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MESSIR Analysis Document
- v 0.0 -

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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

2.3.1.1 summary-suAcceptMission

The actVolunteer goal is to accept a HelpRequest mission and be assigned to it

USE-CASE DESCRIPTION	
Name	suAcceptMission
Scope	system
Level	summary
<i>Primary actor(s)</i>	
1	actVolunteer [active]
<i>Goal(s) description</i>	
The actVolunteer goal is to accept a HelpRequest mission and be assigned to it	
<i>Protocol condition(s)</i>	
1	The system is deployed
2	The actVolunteer has authorized by the Coordinator to accept missions
<i>Pre-condition(s)</i>	
1	
<i>Main post-condition(s)</i>	
1	The HelpRequest has been assigned to the actVolunteer and actVolunteer has been informed of the success of the operation
<i>Main Steps</i>	
a	the actor actVolunteer executes the <u>ugGetMissionInRange</u> use case
b	the actor actVolunteer executes the <u>oeAcceptMission</u> use case
<i>Additional Information</i>	
none	

2.3.1.2 summary-suAlertAFamilyMember

Figure 2.1 Summary Alert a family member

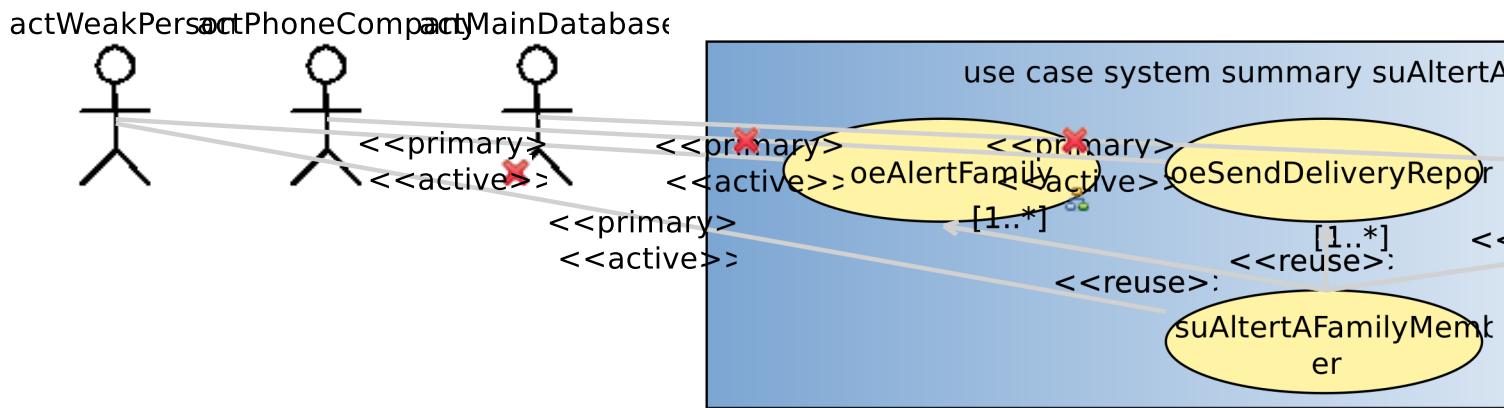


Figure 2.1:

2.3.1.3 summary-suCallSelectedHelpRequest

Figure 2.2 Use case view for Call selected help request

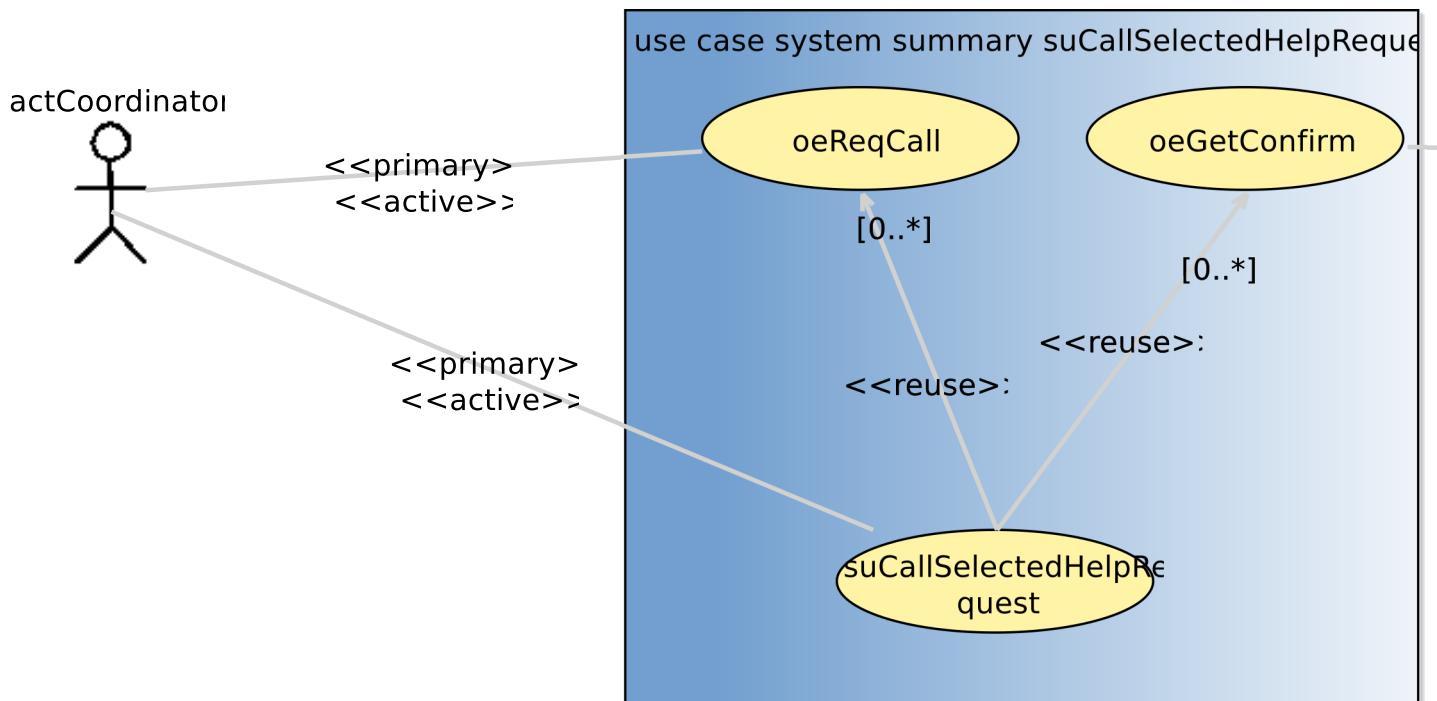


Figure 2.2:

2.3.1.4 summary-ugRequestHelp

Figure 2.3 User goal Request help

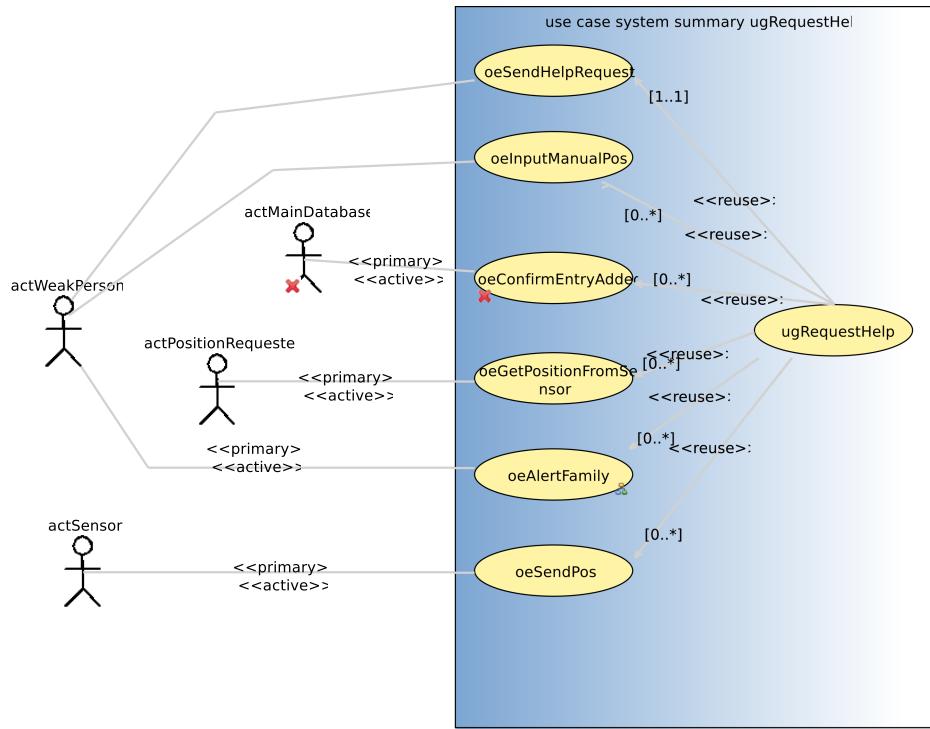


Figure 2.3:

2.3.1.5 usergoal-ugAssignPriorityToHelpRequest

Figure 2.4 Use case view for Assign priority to a specific help request

2.3.1.6 usergoal-ugGetCurrentPosition

This allows the Volunteer to save his current location in the system

USE-CASE DESCRIPTION	
Name	ugGetCurrentPosition
Scope	system
Level	usergoal
<i>Primary actor(s)</i>	
1	actVolunteer [active]
<i>Secondary actor(s)</i>	
1	actSensor []
<i>Goal(s) description</i>	
This allows the Volunteer to save his current location in the system	
<i>Protocol condition(s)</i>	
1	The system is running and ready
2	Volunteer is logged in
<i>Pre-condition(s)</i>	
1	The coordinates exists on the earth

continues in next page ...

