The Semantic Content Extractor Module (SCEM) is responsible for collecting external content from different sources and aligning them into AmI System. It benefits from the ontologies defined in Knowledge Representation and Reasoning Layer of the AmI System to represent gathered content in a unified format. This module serves the gathered content to Ambient Management Layer of the AmI System.

The SCEM is composed of four subcomponents: Content Aggregator, Content Reengineer, Content Refactorer and Content Filterer. These subcomponents work through the Content Retrieval & Knowledge Extraction Pipeline. Thanks to this pipeline XML or RDF based external content is mapped to the AmI System compatible RDF.

1 Functionality

- Other modules of AmI System uses the services provided by Content Filterer.
- Filterer component provides the requested content items that were gathered through the Content Retrieval & Knowledge Extraction Pipeline.
- Other components specify the user for whom content items are desired together with the type of the content to get.

2 Inter-Module Communication

3 Application of IKS

The Content Aggregator uses CMS Adapter component of Apache Stanbol to get content from JCR compliant content repositories. As a result an RDF is produced and this RDF is processed by Content Refactorer to get content items that are managed within AmI System.

The Content Refactorer uses the rule syntax that is defined in the scope of Knowledge Management Layer of IKS. Currently, Content Refactorer is one of the “Enhancement Engines” of Apache Stanbol.

The Content Reenginer is also one of the components of Apache Stanbol. It is used to transform XML contents into RDF format.

4 Strengths of Module

- Content retrieval from various sources, e.g. NYTimes, BBC, WeatherBug, Google Calendar, Google Movies, Eventful, Eventim, JCR Compliant Repositories, Jackrabbit, CRX
- Ability to transform obtained content into a standard RDF representation which is manageable by the AmI System
- Filtering events based on the user preferences
- Filter social events according to user free times
- Filter songs having pop genre
- Adaptability to obtain contents for German