



Towards a Generic XML Content Presentation Model

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Applications VS Documents

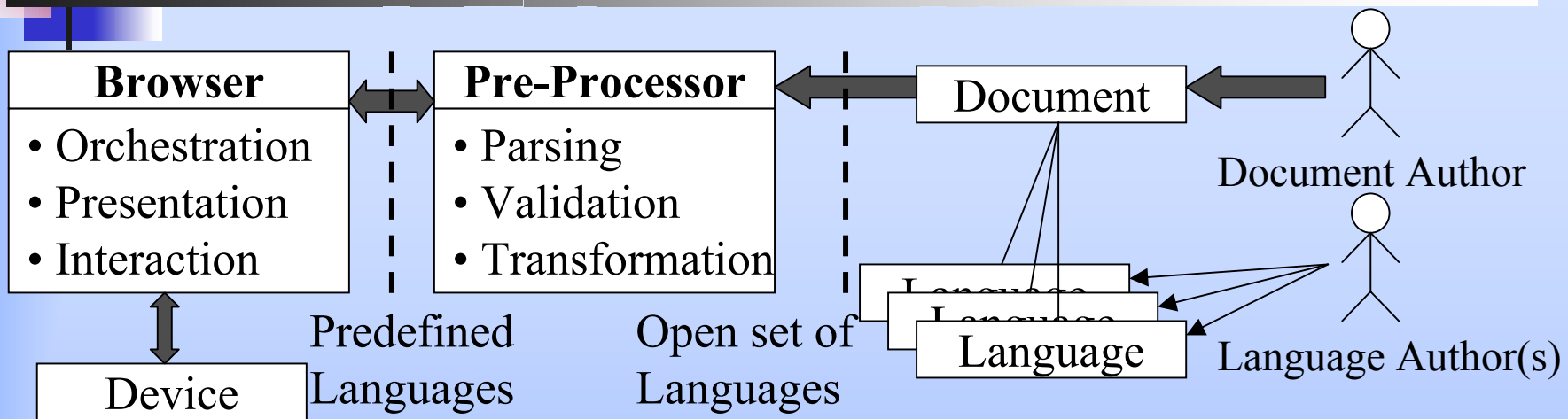
Web applications

- Used for:
 - Extended presentation and interaction functionality.
 - Precise presentation control
- Problems
 - Incompatible processing models
 - Generally device specific
 - No common representation

■ Our view

- A habit of the pre-XML era
- XML can represent any type of information
- Browsers already provide a wide range of functionality
- We need a generic XML content presentation model

Generic XML Presentation



All processing steps for:

- Compound XML documents
- Variety of capabilities/preferences
- Variety of independent languages
- Rich functionality

■ A proposal

- Two processing steps
 - Browser
 - Presentation of a fixed set of languages
 - Pre-Processor
 - Transformation of an open set of languages



Pre-Processing: XMLPipe

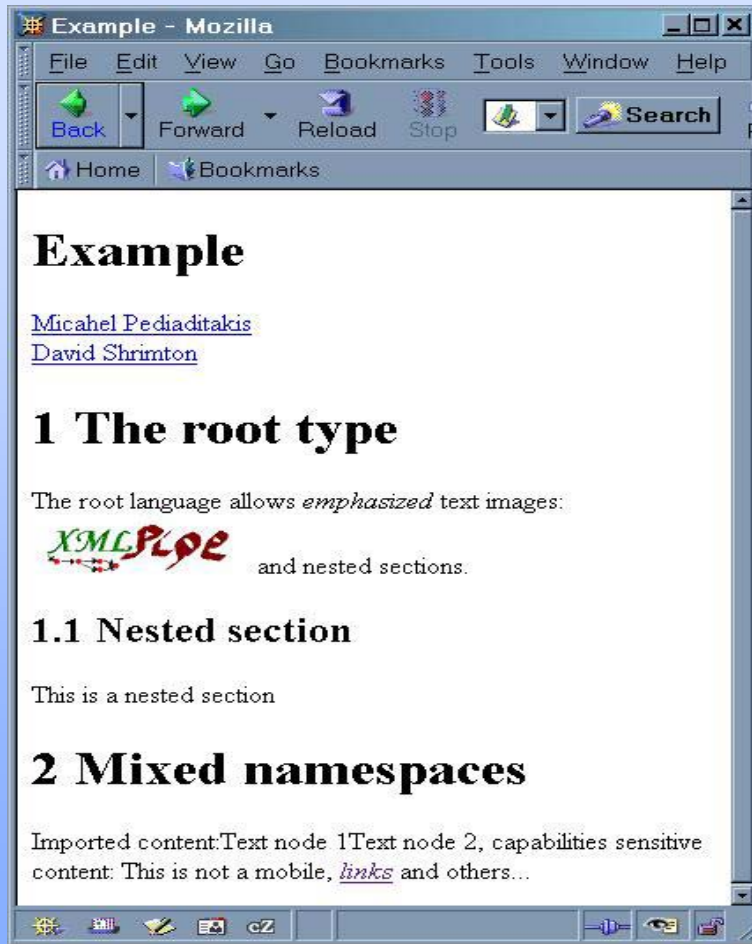
- Transformation association
 - With the language not with the document
- Variety of devices / preferences
 - Device profiles based on key-value pairs
 - Associations based on profile expressions
- Integration model
 - Set of handled constructs for each language
 - Specifies the integration points
 - Syntax integration based on the handled constructs
 - Transformation association with handled constructs
 - Recursive document sub-tree transformations



