

Static websites in 2018?

Application on legislative branch

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[Geeks On Tour](#), 08/12/2018

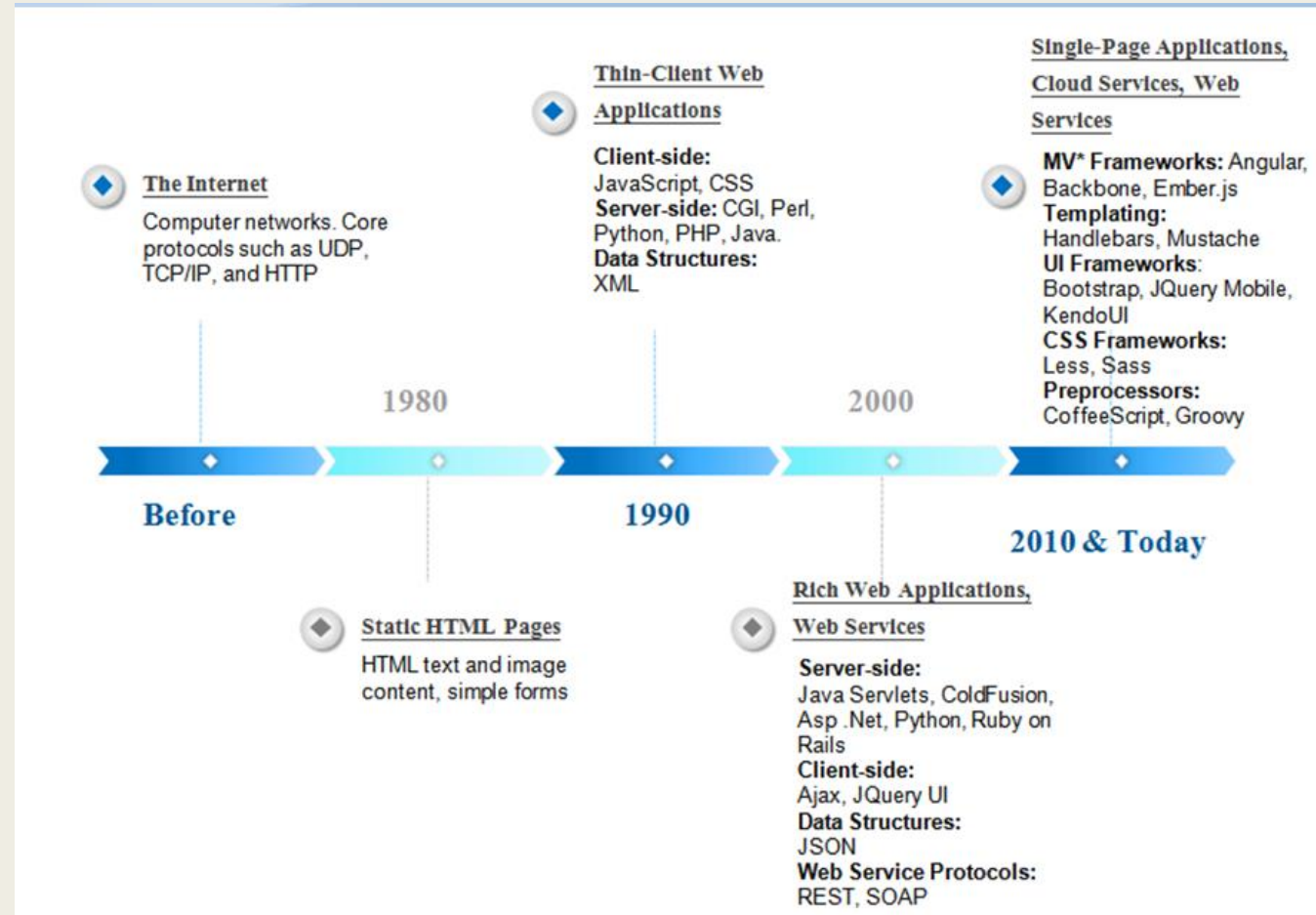
Few words about me

- Worked for 2 years as teaching assistant on Faculty of Technical Sciences, University of Novi Sad
- First year of PhD studies, probably will be forever...
- Proud member of [Open Law Library](#) crew, trying to **make law accessible to anyone, for free !**
- Mostly intrested in code generators, and web technologies



