

Data-Centric Systems and Applications

Florian Daniel
Maristella Matera

Mashups

Concepts, Models
and Architectures

 Springer

Chapter 8 **Tool-Aided Mashup Development**

Figures

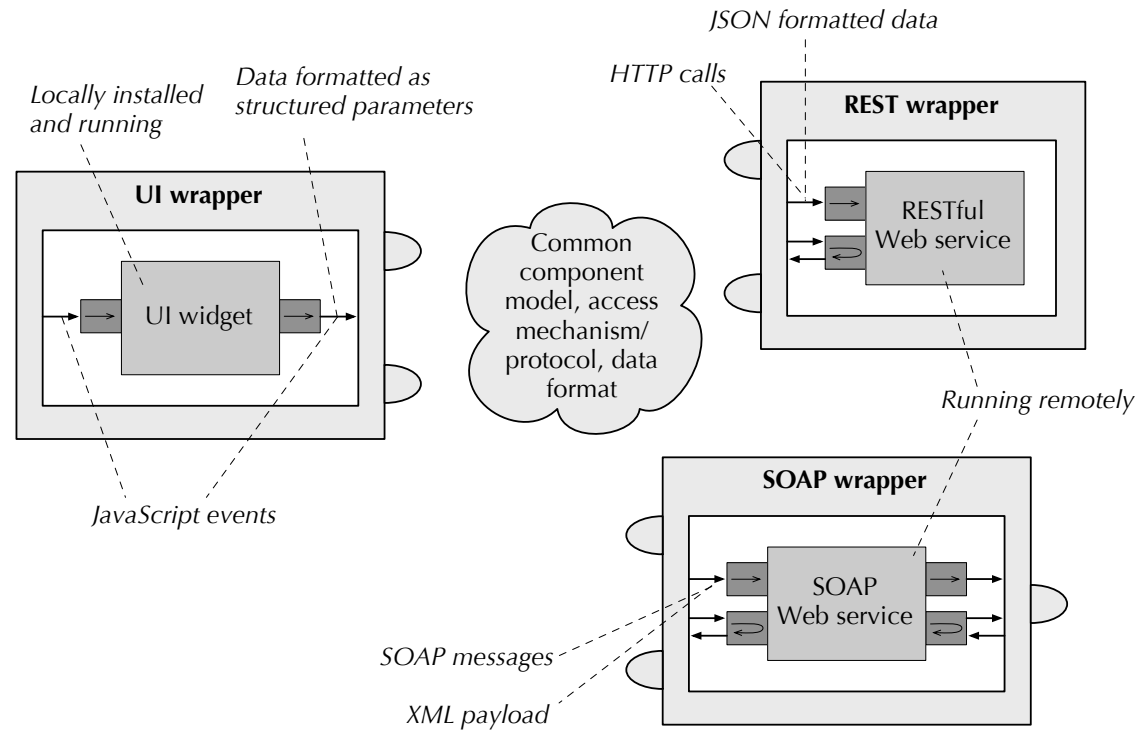


Fig. 8.1 Wrapping components into a unified view on native component models.

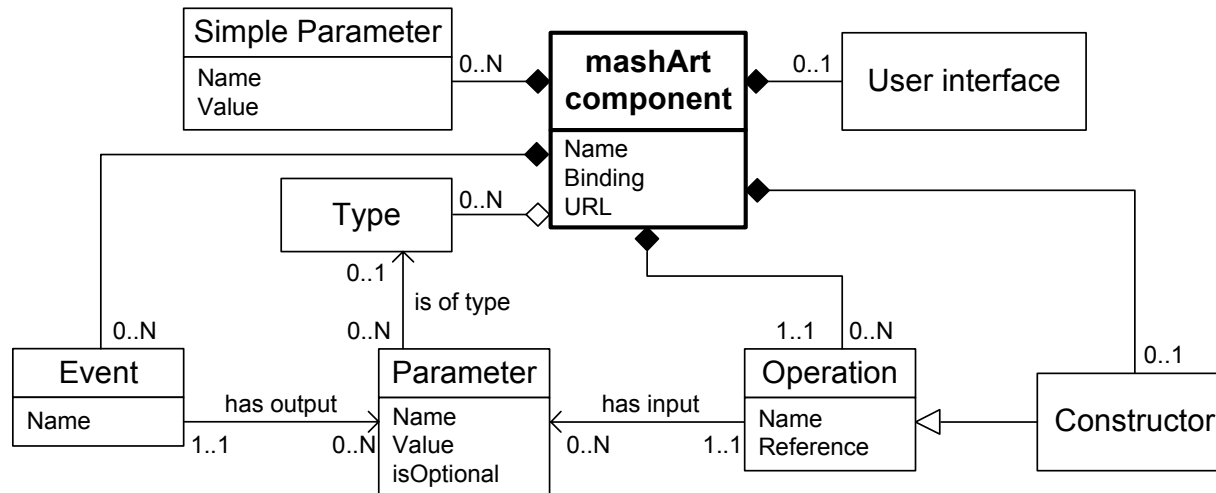


Fig. 8.2 Unified component model of mashArt components for SOAP/RESTful web services, UI components and RSS/Atom feeds [90].