XMLPipe Example (Source)

```
<document xmlns="..." xmlns:imp="..." xmlns:alt="..." xmlns:xl="..." >
  <title>Example</title>
  <section>
    <title>The root type</title>
    <p>The root language allows <em>emphasized</em> text,
      images: <img href="xmlPipe.gif"/> and ...</p>
  </section>
  <section>
<title>Mixed namespaces</title>
<p>...capabilities sensitive content:
  <alt:alt>
    <alt:case test="http://.../XMLPipe/Terms#deviceType = mobile">
      This is a mobile,
    </alt:case>
    <alt:case>This is not a mobile,</alt:case>
  </alt:alt>
  <em xl:type="simple" xl:href="http://www.cs.kent.ac.uk">links</em>
  etc</p></section>
</document>
```

XMLPipe Example (Desktop/FO)



Example - Mozilla

File Edit View Go Bookmarks Tools Window Help

Back Forward Reload Stop Search


Home Bookmarks

Example

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[David Shrimton](#)

1 The root type

The root language allows *emphasized* text images:

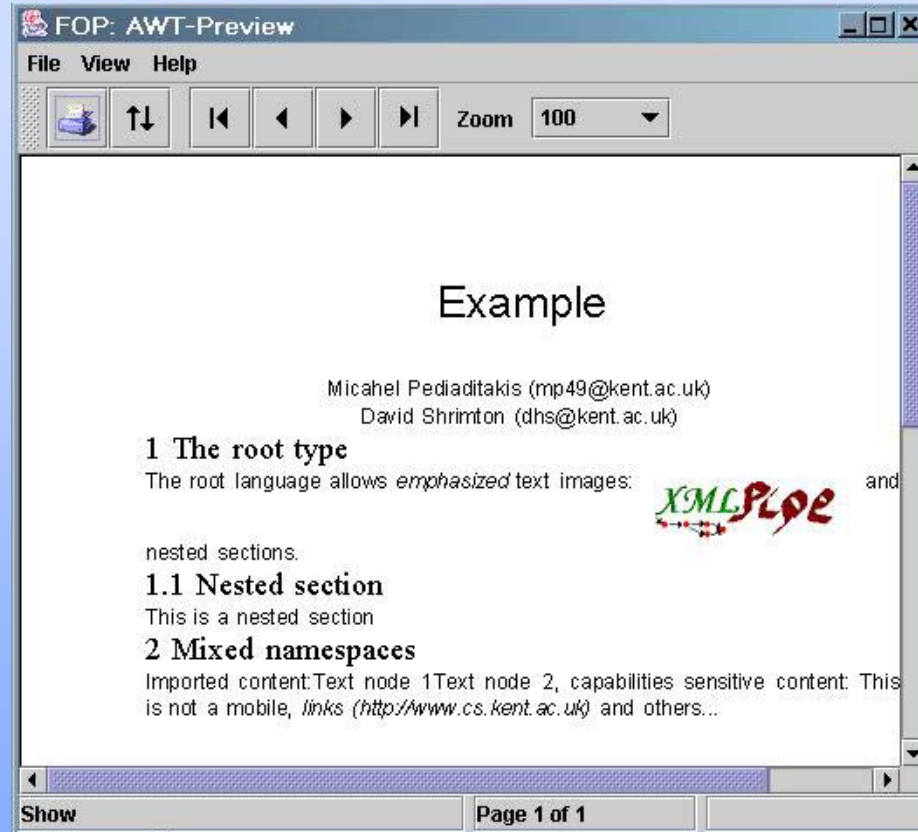
 and nested sections.

1.1 Nested section

This is a nested section

2 Mixed namespaces

Imported content:Text node 1Text node 2, capabilities sensitive content: This is not a mobile, [links](#) and others...



FOP: AWT-Preview

File View Help


Zoom 100

Example

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XMLPipe Example (Mobile)





Browser architecture

- Predefined set of languages
 - Feasible at an appropriate level of abstraction
 - Profile based integration
 - Multiple devices: modules, device specific implementation
- Constraint based orchestration



...Summary

Web apps VS documents

- They are the same

Web app functionality:

- The basic presentation abstractions and an extension mechanism

Declarative VS Imperative

- Declarative layers implemented imperatively

Profiles?

- Yes for the natively supported languages.
- No for the open set of languages

- Inter-language event propagation

- Well defined in terms of a profile definition

- Generic extension architecture

- Yes.
- Otherwise specifications will have to be continuously updated.