

bitflux CMS

**ein crossmedia-fähiges opensource
System**

ein Vortrag von Marcel Linnenfelser

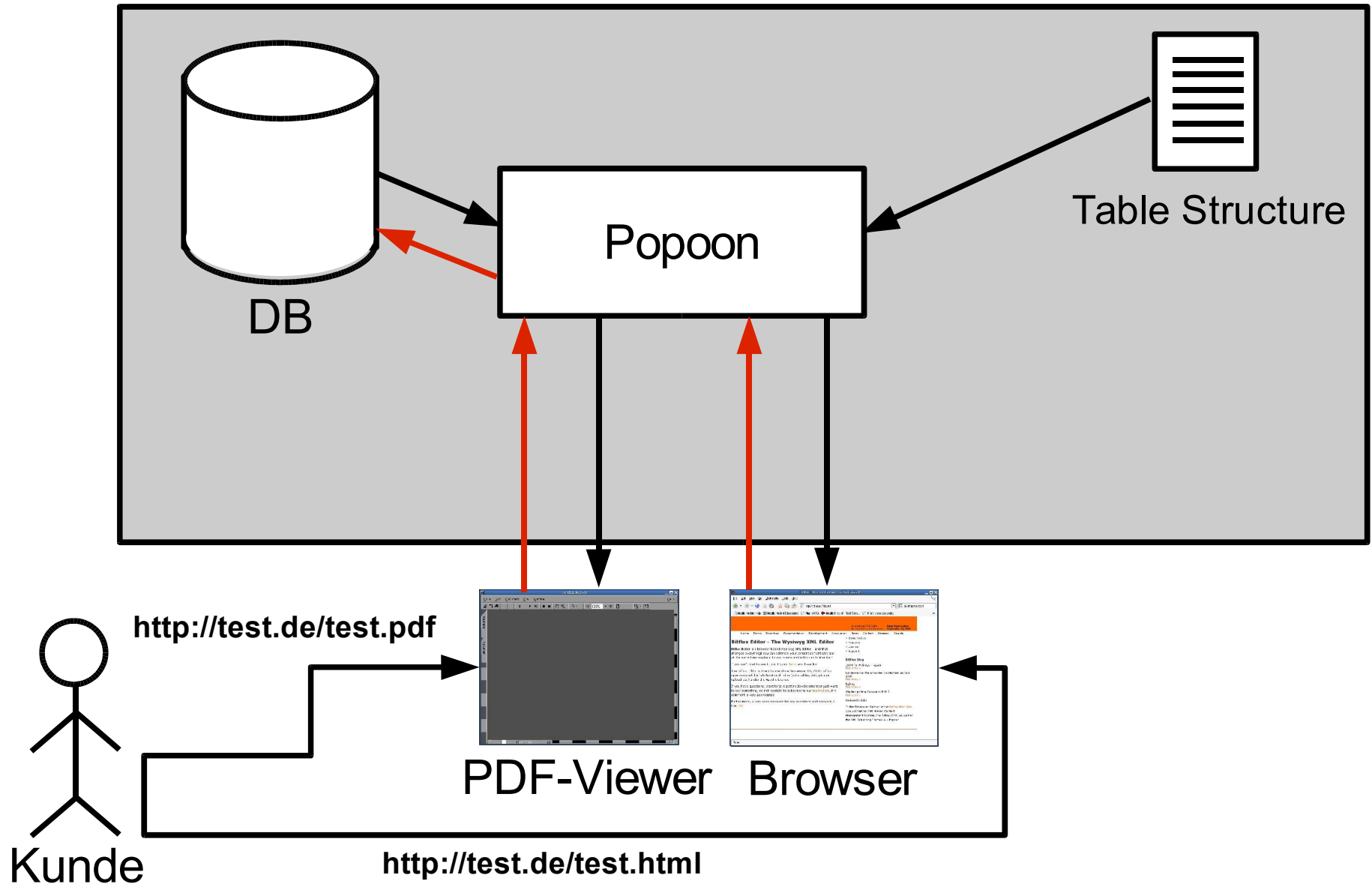
0 Gliederung

- **Einführung**
- **Verwendete Technologien**
- **Architektur**
- **GUI**
- **Zusammenfassung**
- **Bewertung**
- **Quellenangaben**

