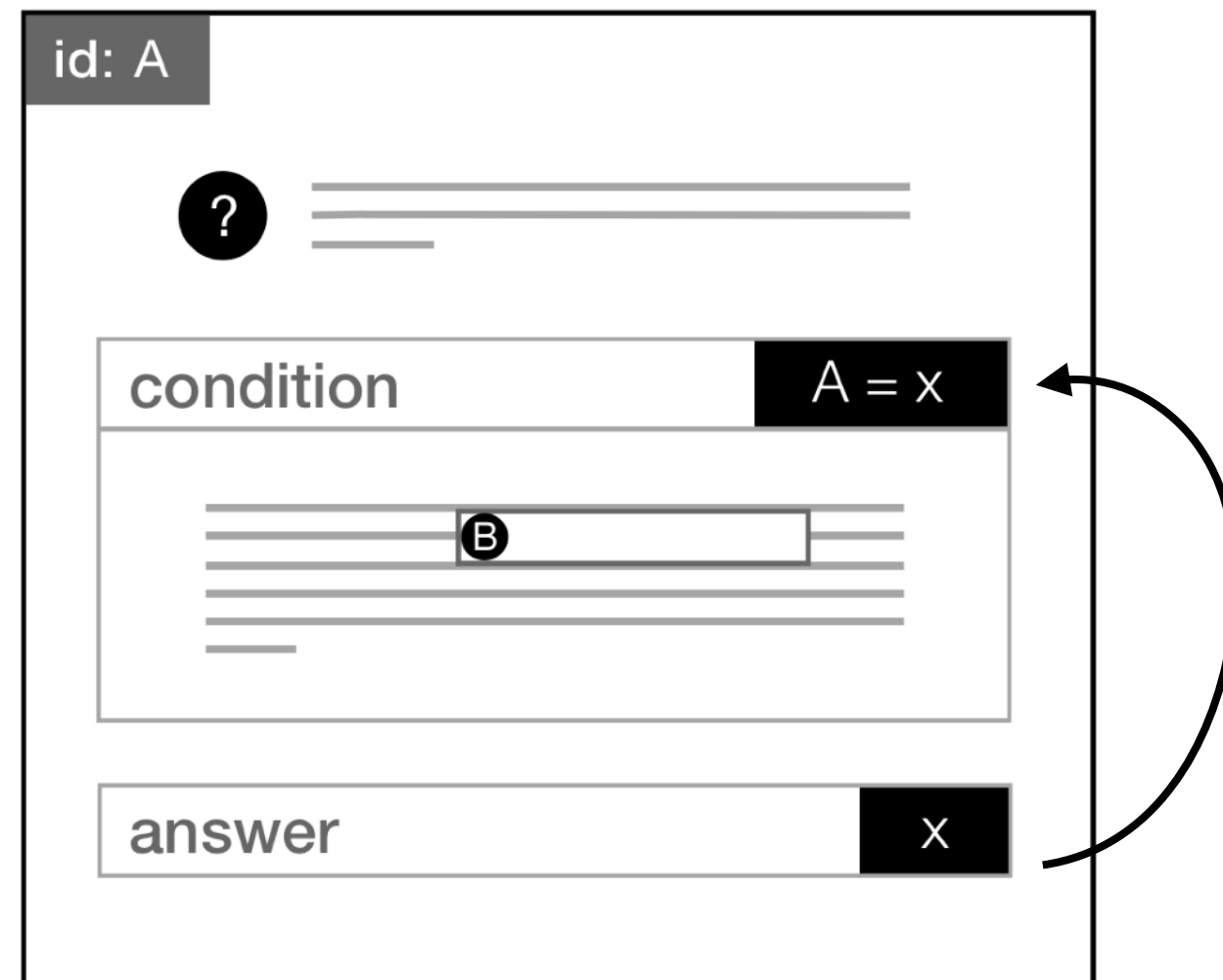
- *Calculation B can't be evaluated until Question C has been answered*

A diagram of a form structure. It starts with an opening tag `<form>` followed by several horizontal lines representing form elements. In the middle, there is a rectangular box containing the letter 'B'. Below this box are more horizontal lines, and the form ends with a closing tag `</form>`.

