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Messir Analysis Document
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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 $\mathfrak{Messir}$ 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 $\mathfrak{Messir}$ 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 $\mathfrak{Messir}$ 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 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 `actCommunicationCompany` Actor

ACTOR
actCommunicationCompany
Is representing any communication company in Luxembourg.
OutputInterfaces
OUT 1   **oeSendCoordinates(AdtCoordinates:dtCoordinates):ptBoolean**
InputInterfaces
IN 1   **ieRequestCoordinates(AdtPhoneNumber:dtPhoneNumber):ptBoolean**

3.2.2 `actEmergencyCoordinator` Actor

ACTOR
actEmergencyCoordinator
Is representing the person that receives the victim's or witness' call in the emergency central.
OutputInterfaces
OUT 1   **oeRequestCoordinates(AdtPhoneNumber:dtPhoneNumber):ptBoolean**
OUT 2   **oeMessage(AMessage:ptString):ptBoolean**
OUT 3   **oeCreateNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:enHumanType, AdtPhoneNumber:dtPhoneNumber, AdtCrisisEventLocation:dtAddress):ptBoolean**

. . . Actor table continuation

OUT 4	`oeConfirmLocation():ptBoolean`

InputInterfaces	
IN 1	`ieReceiveCoordinates(AdtCoordinates:dtCoordinates):ptBoolean`
IN 2	`ieMessage(AMessage:ptString):ptBoolean`

3.2.3 `actFiremenCoordinator` Actor

ACTOR	
actFiremenCoordinator	
Is representing any firemen team leader able to manage a two Ambulances.	
OutputInterfaces	
OUT 1	`oeMessage(AMessage:ptString):ptBoolean`
OUT 2	`oeUpdateDispatchStatus(AenDispatchStatus:enDispatchStatus):ptBoolean`
OUT 3	`oeRequestHelp(AdtVehicleType:enTeamType, ARequestedNumber:ptInteger):pt`
OUT 4	`oeRefreshMap():ptBoolean`

InputInterfaces	
IN 1	`ieReceiveNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:enHumanType, AdtPhoneNumber:dtPhoneNumber, AdtCrisisEventLocation:dtAddress):ptBoolean`

3.2.4 `actPoliceCoordinator` Actor

ACTOR	
actPoliceCoordinator	
Is representing a police team leader.	
OutputInterfaces	
OUT 1	`oeMessage(AMessage:ptString):ptBoolean`
OUT 2	`oeUpdateDispatchStatus(AenDispatchStatus:enDispatchStatus):ptBoolean`

InputInterfaces	
IN 1	`ieReceiveNewCrisisEvent(AAdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:enHumanType, AdtPhoneNumber:dtPhoneNumber, AdtCrisisEventLocation:dtAddress):ptBoolean`

3.2.5 `actTowServiceCoordinator` Actor

ACTOR
actTowServiceCoordinator
Is representing a tow service driver.

OutputInterfaces	
OUT 1	**oeMessage(AMessage:ptString):ptBoolean**
OUT 2	**oeUpdateDispatchStatus(AenDispatchStatus:enDispatchStatus):ptBoolean**

InputInterfaces	
IN 1	**ieReceiveNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:enHumanType, AdtPhoneNumber:dtPhoneNumber, AdtCrisisEventLocation:dtAddress):ptBoolean**

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

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 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 Summary Level Use Cases

- lu.uni.lassy.excalibur.group09.spec.usecases.suGlobalManagementOfEvent

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

- lu.uni.lassy.excalibur.group09.spec.usecases.oeSendCoordinates

- lu.uni.lassy.excalibur.group09.spec.usecases.oeUpdateDispatchStatus

A.1.3   Undocumented Use Case Views

- uc-suGlobalManagementOfEvent

A.2   Undocumented Use Case Instances

A.2.1   Undocumented Summary Level Use Case Instances

- usecases.ucisuGlobalManagementOfEvent.ucisuGlobalManagementOfEvent

A.2.2   Undocumented Use Case Instance Views

- uci-ucisuGlobalManagementOfEvent

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

- lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.dtAddress

- lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.dtCoordinates

- lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.dtCrisisID

- lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.dtPhoneNumber

A.3.3   Undocumented Primary Enumeration Types

- lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes.enDispatchStatus

- 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

- lu.uni.lassy.excalibur.group09.spec.environment.actCommunicationCompany.outactCommunicationCompan

