Affiliation line 1
Affiliation line 2
Author line 1
Author line 2

MyProjectName : Your Title
Messir Analysis Document
- v 0.0 -

(*Report type: Specification*)

Wednesday 25th October, 2017 - 14:40

Contents

List of Figures

Listings

Chapter 1

Introduction

1.1 Overview

1.2 Purpose and recipients of the document

1.3 Application Domain

1.4 Definitions, acronyms and abbreviations

1.5 Document structure

Chapter 2

General Description

2.1 Domain Stakeholders

2.2 System's Actors

The objective of this section is not to provide the full requirement elicitation document in this section but to reuse a part of this document to provide a informal introduction to the Messir specification of the system under development. The use case model is made of a use case diagrams modelling abstractly and informally the actors and their use cases together with a set of use cases descriptions. In addition, those diagrams and description tables are adapted to the Messir specification since actor and messages names together with parameters are partly adapted to be consistent with the specification identifiers (see [?] for more details).

2.3 Use Cases Model

This section contains the use cases elicited during the requirements elicitation phase. The use cases are textually described as suggested by the Messir method and inspired by the standard Cokburn template [?].

2.3.1 Use Cases

2.3.1.1 usergoal-ugAskForSensor

The Technician goal is to request a sensor type to the manager.

USE-CASE DESCRIPTION	
Name	ugAskForSensor
Scope	system
Level	usergoal
Primary actor(s)	
1	`actTechnician[active]`
Secondary actor(s)	
1	`actSystem[passive]`
Goal(s) description	
The Technician goal is to request a sensor type to the manager.	
Reuse	
1	`oeEntersFields [1..1]`
2	`sfChecksInputFields [1..*]`
3	`oeRequestPushedToTable [1..1]`
Protocol condition(s)	
1	
Pre-condition(s)	
1	The gardner has to be logged in the system.
Main post-condition(s)	
1	The table request from manager is updated
Main Steps	
a	the actor `actTechnician` executes the `oeEntersFields` use case
b	the actor `actSystem` executes the `sfChecksInputFields` use case
c	the actor `actSystem` executes the `oeRequestPushedToTable` use case
Steps Ordering Constraints	
1	step (a) must be executed first

continues in next page . . .

. . . Use-Case Description table continuation

2	step(b) has to be sussesfully to preceed step(c)
Additional Information	
none	

2.3.1.2 usergoal-ugSecurelyUseSystem

Figure 2.1 Technician requests a sensor to the manager

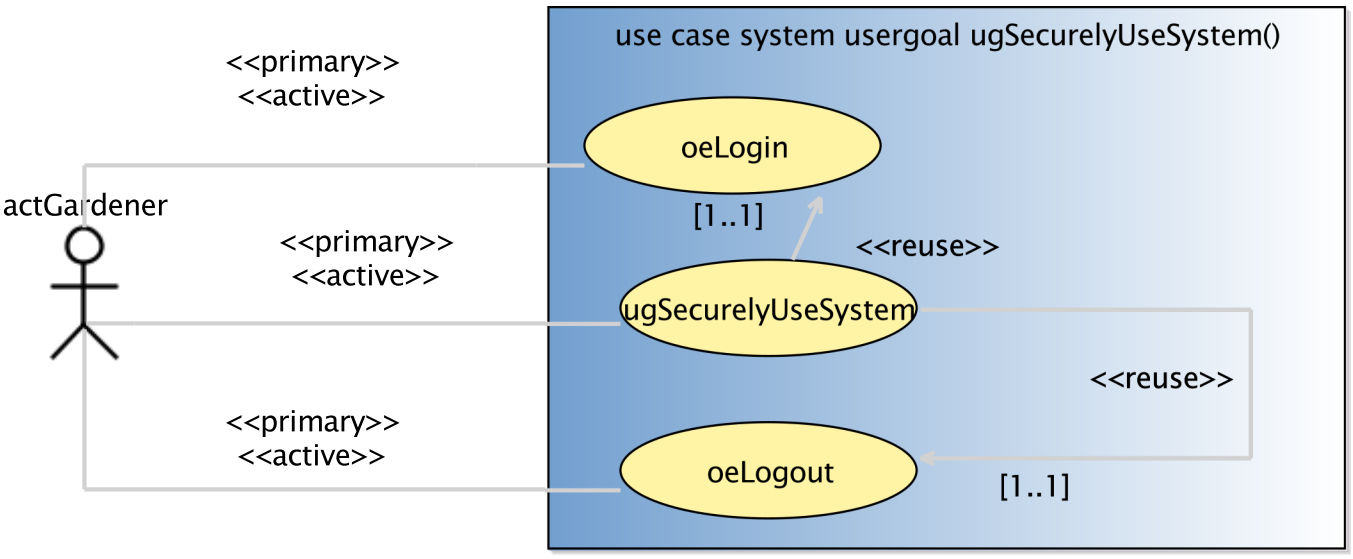

Figure 2.1:

