

Visual SparkS KickOff Document

DEFINITION

The purpose of the project is to design block-based graphical syntax and develop an editing environment for SparkS, a domain-specific scripting language. SparkS is being developed at Spark Kalibrasyon Hizmetleri [Spark], the sponsor for this project, for efficient scripting and execution of calibration processes for electronic equipment by metrology engineers and technicians. The SparkS editor, which will be a part of an integrated development environment (IDE) for SparkS, shall support two modes of operation concurrently: text and graphics modes. In the text mode the user composes or modifies a script using a) rudimentary features such as highlighting, indentation, suggestion, auto completion, bracket matching and so on, b) source code browsing, c) macro expansion, d) diagnostics reporting, and, generally speaking, e) facilitation and enforcement of the grammar rules and lexical conventions. As SparkS concrete syntax is textual, this is the fundamental mode of operation, and it is presently available in prototype form. The block-based graphical syntax will be new. In the graphical mode the user can enter or modify the constituent parts of a script through a graphical user interface. The two modes will be supported with two panes so that the user can have both views of the script concurrently and can smoothly switch back and forth between them in the course of editing. The text mode should also be supported stand alone for experienced users.

WORKPACKAGES

WP #	Term	WP Title	Estimated Number of Man-Months
1	492	Interface	6
2	491	Text Based	6
3	491	Block Based	6
4	491	Block Syntax Definition	4
5	492	Integration	12
6	491	Website	2

DETAILED DESCRIPTIONS OF HIGH-LEVEL WORKPACKAGES

WP1-Interface

1. Trade Study
2. Source Code Files Hierarchy
3. Layout of Program
4. Error/Warning

5. Preferences (Bonus)
6. Web-based Interface (Bonus)

WP2-Text Based

1. Trade Study
2. Rudimentary Features
3. Source Code Browsing
4. Macro Expansions
5. Diagnostics Reporting
6. Facilitation and Enforcement of the Grammar Rules and Lexical Conventions

WP3-Block Based

1. Trade Study
2. Toolbox
3. Panel
4. Associativity of the Blocks

WP4-Block Syntax Definition

1. Trade Study
2. Prototyping-Mock up

WP5-Integration

1. Trade Study
2. Text to Block
3. Block to Text
4. Parser

WP6-Website

RISK ASSESSMENT

Risk #	Description	Possible Solution
1	WP2.4-Macro Expansion	Finding new library(ies)