- lu.uni.lassy.excalibur.group09.spec.environment.actEmergencyCoordinator.outactEmergencyCoordinator.oe

- lu.uni.lassy.excalibur.group09.spec.environment.actEmergencyCoordinator.outactEmergencyCoordinator.oe

- lu.uni.lassy.excalibur.group09.spec.environment.actEmergencyCoordinator.outactEmergencyCoordinator.oe

- lu.uni.lassy.excalibur.group09.spec.environment.actEmergencyCoordinator.outactEmergencyCoordinator.oe

- lu.uni.lassy.excalibur.group09.spec.environment.actFiremenCoordinator.outactFiremenCoordinator.oeMessa

- lu.uni.lassy.excalibur.group09.spec.environment.actFiremenCoordinator.outactFiremenCoordinator.oeRefre

- lu.uni.lassy.excalibur.group09.spec.environment.actFiremenCoordinator.outactFiremenCoordinator.oeRequ

- lu.uni.lassy.excalibur.group09.spec.environment.actFiremenCoordinator.outactFiremenCoordinator.oeUpda

- lu.uni.lassy.excalibur.group09.spec.environment.actPoliceCoordinator.outactPoliceCoordinator.oeMessage

- lu.uni.lassy.excalibur.group09.spec.environment.actPoliceCoordinator.outactPoliceCoordinator.oeUpdateDis

- lu.uni.lassy.excalibur.group09.spec.environment.actTowServiceCoordinator.outactTowServiceCoordinator.oe

- lu.uni.lassy.excalibur.group09.spec.environment.actTowServiceCoordinator.outactTowServiceCoordinator.oe

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
4 */
5
6 package lu.uni.lassy.excalibur.group09.spec.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 import lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes
14
15 Environment Model {
16
17   actor actEmergencyCoordinator role rnactEmergencyCoordinator cardinality [1..*] {
18
19    operation init():ptBoolean
20
21    input interface inactEmergencyCoordinator {
22     operation ieReceiveCoordinates(AdtCoordinates:dtCoordinates) : ptBoolean
23     operation ieMessage(AMessage:ptString) : ptBoolean
24    }
25
26    output interface outactEmergencyCoordinator {
27     operation oeRequestCoordinates(AdtPhoneNumber:dtPhoneNumber) : ptBoolean
28     operation oeMessage(AMessage:ptString) : ptBoolean
29     operation oeCreateNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString, AenHumanType:
          enHumanType, AdtPhoneNumber:dtPhoneNumber,      AdtCrisisEventLocation:dtAddress) :
          ptBoolean
30     operation oeConfirmLocation() : ptBoolean
31    }
32   }
33
34   actor actCommunicationCompany role rnactCommunicationCompany cardinality [1..*] {
```

27

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

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

B.3 File ./src-gen/messir-spec/concepts/primarytypes-associations/primarytypes-associations.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.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 Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.group09.spec.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 Kira
3 * @date Tue Oct 25 23:54:03 CEST 2016
```

```
 4 */
 5
 6 package lu.uni.lassy.excalibur.group09.spec.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     datatype dtPhoneNumber {
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
33     enum enDispatchStatus {
34        constants["InStation", "InTransit", "Arrived"]
35     }
36
37     enum enHumanType {
38        constants["Victim", "Witness"]
39     }
40
41     enum enTeamType {
42      constants["AmbulanceTeam", "PoliceTeam", "TowServiceTeam", "FireFighterTeam"]
43     }
44  }
45 }
46 }
```

