

Requirement Specification

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This document specifies the requirements for “Marvel”, an advanced spreadsheet application

Version	Author	Date	Status	Comments
1.0	Stefan Franck	13. April 2005	submitted	

1 Objectives

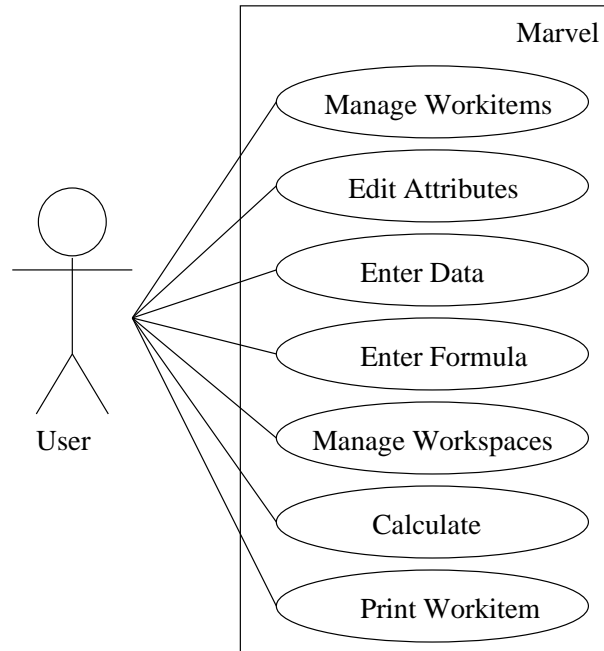
“Marvel” is a spreadsheet application. It shall abstract over typical objects in other spreadsheet programs, like tables, queries, views, etc.

2 Product Scope

Marvel enables it’s users to manage and store information in two-dimensional spreadsheets. The use of many spreadsheets is simplified by the concept of the workspace which is quite similar to directory of a filesystem.

A workspace may contain arbitrary many workitems, which may be spreadsheets, queries, views, formulas and so on. A spreadsheet is a two-dimensional representation of arbitrary data, normally organised as a table. Queries are projections of data. Views are filters on data, and formulas are calculations depending on the data.

3 Overview



4 Functions

- /LF10/ **Use Case:** Manage Workitems
Actor: User
Description: Workitems can be *created, deleted, renamed, moved* and *cloned*.
(2 simple inputs, 3 simple queries)
- /LF20/ **Use Case:** Edit Attributes
Actor: User
Description: The Attributes of a workitem can be *changed*.
(1 simple query)
- /LF30/ **Use Case:** Enter Data
Actor: User
Description: Data is *added* to a cell of a spreadsheet.
(1 simple input)
- /LF40/ **Use Case:** Enter Formula
Actor: User
Description: A Formula is *entered* into a cell or as a standalone workitem.
(1 complex input)

- /LF50/ **Use Case:** Manage Workspaces
Actor: User
Description: Workspaces are *displayed* in a tree-structure, and can be *manipulated* in several ways.
(1 complex output, 1 complex query, 1 complex input)
- /LF60/ **Use Case:** Calculate
Actor: User
Description: *Calculate* the values depending on formulas, queries, views, and so on
(1 complex query)
- /LF70/ **Use Case:** Print Workitem
Actor: User
Description: A workitem is *printed* on paper.
(1 complex output)

5 Stored Data

- /LD10/ Workspace (max. 1.000) (1x complex data)
- /LD20/ Spreadsheets (max. 10.000) (1x complex data)
- /LD30/ Formulas (max. 10.000) (1x complex data)
- /LD40/ Queries (max. 10.000) (1x complex data)
- /LD50/ Views (max. 10.000) (1x complex data)

6 Non-functional Requirements

- /LL10/ Observing standard usability characteristics, being similar to OpenOffice (<http://specs.openoffice.org/>)
- /LL20/ The response time of the program shall be below 0.2 seconds concerning the GUI.
- /LL30/ The calculation of the formulas (/LF60/) shall display a progress bar.
- /LL40/ Marvel has to be interoperable with other programs, e.g. exchanging data.
- /LL50/ Only open standards may be used.

7 Quality Requirements

feature	desired quality
functionality	normal
reliability	high
usability	high
efficiency	normal
changeability	normal
portability	low

8 Function Points

category	number	classification	weight	Σ
input data	3	simple	$\times 3$	9
		medium	$\times 4$	
	2	complex	$\times 6$	12
queries	4	simple	$\times 3$	12
		medium	$\times 4$	
	2	complex	$\times 6$	12
output data		simple	$\times 4$	
		medium	$\times 5$	
	2	complex	$\times 7$	14
application data		simple	$\times 7$	
		medium	$\times 10$	
		complex	$\times 15$	
reference data		simple	$\times 5$	
		medium	$\times 7$	
		complex	$\times 10$	
sum (FC)				59

factors of influence (change FP value by +/- 30 %)	1 integration with other systems (0-5)	5
	2 distributed data distributed processing (0-5)	0
	3 transaction rate (0-5)	5
	4 program logic: a arithmetic (0-10)	5
	b control (0-5)	3
	c exceptions (0-10)	10
	d logic (0-5)	3
	5 reuse (0-5)	2
6 application data conversions (0-5)	5	
7 adaptability (0-5)	3	
sum $E2$ of all 7 influences		41
weighting $E3 = E2/100 + 0.7$		1.11
weighted function points $round(FC \cdot E3)$		66

Explanation:

- 1 Marvel shall be platform independent and interoperate with many other applications, like Marvel spreadsheets being included in text documents.
- 2 The software shall work on one workstation.
- 3 The efficiency of calculations are critical to usability.
- 4
 - a Arithmetics will be standard cases in formulas.
 - b The control flow is mostly straight forward, but there are some tricky parts, like recursive formulas.
 - c Our software aims at non-professionals - graceful recovery from problems is very important.
 - d The program logic is complex, but not innovative.
- 5 There are no similar projects.
- 6 Import/export of data from other applications shall be possible.
- 7 The software shall be adapted to most common used platforms, and shall be extended in the future.