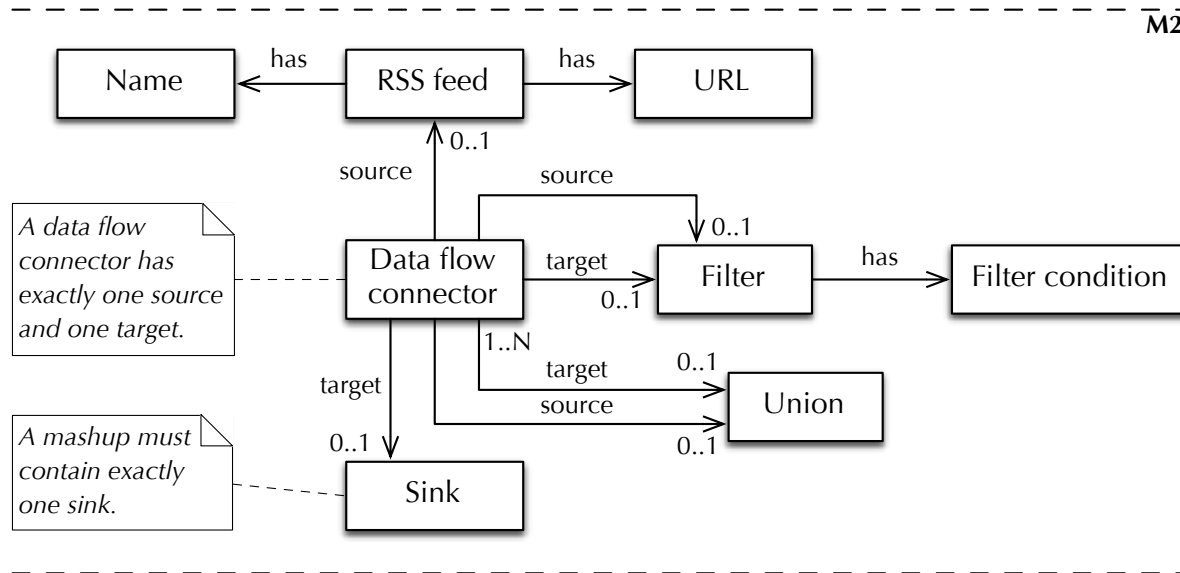


Fig. 8.3 Metamodel (M2) of a very simple data flow mashup language: it supports fetching different *RSS feeds* from the Web, computing their *union* and/or *filtering* them, and *publishing* the result again as an *RSS feed* on the Web (the *sink*). A *data flow connector* must always have exactly one *source* and one *target*.

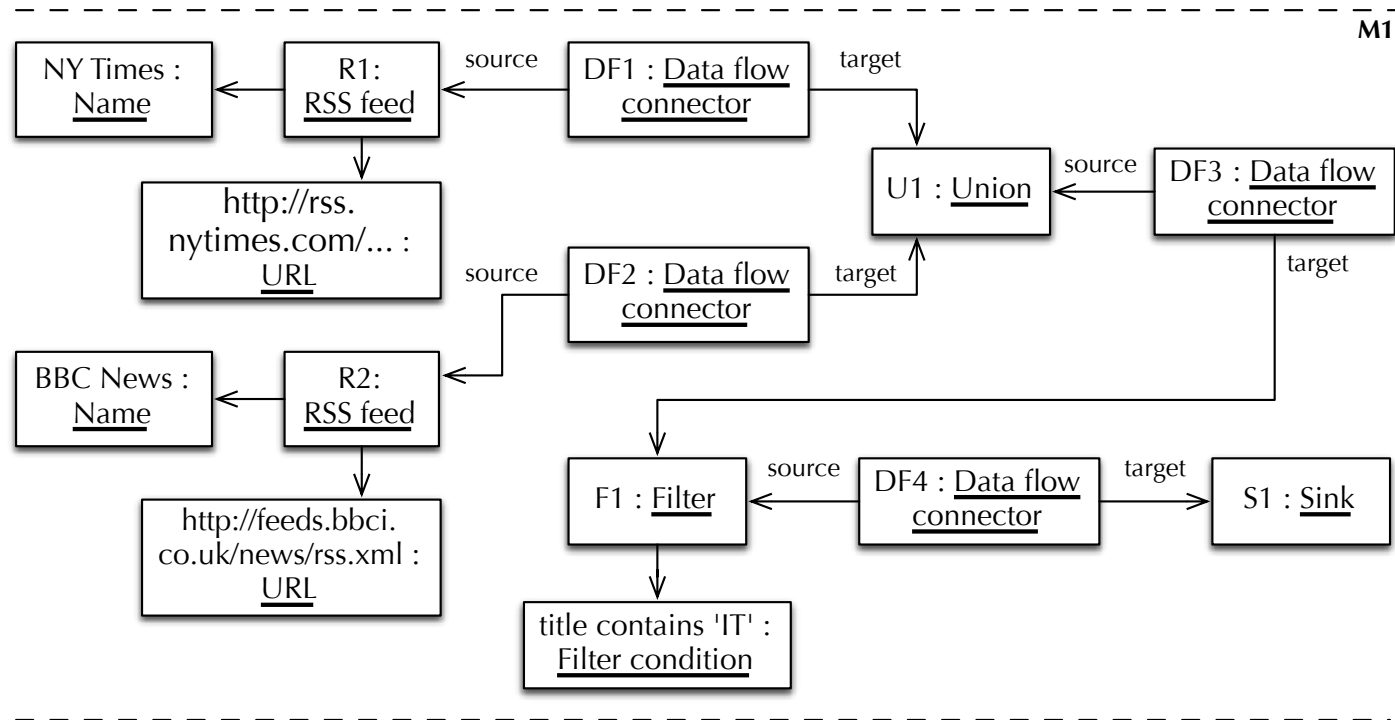


Fig. 8.4 A simple data flow model (M1) complying with the metamodel of Figure 8.3 expressed in an abstract syntax, i.e., a UML object diagram.

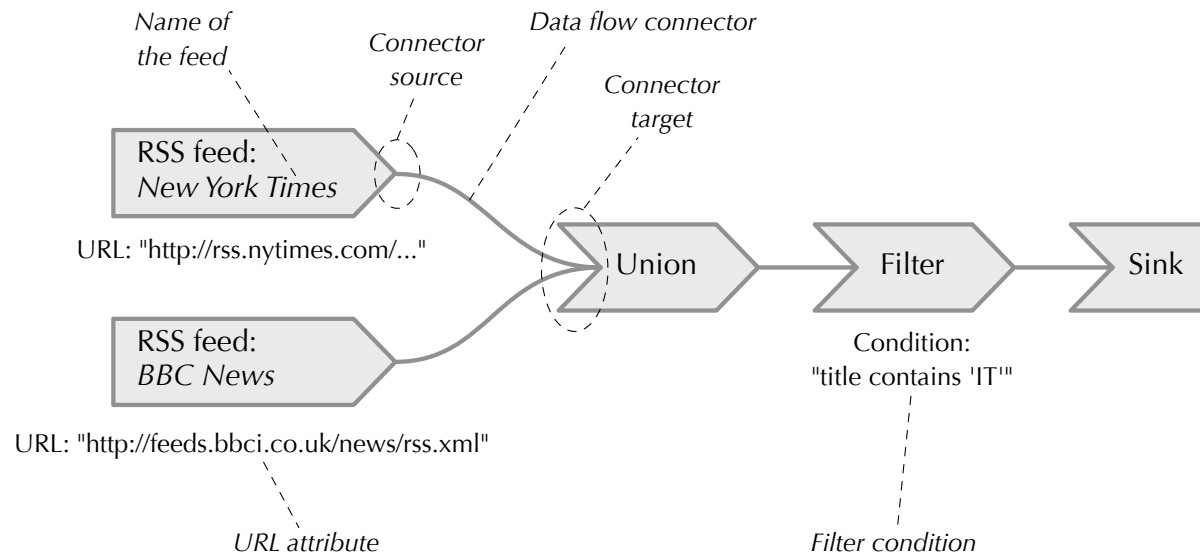


Fig. 8.5 The simple data flow model (M1) of Figure 8.4 expressed in a concrete syntax that highlights the semantics of the constructs and eases readability.

