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# MyProjectName: Your Title Messip Analysis Document - v 0.0 -

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6 LISTINGS

## 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

# 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  $\mathfrak{Messip}$  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  $\mathfrak{Messip}$  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  $\mathfrak{Messip}$  method and inspired by the standard Cokburn template [?].

#### 2.3.1 Use Cases

#### 2.3.2 Use Case Instance(s)

# **Environment Model**

#### 3.1 Environment model view(s)

There are no view(s) for the  $\mathfrak{Messl}{\mathfrak p}$  environment model.

#### 3.2 Actors and Interfaces Descriptions

## Concept Model

#### 4.1 Concept Model view(s)

There are no view(s) for the **Messi p** 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

#### 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.

## 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  $\mathfrak{Messip}$  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

#### 5.8 Secondary Types - Operation Schemes for Enumerations

# Test Model(s)

# Additional Constraints

### Appendix A

# Undocumented Messir Specification Elements

#### A.1 Undocumented Use Cases

#### A.1.1 Undocumented Summary Level Use Cases

 $\bullet \ lu.uni.lassy.excalibur.group 09.spec.use cases.suGlobal Management Of Event$ 

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

- lu.uni.lassy.excalibur.group09.spec.usecases.oeCreateNewCrisisEvent
- lu.uni.lassy.excalibur.group09.spec.usecases.oeRequestCoordinates
- lu.uni.lassy.excalibur.group09.spec.usecases.oeRequestHelp
- $\bullet \ lu.uni.lassy.excalibur.group 09.spec.use cases.oe Send Coordinates$
- lu.uni.lassy.excalibur.group09.spec.usecases.oeUpdateDispatchStatus

#### A.2 Undocumented Actors

- lu.uni.lassy.excalibur.group09.spec.environment.actCommunicationCompany
- lu.uni.lassy.excalibur.group09.spec.environment.actEmergencyCoordinator
- lu.uni.lassy.excalibur.group09.spec.environment.actFiremenCoordinator
- lu.uni.lassy.excalibur.group09.spec.environment.actPoliceCoordinator
- lu.uni.lassy.excalibur.group09.spec.environment.actTowServiceCoordinator

#### A.3 Undocumented Primary Types

#### A.3.1 Undocumented Primary Classe Types

• lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.classes.ctState

#### A.3.2 Undocumented Primary Datatype Types

- $\bullet$  lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.dtAddress
- $\bullet \ lu.uni.lassy. excalibur. group 09. spec. concepts. primary types. data t$
- lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.dtCrisisID
- $\bullet \ lu.uni.lassy.excalibur.group 09.spec.concepts.primary types.datatypes.dtPhone Number 2019 and 20$

#### A.3.3 Undocumented Primary Enumeration Types

- $\bullet \ \ lu.uni.lassy. excalibur. group 09. spec. concepts. primary types. data types. en Dispatch Status$
- lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.enHumanType
- lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.enTeamType

