

# EiffelRSS

---

*Project Description*

Michael Käser <kaeserm@student.ethz.ch>

Martin Luder <luderm@student.ethz.ch>

Thomas Weibel <weibelt@student.ethz.ch>

### **Abstract**

EiffelRSS is an Eiffel library to read and write RSS. The goal is to provide the Eiffel development community with an easy to use and well structured API for RSS.

The distribution also contains a RSS newsfeed reader written with EiffelVision and EiffelRSS.

## Contents

<b>1</b>	<b>Library</b>	<b>1</b>
1.1	ADT . . . . .	1
1.2	FETCH . . . . .	1
1.3	LOGFILE . . . . .	1
1.4	PROPERTIES . . . . .	3
1.5	SYNDICATION . . . . .	3
1.5.1	INTERFACE . . . . .	3
1.5.2	FEED . . . . .	3
1.5.3	FORMATS . . . . .	5
<b>2</b>	<b>Newsreader</b>	<b>5</b>
<b>3</b>	<b>Extensibility</b>	<b>6</b>
<b>4</b>	<b>Who does what?</b>	<b>6</b>
4.1	All project members . . . . .	6
4.2	Michael Käser . . . . .	6
4.3	Martin Luder . . . . .	7
4.4	Thomas Weibel . . . . .	7

## List of Figures

1	BON diagram of cluster ADT . . . . .	1
2	BON diagram of cluster FETCH . . . . .	2
3	BON diagram of class LOGFILE . . . . .	2
4	BON diagram of cluster PROPERTIES . . . . .	3
5	BON diagram of cluster SYNDICATION . . . . .	4
6	BON diagram of cluster INTERFACE . . . . .	4
7	BON diagram of cluster FEED . . . . .	5
8	BON diagram of cluster FORMATS . . . . .	5
9	Screenshot of the graphical user interface of Newsreader . . . . .	6

# 1 Library

The library of EiffelRSS consists of several different clusters.

## 1.1 ADT

ADT contains the deferred classes `SORTABLE` and `ORDER_RELATION` which can be used to implement sortable structures.

`SORTABLE_TWO_WAY_LIST` inherits from `SORTABLE` and `TWO_WAY_LINKED_LIST` to implement a sortable doubly-linked list.

See figure 1 for an overview of the cluster.

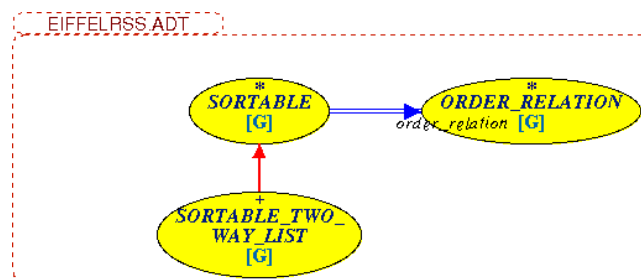


Figure 1: BON diagram of cluster ADT

## 1.2 FETCH

FETCH contains classes which can fetch data from a source address to a local `STRING` using various services. The class `FETCH` provides a simple interface for the `DATA_RESOURCE` class in EiffelNet.

A valid source address has the following format: `service://address`.

Supported services are: `file`, `http`, `ftp`.

See figure 2 for an overview of the cluster.

## 1.3 LOGFILE

LOGFILE represents a file which can be used for logging messages during the program execution.

Each message has its own priority (a positive integer value) and each logfile a certain user defined threshold. If the priority of the message is greater or equal than the threshold, it gets written to the log file together with a timestamp.

See figure 3 for an overview of the class.

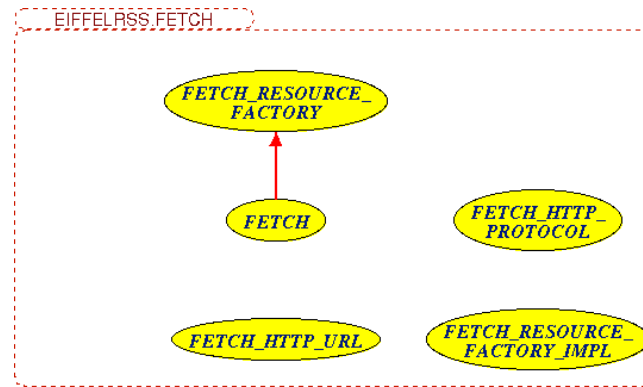


Figure 2: BON diagram of cluster FETCH

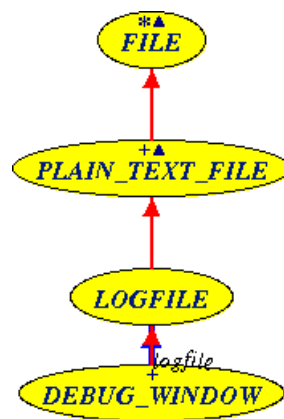


Figure 3: BON diagram of class LOGFILE

## 1.4 PROPERTIES

PROPERTIES represents a persistent set of properties. The properties can be saved to a file or loaded from a file.