A diagram of a calculation element. It has a header bar with the text 'id: B'. Below the header, there is a horizontal bar divided into two sections: the left section is labeled 'calculation' and the right section is labeled 'count(C)'.

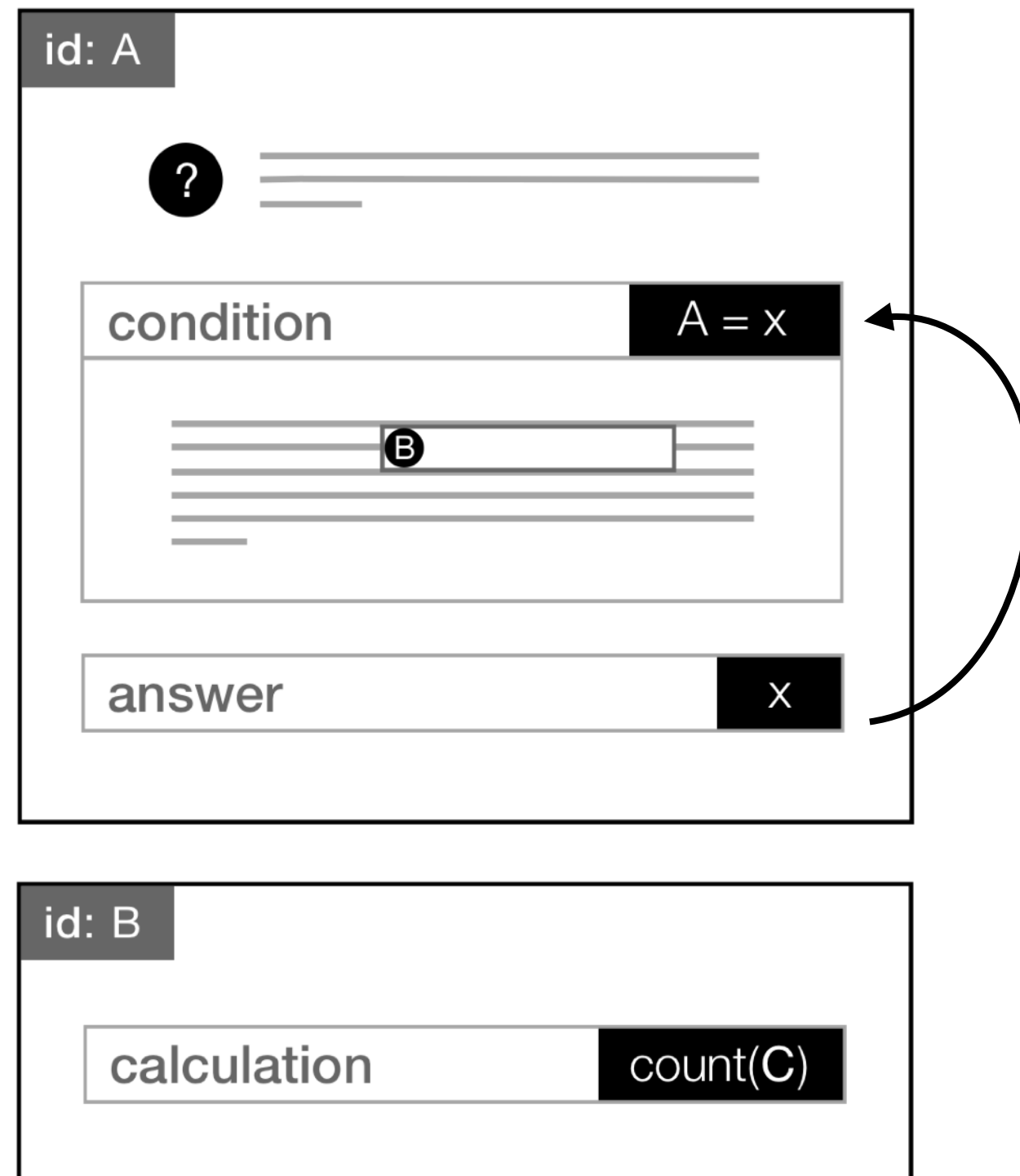
Redesign

Stack-based model



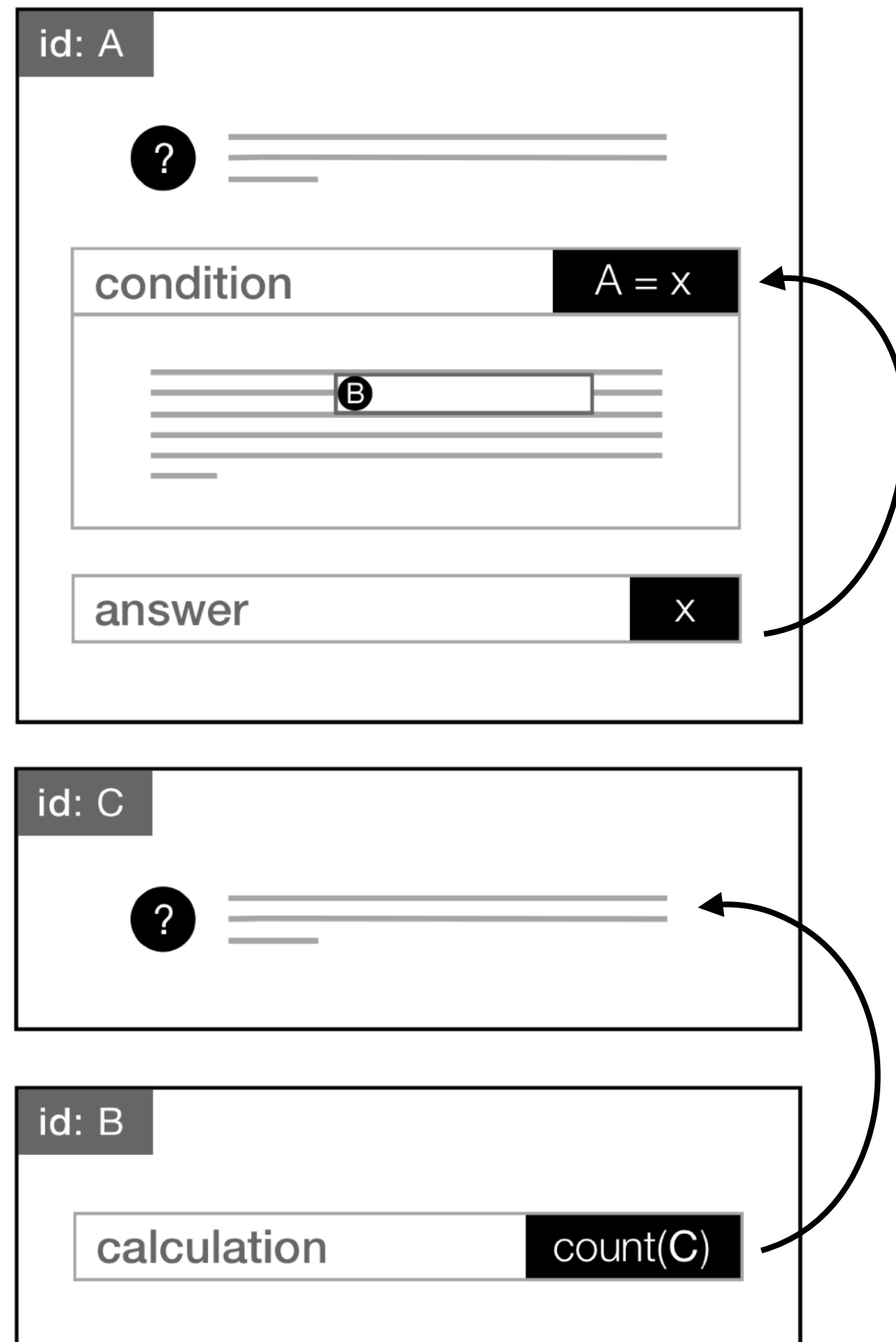
Redesign

Stack-based model



Redesign

Stack-based model



**Java
Script**



XSLT



Java
Script

XSLT