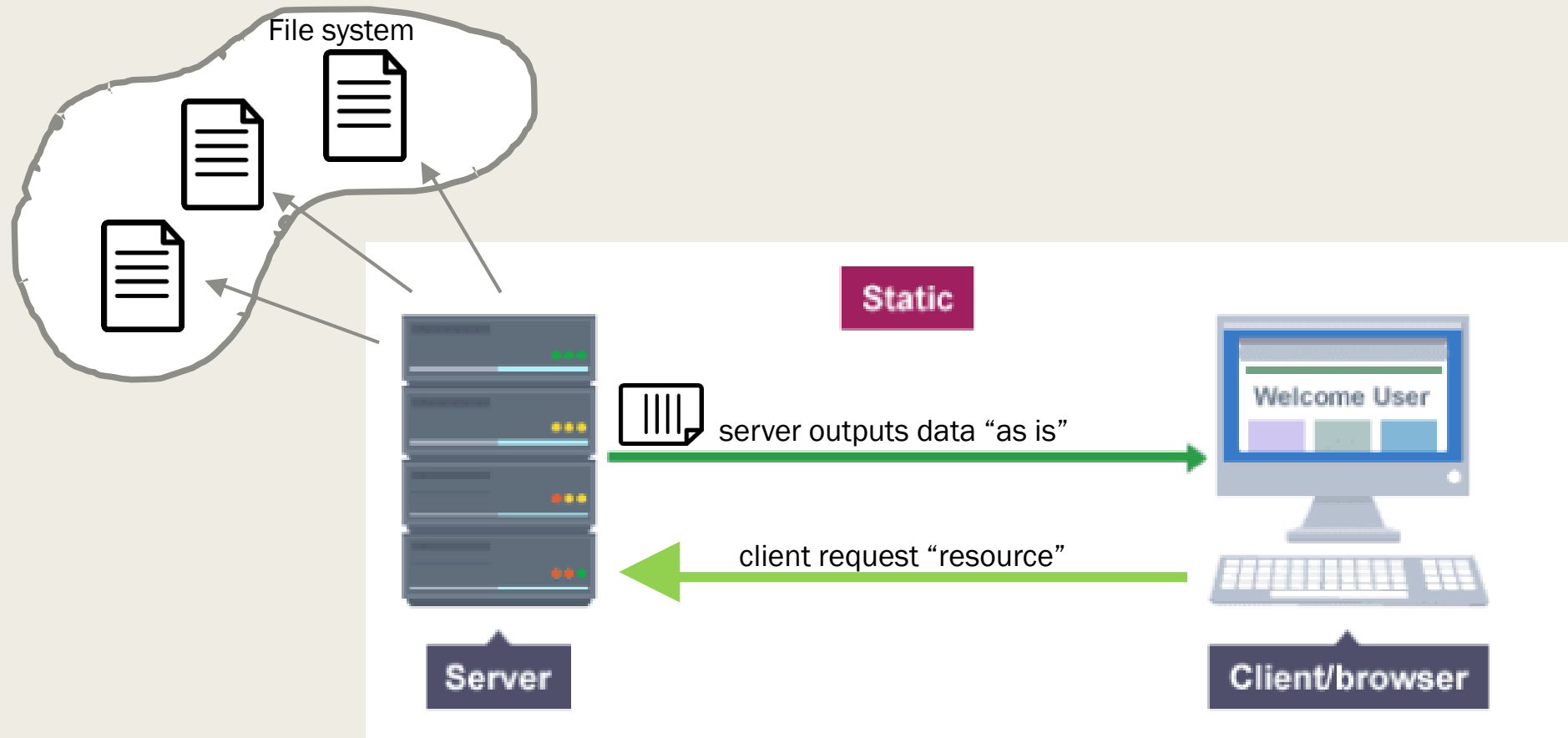
- created presentation last night

Evolution of web technologies



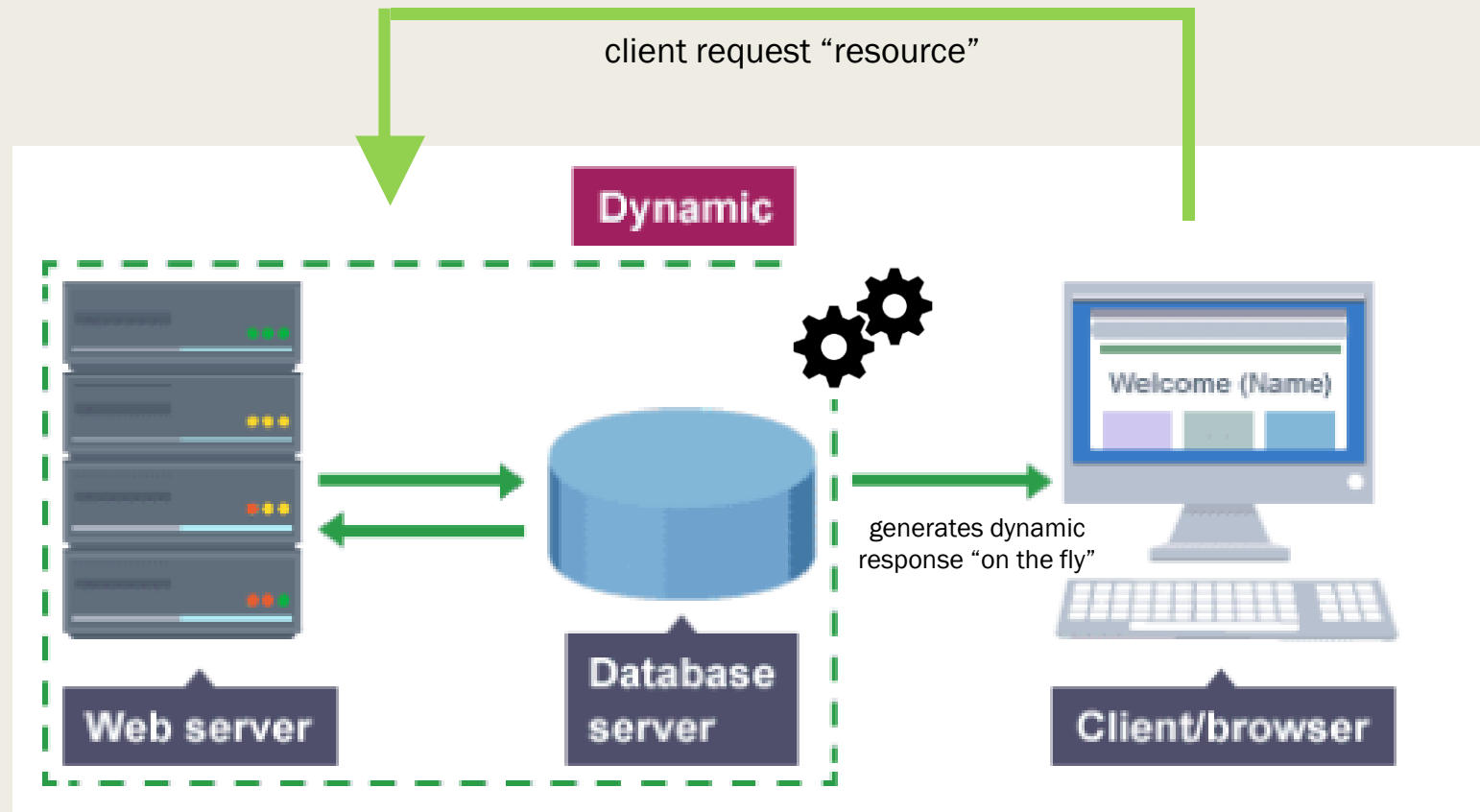
Quick overview of web technology evolution

Static websites



An example of fetching "data" from static websites

Dynamic websites



An example of fetching "data" from dynamic websites

Dynamic websites / CMSs



- e-commerce & online stores
- email forms & newsletters
- blogging
- add & edit website pages
- events and calendars
- video and photo galleries
- search engine friendly
- social network websites

Some of many features supported by dynamic websites

Now that we have all of those features we couldn't provide with static websites, **why static websites in 2018?**