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

<center>Listing B.6: Messir Spec. file secondarytypes-associations.msr.</center>

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

<center>Listing B.7: Messir Spec. file secondarytypes-classes.msr.</center>

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

<center>Listing B.8: Messir Spec. file secondarytypes-datatypes.msr.</center>

B.9 File ./src-gen/messir-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 {
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-suGlobalManagementOfEvent-ucisuGlobalManagementOfEvent.msr

```
 1 package usecases.ucisuGlobalManagementOfEvent {
 2  import lu.uni.lassy.excalibur.group09.spec.usecases
 3  import lu.uni.lassy.excalibur.group09.spec.environment
 4  import lu.uni.lassy.excalibur.group09.spec.concepts.primarytypes.datatypes
 5
 6  Use Case Model {
 7
 8   use case instance ucisuGlobalManagementOfEvent : suGlobalManagementOfEvent{
 9    actors {
10     Camille : actEmergencyCoordinator
11     Orange : actCommunicationCompany
12     Fabio : actFiremenCoordinator
13     Ted : actTowServiceCoordinator
14     Polo : actPoliceCoordinator
15    }
16    use case steps {
17     Camille executed instanceof subfunction oeRequestCoordinates(AdtPhoneNumber="691123456") {
18      ieRequestCoordinates("AdtPhoneNumber") returned to Orange
19     }
20
21     Orange executed instanceof subfunction oeSendCoordinates(AdtCoordinates="X=75.08, Y=23.03") {
22      ieReceiveCoordinates("AdtCoordinates") returned to Camille
23     }
24
25 //    Camille executed instanceof subfunction oeCreateNewCrisisEvent(AdtCrisisID="", AdtName="",
         AenHumanType="", AdtPhoneNumberX="691123456", AdtCrisisEventLocation="A4, 1321 Luxembourg") {
26     Camille executed instanceof subfunction oeCreateNewCrisisEvent(AdtCrisisID="", AdtName="",
           AenHumanType="", AdtPhoneNumberX="691123456", AdtCrisisEventLocation="A4, 1321 Luxembourg")
           {
27      ieReceiveNewCrisisEvent("AdtCrisisID","AdtName","AenHumanType","AdtPhoneNumber","
           AdtCrisisEventLocation") returned to Fabio
28      ieReceiveNewCrisisEvent("AdtCrisisID","AdtName","AenHumanType","AdtPhoneNumber","
           AdtCrisisEventLocation") returned to Ted
29     }
30
31     Fabio executed instanceof subfunction oeUpdateDispatchStatus(AenDispatchStatus="InTransit") {
32
33      }
34
35     Ted executed instanceof subfunction oeUpdateDispatchStatus(AenDispatchStatusX="InTransit") {
36
37      }
38
39     Fabio executed instanceof subfunction oeUpdateDispatchStatus(AenDispatchStatusXX="Arrived") {
40
41      }
42
43     Fabio executed instanceof subfunction oeRequestHelp(AenTeamType="Police", RequestedNumber="1") {
44      ieReceiveNewCrisisEvent("AdtCrisisID","AdtName","AenHumanType","AdtPhoneNumber","
           AdtCrisisEventLocation") returned to Polo
45      }
46
```

```
47      Polo executed instanceof subfunction oeUpdateDispatchStatus(AenDispatchStatusXXX="InTransit") {
48
49        }
50
51      Ted executed instanceof subfunction oeUpdateDispatchStatus(AenDispatchStatusXXXX="Arrived") {
52
53        }
54
55      Polo executed instanceof subfunction oeUpdateDispatchStatus(AenDispatchStatusXXXXX="Arrived") {
56
57        }
58
59      }
60    }
61  }
62 }
```

Listing   B.10:   Messir   Spec.   file
usecaseinstance-suGlobalManagementOfEvent-ucisuGlobalManagementOfEvent.msr.

