

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



*MyProjectName* : Your Title  
**Messir Analysis Document**  
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# 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 **Messip** 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 **Messip** 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 **Messip** method and inspired by the standard Cokburn template [?].

### 2.3.1 Use Cases

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

### **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 **messip** environment model.

### 3.2 Actors and Interfaces Descriptions

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



# Chapter 4

## Concept Model

### 4.1 Concept Model view(s)

There are no view(s) for the **Messip** 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

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

#### 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 **messi** 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 Summary Level Use Cases

- `lu.uni.lassy.excalibur.myproject.usecases.suDeployAndRun`
- `lu.uni.lassy.excalibur.myproject.usecases.suManageLibrarians`

#### A.1.2 Undocumented Subfunction Level Use Cases

- `lu.uni.lassy.excalibur.myproject.usecases.sfAddLibrarian`
- `lu.uni.lassy.excalibur.myproject.usecases.sfDeleteLibrarian`
- `lu.uni.lassy.excalibur.myproject.usecases.sfEditLibrarian`
- `lu.uni.lassy.excalibur.myproject.usecases.sfLogin`
- `lu.uni.lassy.excalibur.myproject.usecases.sfLogout`

#### A.1.3 Undocumented Use Case Views

- `uc-suDeployAndRun`
- `uc-suManageLibrarians`

### A.2 Undocumented Use Case Instances

#### A.2.1 Undocumented Summary Level Use Case Instances

- `usecases.ucisuDeployAndRun.ucisuDeployAndRun`

#### A.2.2 Undocumented Use Case Instance Views

- `uci-ucisuDeployAndRun`

### A.3 Undocumented Actors

- `lu.uni.lassy.excalibur.myproject.environment.actDatabaseManagementSystem`
- `lu.uni.lassy.excalibur.myproject.environment.actLibrarianManagementSystem`
- `lu.uni.lassy.excalibur.myproject.environment.actSysadmin`

### A.4 Undocumented Primary Types

#### A.4.1 Undocumented Primary Classe Types

- `lu.uni.lassy.excalibur.myproject.concepts.primarytypes.classes.ctState`



## Appendix B

# Messir Specification Files Listing

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

```
1 //
2 //DON'T TOUCH THIS FILE !!!
3 //
4 package uuid695728acbf2b4e2da067e942a8b71a42 {
5   Concept Model {}
6 }
```

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

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

```
1 /*
2 * @author lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.myproject.environment {
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  Environment Model {
14
15    actor actSysadmin role ractSysadmin cardinality[0 .. *] {
16      input interface inactSysadmin {
17      }
18      output interface outactSysadmin {
19      }
20    }
21    actor actLibrarianManagementSystem role ractLibrarianManagementSystem cardinality[0 .. *] {
22      input interface inactLibrarianManagementSystem {
23      }
24      output interface outactLibrarianManagementSystem {
25      }
26    }
27    actor actDatabaseManagementSystem role ractDatabaseManagementSystem cardinality[0 .. *] {
28      input interface inactDatabaseManagementSystem {
29      }
30      output interface outactDatabaseManagementSystem {
31      }
32    }
33  }
34 }
```

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

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

```

1 /*
2 * @author lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.myproject.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 lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.myproject.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 lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017

```

```

4 */
5
6 package lu.uni.lassy.excalibur.myproject.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 }
18 }
19 }

```

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 lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.myproject.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 lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.myproject.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 lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.myproject.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 lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.myproject.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/usecaseinstance-sfAddLibrarian-ucisfAddLibrarian.msr`

```

1 package usecases.ucisfAddLibrarian {
2 import lu.uni.lassy.excalibur.myproject.usecases
3
4 Use Case Model {
5 }
6 }

```

Listing B.10: Messir Spec. file usecaseinstance-sfAddLibrarian-ucisfAddLibrarian.msr.

## B.11 File `./src-gen/messir-spec/usecases/usecaseinstance-sfDeleteLibrarian-ucisfDeleteLibrarian.msr`

```

1 package usecases.ucisfDeleteLibrarian {
2   import lu.uni.lassy.excalibur.myproject.usecases
3
4   Use Case Model {
5   }
6 }

```

Listing B.11: Messir Spec. file usecaseinstance-sfDeleteLibrarian-ucisfDeleteLibrarian.msr.

## B.12 File `./src-gen/messir-spec/usecases/usecaseinstance-sfEditLibrarian-ucisfEditLibrarian.msr`

```

1 package usecases.ucisfEditLibrarian {
2   import lu.uni.lassy.excalibur.myproject.usecases
3
4   Use Case Model {
5
6   }
7 }

```

Listing B.12: Messir Spec. file usecaseinstance-sfEditLibrarian-ucisfEditLibrarian.msr.

## B.13 File `./src-gen/messir-spec/usecases/usecaseinstance-suDeployAndRun-ucisuDeployAndRun.msr`

```

1 package usecases.ucisuDeployAndRun {
2   import lu.uni.lassy.excalibur.myproject.usecases
3
4   Use Case Model {
5
6     use case instance ucisuDeployAndRun : suDeployAndRun{
7       actors {
8         filippoLobisch : lu.uni.lassy.excalibur.myproject.environment.actSysadmin
9       }
10
11       use case steps{
12         filippoLobisch executed instanceof subfunction sfLogin("filippoLobisch", "password") {}
13         filippoLobisch executed instanceof subfunction sfLogout() {}
14         filippoLobisch executed instanceof subfunction sfAddLibrarian("100900100", "John Smith", "
15           10/10/1990") {}
16         filippoLobisch executed instanceof subfunction sfEditLibrarian("Successfully edited librarian.")
17           {}
18         filippoLobisch executed instanceof subfunction sfDeleteLibrarian("Successfully deleted librarian
19           .") {}
20       }
21     }
22   }
23 }

```

Listing B.13: Messir Spec. file usecaseinstance-suDeployAndRun-ucisuDeployAndRun.msr.