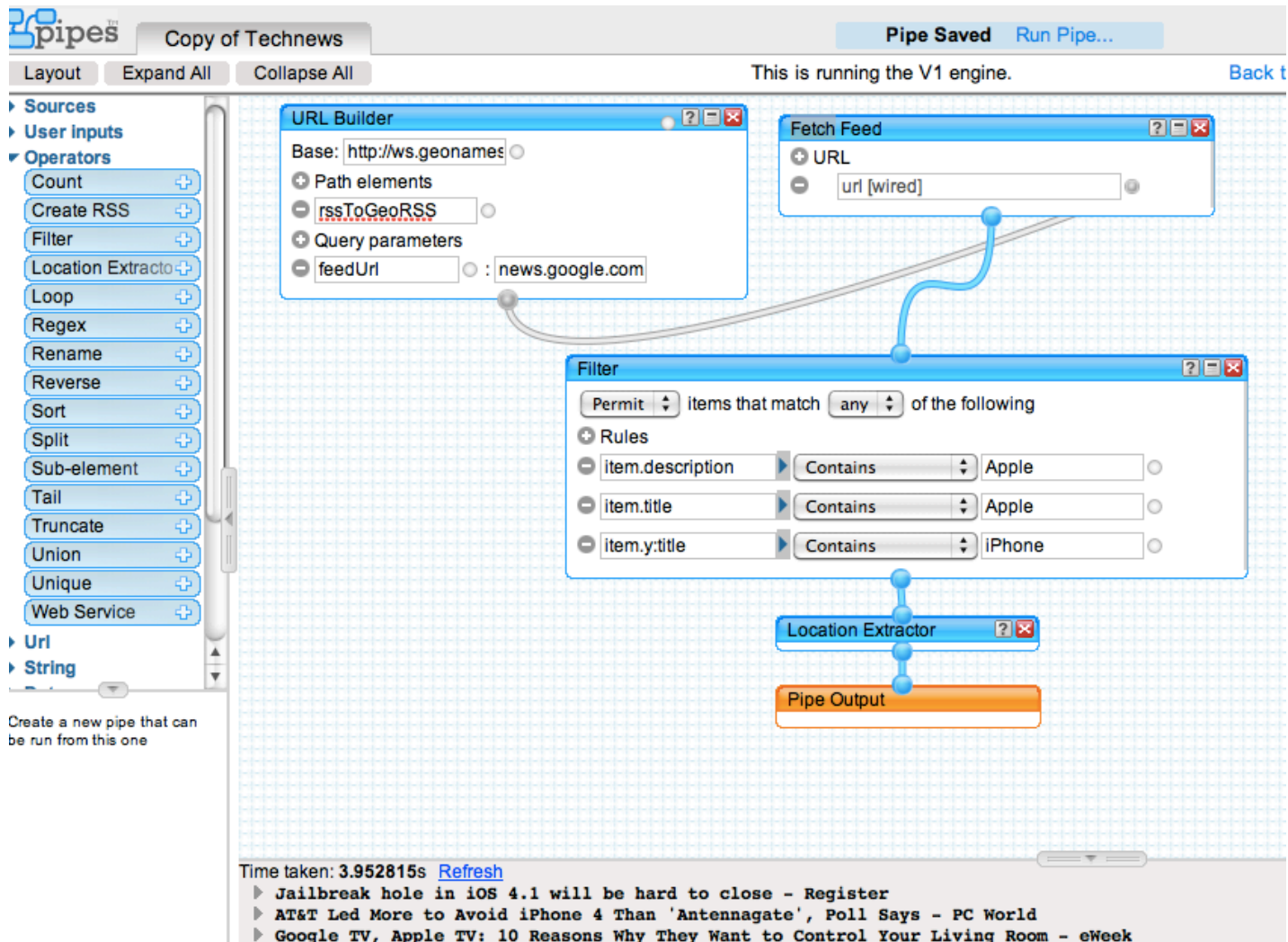


Fig. 8.6 A simple pipe that enriches an RSS feed with geographical location information and plots it on a map (the *Location Extractor* component).

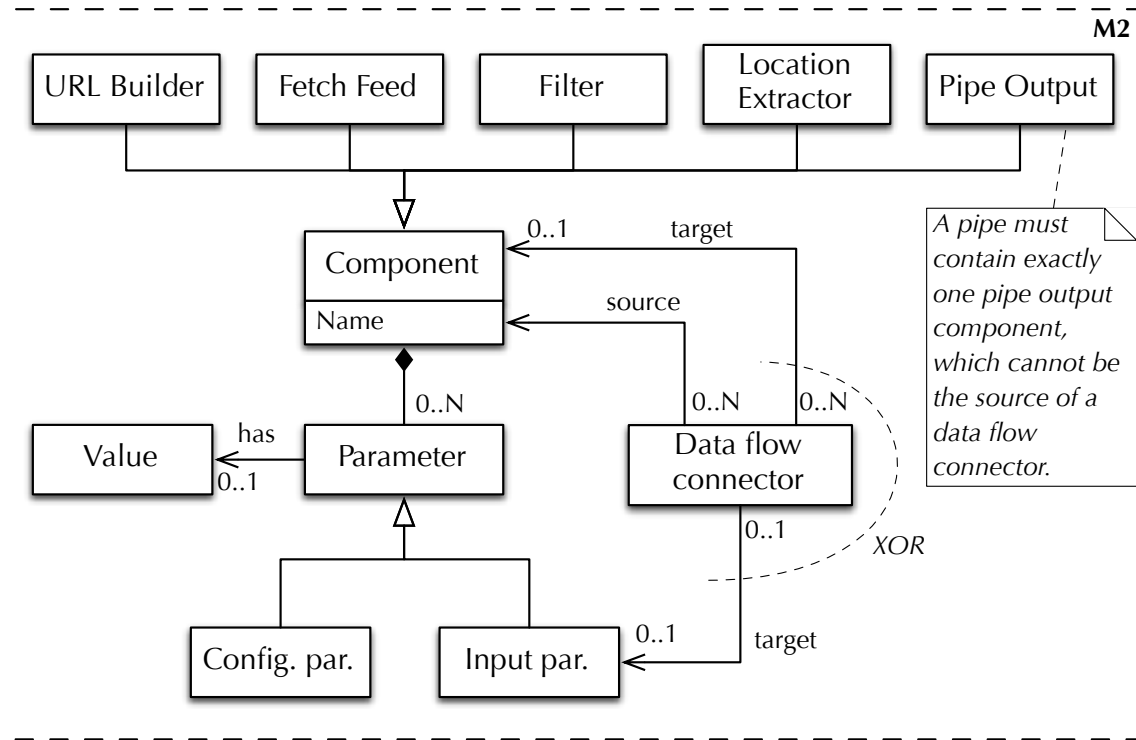


Fig. 8.7 A simplified metamodel of Yahoo! Pipes for the pipe in Figure 8.6.