#### A.4 Undocumented Operation Specifications

- $\bullet \ lu.uni.lassy. excalibur. group 09. spec. environment. act Communication Company. out Company. Out$
- $\bullet \ lu.uni.lassy. excalibur. group 09. spec. environment. act Emergency Coordinator. out ac$
- $\bullet \ lu.uni.lassy. excalibur. group 09. spec. environment. act Emergency Coordinator. out ac$
- $\bullet \ lu.uni.lassy. excalibur. group 09. spec. environment. act Emergency Coordinator. out ac$
- $\bullet \ \ lu.uni.lassy. excalibur. group 09. spec. environment. act Emergency Coordinator. out act Emergency Coordinator. Out$
- $\bullet \ lu.uni.lassy. excalibur. group 09. spec. en vironment. act Firemen Coordinator. out act Firemen Coordinator. oe Messale act Firemen Coordinator. Out act Fi$
- $\bullet \ lu. uni. lassy. excalibur. group 09. spec. environment. act Firemen Coordinator. out act Firemen Coordinator. oe Refree act Firemen Coordinator. out act Firemen Coordinator. on the coordinator of t$
- $\bullet \ lu. uni. lassy. excalibur. group 09. spec. environment. act Firemen Coordinator. out act Firemen Coordinator. oe Requirement Coordinator. out act Firemen Coordinator. out act Firemen Coordinator. on the Coordinator Coordinator Coordinator. Out act Firemen Coordinator. Ou$
- lu.uni.lassy.excalibur.group09.spec.environment.actFiremenCoordinator.outactFiremenCoordinator.oeUpda
- $\bullet \;\; lu. uni. lassy. excalibur. group 09. spec. en vironment. act Police Coordinator. out act Police Coordinator$
- $\bullet \ lu. uni. lassy. excalibur. group 09. spec. en vironment. act Police Coordinator. out act Police Coordinator. oe Update Discourse and the policy of the$
- lu.uni.lassy.excalibur.group09.spec.environment.actTowServiceCoordinator.outactTowServiceCoordinator.ou
- lu.uni.lassy.excalibur.group09.spec.environment.actTowServiceCoordinator.outactTowServiceCoordinator.ou

### 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 uuidff8a216549a64951bf055c8b5a9dde2a {
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 Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
6 package lu.uni.lassy.excalibur.group09.spec.environment {
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
13 import lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes
15 Environment Model {
16
17
     actor actEmergencyCoordinator role rnactEmergencyCoordinator cardinality [1..*] {
18
      operation init():ptBoolean
19
20
21
      input interface inactEmergencyCoordinator {
       operation ieReceiveCoordinates(AdtCoordinates:dtCoordinates) : ptBoolean
22
23
       operation ieMessage(AMessage:ptString) : ptBoolean
24
25
26
      output interface outactEmergencyCoordinator {
27
       operation oeRequestCoordinates(AdtPhoneNumber:dtPhoneNumber) : ptBoolean
       operation oeMessage(AMessage:ptString) : ptBoolean
28
29
       operation oeCreateNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:
           enHumanType, AdtPhoneNumber:dtPhoneNumber,
                                                           AdtCrisisEventLocation:dtAddress) :
           ptBoolean
30
       operation oeConfirmLocation() : ptBoolean
31
32
     }
33
     actor actCommunicationCompany role rnactCommunicationCompany cardinality [1..*] {
```

```
35
36
      operation init() : ptBoolean
37
      input interface inactCommunicationCompany {
38
39
       operation ieRequestCoordinates(AdtPhoneNumber:dtPhoneNumber) : ptBoolean
40
41
      output interface outactCommunicationCompany {
42
43
      operation oeSendCoordinates(AdtCoordinates:dtCoordinates) : ptBoolean
44
45
46
     actor actFiremenCoordinator role rnactFiremenCoordinator cardinality [1..*] {
47
48
49
      operation init() : ptBoolean
50
      input interface inactFiremenCoordinator {
51
       operation ieReceiveNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:
52
                                                           AdtCrisisEventLocation:dtAddress) :
           enHumanType, AdtPhoneNumber:dtPhoneNumber,
           ptBoolean
53
54
      output interface outactFiremenCoordinator {
55
       operation oeMessage(AMessage:ptString) : ptBoolean
56
57
       operation oeUpdateDispatchStatus(AenDispatchStatus:enDispatchStatus): ptBoolean
       operation oeRequestHelp(AdtVehicleType: enTeamType, ARequestedNumber:ptInteger) : ptBoolean
58
       operation oeRefreshMap() : ptBoolean
59
60
     }
61
62
63
     actor actPoliceCoordinator role rnPoliceCoordinator cardinality [1..*] {
64
65
      operation init() : ptBoolean
66
      input interface inactPoliceCoordinator {
67
       operation ieReceiveNewCrisisEvent(AAdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:
68
           enHumanType, AdtPhoneNumber:dtPhoneNumber,
                                                          AdtCrisisEventLocation:dtAddress) :
           ptBoolean
69
70
      output interface outactPoliceCoordinator {
71
72
       operation oeMessage(AMessage:ptString) : ptBoolean
73
       operation oeUpdateDispatchStatus(AenDispatchStatus:enDispatchStatus): ptBoolean
74
75
76
     actor actTowServiceCoordinator role rnTowSericeCoordinator cardinality [1..*] {
77
78
79
      operation init() : ptBoolean
80
81
      input interface inactTowServiceCoordinator {
       operation ieReceiveNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:
82
           enHumanType, AdtPhoneNumber:dtPhoneNumber,
                                                           AdtCrisisEventLocation:dtAddress) :
           ptBoolean
83
84
85
      output interface outactTowServiceCoordinator {
       operation oeMessage(AMessage:ptString) : ptBoolean
86
       operation oeUpdateDispatchStatus(AenDispatchStatus:enDispatchStatus): ptBoolean
87
88
89
     }
90
91 }
92 }
```

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

 $B.3 \quad File \\ associations/primarytypes-associations.msr$ 