2.3.1.3 subfunction-sfcheckSensor

checksIfTheSensors are properly installed CHECK IF IT WORKS

USE-CASE DESCRIPTION	
Name	sfcheckSensor
Scope	system
Level	subfunction
Primary actor(s)	
1	`actTechnician[active]`
Goal(s) description	
checksIfTheSensors are properly installed CHECK IF IT WORKS	
Protocol condition(s)	
1	
Pre-condition(s)	
1	
Main post-condition(s)	
1	here is a post condition

continues in next page . . .

. . . Use-Case Description table continuation

Additional Information
none

2.3.1.4 subfunction-sfplating

plating the plants

USE-CASE DESCRIPTION	
Name	sfplating
Scope	system
Level	subfunction
Primary actor(s)	
1	`actGardener[active]`
Goal(s) description	
plating the plants	
Protocol condition(s)	
1	
Pre-condition(s)	
1	Here is a preCondition
Main post-condition(s)	
1	
Additional Information	
none	

2.3.2 Use Case Instance(s)

There are no elements in this category in the system analysed.

Chapter 3

Environment Model

3.1 Environment model view(s)

There are no view(s) for the Messir environment model.

3.2 Actors and Interfaces Descriptions

We provide for the given views the description of the actors together with their associated input and output interface descriptions.

3.2.1 `actGardener` Actor

Actor
actGardener is a gardener.

3.2.2 `actTechnician` Actor

Actor
actTechnician This is the Technician in charge of the greenhouse.

Chapter 4

Concept Model

4.1 Concept Model view(s)

There are no view(s) for the Messir concept model.

4.2 Concept Model Types Descriptions

This section provides the textual descriptions of all the types defined in the concept model and that can be part of the graphical views provided.

4.2.1 Primary types - Class types descriptions

There are no elements in this category in the system analysed.

4.2.2 Primary types - Datatypes types descriptions

The table below is providing comments on the graphical views given for the datatype types of the primary types.

Datatypes
dtExecussion executes an action
dtMessage Is a type of string/text

4.2.3 Primary types - Association types descriptions

There are no association types for the primary types.

4.2.4 Primary types - Aggregation types descriptions

There are no aggregation types for the primary types.

4.2.4.1 Primary types - Composition types descriptions

There are no composition types for the primary types.

4.2.5 Secondary types - Class types descriptions

There are no elements in this category in the system analysed.

4.2.6 Secondary types - Datatypes types descriptions

There are no elements in this category in the system analysed.

4.2.7 Secondary types - Association types descriptions

There are no association types for the secondary types.

4.2.8 Secondary types - Aggregation types descriptions

There are no aggregation types for the secondary types.

4.2.9 Secondary types - Composition types descriptions

There are no composition types for the secondary types.

Chapter 5

Operation Model

This section contains the operation schemes of each operation defined in either an actor, its output interface, in a primary or secondary type (class, datatype or enumeration types). The Messir OCL code listing is joined to the comment table.

5.1 Environment - Out Interface Operation Schemes

There are no elements in this category in the system analysed.

5.2 Environment - Actor Operation Schemes

There are no elements in this category in the system analysed.

5.3 Primary Types - Operation Schemes for Classes

There are no elements in this category in the system analysed.

5.4 Primary Types - Operation Schemes for Datatypes

There are no elements in this category in the system analysed.

5.5 Primary Types - Operation Schemes for Enumerations

There are no elements in this category in the system analysed.

5.6 Secondary Types - Operation Schemes for Classes

There are no elements in this category in the system analysed.

5.7 Secondary Types - Operation Schemes for Datatypes

There are no elements in this category in the system analysed.

5.8 Secondary Types - Operation Schemes for Enumerations

There are no elements in this category in the system analysed.

Chapter 6

Test Model(s)

There are no elements in this category in the system analysed.

Chapter 7

Additional Constraints

Appendix A

Undocumented Messir Specification Elements

A.1 Undocumented Use Cases

A.1.1 Undocumented User-Goal Level Use Cases

- lu.uni.lassy.excalibur.group01.excalibur.usecases.ugSecurelyUseSystem

A.1.2 Undocumented Subfunction Level Use Cases

- lu.uni.lassy.excalibur.group01.excalibur.usecases.oeEntersFields
- lu.uni.lassy.excalibur.group01.excalibur.usecases.oeLogin
- lu.uni.lassy.excalibur.group01.excalibur.usecases.oeLogout
- lu.uni.lassy.excalibur.group01.excalibur.usecases.oeRequestPushedToTable
- lu.uni.lassy.excalibur.group01.excalibur.usecases.sfChecksInputFields
- lu.uni.lassy.excalibur.group01.excalibur.usecases.sfSendsRequest