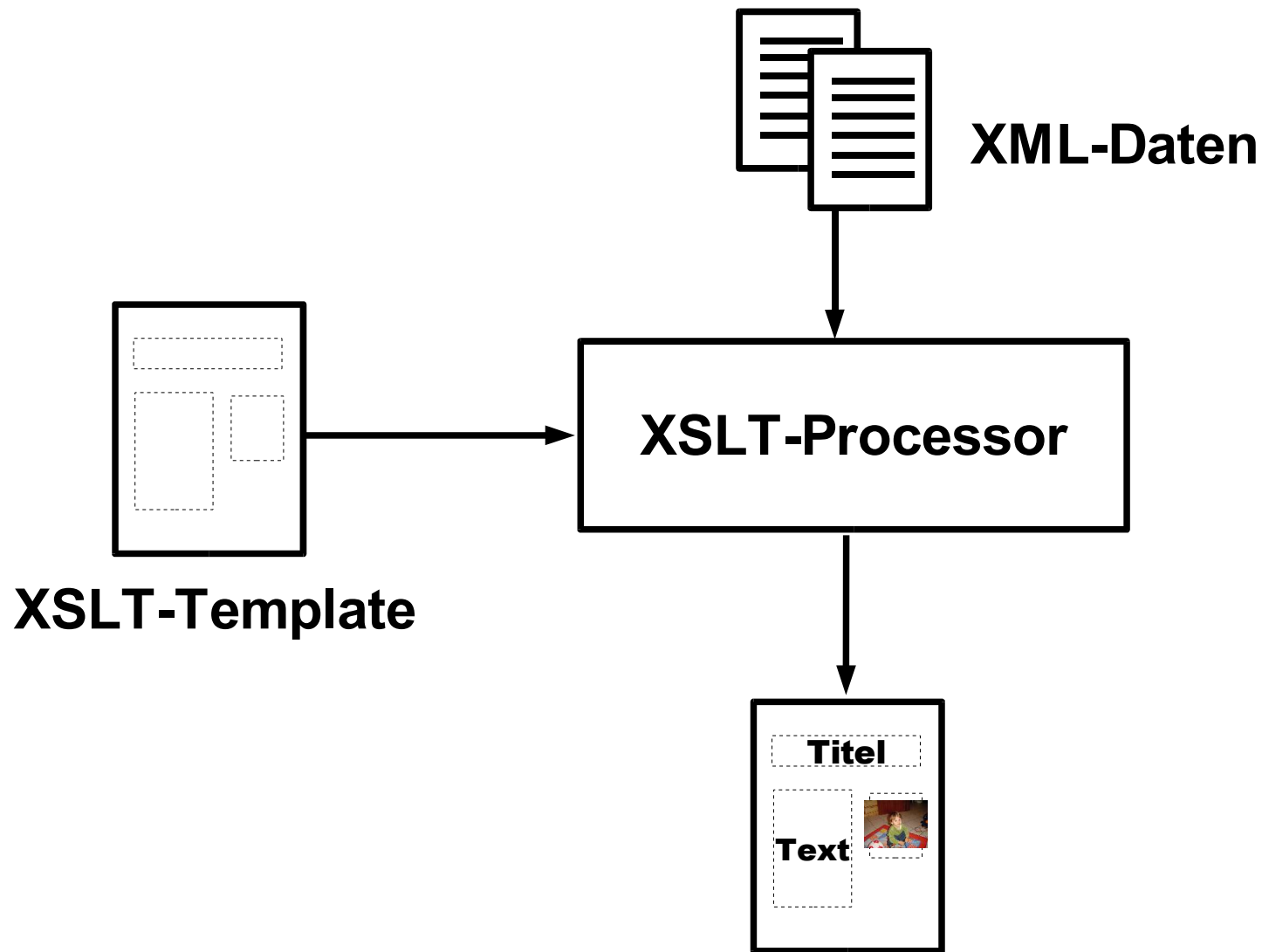
1 Einführung: WCMS

- Außer Typo3 einziges richtiges WCMS der Vortragsreihe
- Template System basiert auf W3C Standards XML und XSLT
- crossmedia-fähig

1 Einführung: Seite anfordern



1 Einführung: Templates



2 Verwendete Technologien

- **XML** (eXtensible Markup Language)
- **XSLT** (eXtensible Stylesheet Language Transformations)
- **RDBMS** (relationale Datenbankmanagementsysteme)
- **PHP** (PHP Hypertext Preprocessor)

2.1 Technologien:XML(1)

- Beschreibt Struktur von Daten
- Dokumentstruktur bestimmt durch **DTD** oder **Schema**
- Dokumente bestehen aus geschachtelten **Tags** und Text (character data)
- Name-Wert-Paare als Attribute mit zusätzlicher Information

2.1 Technologien:XML(2)

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<notes>
  <note>
    <date format="dd.mm.yyyy">01.01.1970</date>
    <headline>UNIX Zeit</headline>
    <text>Beginn der UNIX Zeit</text>
  </note>
  ...
</notes>
```


2.2 Technologien:XSLT(1)

- Valides XML-Dokument
- Eigener XML-Namespace für Tags
 - *Vorteil*: klar erkennbar, was zum Stylesheet gehört
- **Kontrollstrukturen** =>
Programmieren in XML

2.2 Technologien:XSLT(2)

- Für Beispiel verwendete Tags:
 - *xsl:stylesheet:*
Leitet Stylesheet Code ein
 - *xsl:template:*
Mit XPath Ausdruck Node auswählen
 - *xsl:for-each:*
Durch Elemente in Pfad laufen
 - *xsl:value-of:*
Wert eines Elements einfügen

2.2 Technologien:XSLT(3)

```
<?xml version="1.0" encoding="iso-8859-1"?>
<xsl:stylesheet version="1.0"
  xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<xsl:template match="/notes">
<html>
<body>
<table border="2">
  <tr>
    <td>Datum</td>
    <td>Titel</td>
    <td>Text</td>
  </tr>
  <xsl:for-each select="note">
    <tr>
      <td><xsl:value-of select="date"/></td>
      <td><xsl:value-of select="headline"/></td>
      <td><xsl:value-of select="text"/></td>
    </tr>
  </xsl:for-each>
</table>
</body>
</html>
</xsl:template>
</xsl:stylesheet>
```

2.2 Technologien:XSLT(4)