Each key and its corresponding value in the property list is a string.

A property list can contain another property list as its default. This default property list is searched if the property key is not found in the original property list.

PROPERTIES is similar to the `java.util.Properties` class. The main difference is, that PROPERTIES doesn't support keys and values separated by whitespace only. It always expects `:` or `=` as a separator between key and value.

See figure 4 for an overview of the cluster.

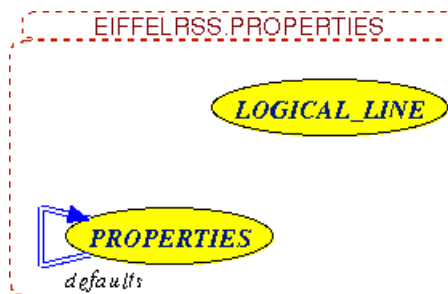


Figure 4: BON diagram of cluster PROPERTIES

## 1.5 SYNDICATION

SYNDICATION is the main cluster of EiffelRSS with a feed object model, and classes to load and write feeds. It is divided into three subclusters.

See figure 5 for an overview of the cluster.

### 1.5.1 INTERFACE

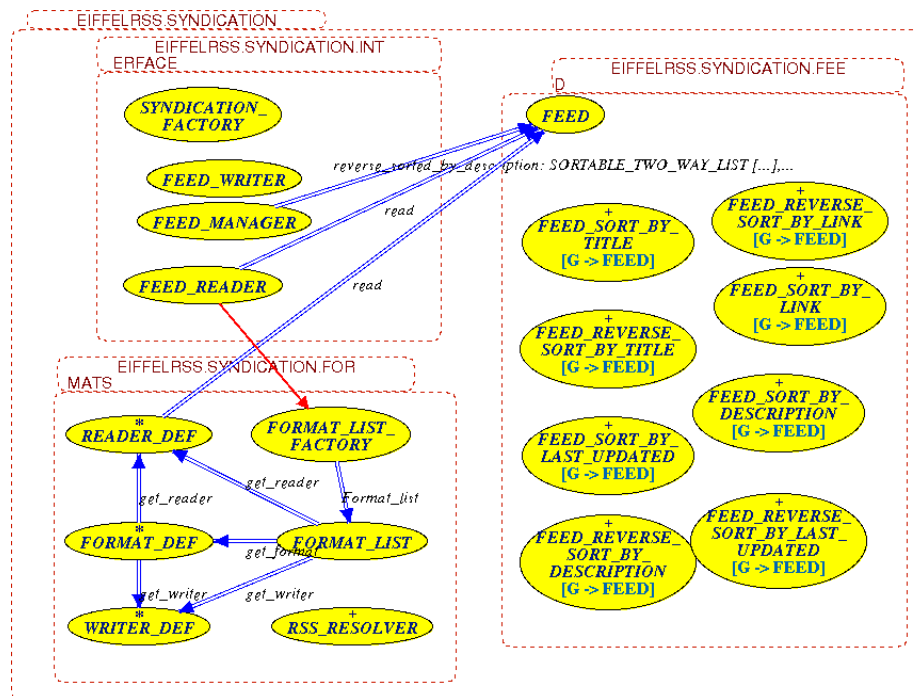
INTERFACE is the sub-cluster of syndication with all the classes a developer needs to use the library. There are classes to read into and write from a FEED, a FEED\_MANAGER to administrate a list of FEEDs, and a factory class which makes it easy to create all necessary objects.

See figure 6 for an overview of the cluster.

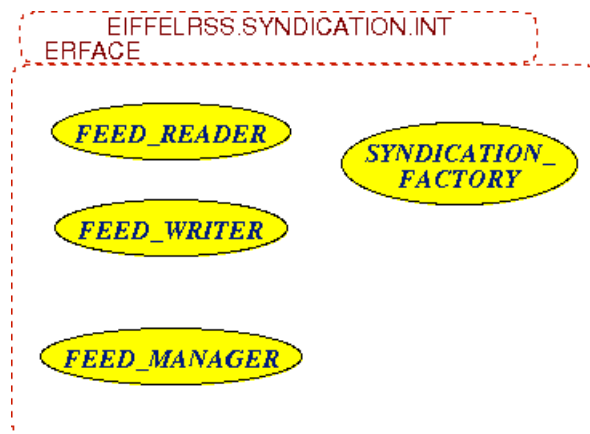
### 1.5.2 FEED

FEED is the central datastructure of EiffelRSS. It defines an abstract syndication feed.

See figure 7 for an overview of the cluster.