```
2 * @author Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
4 */
6 package lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.associations {
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.

 $B.4 \quad File \\ \quad ./src\text{-gen/messir-spec/concepts/primarytypes-classes.msr}$ 

```
1 / *
2 * @author Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
4 */
6 package lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.classes {
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
13 import lu.uni.lassy.messir.libraries.primitives
14
15 Concept Model {
16
  Primary Types {
17
18
    state class ctState {
19
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.

 $B.5 \quad File \\ \quad ./src\text{-gen/messir-spec/concepts/primarytypes-datatypes.msr}$ 

```
1/*
2 * @author Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
```

```
4 */
6 package lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes {
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 {
      datatype dtPhoneNumber {
16
17
       attribute value : ptInteger
18
19
20
      datatype dtAddress {
21
       attribute value : ptString
22
23
24
      datatype dtCrisisID {
25
        attribute value : ptInteger
26
27
28
      datatype dtCoordinates {
29
        attribute X : ptInteger
30
        attribute Y : ptInteger
31
32
      enum enDispatchStatus {
33
34
        constants["InStation", "InTransit", "Arrived"]
35
36
37
      enum enHumanType {
        constants["Victim", "Witness"]
38
39
40
41
      enum enTeamType {
       constants["AmbulanceTeam", "PoliceTeam", "TowServiceTeam", "FireFighterTeam"]
42
43
44 }
45 }
46 }
```

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

# $B.6 \quad File \\ \quad ./src\text{-gen/messir-spec/concepts/secondary types-associations/secondary types-associations.msr}$

```
1 / *
2 * @author Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
4 */
6 package lu.uni.lassy.excalibur.group09.spec.concepts.secondarytypes.associations {
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.msr

```
2 * @author Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
4 */
6 package lu.uni.lassy.excalibur.group09.spec.concepts.secondarytypes.classes {
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.

# $B.8 \quad File \qquad ./src\text{-gen/messir-spec/concepts/secondarytypes-datatypes.msr} \\$

```
1 / *
2 * @author Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
4 */
6 package lu.uni.lassy.excalibur.group09.spec.concepts.secondarytypes.datatypes {
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
  Secondary Types {
15
16
17
18
19 }
20 }
```

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

#### $B.9 \quad File \ ./src\text{-}gen/messir\text{-}spec/tests/tests.msr$

```
1 /*
2 * @author Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
4 */
5 6 package lu.uni.lassy.excalibur.group09.spec.tests {
```

```
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.

