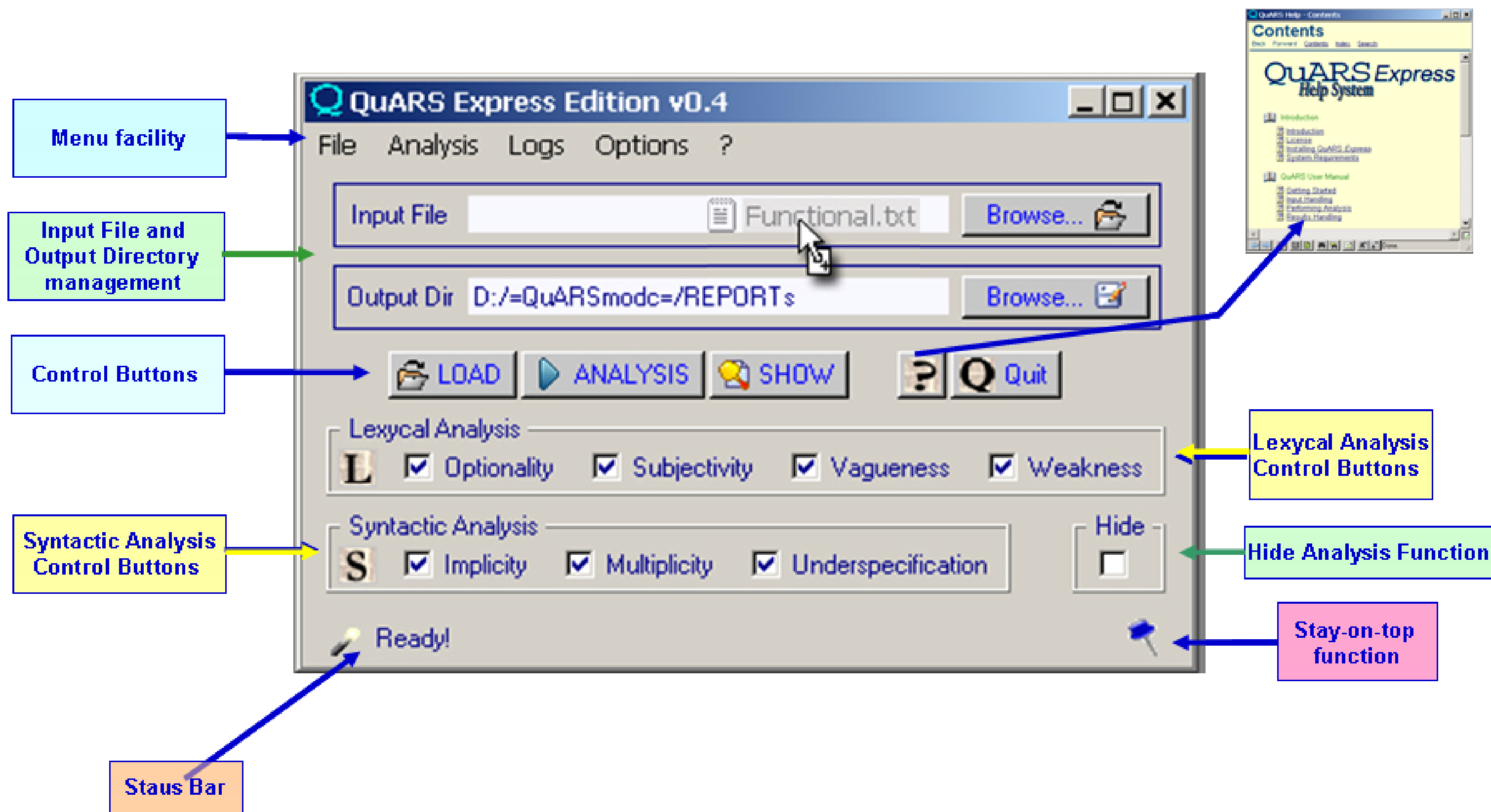


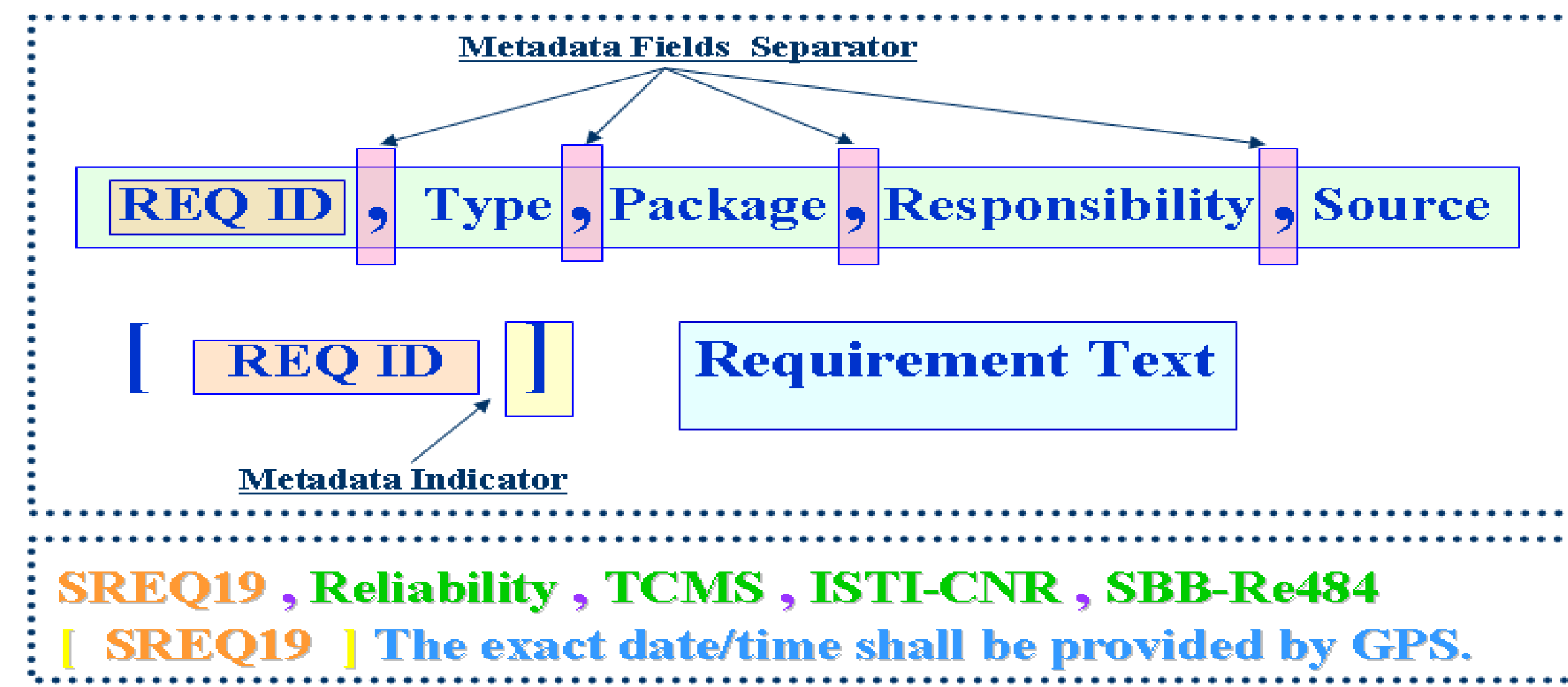
An Automatic Analyzer of Natural Language Requirements

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1 QuARS Express presents a GUI that allows the user to perform the time-consuming analysis in a click.