```
<xsl:template match="/notes">
<html>
<body>
<table border="2">
  <tr>
    <td>Datum</td>
    <td>Titel</td>
    <td>Text</td>
  </tr>
  [...]
</table>
</body>
</html>
</xsl:template>
```

2.2 Technologien:XSLT(5)

```
<xsl:for-each select="note">
<tr>
  <td><xsl:value-of select="date"/></td>
  <td><xsl:value-of select="headline"/></td>
  <td><xsl:value-of select="text"/></td>
</tr>
</xsl:for-each>
```

2.2 Technologien:XSLT(6)

Ausgabe:

```
<html>
<body>
<table border="2">
  <tr>
    <td>Datum</td>
    <td>Titel</td>
    <td>Text</td>
  </tr>
  <tr>
    <td>01.01.1970</td>
    <td>UNIX Zeit</td>
    <td>Begin der UNIX Zeit</td>
  </tr>
</table>
</body>
</html>
```

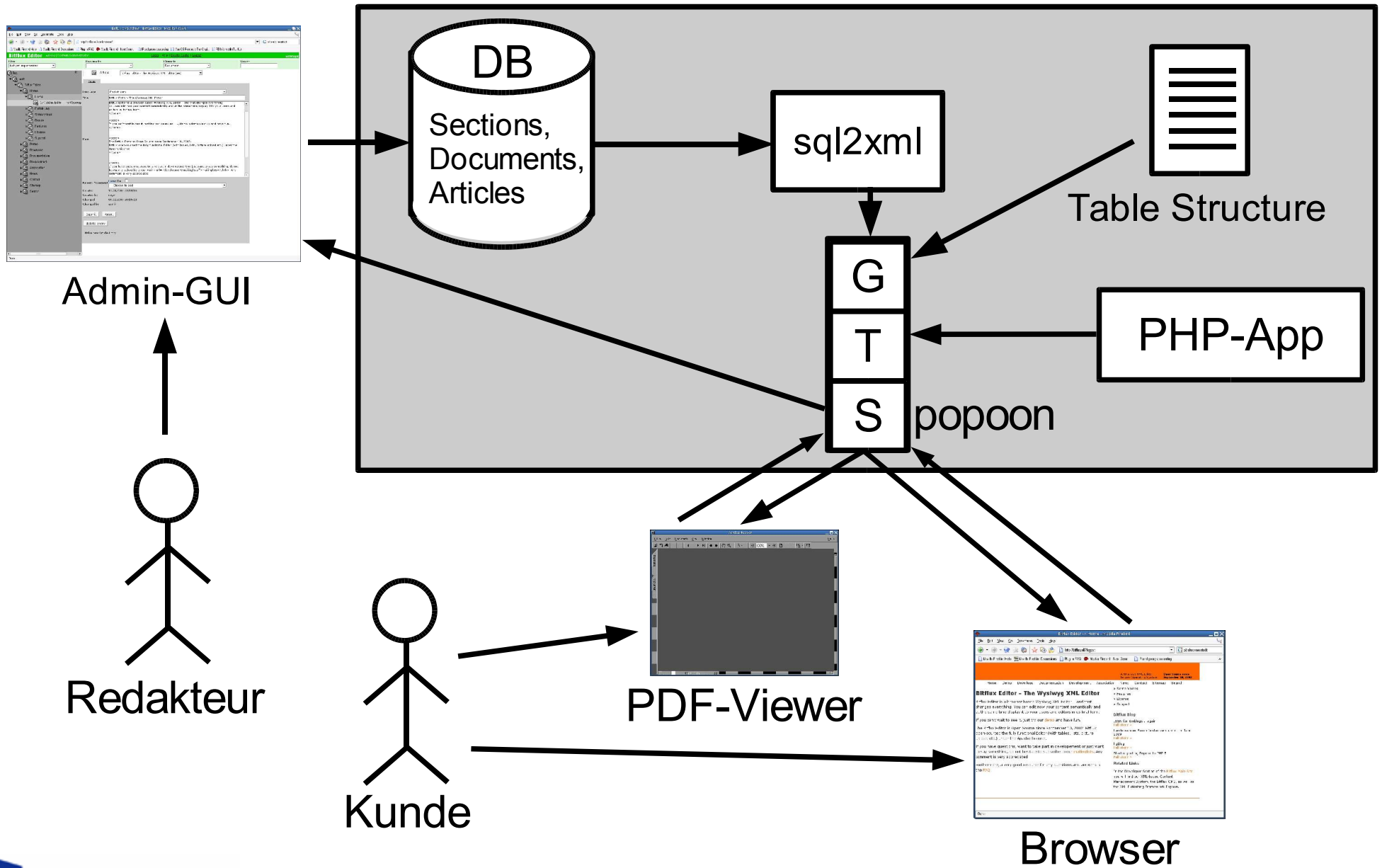
2.3 Technologien:RDBMS

- **Problematik:** Generieren von XML-Dokumenten aus Datenbankinhalten
 - Lösung in bitflux: **sql2xml**
 - Hierarchische Struktur der Datenbank (durch Relationen)
- **Vorteile:** RDBMS sehr schnell, da für Datenhaltung und -abfrage optimiert
- **Weitere Möglichkeit:** Tamino

