

XML-based Reporting Application

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Abstract

Several software projects recently developed at Mango Solutions require the production of fully styled reports in several output formats, mainly HTML, PDF and RTF.

Many existing systems were considered by Mango Consultants but were discounted due to restrictive licences, inflexibility of input data format, overcomplex or simplistic feature sets. The *Mango Report Generator* is a software component written in Java that has been developed to respond to the demands of producing flexible reports from multiple data sources.

The system is based on XML descriptions of the content of the report — currently covering graphics, tables and styled text report items — and the XML description of the actual layout of the report. The report layout is associated with the report items, and styled using Cascading Style Sheets (CSS)[2] to produce fully styled reports suitable for browsing using XHTML, printing or further editing in mainstream word processors using XSL-FO [1] and Apache FOP.

The input and output streams of the Report Generator are XML-based which makes it straightforward to create report items and layouts via any third party application. A proof-of-concept R package has been created as part of the project to demonstrate the ease of integration of content from other systems.

This presentation will highlight the challenges that occurred during the development of the component and a demonstration of the typical workflow of the system by creating reports by amalgamating content from R as well as a commercial implementation of the S language.

References

- [1] Dave Pawson. *XSL-FO*, 2002.
- [2] Dave Shea and Molly E. Holzschlag. *the Zen of CSS design*, 2005.