Costa Rica Institute of Technology

Computer Engineering

Software Specification and Design

Assignment 5

Student:
Malcolm Davis

Professor:
Daniel Madriz

December 21, 2017

Abstract

The EARS (Easy Approach to Requirements Syntax) document states the problems generated by the translation of the requirements into natural language, and gives a solution to them. This abstract will go trough the things I consider the most important mentioned on the book about the software requirements process.

The document talk about problems that can be generated on the specification of requirements, some of the aspects that are mentioned is that the requirements are written by not experts on this matter, so requirements are often written by individuals who are not experts in requirements definition. Most commonly, stakeholder requirements are written in unstructured natural language (NL). The flexibility of NL makes it an ideal medium for creative expression, such as drama, poetry and humor. However, unconstrained use of NL is inherently unsuitable for requirements definition for a number of reasons. Some of the problems that can appear in NL requirement documents are: • Ambiguity1 (a word or phrase has two or more different meanings). • Vagueness (lack of precision, structure and/or detail).

• Complexity (compound requirements containing complex sub-clauses and/or several interrelated statements). • Omission (missing requirements, particularly requirements to handle unwanted behaviour). • Duplication (repetition of requirements that are defining the same need). • Wordiness (use of an unnecessary number of words). • Inappropriate implementation (statements of how the system should be built, rather than what it should do). • Untestability (requirements that cannot be proven true or false when the system is implemented). There are other problems that this study does not consider, including conflicting requirements and missing traceability links. There are two main reasons for their exclusion: firstly these problems are not unique to NL requirements documents, and secondly there are no occurrences of these problems in the case study.