“hmmmmmmmmmmmmmm?”
- pewdiepie 2017/18 (not sure)

Static site generators

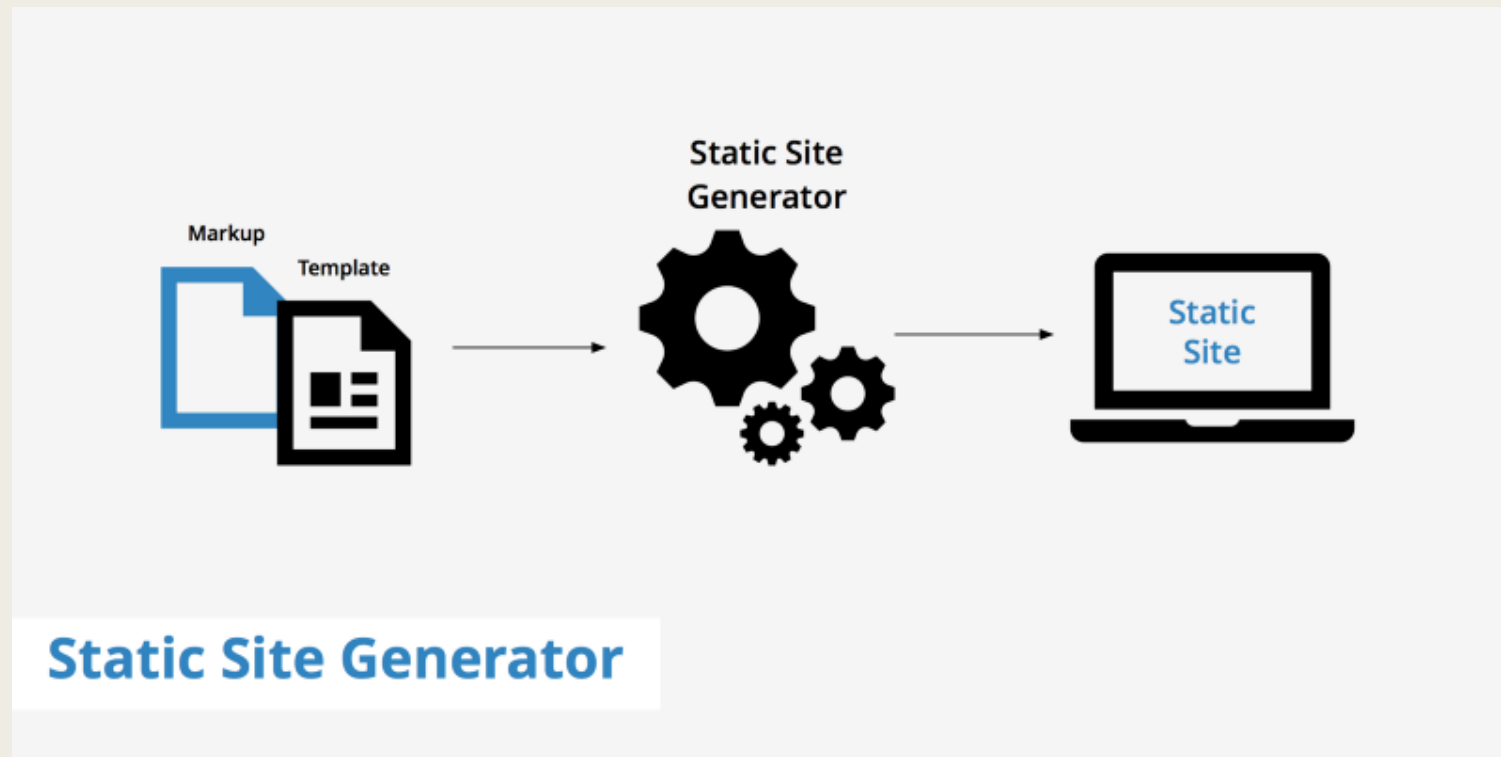


Simple view of static site generator, see
more at: <https://staticsitegenerators.net/>

Static site generators

- Reads user input and generates static HTML and CSS pages (sometimes js and other assets based on concrete impl)
- User input
 - *is text based static file*
 - *is usually YAML, Markdown, XML, reST...*
 - *is supposed to be easily readable and editable by human*
 - *should be editable by any text editor*
- Website layout is defined by generator themes
- Generator themes are usually written in open source templating languages like:
 - *jinja*
 - *mustache*
 - *liquid*
 - *xslt*
 - *and many others...*
- Some generators are relying on front-end frameworks like (Gatsby – React, Nuxt.js – Vue.js...)

