

The SUMMA Platform: Scalable Understanding of Multilingual Media

Ulrich Germann,[♦] Peggy van der Kreeft,[♣] Guntis Barzdins,[♣] Alexandra Birch,[♦]

[♦] University of Edinburgh; [♣] Deutsche Welle; [♣] LETA

corresponding authors: ugermann@ed.ac.uk, peggy.van-der-kreeft@dw.com

for the SUMMA Consortium*

1 Introduction

SUMMA is an EU-funded Research and Innovation Action to develop a highly scalable open-source infrastructure for monitoring and interpreting news streams in a variety of formats, from TV broadcasts via satellite to RSS feeds to scheduled queries to news organisations’ and social media’s custom APIs for news dissemination.

The platform can record, transcribe, translate, interpret and summarize news content in multiple languages and make it available through graphical user interfaces and database APIs.

2 Use Cases

Three use cases drive the project.

2.1 External Monitoring

BBC Monitoring (BBCM) is a business unit within the BBC tasked with monitoring and digesting international news broadcasts and other media as an internal service to the BBC as well as a paid service to outside customers.

The SUMMA platform will allow BBCM’s staff journalists to widen their monitoring coverage and focus on news interpretation and analysis by alleviating them from mundane monitoring tasks.

2.2 Internal Monitoring

Deutsche Welle (DW) is an international broadcaster broadcasting world-wide in 30 different languages. Regional news rooms produce and broadcast content independently. Monitoring DW’s output with the SUMMA platform will enable DW as an organisation to better keep track of its own output and determine which stories have been covered where, and where there are gaps in the coverage.

2.3 Data Journalism

The SUMMA database will give journalists access to many thousands of news stories with additional metadata such as named entity tags provided by

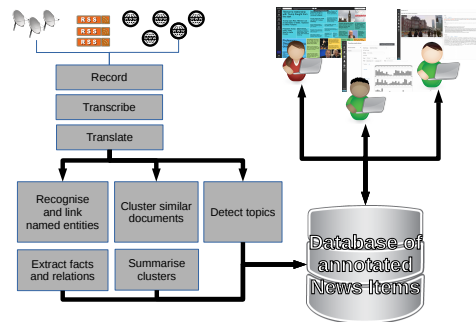


Figure 1: The SUMMA Architecture


SUMMA’s NLP processing modules, providing for large-scale analysis of the constantly evolving news landscape.

3 Architecture

The design of the SUMMA platform is shown in Fig. 1. Incoming media streams are downloaded and/or recorded, depending on the source. Audio is transcribed, non-English material is translated. The resulting text-based news items are then processed with downstream NLP modules: topic detection; named entity recognition and linking, and extraction of relations between named entities to build up a knowledge base of “facts” (i.e., factual claims made in news reporting); and document clustering and multi-document cluster summarization.

News items, mentions of named entities, etc., are stored in a central database that can be accessed by users via web-browser-based user interfaces and programmatic APIs.

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