

Planning

**Useful feedback in the
Ampersand parser**

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T61327 - Afstudeerproject bachelor informatica*

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1 Introduction (R-M)

1.1 Identification

This document contains the planning for the execution of the graduation project “Useful feedback in the Ampersand parser”. This planning gives the high-level requirements, the risks and a timefor the project. As such, the planning provides the steps for reaching the project objectives, and provides criteria that are used to validate and accept the results of the graduation.

This document is part of the graduation project of the computer science bachelor at the Open Universiteit Nederland. The project “Useful feedback in the Ampersand parser” is assigned to the students Daniel Schiavini and Maarten Baertsoen, with support of the supervisor Dr. Bastiaan Heeren and examiner Marko van Eekelen. The assignment is given by professor Stef Joosten, who researches how to further automate the design of business processes and information systems by the development of the Ampersand project.

1.2 Goal of this document

The main goal of this document is to capture the taken decisions and agreements around the execution of the project. In order to make the targets clear, the project context is also depicted in the document.

The document describes the current situation and the issues it presents, making clear why the project has been started. The purpose is thus to describe the management approach and the describe the aimed solution in high-level, as well as chances, risks and problems that might occur.

1.3 Document overview

An introduction is given in this chapter. Afterwards, a general description of the project is given in section 2. Then, in section 3, strategies are proposed for the acquisition of knowledge. In section 4 the project approach is explained and the management strategy is given in section 5.

Assumptions and limitations are given in section 6. Afterwards, possible interferences with other projects are given in section 7. Strategies for risk management are then proposed in section 8.

Details of the development techniques are given in the project realization strategies of section 9. Testing and validation plans are in section 10, while issue management is explained in section 11. The strategy for integration of the released software is given in section 12, while the documentation strategy is given in section 13 and the used tools and methodologies are given in section 14.

Finally, a glossary of terms, definitions and abbreviations is given in subsection 14.5.

2 Project description (D)

2.1 The Ampersand project

In November 2003, the Business Rules Manifesto¹ was written, with the main purpose of declaring independence for business rules in the world of requirements. The manifesto supports the vision of business rules as equivalent to requirements. This is considered a radical change on how people see the world of business architecture.

Later on, the Ampersand approach was created as a way for defining business rules. The approach puts the rules in the center, using them to define the business processes. Ampersand is named after the & symbol with the desire of realizing results for both business and IT, in an efficient and effective way.

In a series of research projects, the Ampersand software was created, improved and used in business and academic contexts. The Ampersand end-users write business rules in a specific language, and compile that specification into functional specification, documentation and working software prototypes. The theory behind Ampersand has been deeply studied, and is based on mathematical concepts e.g. Tarski's axioms.

2.2 Current situation

2.3 Goal of the project

The main objective for the graduation project is to implement useful feedback in the Ampersand parser. If this task can be successfully accomplished, a list of open issues can be addressed by the project members.

2.4 Project architecture, components and environment

See figures 1 and 2.

2.5 Critical success factors

2.6 Our objectives and commitments towards the project and customer

3 Knowledge acquisition (-)

3.1 Research context

Some ideas by Bastiaan:

- more info on ampersand users
- user-friendly error messages (specific to compilers or not)
- parser-libraries
- Stef's research (3a)
- Haskell parsers (e.g. Helium), monadit or combinators