... Use-Case Description table continuation

Main post-condition(s)
1 The coordinates are linked to this volunteer in saved for further use until new request of current position
Main Steps
a the actor actVolunteer executes the <u>oeGetCurrentPosition</u> use case b the actor actSensor executes the <u>oeSendCurrentPosition</u> use case c the actor actVolunteer executes the <u>oeRegisterPosition</u> use case
Additional Information
none

2.3.1.7 usergoal-ugGetMissionInRange

The actVolunteer's goal is to retrieve help requests that are in a specific range

USE-CASE DESCRIPTION
<i>Name</i> ugGetMissionInRange
<i>Scope</i> system
<i>Level</i> usergoal
Primary actor(s)
1 actVolunteer[active]
Secondary actor(s)
1 actPositionRequester[] 2 actSensor[]
Goal(s) description
The actVolunteer's goal is to retrieve help requests that are in a specific range
Protocol condition(s)
1 The system has been deployed.
Pre-condition(s)
1
Main post-condition(s)
1 The system returns a non null list of HelpRequest or a message indicating that none has been found within the specified range
Main Steps
a the actor actPositionRequester executes the <u>oeGetPositionFromSensor</u> use case b the actor actSensor executes the <u>oeSendPos</u> use case c the actor actVolunteer executes the <u>oeGetInRangeMission</u> use case
Additional Information
none

Figure 2.5 User goal Get mission in range

2.3.1.8 usergoal-ugRetrievePendingHelpRequestDetails

Figure 2.6 Retrieve help request details use case view

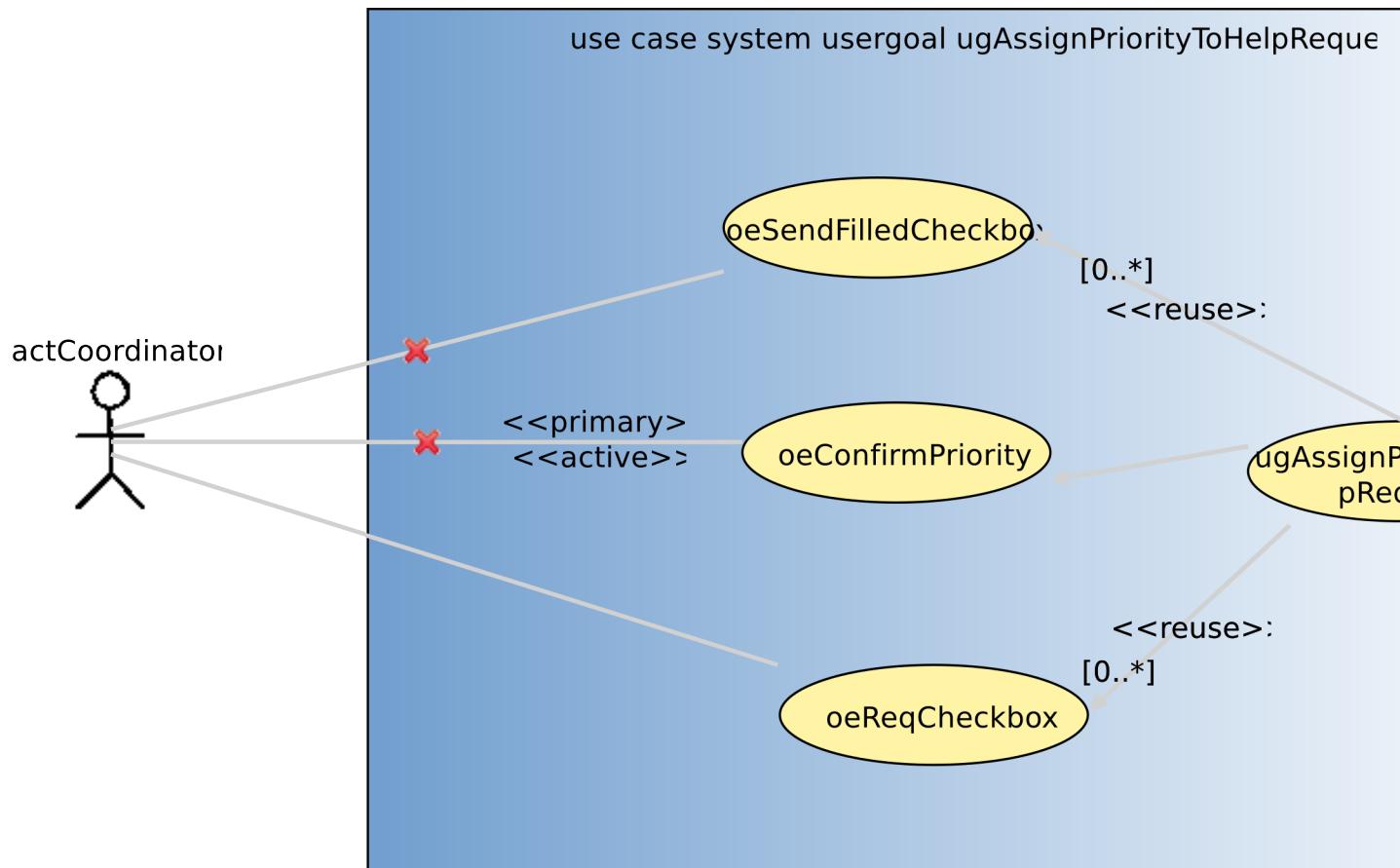


Figure 2.4:

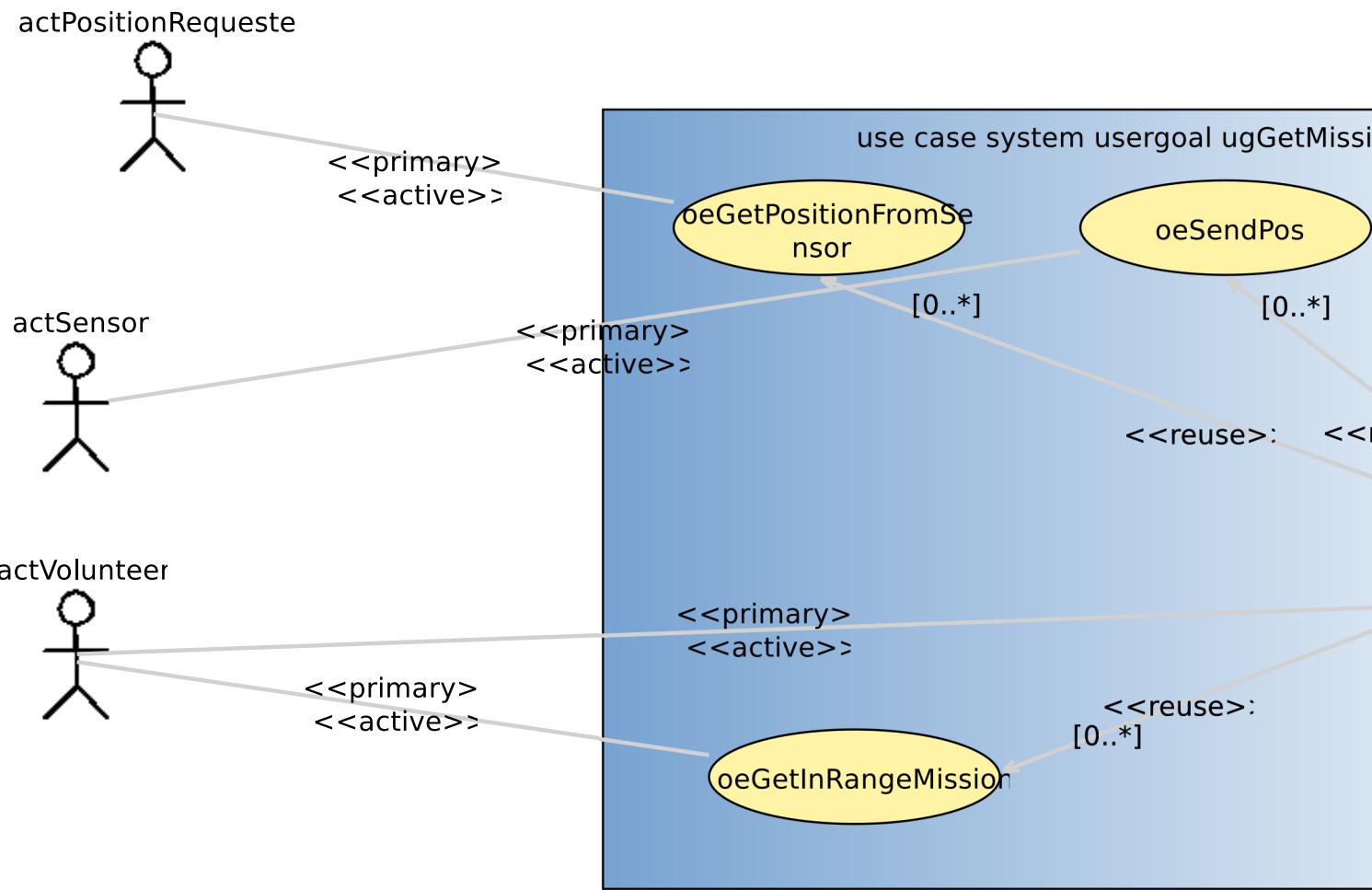


Figure 2.5:

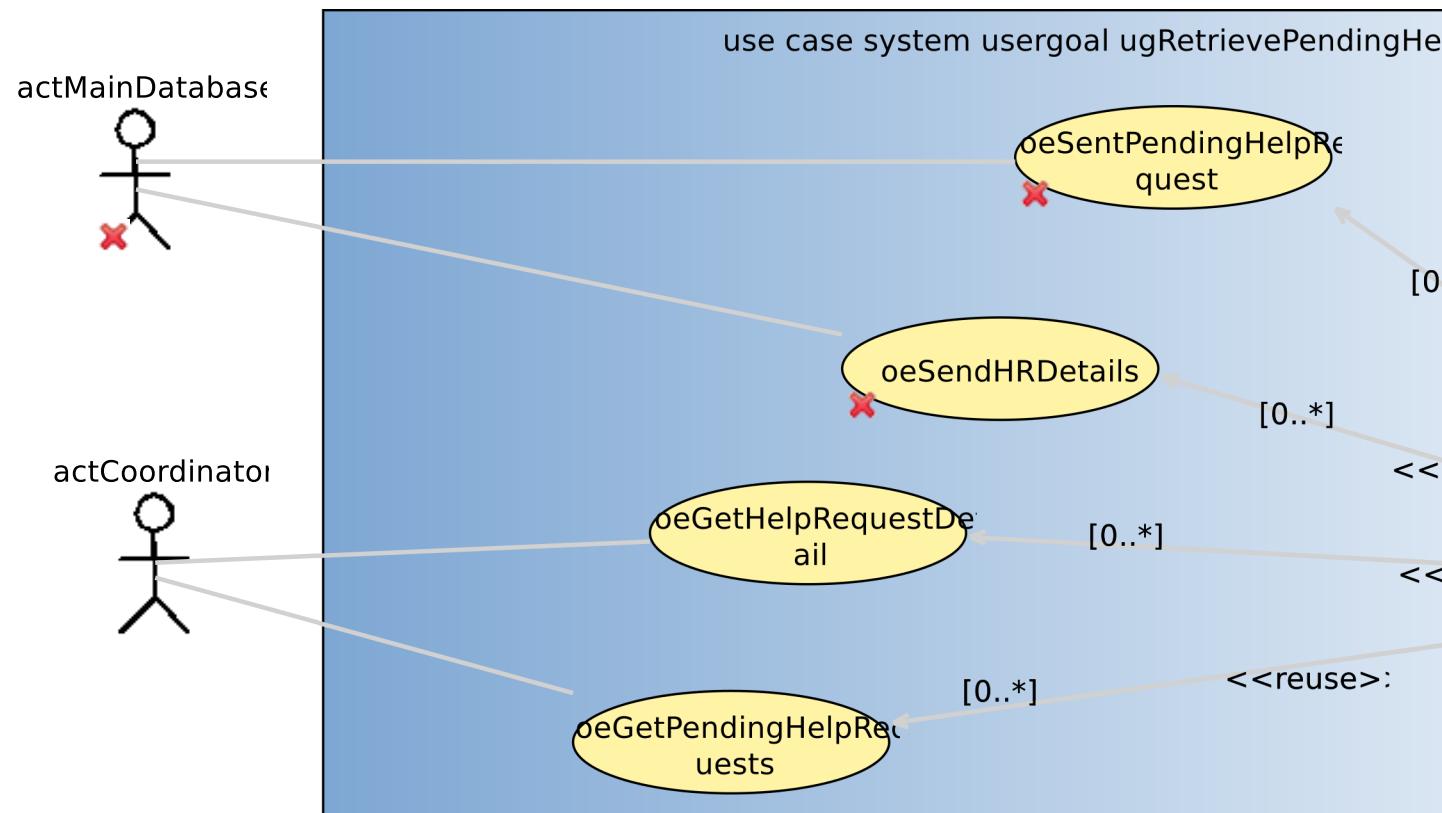


Figure 2.6:

2.3.1.9 subfunction-oeAlertFamily

Figure 2.7 Sub Function AlertFamily

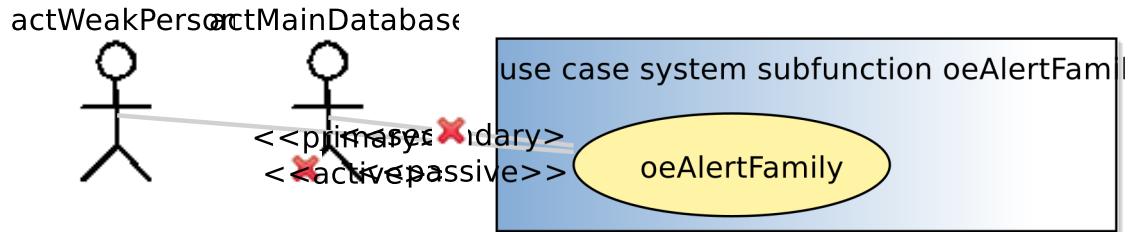


Figure 2.7:

2.3.1.10 subfunction-oeGetPositionFromSensor

Figure 2.8 Sub Function Get position from sensor

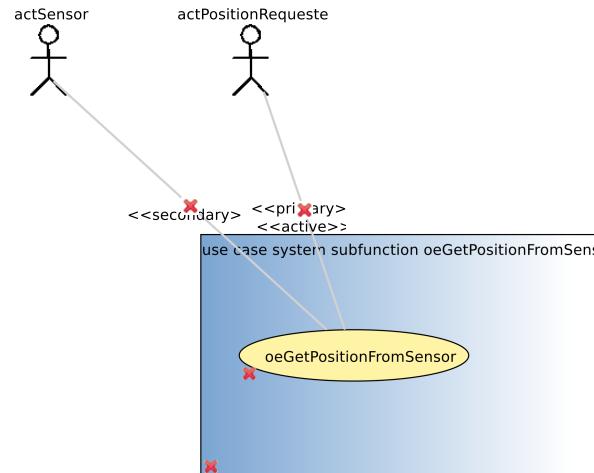


Figure 2.8:

2.3.2 Use Case Instance(s)

2.3.2.1 Use-Case Instance - uciCallSelectedHelp:suCallSelectedHelpRequest

Figure 2.9 Call Selected help request

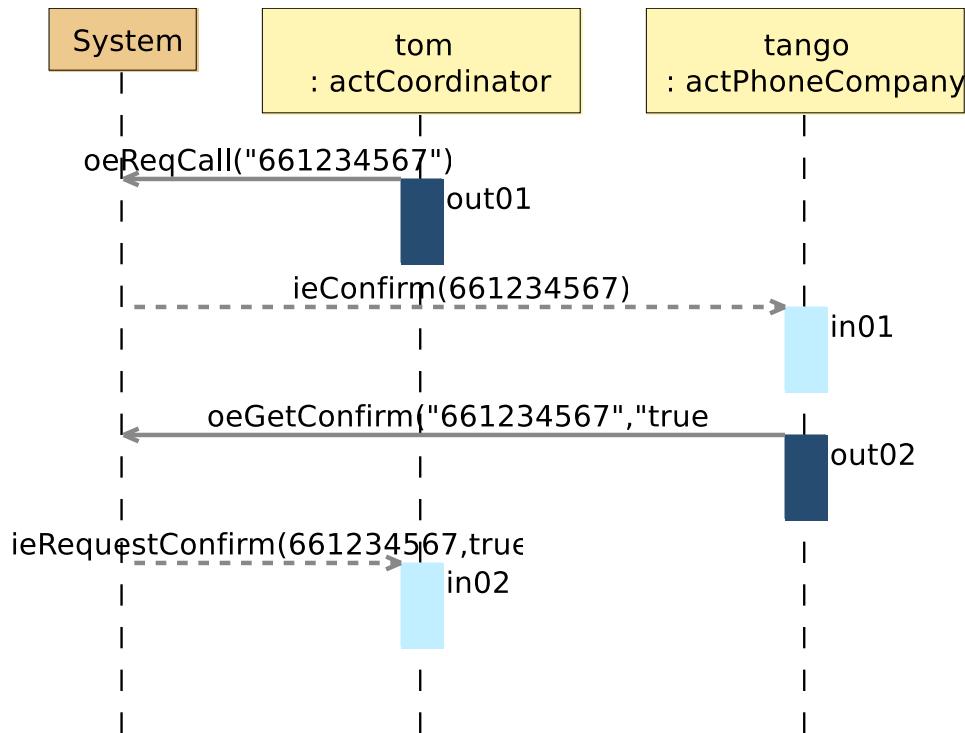


Figure 2.9:

2.3.2.2 Use-Case Instance - uciSendHelpRequest:ugRequestHelp

this is an instance that represent a weakPerson willing to request help

SUMMARY USE-CASE INSTANCE
<i>Instantiated Use Case</i> ugRequestHelp
<i>Instance ID</i> uciSendHelpRequest

Figure 2.10 Send help request

2.3.2.3 Use-Case Instance - uciGetCurrentPositon:ugGetPosition

This represent a use case instance of Volunteer willing to register his position into the system

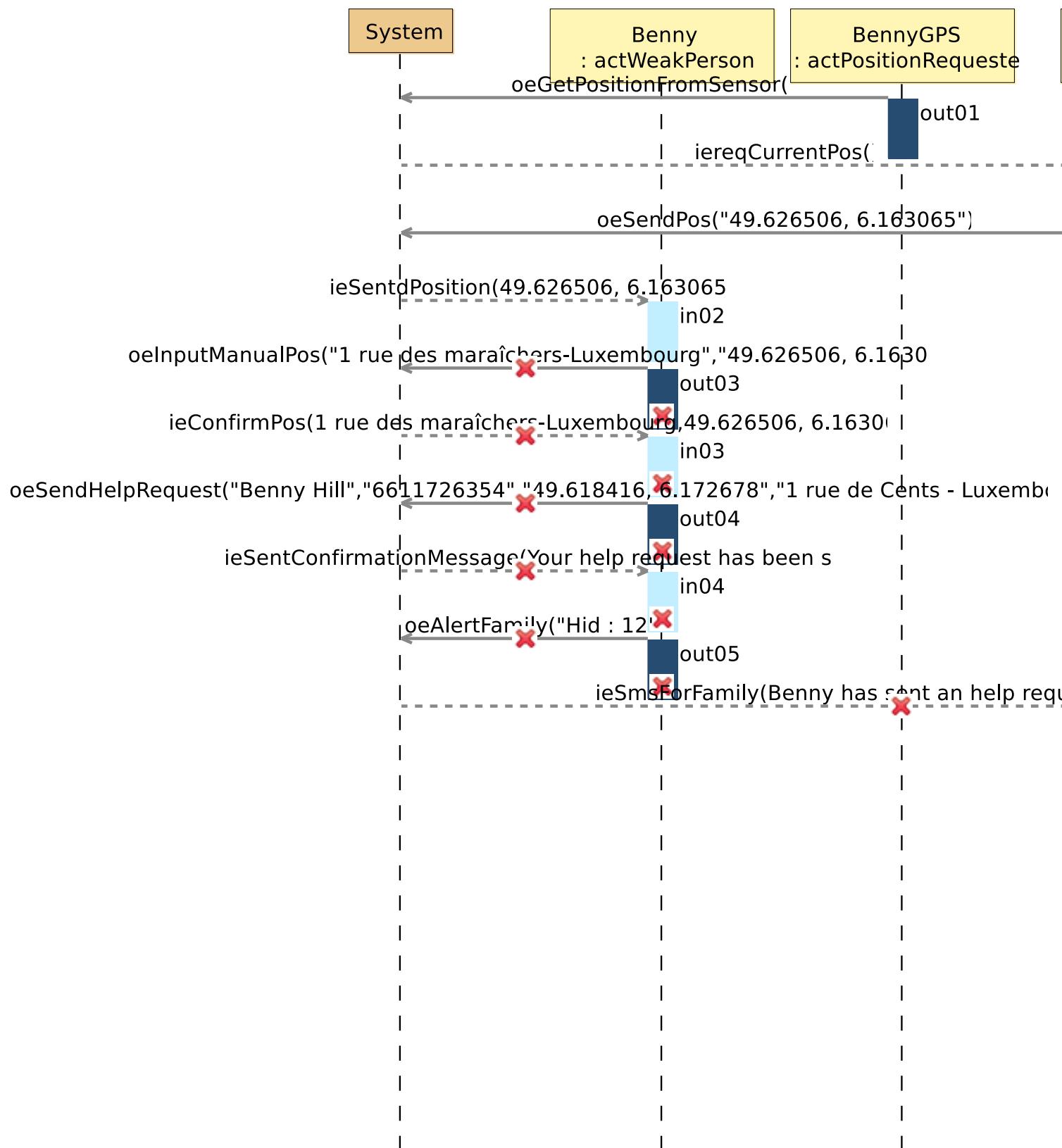


Figure 2.10:

USERGOAL USE-CASE INSTANCE
<i>Instantiated Use Case</i> ugGetCurrentPosition
<i>Instance ID</i> uciGetCurrentPosition

Figure 2.11 This represent a use case instance of Volunteer willing to register his position into the system

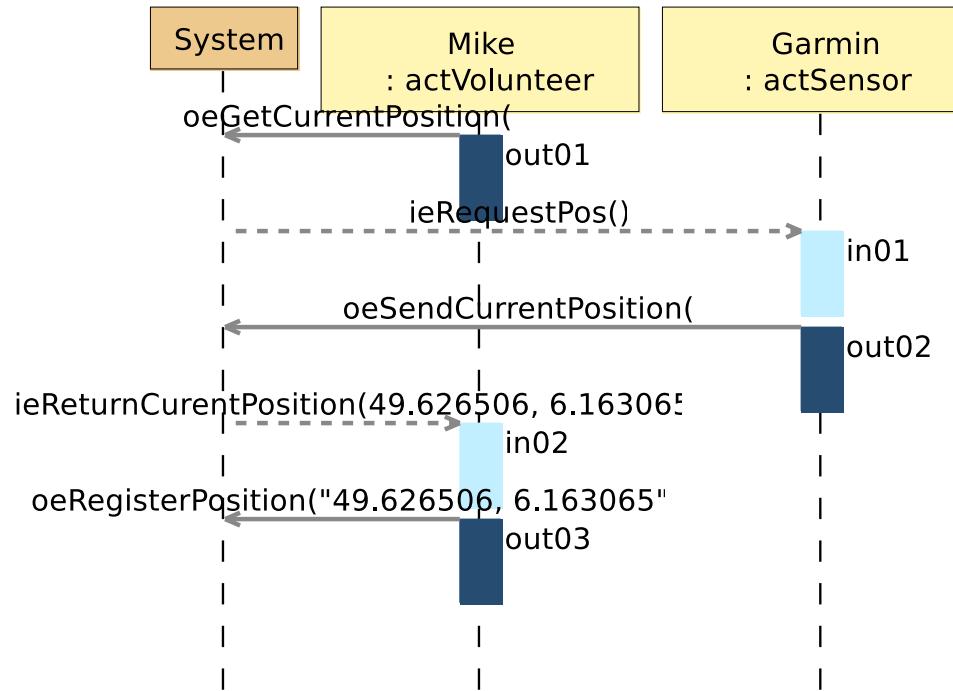


Figure 2.11:

2.3.2.4 Use-Case Instance - uciGetInRangeMission:ugGetMissionInRange

This represent a use case instance of the volunteer willing to get mission in a specific range around him

USERGOAL USE-CASE INSTANCE
<i>Instantiated Use Case</i> ugGetMissionInRange
<i>Instance ID</i> uciGetInRangeMission