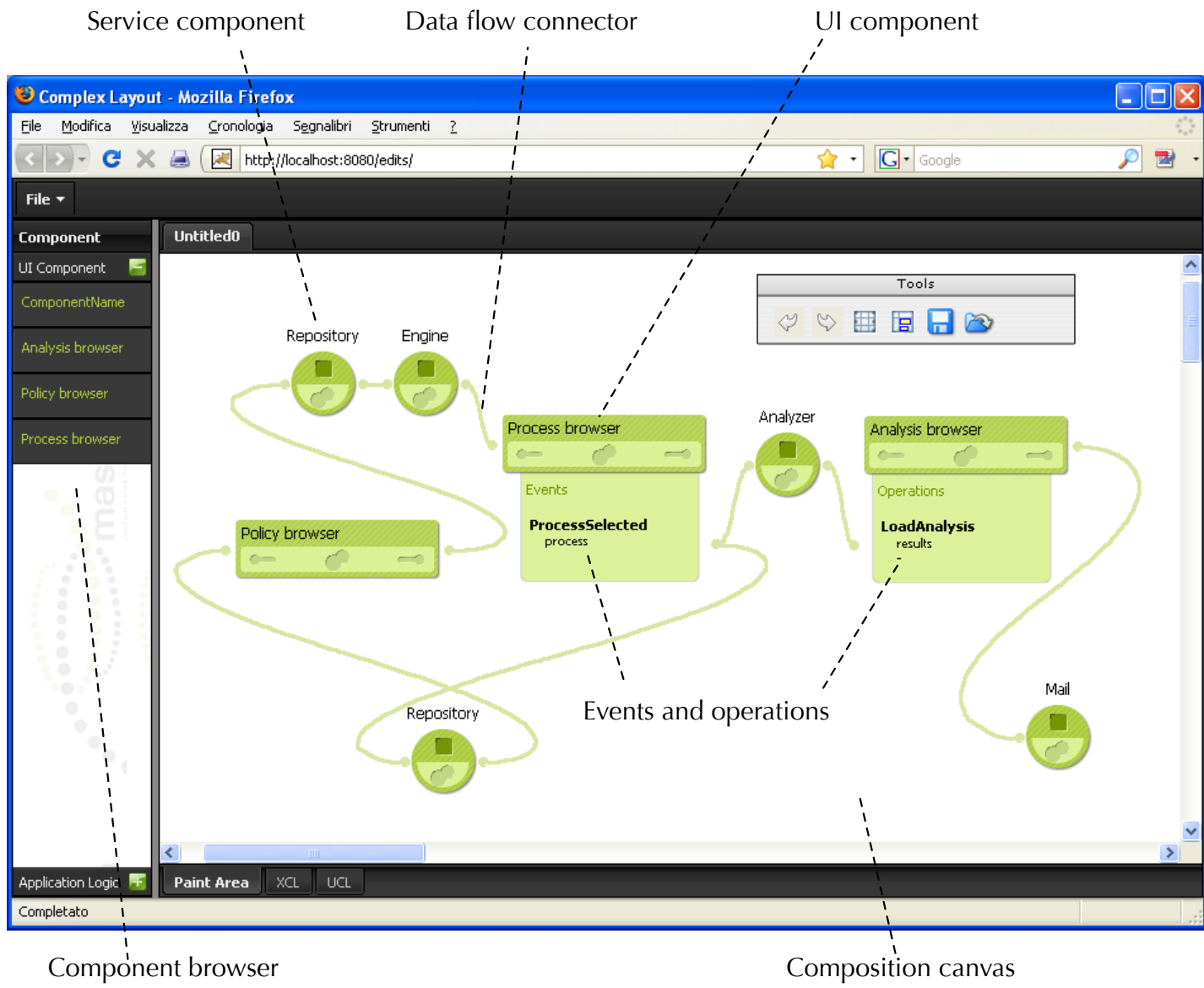


Fig. 8.8 A mashup modeled in mashArt [90]. The model represents a simple application for the monitoring of compliance.

The screenshot displays the Presto Wires interface for a data mashup named 'CRM Mashup1'. The workflow is visualized as a series of interconnected nodes on a grid. The process starts with an input 'account_name' leading to 'Search by Account Name', which then branches into three parallel paths: 'Extract Account Name', 'Extract Acct Id', and 'Extract Ticker'. 'Extract Account Name' leads to 'Get Contacts', 'Extract Acct Id' leads to 'Find Cases for Acct Id', and 'Extract Ticker' leads to 'TickerNews.getData'. The outputs of 'Get Contacts' and 'Find Cases for Acct Id' are combined in a 'Merge' node, which then feeds into the final 'Mashup Output' node. A 'Sort' node is also present, receiving input from 'Find Cases for Acct Id' and 'Merge'. On the right, the 'Properties for Get Contacts' panel shows a 'label' field set to 'Get Contacts' and an 'account_name' field set to '\$assign_3_out'. At the bottom, a 'Data Preview' table shows the resulting data in a grid format.

| Account_name | Contact_fullname | Title | Email | Phone | Mobilephone | Street | City | State | Zipcode |
|--------------|--------------------|-----------------|-----------------------|----------------|----------------|--|---------------|-------|---------|
| GenePoint | Arthur Conan Doyle | SVP, Production | | (650) 867-3450 | | 345 Shoreline Park Mountain View, CA 94043 USA | Mountain View | CA | |
| GenePoint | Edna Frank | VP, Technology | efrank@genepoint.com | (650) 867-3450 | (650) 867-7686 | 345 Shoreline Park Mountain View, CA 94043 USA | Mountain View | CA | |
| GenePoint | Lauren Doyle | SVP, Technology | | (650) 867-3450 | | 345 Shoreline Park Mountain View, CA 94043 USA | Mountain View | CA | |
| GenePoint | Avi Richards | CFO | avi.richards@genepoin | (650) 867-3450 | | 345 Shoreline Park Mountain View, CA 94043 USA | Mountain View | CA | |

Fig. 8.10 A screenshot of Presto Wires for data mashups serialized in EMMML.