Static site generators



Simple view of static site generator

Static vs dynamic websites

static website

- pros
 - *performance*
 - *security*
 - *reliability*
 - *free hosting* (usually GitHub, or similar)
 - *simple*
 - *scalability*
 - *technological advancements*
- cons
 - *losing interactivity with user* (no profiles, favorites, suggestions etc.)
 - *how long does it take to see the updated changes on the website? (generation time?)*

dynamic website

- pros
 - *user interactivity* (content generated per user)
 - *supports complex features like login, payment, real-time updates and many others*
- cons
 - *performance*
 - *security*
 - *hosting*
 - *3th party dependencies*
 - *expensive*
 - *complex*

Well then, will generated static websites
solve all our problems?

N  **!**

Choose the right weapon

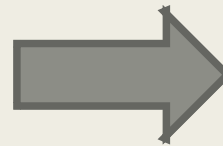
- dynamic websites
 - *if our system is part of **fast-changing category**, where data is being updated in real-time*
 - *where page content depends on the current user*
 - *if there's integration between multiple systems*
 - *and many others*
- static website
 - *If our system is part of **slow-changing category**, where data is being updated from time to time*
 - *if we can store our data directly into static HTML pages, and update data periodically*
 - *an example: adding a post to the blog, adding or amending new law, etc.*
 - *when **response time** is on top of our priorities, and we cannot afford time to read data from some source and use that data to generate proper response per request*
 - *when **security** is on top of our priorities, hacking static websites? sounds challenging at least*

Facts about performance expectations

- 73% of mobile internet users say that they've encountered a website that was too slow to load. [»tweet«](#)
- 51% of mobile internet users say that they've encountered a website that crashed, froze, or received an error. [»tweet«](#)
- 38% of mobile internet users say that they've encountered a website that wasn't available. [»tweet«](#)
- 47% of consumers expect a web page to load in 2 seconds or less. [»tweet«](#)
- 40% of people abandon a website that takes more than 3 seconds to load. [»tweet«](#)
- A 1 second delay in page response can result in a 7% reduction in conversions. [»tweet«](#)

An example of xml-based static website generator for legislation use - intro

- Laws, ordinances, regulations and statutes data is always provided in a document form
- Since user input is document oriented, for data manipulation and control, we'll use XML technologies
- Many governments offer XML version of the laws