3 Architektur

- **Aufbau**
- **Datenstruktur**
- **bitflux Generator**
- **Popoon**
- **Pipelines**
- **sitemap.xml Beispiel**

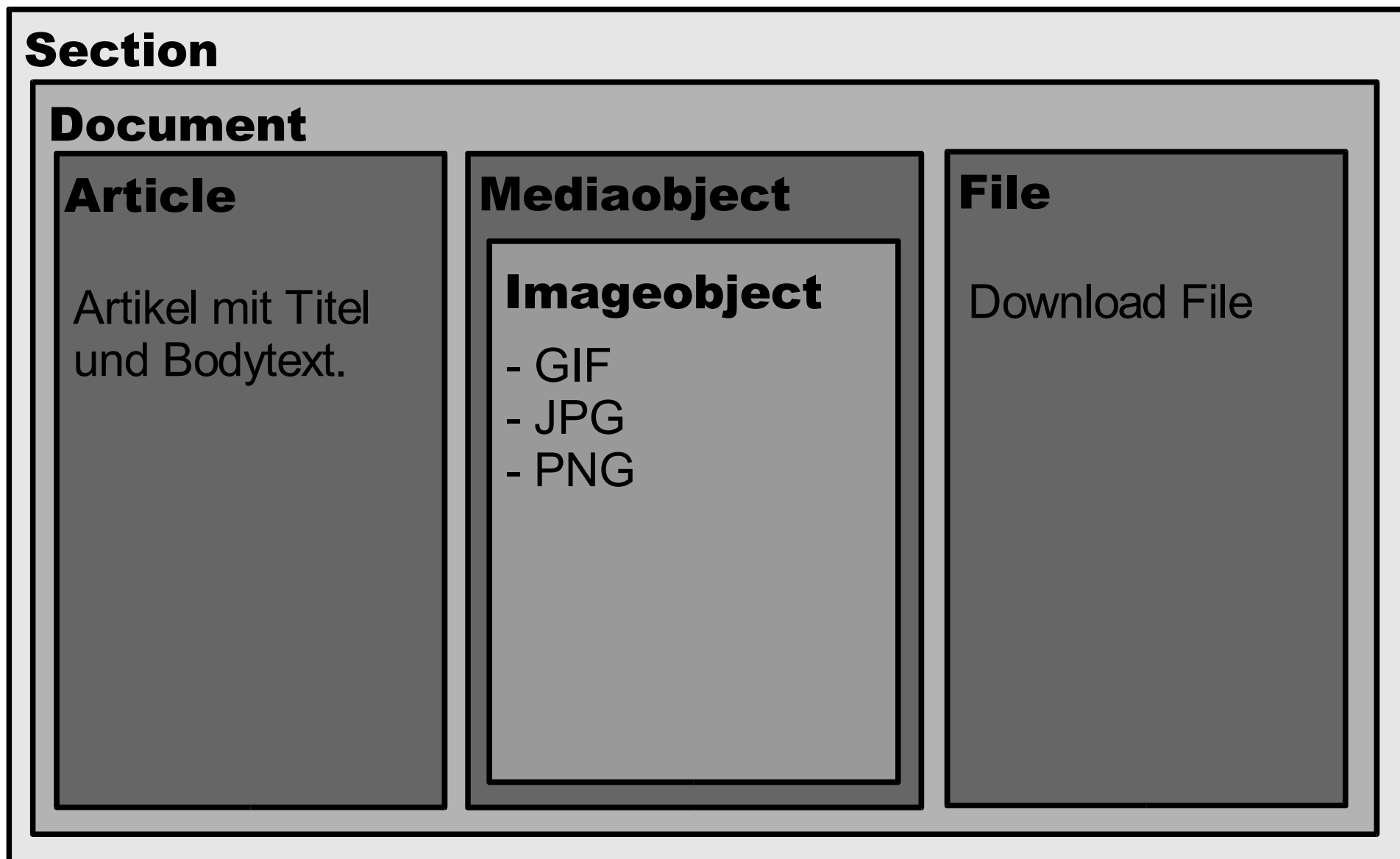
3.1 Architektur:Aufbau



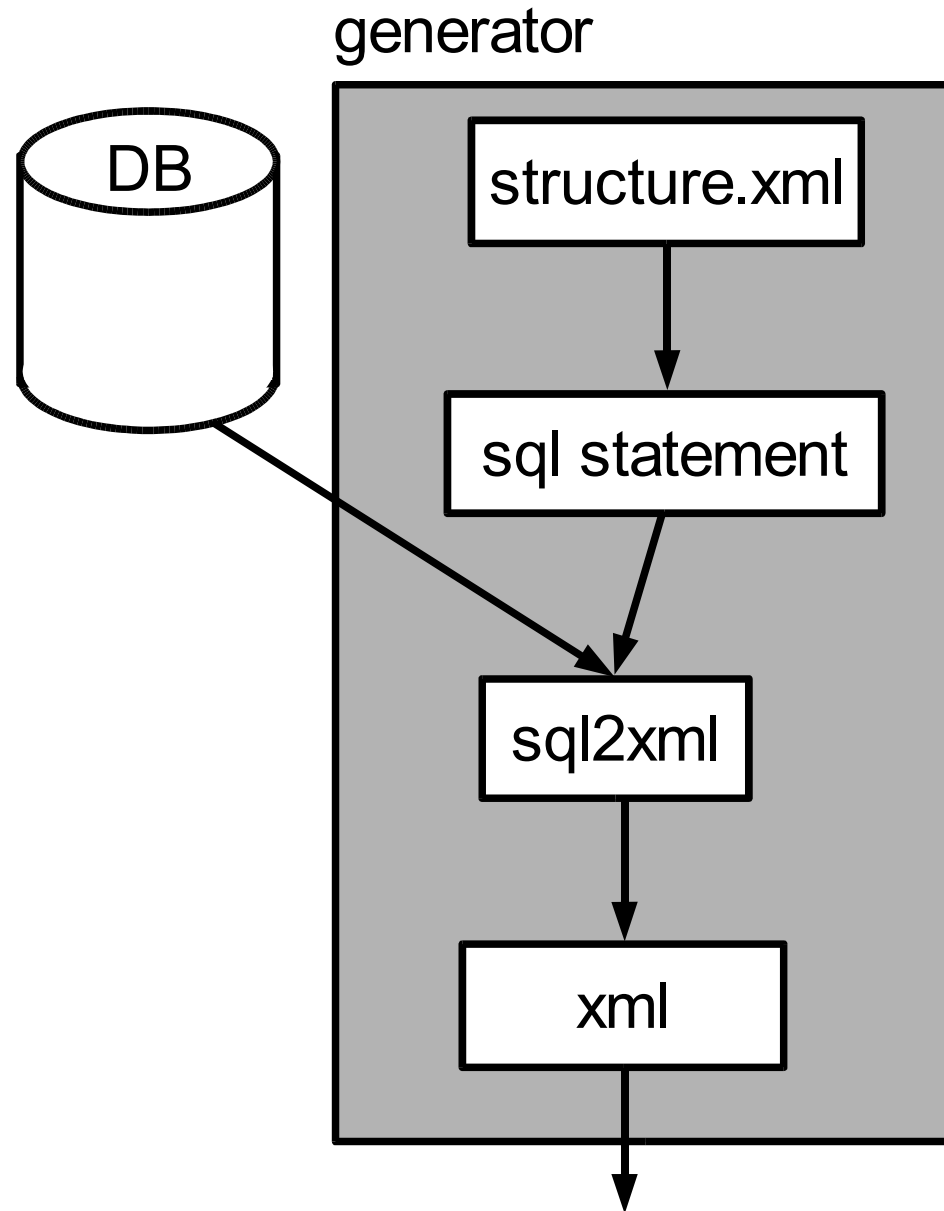
3.2 Architektur: Datenstruktur

- **Content Container “Documents”**: mit Articles, Mediaobjects und Files
- **Struktur**: Hierarchische Sections
 - bilden Pfad (URI)
 - Document mit höchstem Rang als index.html
 - Sections bilden Navigationsstruktur