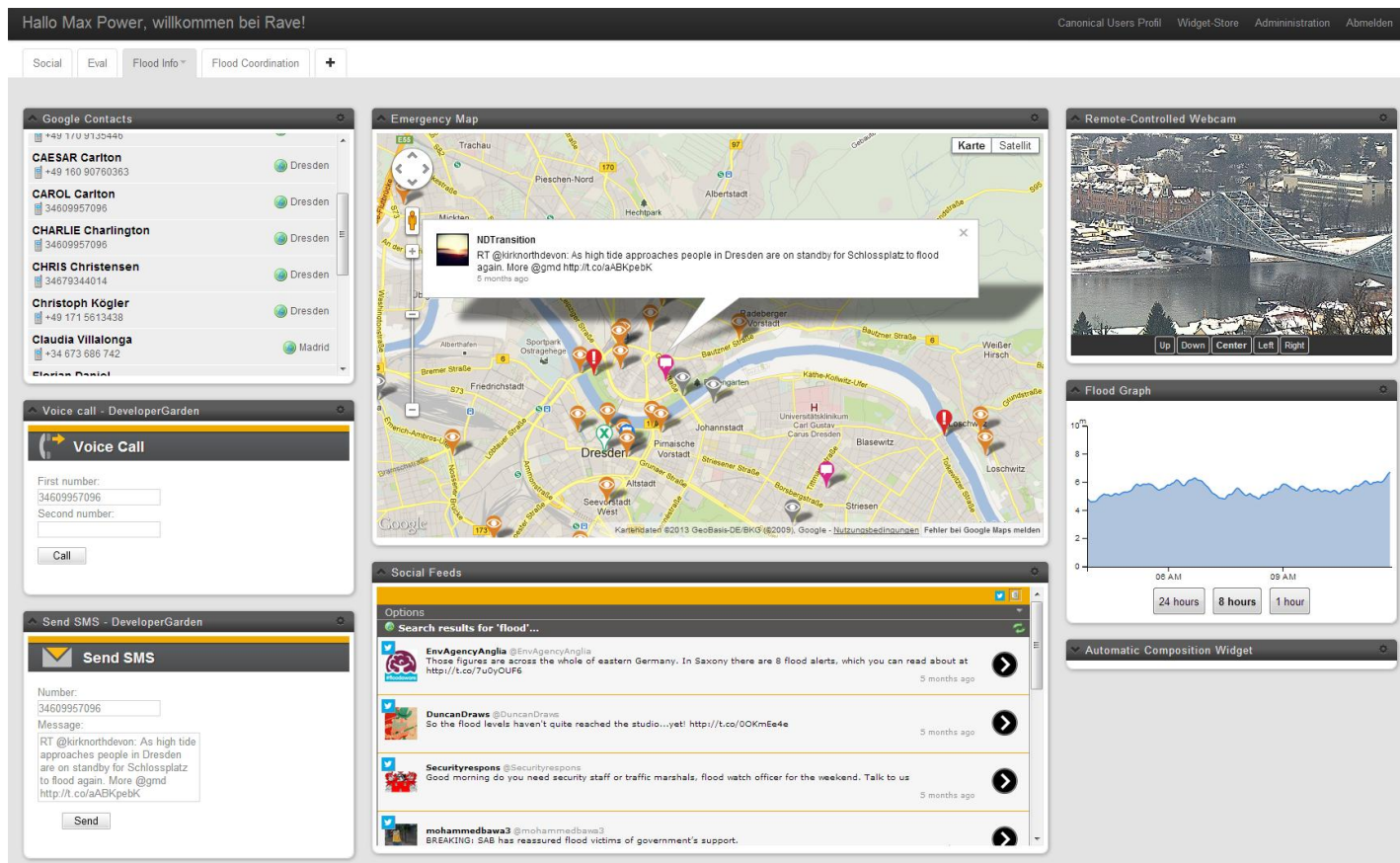


Fig. 8.11 A screenshot of the Apache Rave mashup environment extended by the EU FP7 project OMELETTE to import/export OMDL-compliant workspaces [262].

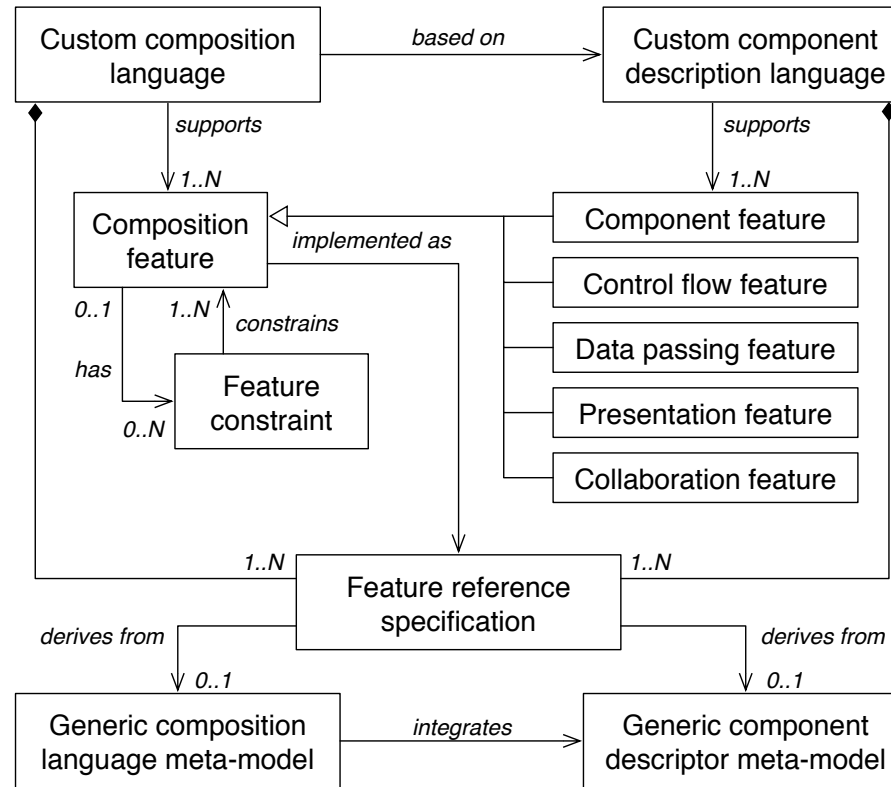


Fig. 8.12 Conceptual approach to developing custom mashup languages [254].