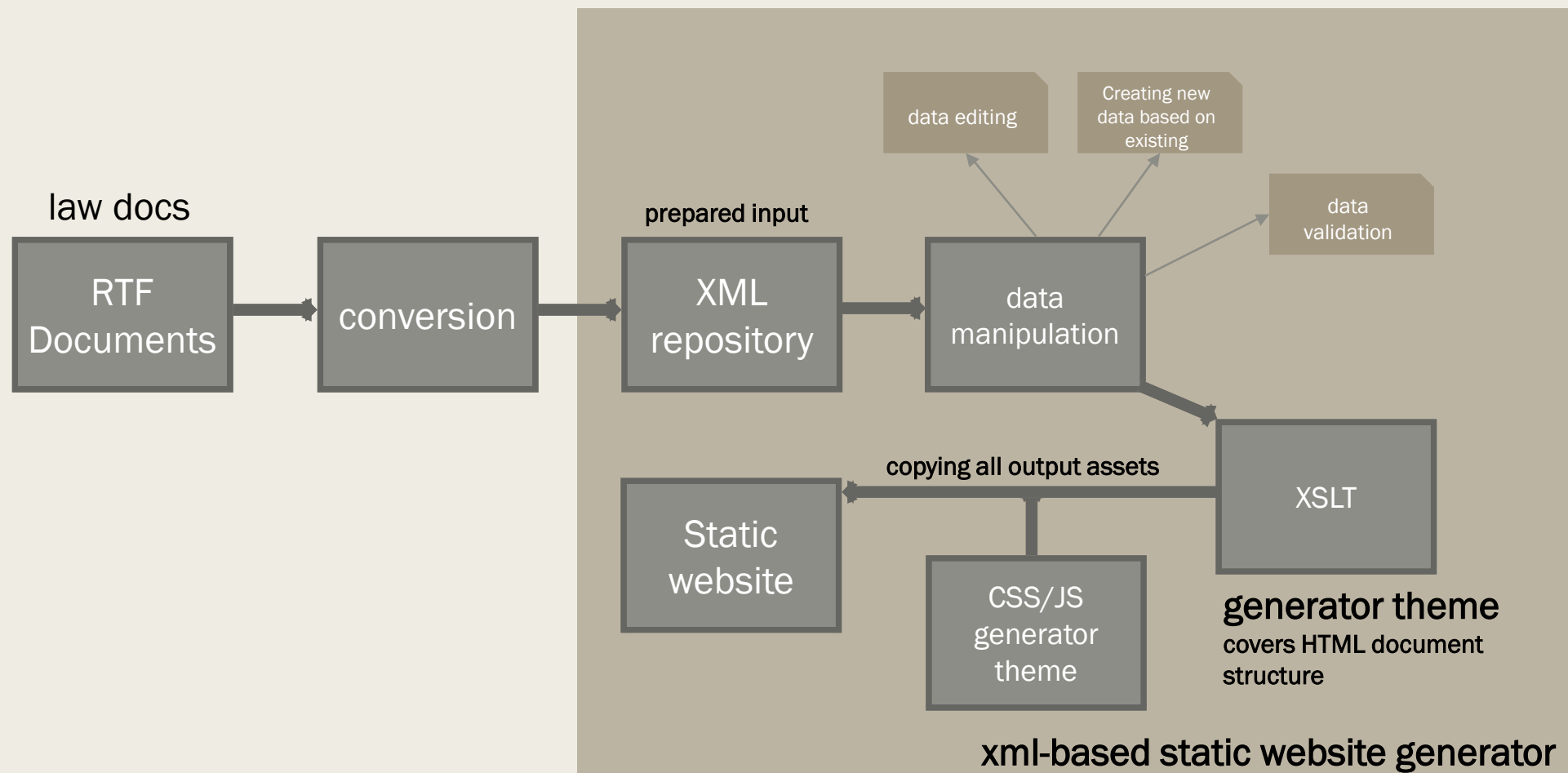
```
1 <?xml version='1.0' encoding='utf-8'?>
2 <section xmlns="https://code.dccouncil.us
3   <num>50-1001</num>
4   <heading>Adopted.</heading>
5   <text>The Driver License Compact is ado
6   <para>
7     <prefix>ARTICLE</prefix>
8     <num>I</num>
9     <text>
10      <center>Findings and Declaration of
11    </text>
12    <para>
13      <num>(a)</num>
14      <text>The party states find that:</
15    <para>
16      <num>(1)</num>
17      <text>The safety of their streets
```

Representation of legal docs as XML documents

xml-based static website generator – technologies used

- User input
 - *XML documents*
- Generator development platform
 - *python*
- Template language
 - *XSLT*
- Output
 - *HTML – generated as result of the XSLT transformation*
 - *CSS – predefined assets used by generated HTML*
 - *JS – predefined JavaScript snippets that will be used by HTML pages to support some user-interactivity features*

xml-based static website generator - architecture



General architecture of xml-based static website generator

Questions?

Thank you.



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- Do I need static website generator (<https://blog.zipboard.co/do-i-need-a-static-site-generator-dd6f7e7e9e41>)
- How to start with static websites (<https://blog.zipboard.co/how-to-start-with-static-sites-807b8ddfec>)
- 6 reasons why you should go for static website (<https://dzone.com/articles/6-reasons-why-you-should-go-for-a-static-website>)
- Static site generator (<https://www.keycdn.com/support/static-site-generator>)

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- Loading time expectations (<https://neilpatel.com/blog/loading-time/>)
- Official Code of the DC Council (<https://github.com/DCCouncil/dc-law-xml>)
- Open Law Library (<http://openlawlib.org>)