Module Interface Specification for ...

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1 Revision History

Date	Version	Notes
Date 1	1.0	Notes
Date 2	1.1	Notes

2 Symbols, Abbreviations and Acronyms

See SRS Documentation at [give url —SS]
   [Also add any additional symbols, abbreviations or acronyms —SS]

Contents

3 Introduction

The following document details the Module Interface Specifications for [Fill in your project name and description —SS]

Complementary documents include the System Requirement Specifications and Module Guide. The full documentation and implementation can be found at . . . . [provide the url for your repo —SS]

4 Notation

[You should describe your notation. You can use what is below as a starting point. —SS]

The structure of the MIS for modules comes from **?**, with the addition that template modules have been adapted from **?**. The mathematical notation comes from Chapter 3 of **?**. For instance, the symbol := is used for a multiple assignment statement and conditional rules follow the form $(c_1 \Rightarrow r_1 | c_2 \Rightarrow r_2 | ... | c_n \Rightarrow r_n)$.

The following table summarizes the primitive data types used by Program Name.

Data Type	Notation	Description
character	char	a single symbol or digit
integer	$\mathbb{Z}$	a number without a fractional component in $(-\infty, \infty)$
natural number	$\mathbb{N}$	a number without a fractional component in $[1, \infty)$
real	$\mathbb{R}$	any number in $(-\infty, \infty)$

The specification of Program Name uses some derived data types: sequences, strings, and tuples. Sequences are lists filled with elements of the same data type. Strings are sequences of characters. Tuples contain a list of values, potentially of different types. In addition, Program Name uses functions, which are defined by the data types of their inputs and outputs. Local functions are described by giving their type signature followed by their specification.

5 Module Decomposition

The following table is taken directly from the Module Guide document for this project.

Level 1	Level 2
Hardware-Hiding	
Behaviour-Hiding	Input Parameters
	Output Format
	Output Verification
	Temperature ODEs
	Energy Equations
	Control Module
	Specification Parameters Module
Software Decision	Sequence Data Structure
	ODE Solver
	Plotting

Table 1: Module Hierarchy

6 MIS of Hardware Hiding Module

[Use labels for cross-referencing —SS]

6.1 Module

[Short name for the module —SS]

6.2 Uses

6.3 Syntax

6.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

6.4 Semantics

6.4.1 State Variables

6.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

7 MIS of Behaviour Hiding Module

[Use labels for cross-referencing —SS]

7.1 Module

[Short name for the module —SS]

7.2 Uses

7.3 Syntax

7.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

7.4 Semantics

7.4.1 State Variables

7.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

8 MIS of Import csv Module

[Use labels for cross-referencing —SS]

8.1 Module

[Short name for the module —SS]

8.2 Uses

8.3 Syntax

8.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

8.4 Semantics

8.4.1 State Variables

8.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

9 MIS of Import dm3 Module

[Use labels for cross-referencing —SS]

9.1 Module

[Short name for the module —SS]

9.2 Uses

9.3 Syntax

9.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

9.4 Semantics

9.4.1 State Variables

9.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

10 MIS of Import h5 Module

[Use labels for cross-referencing —SS]

10.1 Module

[Short name for the module —SS]

10.2 Uses

10.3 Syntax

10.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

10.4 Semantics

10.4.1 State Variables

10.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

11 MIS of Import rpl Module

[Use labels for cross-referencing —SS]

11.1 Module

[Short name for the module —SS]

11.2 Uses

11.3 Syntax

11.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

11.4 Semantics

11.4.1 State Variables

11.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

12 MIS of Export csv Module

[Use labels for cross-referencing —SS]

12.1 Module

[Short name for the module —SS]

12.2 Uses

12.3 Syntax

12.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

12.4 Semantics

12.4.1 State Variables

12.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

13 MIS of Export h5 Module

[Use labels for cross-referencing —SS]

13.1 Module

[Short name for the module —SS]

13.2 Uses

13.3 Syntax

13.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

13.4 Semantics

13.4.1 State Variables

13.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

14 MIS of Export png Module

[Use labels for cross-referencing —SS]

14.1 Module

[Short name for the module —SS]

14.2 Uses

14.3 Syntax

14.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

14.4 Semantics

14.4.1 State Variables

14.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

15 MIS of Export rpl Module

[Use labels for cross-referencing —SS]