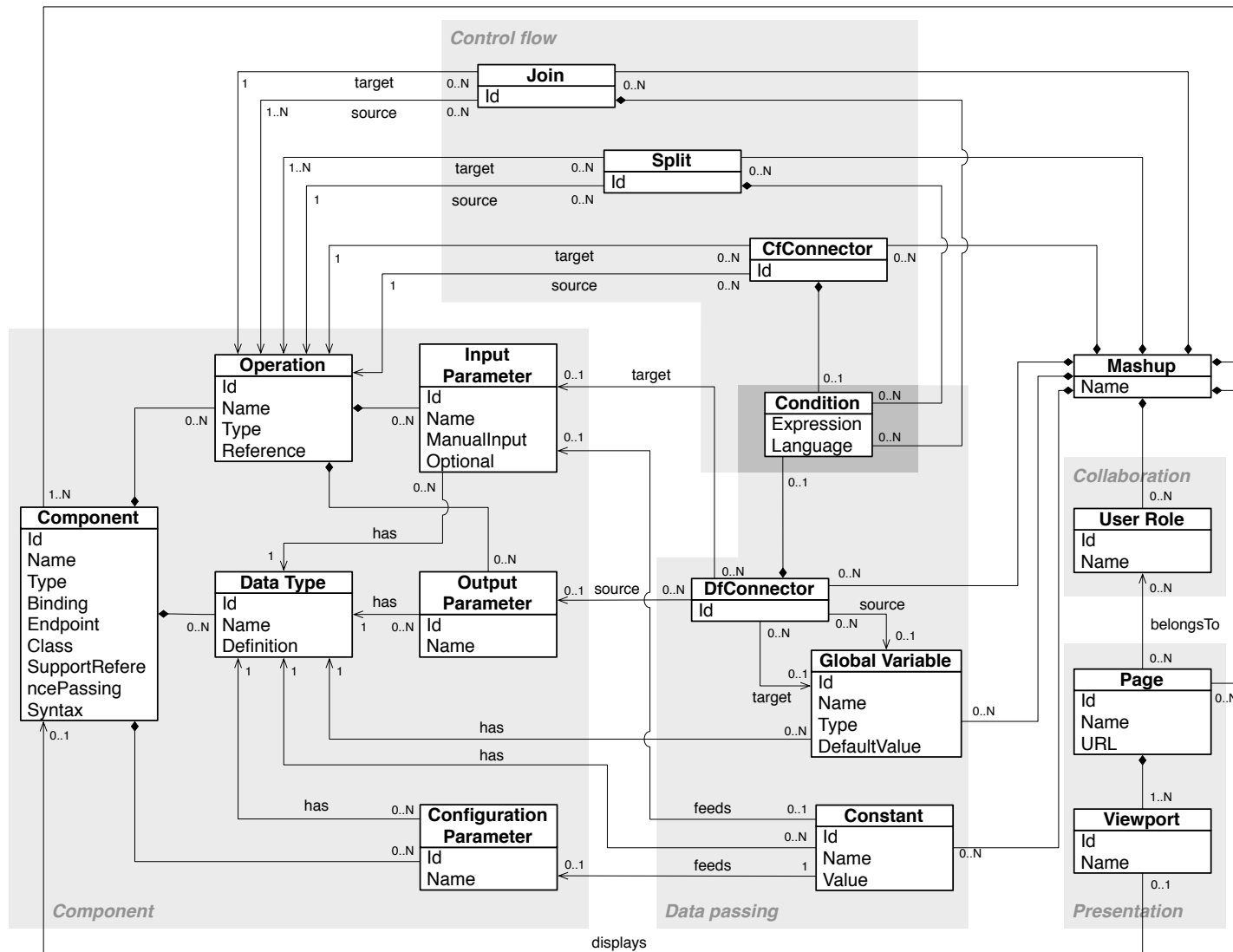


Fig. 8.13 The generic mashup language model bringing together the most common mashup features [253].

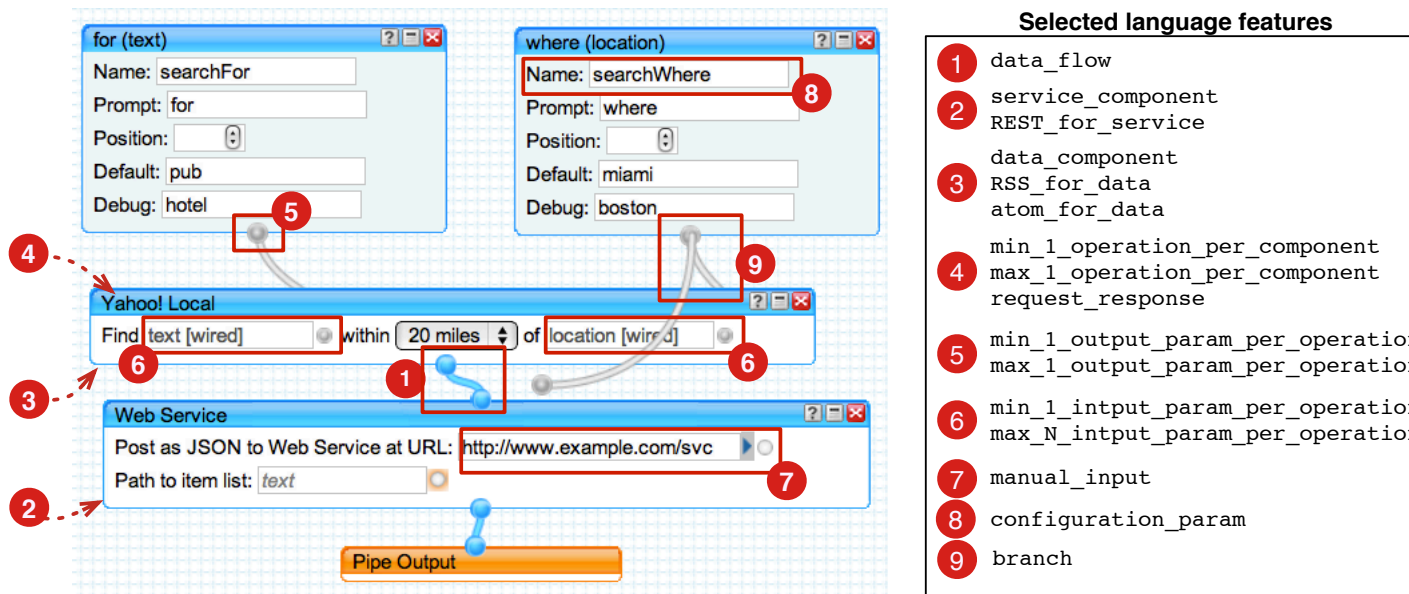


Fig. 8.14 Yahoo! Pipes example composition and set of respective language features