Figure 2.12 Get in range mission

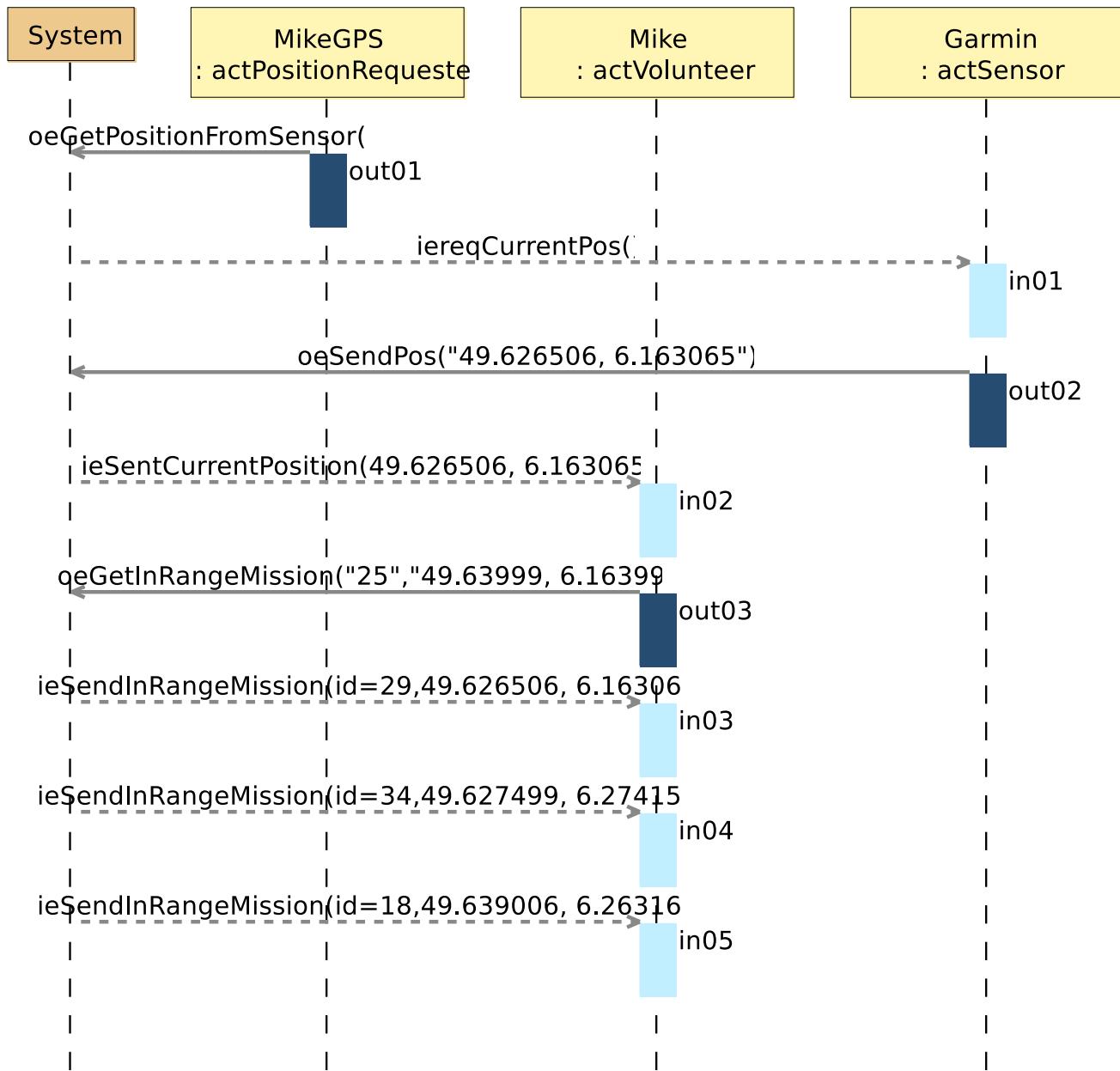


Figure 2.12:

2.3.2.5 Use-Case Instance - uciGetPendingHelpRequests:ugRetrievePendingHelpRequestDetails

Figure 2.13 Get pending help requests

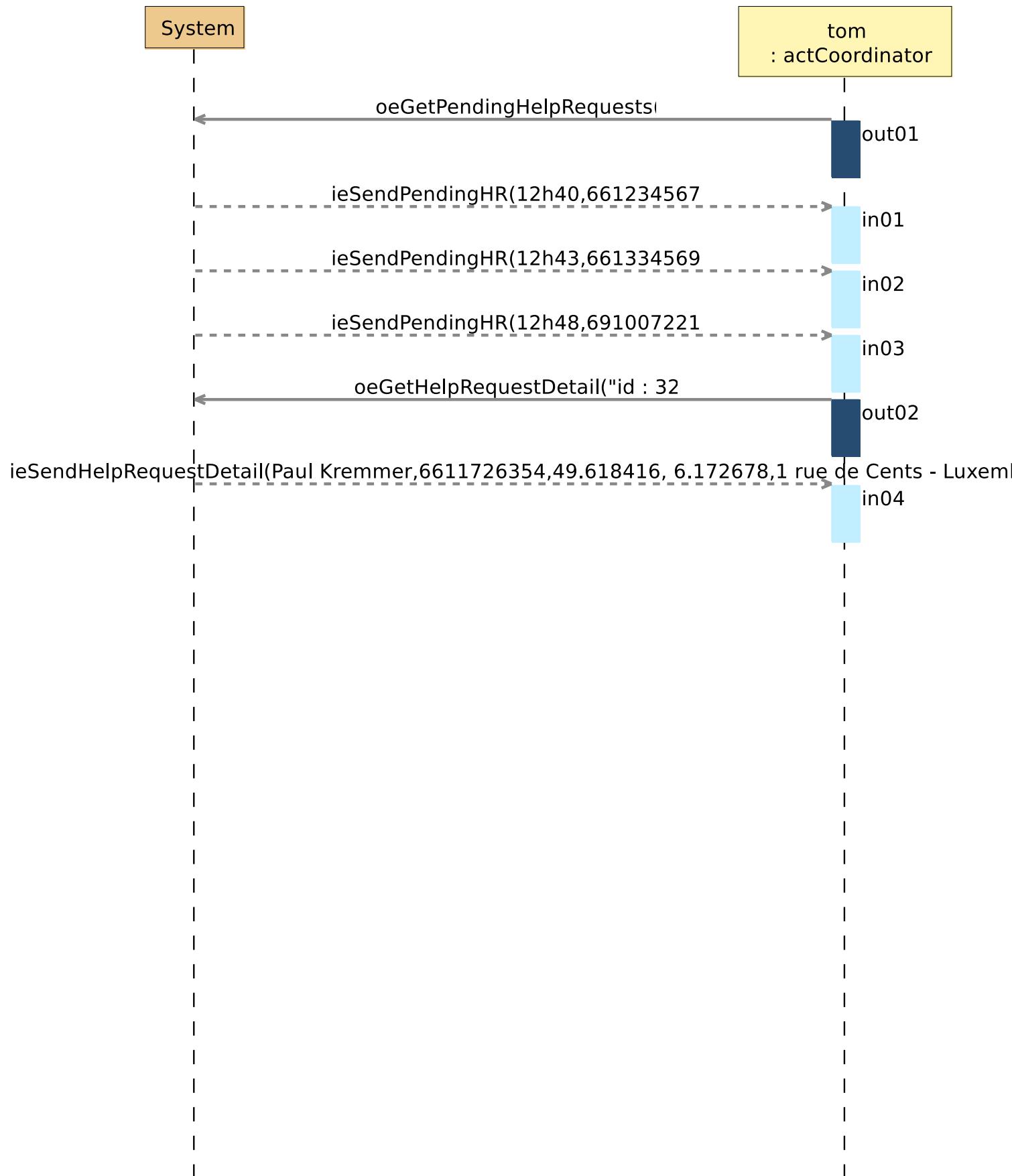


Figure 2.13:

Chapter 3

Environment Model

We provide below the view(s) defined for the **Messip** environment model (cf. [?]) of the system.

3.1 Local view 06

Figure 3.1 This view represent actActivator Environment with in and out operation