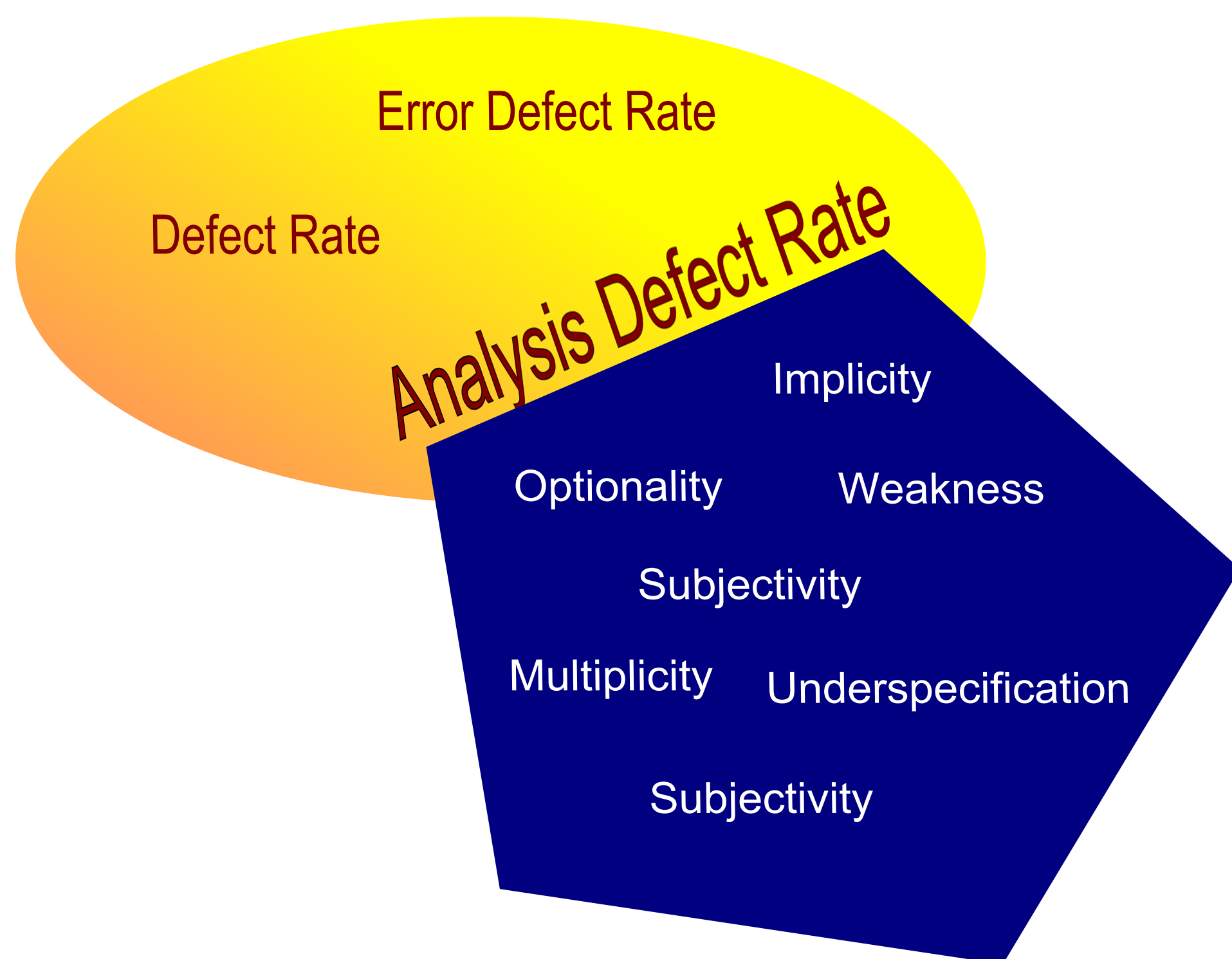


2 QuARS Express is interfaced with a repository based on IBM RequisitePro: the metadata fields that characterize each requirement in the repository are transferred to QuARS Express by means a suitable text format.



3 The main features of QuARS Express are:

- Defect Identification
- Readability Analysis
- Metrics and Statistics Derivation



4 QuARS Express produces an analysis report of categorized information. The general report files show the analysis performed on the whole document and give a general idea of the defects distribution showing concise overview tables and global statistics.

Analysis Statistics			
Analyzed Requirements	Defective Requirements	Errors	Defect Rate*
793	292	573	37%

Analysis -->	Defect Rates						
	Optionality	Subjectivity	Vagueness	Weakness	Implicitity	Multiplicity	Underspecification
Analysis Defect Rate**	1% (5/793)	1% (8/793)	13% (106/793)	1% (11/793)	3% (24/793)	25% (198/793)	3% (21/793)
Error Defect Rate***	1% (5/573)	1% (8/573)	22% (124/573)	2% (14/573)	5% (29/573)	65% (372/573)	4% (21/573)

5 The FMT Group of ISTI-CNR has participated to the recently concluded European Integrated Project MODTRAIN, subproject MODCONTROL. Using QuARS Express, we analysed the Functional and System Requirements of TCMS, including more than 5700 requirements. The results have shown that the analysis process not only is able to point out linguistic defects, but can provide also some indications on the writing style of different NL requirements authors (from different partners) giving them the opportunity to become aware of defects and of potential improvements.