A.1.3 Undocumented Use Case Views

- uc-sfplating
- ugAskForSensor

A.2 Undocumented Actors

- lu.uni.lassy.excalibur.group01.excalibur.environment.actManager
- lu.uni.lassy.excalibur.group01.excalibur.environment.actSystem

A.3 Undocumented Primary Types

A.3.1 Undocumented Primary Classe Types

- lu.uni.lassy.excalibur.group01.excalibur.concepts.primarytypes.classes.ctState

A.4 Undocumented Concept Model Views

- LionelSchroeder
- Marc

Appendix B

Messir Specification Files Listing

B.1 File ./src-gen/messir-spec/.views.msr

```
//
//DON'T TOUCH THIS FILE !!!
//
package uuid38ab2d5ea46c4d358fba679e4f14fa42 {
 Concept Model {}
}
```

Listing B.1: Messir Spec. file .views.msr.

B.2 File ./src-gen/messir-spec/environment/environment.msr

```
/*
* @author Gaetan1991
* @date Wed Oct 11 14:39:06 CEST 2017
*/

package lu.uni.lassy.excalibur.group01.excalibur.environment {

import lu.uni.lassy.messir.libraries.calendar
import lu.uni.lassy.messir.libraries.math
import lu.uni.lassy.messir.libraries.primitives
import lu.uni.lassy.messir.libraries.string

Environment Model {

actor actTechnician role rnactTechnician cardinality[0 .. *] {
   input interface inactTechnician {
   }
   output interface outactTechnician {
   }
  }
 actor actGardener role rnactGardener cardinality[0 .. *] {
   input interface inactGardener {
   }
   output interface outactGardener {
   }
  }
 actor actSystem role rnactSystem cardinality[0 .. *] {
   input interface inactSystem {
   }
   output interface outactSystem {
   }
  }
 actor actManager role rnactManager cardinality[0 .. *] {
   input interface inactManager {
   }
   output interface outactManager {
```

```
37     }
38   }
39  }
40 }
```

Listing B.2: Messir Spec. file environment.msr.

B.3 File ./src-gen/messir-spec/concepts/primarytypes-associations/primarytypes-associations.msr

```
1 /*
2 * @author Gaetan1991
3 * @date Wed Oct 11 14:39:06 CEST 2017
4 */
5
6 package lu.uni.lassy.excalibur.group01.excalibur.concepts.primarytypes.associations {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Primary Types {
16
17  }
18 }
19 }
```

Listing B.3: Messir Spec. file primarytypes-associations.msr.

B.4 File ./src-gen/messir-spec/concepts/primarytypes-classes/primarytypes-classes.msr

```
1 /*
2 * @author Gaetan1991
3 * @date Wed Oct 11 14:39:06 CEST 2017
4 */
5
6 package lu.uni.lassy.excalibur.group01.excalibur.concepts.primarytypes.classes {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 import lu.uni.lassy.messir.libraries.primitives
14
15 Concept Model {
16
17  Primary Types {
18
19   state class ctState {
20    attribute vpStarted: ptBoolean
21
22    operation init(AvpStarted:ptBoolean): ptBoolean
23   }
24
25  }
26 }
27 }
```

Listing B.4: Messir Spec. file primarytypes-classes.msr.

B.5 File ./src-gen/messir-spec/concepts/primarytypes-datatypes/primarytypes-datatypes.msr

```
1 /*
2 * @author Gaetan1991
3 * @date Wed Oct 11 14:39:06 CEST 2017
4 */
5
6 package lu.uni.lassy.excalibur.group01.excalibur.concepts.primarytypes.datatypes {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Primary Types {
16
17  datatype dtMessage {
18   attribute value : ptString
19    }
20  datatype dtExecussion {
21   attribute value : ptInteger
22    }
23   }
24 }
25 }
```

Listing B.5: Messir Spec. file primarytypes-datatypes.msr.

B.6 File ./src-gen/messir-spec/concepts/secondarytypes-associations/secondarytypes-associations.msr

```
1 /*
2 * @author Gaetan1991
3 * @date Wed Oct 11 14:39:06 CEST 2017
4 */
5
6 package lu.uni.lassy.excalibur.group01.excalibur.concepts.secondarytypes.associations {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Secondary Types {
16
17  }
18 }
19 }
```

Listing B.6: Messir Spec. file secondarytypes-associations.msr.