## B.14 File `./src-gen/messir-spec/usecases/usecaseinstance-suManageLibrarians-ucisuManageLibrarians.msr`

```

1 package usecases.ucisuManageLibrarians {
2   import lu.uni.lassy.excalibur.myproject.usecases

```

```

3
4 Use Case Model {
5
6 }
7 }

```

Listing B.14: Messir Spec. file usecaseinstance-suManageLibrarians-ucisuManageLibrarians.msr.

## B.15 File `./src-gen/messir-spec/usecases/usecaseinstance-ugLibrarians-uciugLibrarians.msr`

```

1 package usecases.uciugLibrarians {
2 import lu.uni.lassy.excalibur.myproject.usecases
3
4 Use Case Model {
5
6 }
7 }

```

Listing B.15: Messir Spec. file usecaseinstance-ugLibrarians-uciugLibrarians.msr.

## B.16 File `./src-gen/messir-spec/usecases/usecases.msr`

```

1 /*
2 * @author lobfil
3 * @date Tue Nov 07 21:17:53 CET 2017
4 */
5
6 package lu.uni.lassy.excalibur.myproject.usecases {
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 Use Case Model {
14
15 use case system summary suManageLibrarians() {
16 actor lu.uni.lassy.excalibur.myproject.environment.actSysadmin[primary, active]
17 actor lu.uni.lassy.excalibur.myproject.environment.actDatabaseManagementSystem[secondary, active]
18 actor lu.uni.lassy.excalibur.myproject.environment.actLibrarianManagementSystem[secondary, active]
19
20 reuse lu.uni.lassy.excalibur.myproject.usecases.sfAddLibrarian[0..*]
21 reuse lu.uni.lassy.excalibur.myproject.usecases.sfEditLibrarian[0..*]
22 reuse lu.uni.lassy.excalibur.myproject.usecases.sfDeleteLibrarian[0..*]
23
24 step a: lu.uni.lassy.excalibur.myproject.environment.actSysadmin executes sfAddLibrarian
25 step b: lu.uni.lassy.excalibur.myproject.environment.actSysadmin executes sfEditLibrarian
26 step c: lu.uni.lassy.excalibur.myproject.environment.actSysadmin executes sfDeleteLibrarian
27
28 }
29
30 use case system summary suDeployAndRun() {
31 actor lu.uni.lassy.excalibur.myproject.environment.actSysadmin[primary, active]
32
33 reuse lu.uni.lassy.excalibur.myproject.usecases.suManageLibrarians[1..*]
34 reuse lu.uni.lassy.excalibur.myproject.usecases.sfLogin[0..1]
35 reuse lu.uni.lassy.excalibur.myproject.usecases.sfLogout[0..1]
36
37 step a: lu.uni.lassy.excalibur.myproject.environment.actSysadmin executes sfLogin
38 step b: lu.uni.lassy.excalibur.myproject.environment.actSysadmin executes sfLogout
39 step c: lu.uni.lassy.excalibur.myproject.environment.actSysadmin executes suManageLibrarians
40
41 }
42
43 use case system subfunction sfAddLibrarian() {
44 actor lu.uni.lassy.excalibur.myproject.environment.actSysadmin[primary, passive]

```

```

45  actor lu.uni.lassy.excalibur.myproject.environment.actDatabaseManagementSystem[secondary, passive
46  ]
47  actor lu.uni.lassy.excalibur.myproject.environment.actLibrarianManagementSystem[secondary,
48  passive]
49  returned messages{
50  ieAddLibrarian returned to lu.uni.lassy.excalibur.myproject.environment.actSysadmin
51  }
52  }
53  use case system subfunction sfDeleteLibrarian() {
54  actor lu.uni.lassy.excalibur.myproject.environment.actSysadmin[primary, active]
55  actor lu.uni.lassy.excalibur.myproject.environment.actDatabaseManagementSystem[secondary, passive
56  ]
57  actor lu.uni.lassy.excalibur.myproject.environment.actLibrarianManagementSystem[secondary,
58  passive]
59  returned messages{
60  ieDeleteLibrarian returned to lu.uni.lassy.excalibur.myproject.environment.actSysadmin
61  }
62  }
63  use case system subfunction sfEditLibrarian() {
64  actor lu.uni.lassy.excalibur.myproject.environment.actSysadmin[primary, active]
65  actor lu.uni.lassy.excalibur.myproject.environment.actDatabaseManagementSystem[secondary, passive
66  ]
67  actor lu.uni.lassy.excalibur.myproject.environment.actLibrarianManagementSystem[secondary,
68  passive]
69  returned messages{
70  ieEditLibrarian returned to lu.uni.lassy.excalibur.myproject.environment.actSysadmin
71  }
72  }
73  use case system subfunction sfLogin() {
74  actor lu.uni.lassy.excalibur.myproject.environment.actSysadmin[primary, active]
75  returned messages{
76  ieLogin returned to lu.uni.lassy.excalibur.myproject.environment.actSysadmin
77  }
78  }
79  use case system subfunction sfLogout() {
80  actor lu.uni.lassy.excalibur.myproject.environment.actSysadmin[primary, active]
81  returned messages{
82  ieLogout returned to lu.uni.lassy.excalibur.myproject.environment.actSysadmin
83  }
84  }
85  }
86  }
87  }
88  }

```

Listing B.16: Messir Spec. file usecases.msr.