#### $B.10 \quad File \ ./src\text{-gen/messir-spec/use} cases/use cases.msr$

```
1 / *
2 * @author Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
4 */
6 package lu.uni.lassy.excalibur.group09.spec.usecases {
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 import lu.uni.lassy.excalibur.group09.spec.environment
13 import lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes
14
15 Use Case Model {
16
   use case system summary suGlobalManagementOfEvent() {
17
18
      actor actEmergencyCoordinator[primary, active]
      actor actCommunicationCompany[secondary, active]
19
      actor actFiremenCoordinator[secondary, active]
20
21
      actor actPoliceCoordinator[secondary, active]
      actor actTowServiceCoordinator[secondary, active]
23
24
      reuse oeRequestCoordinates[0..*]
25
      reuse oeSendCoordinates[0..*]
      reuse oeCreateNewCrisisEvent[1..*]
26
      reuse oeUpdateDispatchStatus[2..*]
28
      reuse oeRequestHelp[0..*]
29
30
      step a: actEmergencyCoordinator executes oeRequestCoordinates
31
      step b: actCommunicationCompany executes oeSendCoordinates
32
      step c: actEmergencyCoordinator executes oeCreateNewCrisisEvent
33
      step d: actFiremenCoordinator executes oeUpdateDispatchStatus
      step e: actTowServiceCoordinator executes oeUpdateDispatchStatus
34
35
      step f: actFiremenCoordinator executes oeUpdateDispatchStatus
      step q: actFiremenCoordinator executes oeRequestHelp
36
      step h: actPoliceCoordinator executes oeUpdateDispatchStatus
37
      \textbf{step} \ \texttt{i:} \ \texttt{actTowServiceCoordinator} \ \textbf{executes} \ \texttt{oeUpdateDispatchStatus}
38
39
      step j: actPoliceCoordinator executes oeUpdateDispatchStatus
40
41
42
43
   use case system subfunction oeRequestCoordinates(AdtPhoneNumber:dtPhoneNumber) {
     actor actEmergencyCoordinator[primary,active]
45
     actor actCommunicationCompany[secondary, passive]
46
    returned messages{
47
     ieRequestCoordinates(AdtPhoneNumber) returned to actCommunicationCompany //Slide 208..
48
    }
49
50
   use case system subfunction oeSendCoordinates(AdtCoordinates:dtCoordinates) {
   actor actCommunicationCompany[primary, active]
52
53
     actor actEmergencyCoordinator[secondary, passive]
    returned messages{
```

```
ieReceiveCoordinates(AdtCoordinates) returned to actEmergencyCoordinator
55
56
     }
57
    }
58
    use case system subfunction oeCreateNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString,
59
        AenHumanType:enHumanType, AdtPhoneNumber:dtPhoneNumber, AdtCrisisEventLocation:dtAddress) {
60
     actor actEmergencyCoordinator[primary,active]
61
     actor actFiremenCoordinator[secondary,passive]
     actor actPoliceCoordinator[secondary,passive]
62
     actor actTowServiceCoordinator[secondary,passive]
63
64
     returned messages{
      ieReceiveNewCrisisEvent(AdtCrisisID, AdtName, AenHumanType, AdtPhoneNumber,
65
          {\tt AdtCrisisEventLocation)} \ \ \textbf{returned to} \ \ {\tt actFiremenCoordinator}
66 / /
     }
67
68
69
70
    use case system subfunction oeUpdateDispatchStatus(AenDispatchStatus:enDispatchStatus) {
71
     actor actFiremenCoordinator[primary,active]
72 //
73 //
   }
74
75
76
    use case system subfunction oeRequestHelp(AdtVehicleType: enTeamType, RequestedNumber:ptInteger) {
     actor actFiremenCoordinator[primary,active]
77
78
     actor actPoliceCoordinator[secondary,passive]
     actor actTowServiceCoordinator[secondary,passive]
79
80
     returned messages{
      ieReceiveNewCrisisEvent(AdtCrisisID, AdtName, AenHumanType, AdtPhoneNumber,
81
          AdtCrisisEventLocation) returned to actFiremenCoordinator
82 //
83
    }
84
85
86
87
88 }
```

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