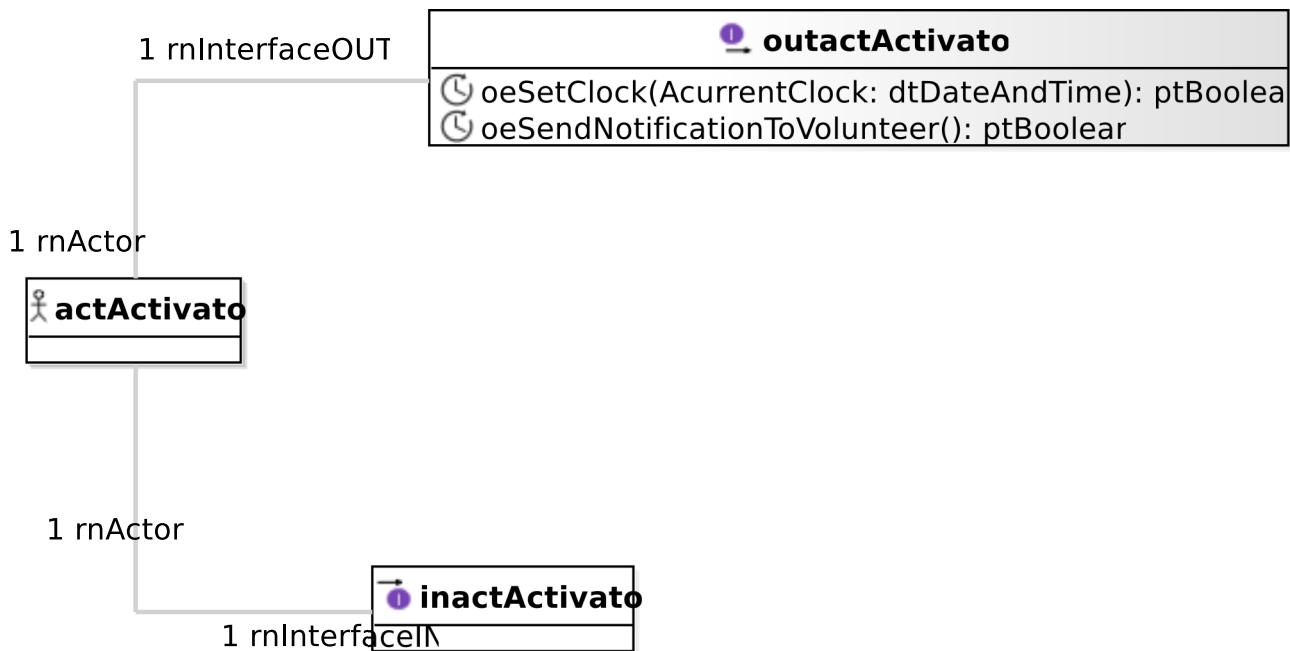


Figure 3.1: Environment Model - Local View 06. .

3.2 Local view 07

Figure 3.2 This view represent actCoordinator Environment with in and out operation



Figure 3.2: Environment Model - Local View 07. .

3.3 Actors and Interfaces Descriptions

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

3.3.1 **actActivator** Actor

ACTOR	
<i>actActivator</i>	represents a logical actor for time automatic message sending based on system's or environment status.
<i>OutputInterfaces</i>	
OUT 1 [proactive] <code>oeSetClock(AcurrentClock:dtDateAndTime) :ptBoolean</code>	Used to update clock global variable
OUT 2 [proactive] <code>oeSendNotificationToVolunteer() :ptBoolean</code>	Used to trigger a message to volunteer if a low priority crisis is not handled for too long and is in range of certain volunteer

3.3.2 **actCoordinator** Actor

ACTOR	
<i>actCoordinator</i>	Environment Coordinator
<i>OutputInterfaces</i>	
OUT 1 <code>oeLogin() :ptBoolean</code>	
OUT 2 <code>oeLogout() :ptBoolean</code>	
OUT 3 <code>oeGetPendingHelpRequests() :ptBoolean</code>	
OUT 4 <code>oeGetHelpRequestDetail(AdtHelpRequestId:dtHRid) :ptBoolean</code>	
OUT 5 <code>oeProceedCall() :ptBoolean</code>	
OUT 6 <code>oeSetRiskLevel() :ptBoolean</code>	
OUT 7 <code>oeGetVolunteersList() :ptBoolean</code>	
OUT 8 <code>oeReqCall() :ptBoolean</code>	
OUT 9 <code>oeReqCheckbox() :ptBoolean</code>	
OUT 10 <code>oeSendFilledCheckbox() :ptBoolean</code>	
OUT 11 <code>oeConfirmPriority() :ptBoolean</code>	
<i>InputInterfaces</i>	
IN 1	<code>ieSendPendingHelpRequestList(AdtTime:dtTime, AdtPhoneNumber:dtPhoneNumber) :ptBoolean</code>

continues in next page ...

...Actor table continuation

IN 2	<code>ieSendHelpRequestDetail(AdtName:dtName, AdtPhoneNumber:dtPhoneNumber, AdtCoordinates:dtCoordinates, AdtAddress:dtAddress) :ptBoolean</code>
IN 3	<code>ieSendVolunteerList() :ptBoolean</code>
IN 4	<code>ieConfirm() :ptBoolean</code>
IN 5	<code>ieSendCheckbox() :ptBoolean</code>
IN 6	<code>ieSendCalculatedPriority() :ptBoolean</code>
IN 7	<code>ieSendResult() :ptBoolean</code>
IN 8	<code>ieReqPendingHelpRequests() :ptBoolean</code>
IN 9	<code>ieRequHRDetails(AdtId:dtHRid) :ptBoolean</code>
IN 10	<code>ieSendPendingHR(AdtTime:dtTime) :ptBoolean</code>
IN 11	<code>ieFamilyDetailsRequest() :ptBoolean</code>
IN 12	<code>ieConfirmationOfFamilyDetailsReceived() :ptBoolean</code>
IN 13	<code>ieFamilyDeliveryReport(AdtName:dtName, AdtConfirmation:ptBoolean) :ptBoolean</code>
IN 14	<code>ieAddEntry(AdtName:dtName, AdtPhoneNumber:dtPhoneNumber, AdtCoordinates:dtCoordinates, AdtAddress:dtAddress) :ptBoolean</code>

3.3.3 `actPhoneCompany` Actor

ACTOR	
<i>actPhoneCompany</i>	
Env Phone company	
<i>OutputInterfaces</i>	
OUT 1	<code>oeGetConfirm() :ptBoolean</code>
OUT 2	<code>oeSendDeliveryReport(AdtMessage:dtMessage, AdtPhoneNumber:dtPhoneNumber) :ptBoolean</code>
<i>InputInterfaces</i>	
IN 1	<code>ieRequestConfirm(AdtPhoneNumber:dtPhoneNumber) :ptBoolean</code>
IN 2	<code>ieSmsForFamily(AdtMessage:dtMessage, AdtPhoneNumber:dtPhoneNumber) :ptBoolean</code>

3.3.4 `actPositionInputActor` Actor

ACTOR
<i>actPositionInputActor</i>
Env PositionInputActor
<i>OutputInterfaces</i>
OUT 1 oeInputPost () :ptBoolean
<i>InputInterfaces</i>
IN 1 ieSentPosition () :ptBoolean

3.3.5 **actPositionRequester** Actor

ACTOR
<i>actPositionRequester</i>
Env PositionRequester
<i>OutputInterfaces</i>
OUT 1 oeGetPositionFromSensor () :ptBoolean
<i>InputInterfaces</i>
IN 1 ieSendSensorPosition () :ptBoolean

3.3.6 **actSensor** Actor

ACTOR
<i>actSensor</i>
Env Sensor
<i>OutputInterfaces</i>
OUT 1 oeSendPos () :ptBoolean
<i>InputInterfaces</i>
IN 1 iereqCurrentPos () :ptBoolean
IN 2 ieReturnCurentPosition (adtCoordinates :dtCoordinates) :ptBoolean

3.3.7 **actVolunteer** Actor

ACTOR
<i>actVolunteer</i>
Env Volunteer
<i>OutputInterfaces</i>
OUT 1 oeLogin () :ptBoolean
OUT 2 oeLogout () :ptBoolean

continues in next page ...

...Actor table continuation

OUT 3	<code>oeGetPosition() :ptBoolean</code>
OUT 4	<code>oeGetMissionInRagne(AdtRange:dtRange, AdtPosition:dtCoordinates) :ptBoolean</code>
OUT 5	<code>oeAcceptMission(AdtId:dtHRid) :ptBoolean</code>
OUT 6	<code>oeRegisterCoordinates() :ptBoolean</code>

InputInterfaces

IN 1	<code>ieSentCurrentPosition(AdtCoordinates:dtCoordinates) :ptBoolean</code>
IN 2	<code>ieSentMissionConfirmation() :ptBoolean</code>
IN 3	<code>ieSendRange() :ptBoolean</code>
IN 4	<code>ieSendInRangeMission(AdtId:dtHRid, AdtCoordinates:dtCoordinates) :ptBoolean</code>
IN 5	<code>ieRequestPosition() :ptBoolean</code>

3.3.8 actWeakPerson Actor

ACTOR	
<i>actWeakPerson</i>	
Env WeakPerson	
<i>OutputInterfaces</i>	
OUT 1	<code>oeSendHelpRequest() :ptBoolean</code>
OUT 2	<code>oeLogin() :ptBoolean</code>
OUT 3	<code>oeLogout() :ptBoolean</code>
OUT 4	<code>oeGetpostition() :ptBoolean</code>
OUT 5	<code>oeInputManualPos() :ptBoolean</code>
OUT 6	<code>oeGetInfo() :ptBoolean</code>
OUT 7	<code>oeGetPositionFromSensor() :ptBoolean</code>
OUT 8	<code>oeAlertFamily() :ptBoolean</code>
<i>InputInterfaces</i>	
IN 1	<code>ieSentdPosition() :ptBoolean</code>
IN 2	<code>ieSentConfirmationMessage() :ptBoolean</code>

continues in next page ...

