

A computational grammar for Maltese

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The Grammatical Framework (GF)¹ is a multilingual grammar formalism based on using abstract syntax trees as a language-independent semantic representation. By supporting both generation and parsing to/from this interlingua, GF can produce high-quality multilingual translations within closed domains. The framework includes a Resource Grammar Library (RGL) which captures the morphology and basic syntax of some 26 languages from around the world. GF is freely available as open-source software and has most recently been used as the framework of choice in the European project MOLTO (Multilingual Online Translation)².

This work presents an implementation of a Maltese resource grammar using the GF formalism, attempting to cover all aspects of Maltese morphology and syntax. By using GF, this single grammar can be used for bi-directional translations between Maltese and any other language already supported by the RGL. The **smart paradigms** implemented in the grammar allow full inflection tables to be produced for any lexical unit, often requiring only a lemmatised form. Using these smart paradigms, the construction of a large scale monolingual dictionary can be bootstrapped from other linguistic resources. Work on building such a companion lexicon is also underway, which when combined with the resource grammar could be used to power a full-form computational lexicon for Maltese, enabling comprehensive spell-checking and other related tools. The GF system can also be used as a localisation framework for web and desktop software, allowing developers to provide interfaces to their applications in multiple languages simultaneously, including Maltese.

As with all GF resources, this Maltese resource grammar is completely open-source and free to use for any purpose, released under the GNU Lesser General Public License (LGPL)³.

References

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A. Zammit, *Extending the GF Framework towards Coverage of the Maltese Language*, B.Sc. dissertation, University of Malta. Malta, 2012.

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¹<http://www.grammaticalframework.org/>

²<http://www.molto-project.eu/>

³<http://www.gnu.org/copyleft/lesser.html>