B.11   File ./src-gen/messir-spec/usecases/usecases.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.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 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
17   use case system summary suGlobalManagementOfEvent() {
18      actor actEmergencyCoordinator[primary, active]
19      actor actCommunicationCompany[secondary, active]
20      actor actFiremenCoordinator[secondary, active]
21      actor actPoliceCoordinator[secondary, active]
22      actor actTowServiceCoordinator[secondary, active]
23
24      reuse oeRequestCoordinates[0..*]
25      reuse oeSendCoordinates[0..*]
26      reuse oeCreateNewCrisisEvent[1..*]
27      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
34      step e: actTowServiceCoordinator executes oeUpdateDispatchStatus
35      step f: actFiremenCoordinator executes oeUpdateDispatchStatus
36      step g: actFiremenCoordinator executes oeRequestHelp
37      step h: actPoliceCoordinator executes oeUpdateDispatchStatus
38      step i: actTowServiceCoordinator executes oeUpdateDispatchStatus
39      step j: actPoliceCoordinator executes oeUpdateDispatchStatus
40
41      ordering constraint "if (b) then previously (a)"
42      ordering constraint "step (c) must be executed before the step (d) to (j)"
43   }
44
45   use case system subfunction oeRequestCoordinates(AdtPhoneNumber:dtPhoneNumber) {
46    actor actEmergencyCoordinator[primary,active]
47    actor actCommunicationCompany[secondary, passive]
```

```
48    returned messages{
49     ieRequestCoordinates(AdtPhoneNumber) returned to actCommunicationCompany //Slide 208..
50    }
51   }
52
53   use case system subfunction oeSendCoordinates(AdtCoordinates:dtCoordinates) {
54    actor actCommunicationCompany[primary, active]
55    actor actEmergencyCoordinator[secondary, passive]
56    returned messages{
57     ieReceiveCoordinates(AdtCoordinates) returned to actEmergencyCoordinator
58    }
59   }
60
61   use case system subfunction oeCreateNewCrisisEvent(AdtCrisisID:dtCrisisID, AdtName:ptString,
         AenHumanType:enHumanType, AdtPhoneNumber:dtPhoneNumber, AdtCrisisEventLocation:dtAddress) {
62    actor actEmergencyCoordinator[primary,active]
63    actor actFiremenCoordinator[secondary,passive]
64    actor actPoliceCoordinator[secondary,passive]
65    actor actTowServiceCoordinator[secondary,passive]
66    returned messages{
67     ieReceiveNewCrisisEvent(AdtCrisisID, AdtName, AenHumanType, AdtPhoneNumber,
           AdtCrisisEventLocation) returned to actFiremenCoordinator
68 //    ieReceiveNewCrisisEvent(AdtCrisisID, AdtCrisisEventLocation) returned to
       actTowServiceCoordinator
69    }
70   }
71
72   use case system subfunction oeUpdateDispatchStatus(AenDispatchStatus:enDispatchStatus){
73    actor actFiremenCoordinator[primary,active]
74 //   actor actTowServiceCoordinator[primary,active]
75 //   actor actPoliceCoordinator[primary,active]
76   }
77
78   use case system subfunction oeRequestHelp(AenTeamType: enTeamType, RequestedNumber:ptInteger) {
79    actor actFiremenCoordinator[primary,active]
80    actor actPoliceCoordinator[secondary,passive]
81    actor actTowServiceCoordinator[secondary,passive]
82    returned messages{
83     ieReceiveNewCrisisEvent(AdtCrisisID, AdtName, AenHumanType, AdtPhoneNumber,
           AdtCrisisEventLocation) returned to actFiremenCoordinator
84 //    ieReceiveNewCrisisEvent(AdtCrisisID, AdtCrisisEventLocation) returned to
       actTowServiceCoordinator
85    }
86   }
87
88  }
89
90 }
```

Listing B.11: Messir Spec. file usecases.msr.