- **N zu M Beziehung**: Jedes Element beliebig viele Eltern

3.2 Architektur: Datenstruktur



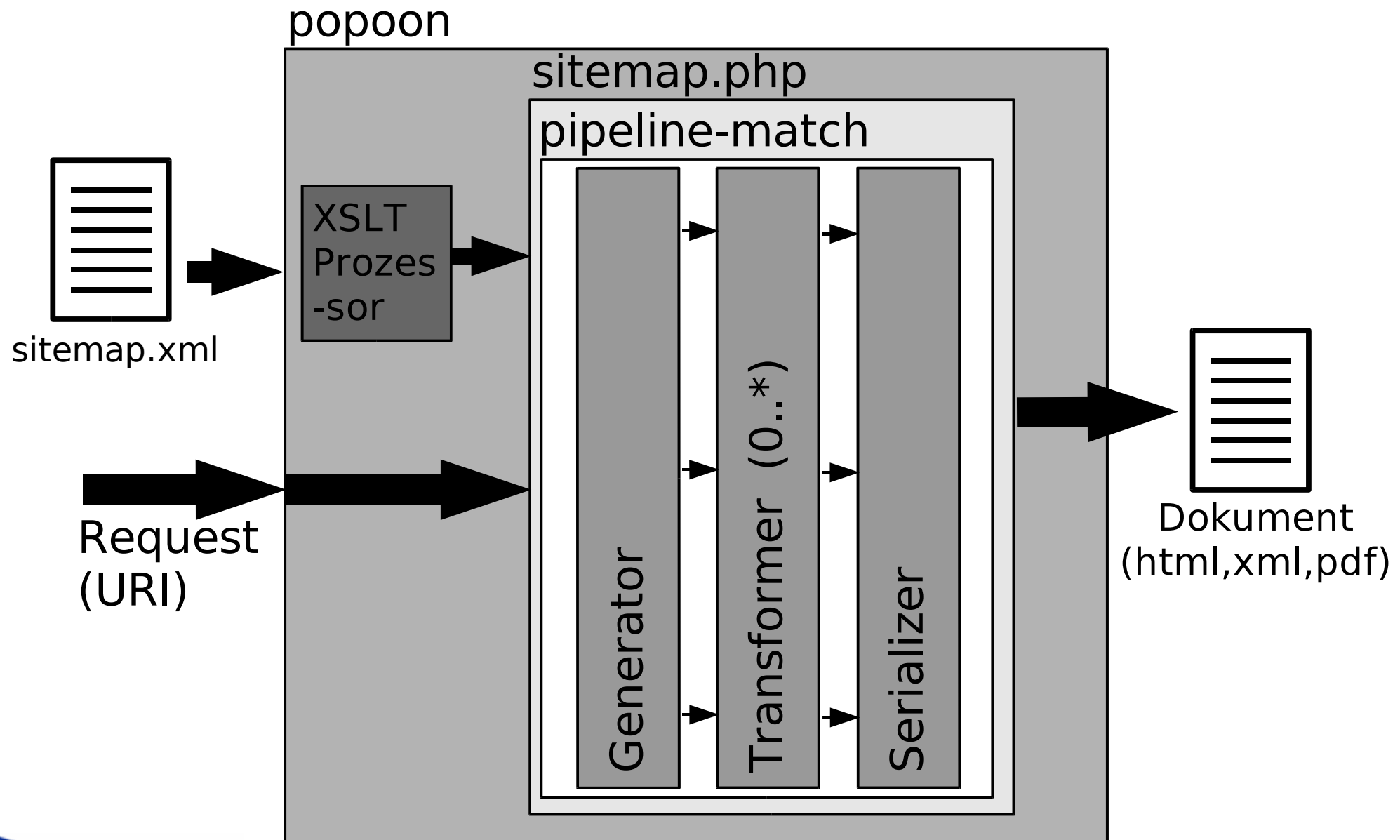
3.3 Architektur:bitflux



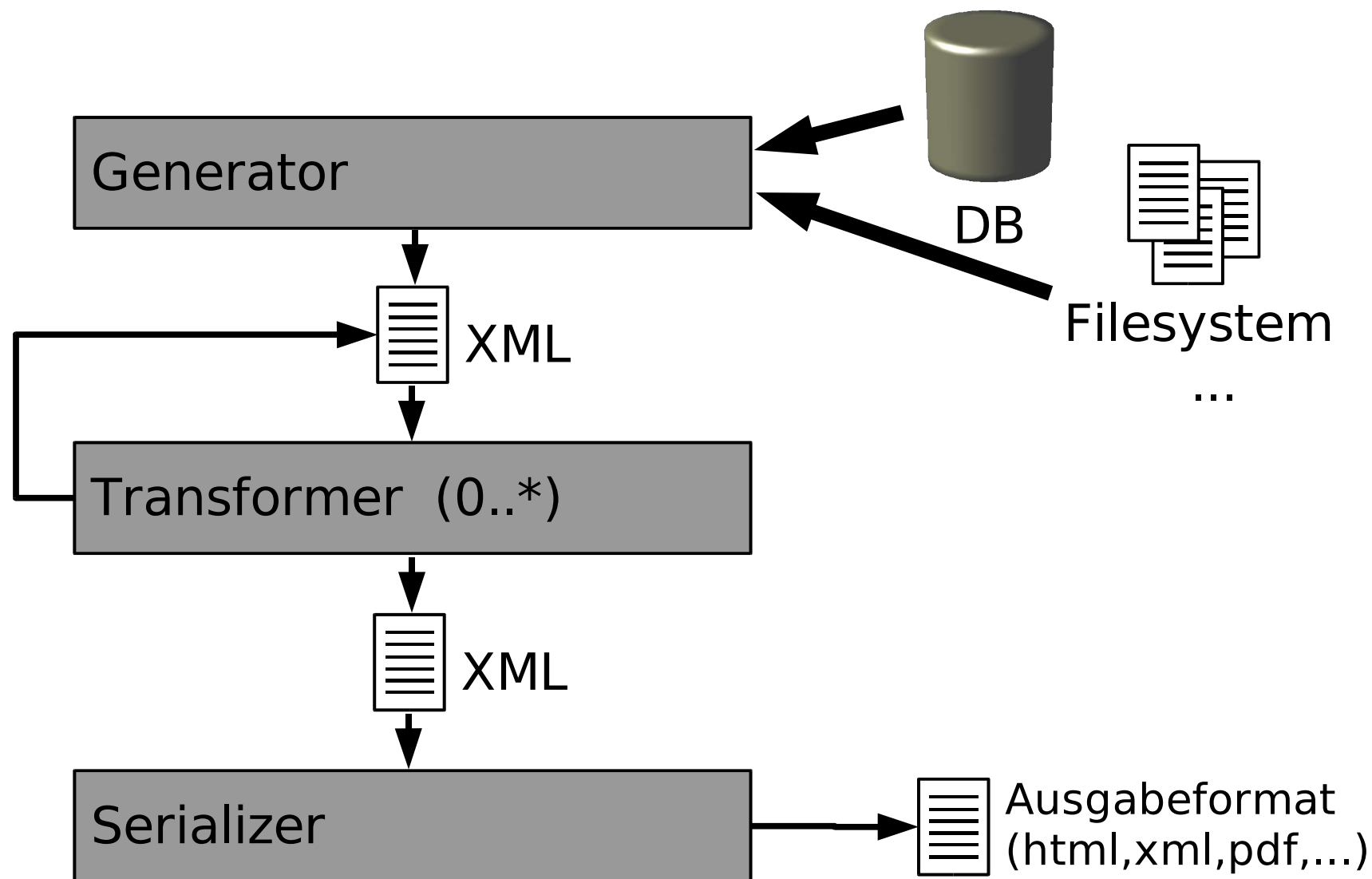
3.4 Architektur: Popoon(1)

- Portierung von Apache **Cocoon** nach PHP
- Komplexes Framework zur Entwicklung von Webapplikationen
- Konzept der Pipelines zur dynamischen Erstellung von Dokumenten
- Webapplikationen komplett in XML entwickeln.

3.4 Architektur:Popoon(2)



3.5 Architektur: Pipeline(1)



3.5 Architektur: Pipeline(2)