...Actor table continuation

IN 3	ieSendInfo () :ptBoolean
IN 4	ieConfirmPos () :ptBoolean
IN 5	ieSmsForFamily (AdtMessage :dtMessage, AdtPhoneNumber :dtPhoneNumber) :ptBoolean

3.3.9 **actWeakPersonFamily** Actor

ACTOR
<i>actWeakPersonFamily</i>
Env WeakPersonFamily
<i>OutputInterfaces</i>
OUT 1 oeSubscribe () :ptBoolean
OUT 2 oeConfirmMessage () :ptBoolean
OUT 3 oeConfirmCall () :ptBoolean
<i>InputInterfaces</i>
IN 1 ieSentPosition () :ptBoolean
IN 2 ieGetMessage () :ptBoolean
IN 3 ieGetCall () :ptBoolean

Chapter 4

Concept Model

4.1 PrimaryTypes-Classes

4.1.1 Local view 04

Figure 4.1 This represent the all system with all classType , operations of those classes and global Variables described whithin ctState class Type

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

The table below is providing comments on the graphical views given for the class types of the primary types. Type logical operations are precisely specified in the operation model.

CLASSES	
ctCoordinator	
	This represent the human that will handle help requests
extends	lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.ctHuman
attribute	cId: ptInteger
operation	init (AcId:dtInteger, Aname:dtName, APhone:dtPhoneNumber, ACoordinates:dtCoordinates, AUsername:dtUserName, APassword:dtPassword) :ptBoolean
operation	is () :ptBoolean
ctHelpRequest	
	This represent the object created by a WeakPErson when asking for help, it is hence associated to exactly 1 human type Weak Person
attribute	handlingWaitingTime: dtTime
attribute	HrTime: dtTime

continues in next page ...

... Classes table continuation

attribute	priority: dtInteger
operation	init (AHrTime:dtTime) :ptBoolean
operation	is () :ptBoolean

ctHuman

Used to define common properties that are shared among other human type

attribute	coordinates: dtCoordinates
attribute	name: dtName
attribute	password: ptString
attribute	phone: dtPhoneNumber
attribute	username: ptString
operation	init (Aname:dtName, APhone:dtPhoneNumber, ACoordinates:dtCoordinates, AUsername:dtUserName, APassword:dtPassword) :ptBoolean
operation	is () :ptBoolean

ctPendingHelpRequest

This is represent the class type containing 1 or more help request objects

attribute	listId: ptInteger
operation	init (AlistId:dtInteger) :ptBoolean
operation	is () :ptBoolean

ctState

Represents the system environment variable that might be accessed at each moment and initialized at start

attribute	clock: dtTime
attribute	lastReminder: ptString
attribute	maxReminderPeriod: dtTime
attribute	reminderPeriod: dtTime
attribute	vpStarted: ptBoolean
operation	init (AvpStarted:ptBoolean) :ptBoolean

continues in next page ...

... Classes table continuation

<i>ctVolunteer</i>	
This represent the the Human which have the ability to help a weakPerson and look for help requests around him	
extends	lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.ctHuman
attribute	disp: dtDispo
attribute	vId: ptInteger
operation	init (AvId:dtInteger, Adisp:dtDispo, Aname:dtName, APhone:dtPhoneNumber, ACoordinates:dtCoordinates, AUsername:dtUserName, APassword:dtPassword) :ptBoolean
operation	is () :ptBoolean
<i>ctWeakPerson</i>	
This represent the Human who creates help requests	
extends	lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.ctHuman
attribute	hrId: dtHRid
operation	init (AWid:dtInteger, Aname:dtName, APhone:dtPhoneNumber, ACoordinates:dtCoordinates, AUsername:dtUserName, APassword:dtPassword) :ptBoolean
operation	is () :ptBoolean

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.

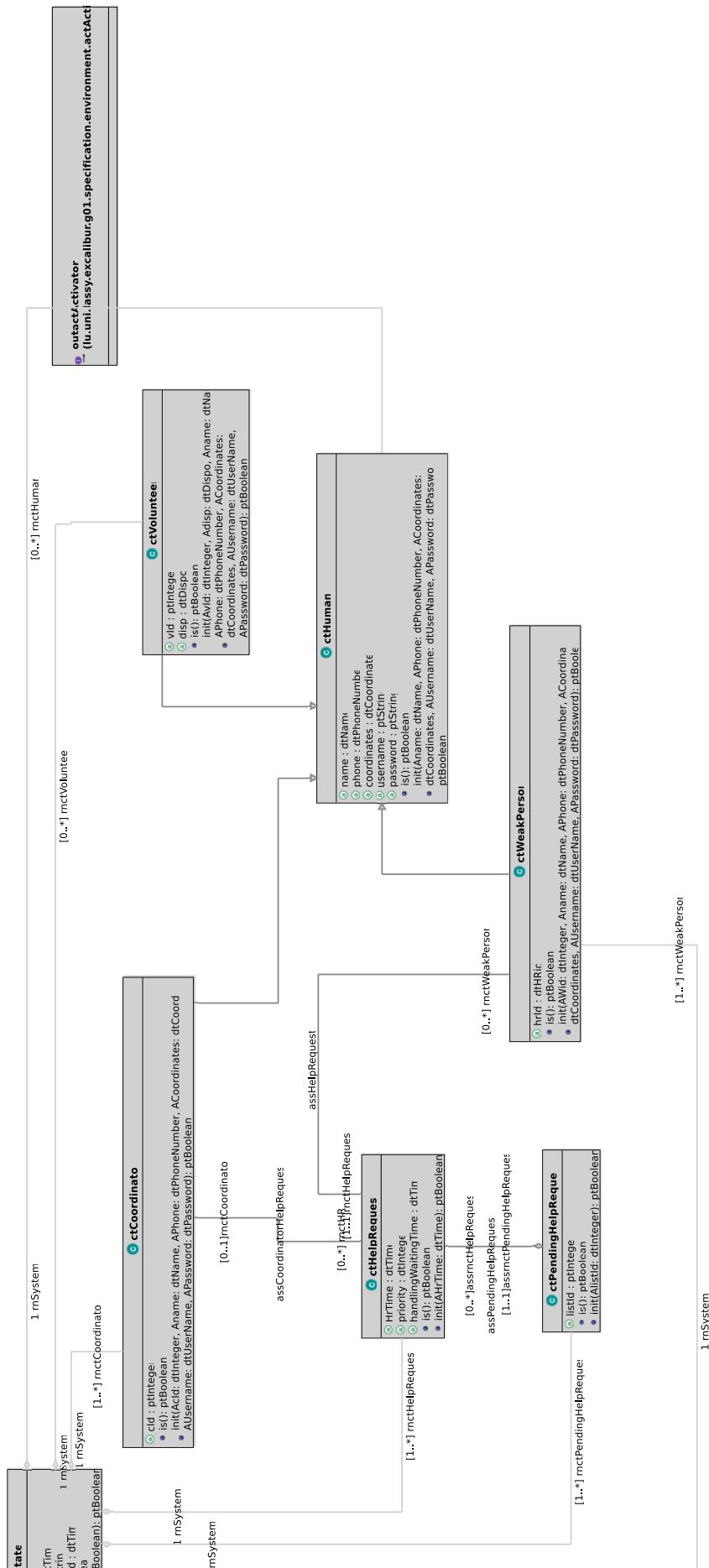
4.2.4 Primary types - Aggregation types descriptions

The table below is providing comments on the aggregation types of the primary types.

AGGREGATIONS
<i>assPendingHelpRequest</i>
The relation just emphasis the fact that a the pending help request list is composed (aggregate) of multiple help request

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 Scheme for actVolunteer

5.1.1 Operation Model for oeGetPosition

The oeGetPosition operation has the following properties:

OPERATION
<i>oeGetPosition</i>
This allows the volunteer to request coordinates to the actSensor
<i>Return type</i>
ptBoolean
<i>Pre-Condition (protocol)</i>
PreP 1
<i>Pre-Condition (functional)</i>
PreF 1
<i>Post-Condition (functional)</i>
PostF 1 Returned coordinates from the sensor are coherent (are actual earth coordinates)
<i>Post-Condition (protocol)</i>
PostP 1

5.1.2 Operation Model for oeLogin

The oeLogin operation has the following properties:

OPERATION
<i>oeLogin</i>
This allows the user to login
<i>Return type</i>
ptBoolean
<i>Pre-Condition (protocol)</i>
PreP 1 The user is not logged in

continues in next page ...