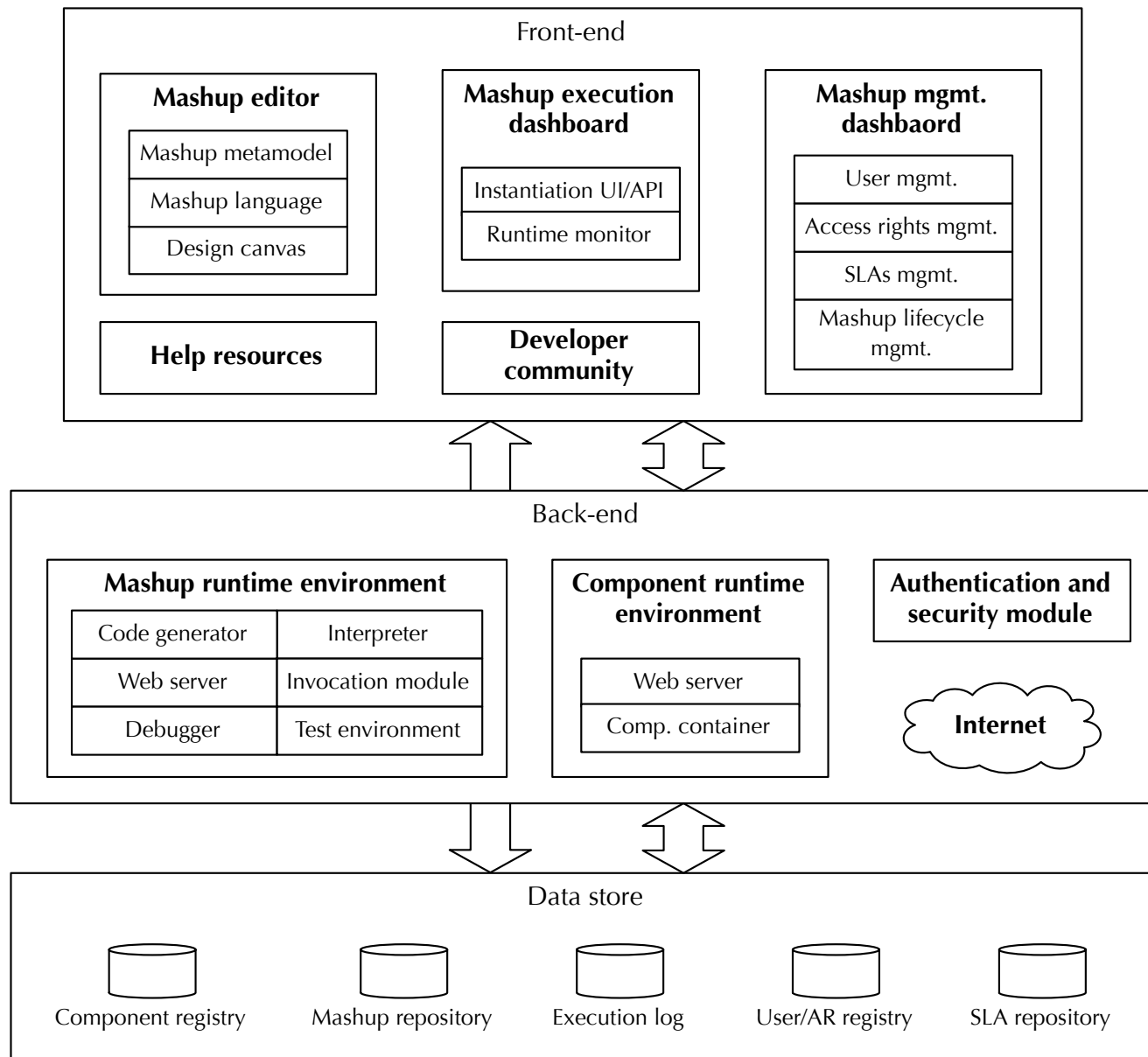


Fig. 8.15 Conceptual reference architecture of a mashup platform articulated into front-end, back-end and persistent data store.