```
<map:pipelines>
  <map:pipeline>
    <map:match type="uri" pattern="/bitfluxgen/*">
      <map:generate type="bitflux"
        src="../../structure/simple.xml"
        dsn="config://dsn"
        redirectOnNotFound="'http://bitflux.ch/'"/>
      <map:transform type="phpprocessor"/>
      <map:transform type="xslt" src="globals://xslt"
        xslparams="globals://XslParams"/>
      <map:serialize type="html" />
    </map:match>
  </map:pipeline>
</map:pipelines>
```

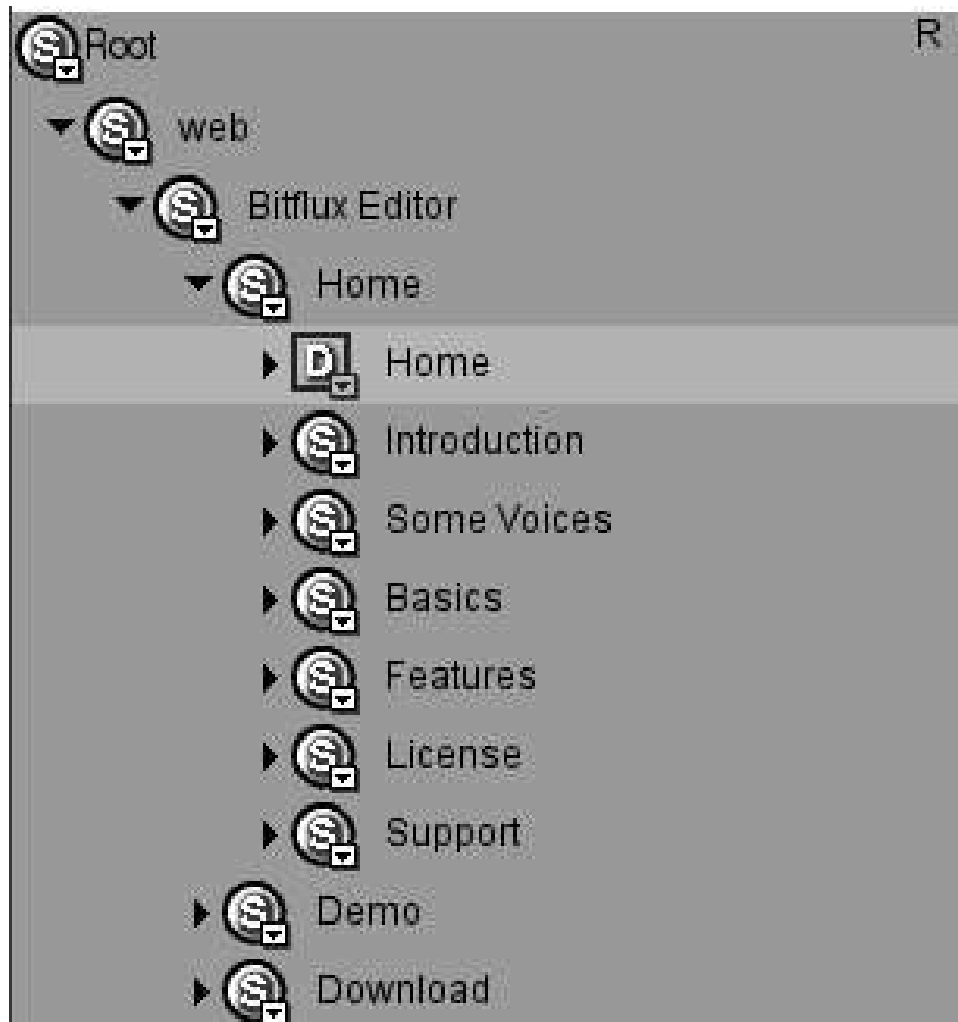

4 GUI

- **Übersicht**
- **Objektbaum**
- **Formulare**
- **WYSIWYG-Editor**

4.1 GUI:Übersicht

The screenshot shows the Bitflux CMS Admin interface in Mozilla Firefox. The browser window title is "Bitflux CMS Admin - Bitflux Editor - Mozilla Firefox". The address bar shows "http://bitflux.all/admin/power/". The interface has a green header bar with "Bitflux Editor" and "admin: [System Administrator]". Below the header, there are several input fields for "Filter", "Bookmarks", "Elements", and "Search". The main content area is divided into a left sidebar and a main editing area. The sidebar contains a tree view of the site structure, including "Root", "web", "Bitflux Editor", "Home", and various sub-pages like "Einführung", "Some Voices", "Basics", "Features", "License", "Support", "Demo", "Download", "Documentation", "Development", "Association", "News", "Contact", "Sitemap", and "Search". The main editing area shows a form for editing an article titled "Bitflux Editor - The Wysiywg XML Editor (en)". The form includes fields for "Language" (English (en)), "Title", "Main" content, and "Parent::Document". The "Main" content area contains HTML code for paragraphs and a link. The form also includes "Submit", "Reset", and "delete entry" buttons, and a link for "Make new Article-Entry".

4.2 GUI:Objektbaum



4.3 GUI:Artikelformular(1)

Form

Language

Title

Main

Parent::Document Home Del:

Created 15.08.2002 23:10:55

Created by roger

Changed 28.01.2004 09:49:23

Changed by admin

4.3 GUI:Artikelformular(2)

The screenshot displays the Bitflux CMS article form. The 'Article' dropdown menu is open, showing a list of articles. The selected article is 'Bitflux Editor - The Wysiwyg XML Editor (en)'. The form includes fields for 'Language' (English), 'Title' (Bitflux Editor - The Wysiwyg XML Editor (en)), and 'Main' content. The 'Main' content area contains XML markup for a paragraph and a link. The 'Parent::Document' dropdown is set to 'Home Del: -- Choose to add --'. The 'Created' timestamp is '15.08.2002 23:10:55'.

Article : Bitflux Editor - The Wysiwyg XML Editor (en)

Form

Language English

Title Bitflux Editor - The Wysiwyg XML Editor (en)

Main

None
2002-12-11 IRC Meeting (en)
Achievements (en)
Association (en)
Basics (en)
Basics (en)
Bitflux Editor - The Wysiwyg XML Editor (en)
Bugreports (en)
Bylaws (en)
<para> Concept: The Hybrid Approach (en)
</para> Contact (de)
Bitflux Editor - The Wysiwyg XML Editor (en)
CVS Access (en)
You can see everything!
Demo (en)
editors i Demo (de)
</para> Development (en)
</para> Documentation (en)
</para> Documentation (en)
</para> Download (en)
</para> Editor (de)

Parent::Document Home Del:

-- Choose to add --

Created 15.08.2002 23:10:55

4.4 GUI:WYSIWYG-Editor