B.7 File ./src-gen/messir-spec/concepts/secondarytypes-classes/secondarytypes-classes.msr

```
1 /*
2 * @author Gaetan1991
3 * @date Wed Oct 11 14:39:06 CEST 2017
4 */
5
```

```
6 package lu.uni.lassy.excalibur.group01.excalibur.concepts.secondarytypes.classes {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Secondary Types {
16
17  }
18 }
19 }
```

Listing B.7: Messir Spec. file secondarytypes-classes.msr.

B.8 File ./src-gen/messir-spec/concepts/secondarytypes-datatypes/secondarytypes-datatypes.msr

```
1 /*
2 * @author Gaetan1991
3 * @date Wed Oct 11 14:39:06 CEST 2017
4 */
5
6 package lu.uni.lassy.excalibur.group01.excalibur.concepts.secondarytypes.datatypes {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13 Concept Model {
14
15  Secondary Types {
16
17  }
18
19 }
20 }
```

Listing B.8: Messir Spec. file secondarytypes-datatypes.msr.

B.9 File ./src-gen/messir-spec/tests/tests.msr

```
1 /*
2 * @author Gaetan1991
3 * @date Wed Oct 11 14:39:06 CEST 2017
4 */
5
6 package lu.uni.lassy.excalibur.group01.excalibur.tests {
7
8 import lu.uni.lassy.messir.libraries.calendar
9 import lu.uni.lassy.messir.libraries.math
10 import lu.uni.lassy.messir.libraries.primitives
11 import lu.uni.lassy.messir.libraries.string
12
13  Test Model {
14
15  }
16
17 }
```

Listing B.9: Messir Spec. file tests.msr.

B.10 File ./src-gen/messir-spec/usecases/usecases.msr

```
/*
* @author Gaetan1991
* @date Wed Oct 11 14:39:06 CEST 2017
*/

package lu.uni.lassy.excalibur.group01.excalibur.usecases {

import lu.uni.lassy.messir.libraries.calendar
import lu.uni.lassy.messir.libraries.math
import lu.uni.lassy.messir.libraries.primitives
import lu.uni.lassy.messir.libraries.string

 Use Case Model {

 use case system subfunction sfcheckSensor() {
   actor lu.uni.lassy.excalibur.group01.excalibur.environment.actTechnician[primary, active]

  }
 use case system subfunction sfplating() {
   actor lu.uni.lassy.excalibur.group01.excalibur.environment.actGardener[primary, active]
  }
 use case system subfunction oeLogin() {
   actor lu.uni.lassy.excalibur.group01.excalibur.environment.actGardener[primary, active]
  }
 use case system subfunction oeLogout() {
   actor lu.uni.lassy.excalibur.group01.excalibur.environment.actGardener[primary, active]
  }
 use case system usergoal ugSecurelyUseSystem() {
  actor lu.uni.lassy.excalibur.group01.excalibur.environment.actGardener[primary,active]

  reuse oeLogin[1..1]
  reuse oeLogout[1..1]

  step a: lu.uni.lassy.excalibur.group01.excalibur.environment.actGardener
   executes oeLogin
  step b: lu.uni.lassy.excalibur.group01.excalibur.environment.actGardener
   executes oeLogout

  ordering constraint
  "step (a) must always precede step (b)."
  }

 use case system usergoal ugAskForSensor() {
  actor lu.uni.lassy.excalibur.group01.excalibur.environment.actTechnician[primary,active]
  actor lu.uni.lassy.excalibur.group01.excalibur.environment.actSystem[secondary,passive]
  reuse oeEntersFields[1..1]
  reuse sfChecksInputFields[1..*]
  reuse oeRequestPushedToTable[1..1]

  step a: lu.uni.lassy.excalibur.group01.excalibur.environment.actTechnician
  executes oeEntersFields()

  step b: lu.uni.lassy.excalibur.group01.excalibur.environment.actSystem
  executes sfChecksInputFields()

  step c: lu.uni.lassy.excalibur.group01.excalibur.environment.actSystem
  executes oeRequestPushedToTable()

  ordering constraint "step (a) must be executed first"
  ordering constraint "step(b) has to be sussesfully to preceed step(c)"

  }
 use case system subfunction oeEntersFields() {
   actor lu.uni.lassy.excalibur.group01.excalibur.environment.actTechnician[primary, active]
  }
 use case system subfunction sfSendsRequest() {
   actor lu.uni.lassy.excalibur.group01.excalibur.environment.actSystem[primary, active]
  }
 use case system subfunction sfChecksInputFields() {
   actor lu.uni.lassy.excalibur.group01.excalibur.environment.actSystem[primary, active]
```

```
71   }
72  use case system subfunction oeRequestPushedToTable() {
73    actor lu.uni.lassy.excalibur.group01.excalibur.environment.actSystem[primary, active]
74   }
75  }
76
77 }
```

Listing B.10: Messir Spec. file usecases.msr.