¹<http://www.businessrulesgroup.org/brmanifesto.htm>

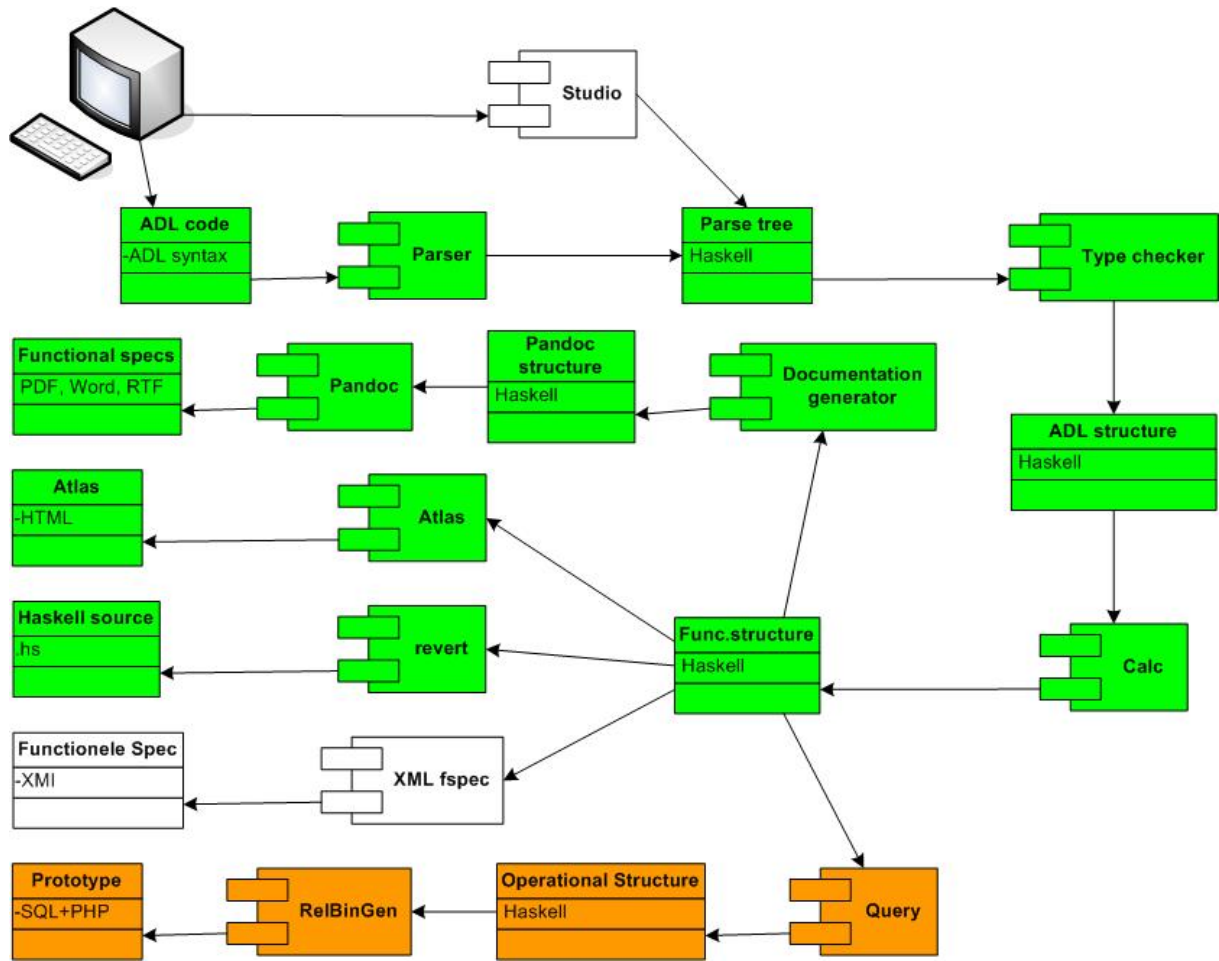


Figure 1: Architecture of the project, showing where the parser fits in the Ampersand system



Figure 2: Relevant data flow for the Ampersand parsing component

3.2 Domain & technology

3.2.1 Part Daniel

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3.2.2 Part Maarten

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3.3 Knowledge documentation

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4 Project approach (-)

4.1 Project methodology

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4.2 Project planning

Milestones & phases

4.3 Project milestones and corresponding deliverables

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5 Project management (M)

5.1 Project governance / roles & responsibilities

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5.2 Communication

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5.2.1 Internal

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5.2.3 Customer

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5.3 Time keeping

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5.4 Project reporting

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5.5 Quality assurance

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5.5.1 Process quality & monitoring

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5.5.2 Deliverables quality & monitoring

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6 Assumptions and limitations (-)

(knowledge/architecture/etc...)

7 Interferences with other projects (-)

(code conflicts, etc...)

8 Risk management (M)

8.1 Risk identification and qualification

8.1.1 Functional risks

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8.1.2 Technical risks

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8.2 Risk mitigation plan

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9 Project realization (-)

9.1 Coding conventions

De coding conventions are described on the Ampersand wiki ².

9.2 Scrum approach

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9.3 Validation

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10 Testing & Validation (-)

10.1 Test approach

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²http://wiki.tarski.nl/index.php/Coding_conventions

10.2 Test methodology

Will we use student's data? That can be hard to do.

10.3 Test plan & Milestones

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10.4 Test documentation

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11 Issue management (-)

12 Integration & release (-)

(acceptation, communication, etc...)

13 Documentation (-)

13.1 Documentation plan

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13.2 Deliverables

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14 Tools, methodologies and accelerators (R-M)

14.1 Collaboration

For the collaboration between the project members, the following tools will be used:

Dropbox For sharing time tracking and other reference documents;

GitHub For sharing git repositories of code, besides managing issues and documentation;

SourceForge For managing existing (old) issues;

Microsoft Office For writing internal documents, e.g. time tracking;

14.2 Documentation

For writing the documentation, the following tools will be used:

Haddock For annotating documentation on the code;

TeXworks For writing and compiling L^AT_EX documents;

Ampersand Wiki For keeping notes and information useful for users and other developers;

14.3 Design

For designing the software and its architecture, the following tools will be used:

yEd For creating diagrams and graphs;

14.4 Development

For software development, the following tools will be used:

IDE No standard integrated development environment will be chosen: the project members are free to use any IDE, e.g. Eclipse, Leksah, Notepad++;

GHC The compiler GHC (Glasgow Haskell Compilation System), version 7.8.3, will be used;

Cabal For managing Haskell packages and compilation, cabal-install version 1.18.0.5 and Cabal library version 1.18.1.3.

14.5 Testing

Finally, the following tools will be used for testing the software:

Hpc might be used for checking, recording and displaying the code coverage of tests;

Sentinel server can be used for the integration tests;

QuickCheck for automating tests on the code and property based testing (e.g. pretty-print and reparsing, random code generation);

Glossary

Cabal

Library for managing Haskell builds and packages. 14

Dropbox

File hosting service that offers cloud storage, file synchronization, personal cloud, and client software. 13

Git

A distributed revision control and source code management. 13

GitHub

Git repository web-based hosting service which offers all of the distributed revision control and source code management (SCM) functionality of Git. 13

Haddock

A software documentation generator for the Haskell programming language. 13

Hpc

Library for checking, recording and displaying code coverage. 14

LaTeX

Document preparation system and document markup language for the TeX typeset. 13

Microsoft Office

Office suite of desktop applications developed by Microsoft. 13

QuickCheck

Library for testing Haskell code. 14

Sentinel

Test server for the Ampersand project. 14

TeXworks

Graphical user interface for editing and compiling L^AT_EX documents. 13

yEd

Software for editing graphs. 14