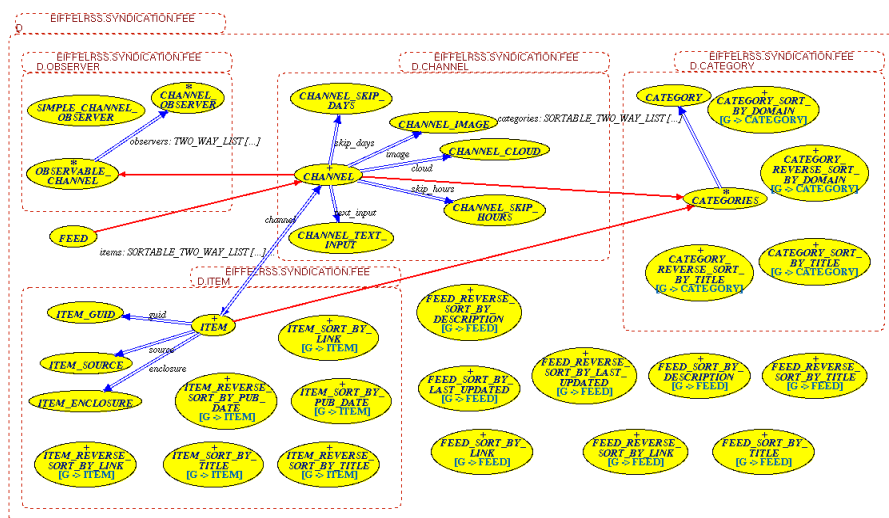


**Figure 5: BON diagram of cluster SYNDICATION**



**Figure 6: BON diagram of cluster INTERFACE**



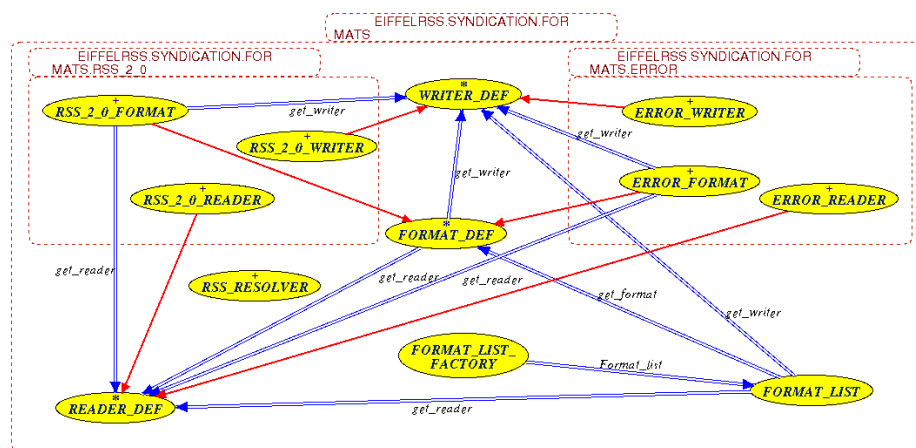


**Figure 7: BON diagram of cluster FEED**

### 1.5.3 FORMATS

FORMATS defines the different syndication formats.

See figure 8 for an overview of the cluster.



**Figure 8: BON diagram of cluster FORMATS**

## 2 Newsreader

Newsreader is a simple GUI, with which you can read your RSS feeds. In addition to the GUI it also has a command line user interface.

It is possible to add custom feeds and open news in your Internet browser.

Figure 9 shows a screenshot of the graphical user interface.

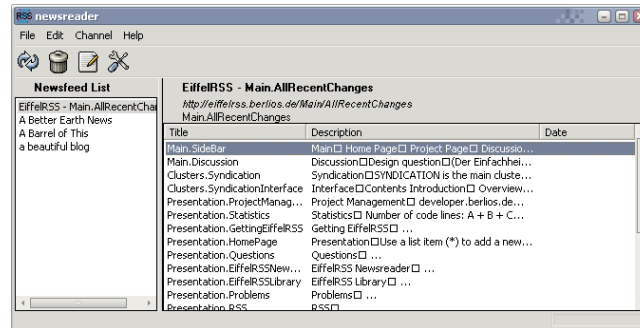


Figure 9: Screenshot of the graphical user interface of Newsreader

### 3 Extensibility

EiffelRSS is designed with extensibility in mind.

Initially EiffelRSS will only support reading of RSS 2.0. But the library is designed to be easily extensible by other RSS readers. Even non-RSS syndication formats like Atom can be parsed into EiffelRSS' datamodel. It is also feasible to add writing support and to write any syndication format (even non-XML). Because EiffelRSS uses an abstract intermediate representation of newsfeed data, one can also convert from one format to another.

Another possibility of extension would be the newsfeed reader written with EiffelVision. This application could be extended to a full fledged newsfeed reader.

## 4 Who does what?

### 4.1 All project members

- Writing documentation
- Testing

### 4.2 Michael Käser

- The clusters LOGFILE and FETCH
- An abstraction for readers and writers which translate between XML files and the FEED object structure
- An implementation of RSS 2.0

### 4.3 Martin Luder

- Newsreader with graphical and command line user interface

### 4.4 Thomas Weibel

- The clusters ADT and PROPERTIES
- FEED data model