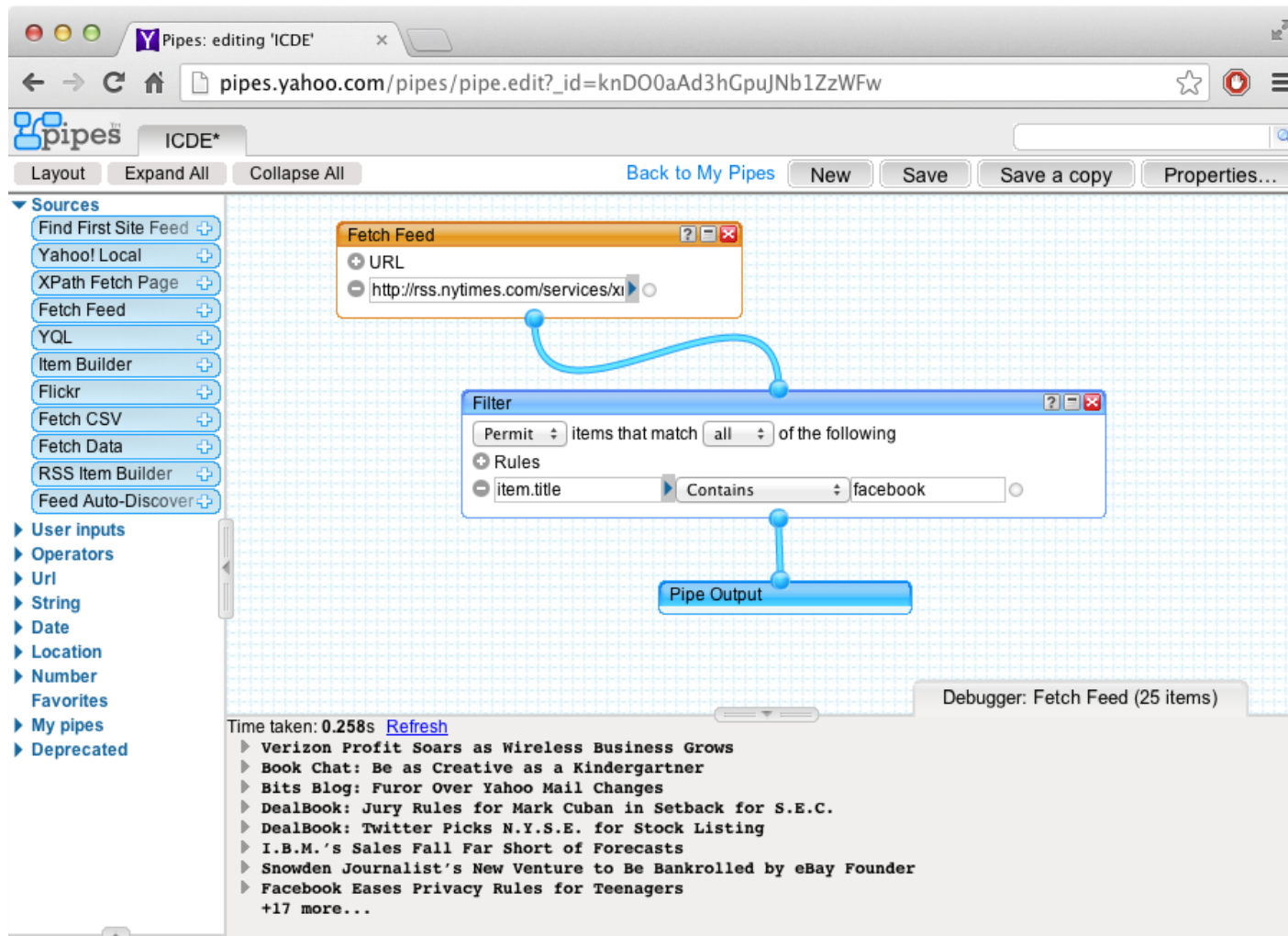


Fig. 8.16 Screen shot of Yahoo! Pipes with the debugging tab open (bottom). The content of the tab is the output of the Fetch Feed component selected in the canvas.

The screenshot shows a web browser window with the URL `mdc.jackbe.com/enterprise-mashup/forum`. The page header includes the logo for 'mashup developer community' and the tagline 'real-time intelligence with mashups and apps'. A navigation menu contains links for Home, Product, Forums (highlighted), Downloads, Resources, and Sign Up.

The main content area is titled 'Forums' and features a table with the following data:

| Forum | Topics | Posts | Last post |
|--|--------|-------|--|
| Announcements Announcements of product releases and patches. Any other news related to product download will be posted on this forum | 12 | 12 | Presto 3.6.1 is here! by ccarpenter 09/30/2013 - 15:26 |
| General Discussions General questions about community or product can be discussed here | 74 | 250 | Presto for jboss installer - page not found by smitchell 09/26/2013 - 13:16 |
| Presto Training Dates and announcements regarding Presto Training | 4 | 4 | "Presto for Developers" training course by vcaluori 01/15/2013 - 09:11 |
| Installation and Licensing Installation or license related topics can be discussed here | 49 | 196 | Deploying Presto3.6.0 to Tomcat7 by smitchell 10/09/2013 - 13:25 |
| Building Enterprise App Stores Have a question about how to build your App Store? Discuss here. | 3 | 11 | Failed to load app - failed to initialize ... by jorge.rivero 04/05/2011 - 15:16 |
| Using Presto Hub Discuss anything about Presto Hub like registering mashables, admin console, etc. | 18 | 77 | Error registering feed from Apache HTTP ... by yvh 10/08/2013 - 04:27 |
| Making Mashups Discuss EMMML and making mashups with Wires, Mashup Editor or Mashup Studio | 116 | 479 | nsd.schemas.map.global is undefined by TTO 1 day 20 hours ago |

On the right side of the page, there is a search bar and a user login section. The login section includes fields for 'USERNAME OR E-MAIL' and 'PASSWORD', a 'Log in' button, and links for 'Create new account' and 'Request new password'.

Fig. 8.17 Screen shot of the JackBe Presto developer community website.

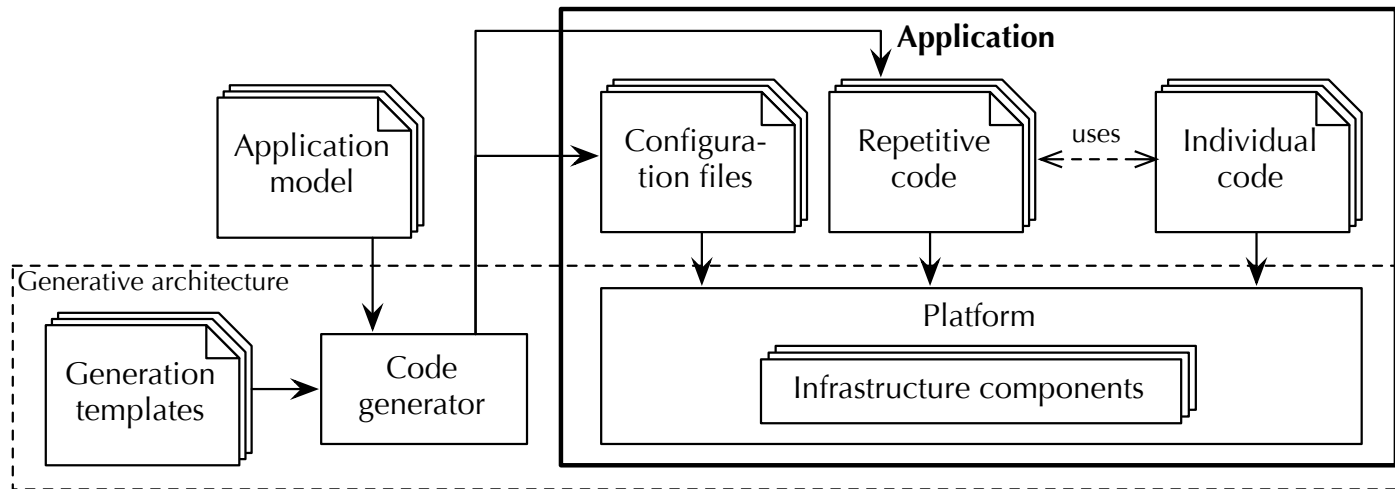


Fig. 8.18 Code generation in architecture-centric MDSD. The generative architecture corresponds to the runtime environment in Figure 8.15.