The screenshot displays the Bitflux Editor web application. At the top, there is a menu bar with 'File', 'Edit', 'Debug', and 'Help'. Below it is a toolbar with various icons for text formatting (bold, italic, underline, text color, background color), alignment, and other editing functions. The main content area is titled 'Bitflux Editor - The Wysiwyg XML Editor' and contains several paragraphs of text. On the right side, there is a navigation menu with links to 'Introduction', 'Some Voices', 'Features', 'License', and 'Support'. Below this is a 'Bitflux Blog' section with several entries, each with a 'Full story' link. At the bottom, there is a 'Related Links' section. The status bar at the very bottom shows the current XML structure: '<iba> <page> <Article> <main> <section> <para>'. The date 'September 10, 2002' is displayed in the top right corner of the application area.


File Edit Debug Help **BITFLUX EDITOR**

para **B** *I* U ABC x₂ x² [Icons: Undo, Redo, Bold, Italic, Underline, Text Color, Background Color, Bulleted List, Numbered List, Indent, Outdent, Link, Unlink, Image, Table, Print]

for any Operating System **September 10, 2002**

Home Demo Download Documentation Development Association News Contact Sitemap Search

Bitflux Editor - The Wysiwyg XML Editor

Bitflux Editor is a browser based Wysiwyg XML Editor  and that changes everything! You can edit now your content semantically and at the same time display it to your users and editors in its final form. htrh rth it

If you can't wait to see it, just try our [demo](#) and have fun.

The Bitflux Editor is Open Source since September 10, 2002. Bitflux open-sourced the fully functional Editor (with tables, lists, picture upload etc.) under the Apache License.

If you have questions, want to take part in development or just want to say something, do not hesitate to subscribe to our [mailinglists](#). Any comment is very appreciated.

Furthermore, a very good resource for any questions and answers is the [FAQ](#).

- » Introduction
- » Some Voices
- » Features
- » License
- » Support

Bitflux Blog

Install Popoon with PEAR
[Full story »](#)

Michi Wechner in the top 20
[Full story »](#)

Solving comment spam
[Full story »](#)

ISSN for Weblogs... again
[Full story »](#)

Related Links

In the Developer Section of the [Bitflux Main Site](#) you will find our XML-based Content Management System, the Bitflux CMS, as well as

<iba> <page> <Article> <main> <section> <para>

5 Zusammenfassung

- **XML** und XML-Transformationen
- **RDBMS** in Verbindung mit XML
- Aufbau von bitflux CMS
- Datenstruktur (Sections, Documents, ...)
- **Generator** bitflux
- **Popoon** Framework
- Begriff der **Pipeline**
- GUI (Artikeleingabe)

6 Bewertung(1)

- **dynamisch:** trotzdem performant durch caching, und von Suchmaschinen erfasst (mod_rewrite)
- kein Workflow, keine Freigabekontrolle, jede Änderung sofort sichtbar
- Versionskontrolle intern vorhanden, noch nicht über GUI erreichbar
- **Plattform:** zur Zeit nur MySQL, Port auf Oracle und andere; Unices und Windows; Apache

6 Bewertung(2)

- Technik sehr interessant und leistungsfähig
- GUI noch zu rudimentär
- crossmedia-fähig (html, xhtml, xml, pdf, svg, swf, jpeg, rtf, openoffice, ...)

7 Quellenangaben

- <http://www.bitflux.org>
- <http://cocoon.apache.org>
- <http://www.w3.org/Style/XSL/>
- <http://www.php.net>
- <http://pear.php.net>