15.1 Module

[Short name for the module —SS]

15.2 Uses

15.3 Syntax

15.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

15.4 Semantics

15.4.1 State Variables

15.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

16 MIS of Data Processing Richardson-Lucy Deconvolution Module

[Use labels for cross-referencing —SS]

16.1 Module

[Short name for the module —SS]

16.2 Uses

16.3 Syntax

16.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

16.4 Semantics

16.4.1 State Variables

16.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

17 MIS of Data Processing Normalization Module

[Use labels for cross-referencing —SS]

17.1 Module

[Short name for the module —SS]

17.2 Uses

17.3 Syntax

17.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

17.4 Semantics

17.4.1 State Variables

17.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

18 MIS of Data Processing Gain Correction Module

[Use labels for cross-referencing —SS]

18.1 Module

[Short name for the module —SS]

18.2 Uses

18.3 Syntax

18.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

18.4 Semantics

18.4.1 State Variables

18.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

19 MIS of Data Processing Background Correction Module

[Use labels for cross-referencing —SS]

19.1 Module

[Short name for the module —SS]

19.2 Uses

19.3 Syntax

19.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

19.4 Semantics

19.4.1 State Variables

19.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

20 MIS of Data Extraction 1D Slice Module

[Use labels for cross-referencing —SS]

20.1 Module

[Short name for the module —SS]

20.2 Uses

20.3 Syntax

20.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

20.4 Semantics

20.4.1 State Variables

20.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

21 MIS of Data Extraction 2D Mask Module

[Use labels for cross-referencing —SS]

21.1 Module

[Short name for the module —SS]

21.2 Uses

21.3 Syntax

21.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

21.4 Semantics

21.4.1 State Variables

21.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

22 MIS of Data ExtrProcessingaction 3D Mask Module

[Use labels for cross-referencing —SS]

22.1 Module

[Short name for the module —SS]

22.2 Uses

22.3 Syntax

22.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

22.4 Semantics

22.4.1 State Variables

22.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

23 MIS of Display 1D Spectrum Module

[Use labels for cross-referencing —SS]

23.1 Module

[Short name for the module —SS]

23.2 Uses

23.3 Syntax

23.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

23.4 Semantics

23.4.1 State Variables

23.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

24 MIS of Display 2D Image Module

[Use labels for cross-referencing —SS]

24.1 Module

[Short name for the module —SS]

24.2 Uses

24.3 Syntax

24.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

24.4 Semantics

24.4.1 State Variables

24.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

25 MIS of Display 3D Spectrum Image Module

[Use labels for cross-referencing —SS]

25.1 Module

[Short name for the module —SS]

25.2 Uses

25.3 Syntax

25.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

25.4 Semantics

25.4.1 State Variables

25.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

26   MIS of Data 1D Spectrum Module

[Use labels for cross-referencing —SS]

26.1   Module

[Short name for the module —SS]

26.2   Uses

26.3   Syntax

26.3.1   Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

26.4   Semantics

26.4.1   State Variables

26.4.2   Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

27   MIS of Data 2D Image Module

[Use labels for cross-referencing —SS]

27.1   Module

[Short name for the module —SS]

27.2 Uses

27.3 Syntax

27.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

27.4 Semantics

27.4.1 State Variables

27.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

28 MIS of Data 3D Spectrum Image Module

[Use labels for cross-referencing —SS]

28.1 Module

[Short name for the module —SS]

28.2 Uses

28.3 Syntax

28.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

28.4 Semantics

28.4.1 State Variables

28.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

29 MIS of Array Data Structure Module

[Use labels for cross-referencing —SS]

29.1 Module

[Short name for the module —SS]

29.2 Uses

29.3 Syntax

29.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

29.4 Semantics

29.4.1 State Variables

29.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

30 MIS of Plotting Library Module

[Use labels for cross-referencing —SS]

30.1 Module

[Short name for the module —SS]

30.2 Uses

30.3 Syntax

30.3.1 Exported Access Programs

Name	In	Out	Exceptions
[accessProg —SS]	-	-	-

30.4 Semantics

30.4.1 State Variables

30.4.2 Access Routine Semantics

[accessProg —SS]():

- transition: [if appropriate —SS]

- output: [if appropriate —SS]

- exception: [if appropriate —SS]

31   Appendix

[Extra information if required —SS]