... Operation table continuation

<i>Pre-Condition (functional)</i>	
PreF 1	The user provides a user name
PreF 2	The user provide a valid password related to this user name
PreF 3	The user enters the token
<i>Post-Condition (functional)</i>	
PostF 1	The connection token is egal to true
<i>Post-Condition (protocol)</i>	
PostP 1	The fonction related to missions for volunteer , get, details and assign are available

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.g01.specification.usecases.coordinator.suCallSelectedHelpRequest
- lu.uni.lassy.excalibur.g01.specification.usecases.volunteer.suRetrieveMissionDetails
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.suAlertAFamilyMember
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.ugRequestHelp

A.1.2 Undocumented User-Goal Level Use Cases

- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.ugAssignPriorityToHelpRequest
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.ugRetrievePendingHelpRequestDetails

A.1.3 Undocumented Subfunction Level Use Cases

- lu.uni.lassy.excalibur.g01.specification.usecases.volunteer.oeAcceptMission
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeConfirmPriority
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeGetConfirm
- lu.uni.lassy.excalibur.g01.specification.usecases.volunteer.oeGetCurrentPosition
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeGetHelpRequestDetail
- lu.uni.lassy.excalibur.g01.specification.usecases.volunteer.oeGetInRangeMission
- lu.uni.lassy.excalibur.g01.specification.usecases.volunteer.oeGetMissionDetails
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeGetPendingHelpRequests
- lu.uni.lassy.excalibur.g01.specification.usecases.volunteer.oeRegisterPosition
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeReqCall

- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeReqCheckbox
- lu.uni.lassy.excalibur.g01.specification.usecases.volunteer.oeSendCurrentPosition
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeSendFilledCheckbox
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.oeAlertFamily
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.oeGetPositionFromSensor
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.oeInputManualPos
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.oeSendDeliveryReport
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.oeSendHelpRequest
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.oeSendPos

A.2 Undocumented Use Case Instances

A.2.1 Undocumented Summary Level Use Case Instances

- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.uciCallSelectedHelp
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.uciAlertTheFamily

A.2.2 Undocumented User-Goal Level Use Case Instances

- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.uciAssignPriority
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.uciGetPendingHelpRequests

A.3 Undocumented Environment Model Views

- em-view5

A.4 Undocumented Primary Types

A.4.1 Undocumented Primary Datatype Types

- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtAddress
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtCoordinates
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtDispo
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtHRid
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtMessage
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtName
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtPassword
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtPhoneNumber
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtRange
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtUserName

A.5 Undocumented Primary Relationships

A.5.1 Undocumented Primary Type Associations

- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.assCoordinatorHelpRequest
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.assHelpRequest

A.6 Undocumented Secondary Types

A.6.1 Undocumented Secondary Datatype Types

- lu.uni.lassy.excalibur.g01.specification.concepts.secondarytypes.datatypes.dtTime

A.7 Undocumented Operation Specifications

- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.ctCoordinator.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.ctHelpRequest.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.ctPendingHelpRequest.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.ctVolunteer.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtCoordinates.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtHRid.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtMessage.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtName.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtPassword.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtPhoneNumber.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtRange.is
- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes.dtUserName.is
- lu.uni.lassy.excalibur.g01.specification.environment.actCoordinator.outactCoordinator.oeLogout
- lu.uni.lassy.excalibur.g01.specification.environment.actCoordinator.outactCoordinator.oeSetRiskLevel
- lu.uni.lassy.excalibur.g01.specification.environment.actPhoneCompany.outactPhoneCompany.oeGetConfirm
- lu.uni.lassy.excalibur.g01.specification.environment.actPhoneCompany.outactPhoneCompany.oeSendDeliveryRep
- lu.uni.lassy.excalibur.g01.specification.environment.actPositionInputActor.outactPositionInputActor.oeInputPost
- lu.uni.lassy.excalibur.g01.specification.environment.actPositionRequester.outactPositionRequester.oeGetPosition
- lu.uni.lassy.excalibur.g01.specification.environment.actSensor.outactSensor.oeSendPos
- lu.uni.lassy.excalibur.g01.specification.environment.actVolunteer.outactVolunteer.oeLogout
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeGetpostition

- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPersonFamily.outactWeakPersonFamily.oeConfig
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPersonFamily.outactWeakPersonFamily.oeConfig
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPersonFamily.outactWeakPersonFamily.oeSubsc

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 uuid5a859098d2dc4161afdb7ab26ea5a813 {  
5   Concept Model {}  
6 }
```

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

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

```
1 package lu.uni.lassy.excalibur.g01.specification.environment.operations.actVolunteer.outactVolunteer  
    .oeGetPosition {  
2  
3 import lu.uni.lassy.messir.libraries.primitives  
4 import lu.uni.lassy.messir.libraries.math  
5 import lu.uni.lassy.messir.libraries.string  
6 import lu.uni.lassy.messir.libraries.calendar  
7  
8 Operation Model {  
9  
10  operation: lu.uni.lassy.excalibur.g01.specification.environment.actVolunteer.outactVolunteer.  
      oeGetPosition():ptBoolean{  
11    // include below the specification information (pre,post or ocl or prolog)  
12  
13  }  
14 }  
15 }
```

Listing B.2: Messir Spec. file environment-actVolunteer-oeGetPosition.msr.

B.3 File ./src-gen/messir-spec/operations/environment/environment-actVolunteer-oeLogin.msr

```
1 package lu.uni.lassy.excalibur.g01.specification.environment.operations.actVolunteer.outactVolunteer  
    .oeLogin {  
2  
3 import lu.uni.lassy.messir.libraries.primitives  
4 import lu.uni.lassy.messir.libraries.math  
5 import lu.uni.lassy.messir.libraries.string  
6 import lu.uni.lassy.messir.libraries.calendar  
7  
8 Operation Model {
```

```

9
10 operation: lu.uni.lassy.excalibur.g01.specification.environment.actVolunteer.outactVolunteer.
    oeLogin():ptBoolean
11 // include below the specification information (pre,post or ocl or prolog)
12
13 }
14 }
15 }
```

Listing B.3: Messir Spec. file environment-actVolunteer-oeLogin.msr.

B.4 File ./src-gen/messir-spec/environment/environment.msr

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.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 import lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes
13
14 Environment Model {
15
16 actor actActivator role rnactActivator cardinality [1..*] {
17
18     input interface inactActivator {
19
20     }
21
22     output interface outactActivator {
23         proactive operation oeSetClock(AcurrentClock : dtDateAndTime):ptBoolean
24         proactive operation oeSendNotificationToVolunteer():ptBoolean
25
26     }
27 }
28
29 actor actSensor role rnactSensor cardinality [1..*] {
30
31     input interface inactSensor {
32         operation iereqCurrentPos() : ptBoolean
33         operation ieReturnCurrentPosition(adtCoordinates : dtCoordinates) : ptBoolean
34     }
35     output interface outactSensor {
36         operation oeSendPos():ptBoolean
37     }
38 }
39
40 actor actPositionInputActor role rnactPositionInputActor cardinality [1..*] {
41
42     input interface inactPositionInputActor {
43         operation ieSentPosition() : ptBoolean
44     }
45     output interface outactPositionInputActor {
46         operation oeInputPost() : ptBoolean
47     }
48 }
49
50 actor actCoordinator role rnactCoordinator cardinality [1..*] {
51
52     input interface inactCoordinator {
53         operation ieSendPendingHelpRequestList(AdtTime:dtTime, AdtPhoneNumber :dtPhoneNumber) : ptBoolean
54         operation ieSendHelpRequestDetail(AdtName : dtName, AdtPhoneNumber : dtPhoneNumber ,
55             AdtCoordinates : dtCoordinates , AdtAddress : dtAddress) : ptBoolean
56         operation ieSendVolunteerList() : ptBoolean
57 }
```

```

56  operation ieConfirm() : ptBoolean
57  operation ieSendCheckbox() : ptBoolean
58  operation ieSendCalculatedPriority() : ptBoolean
59  operation ieSendResult() : ptBoolean
60  operation ieReqPendingHelpRequests() : ptBoolean
61  operation ieRequHRDetails(AdtId : dtHRid) : ptBoolean
62  operation ieSendPendingHR(AdtTime : dtTime) : ptBoolean
63  operation ieFamilyDetailsRequest() : ptBoolean
64  operation ieConfirmationOfFamilyDetailsReceived() : ptBoolean
65  operation ieFamilyDeliveryReport(AdtName : dtName, AdtConfirmation : ptBoolean) : ptBoolean
66  operation ieAddEntry(AdtName : dtName, AdtPhoneNumber : dtPhoneNumber, AdtCoordinates :
       dtCoordinates, AdtAddress : dtAddress) : ptBoolean
67  }
68 output interface outactCoordinator {
69  operation oeLogin() : ptBoolean
70  operation oeLogout() : ptBoolean
71  operation oeGetPendingHelpRequests() : ptBoolean
72  operation oeGetHelpRequestDetail(AdtHelpRequestId : dtHRid) : ptBoolean
73  operation oeProceedCall() : ptBoolean
74  operation oeSetRiskLevel() : ptBoolean
75  operation oeGetVolunteersList() : ptBoolean
76  operation oeReqCall() : ptBoolean
77  operation oeReqCheckbox() : ptBoolean
78  operation oeSendFilledCheckbox() : ptBoolean
79  operation oeConfirmPriority() : ptBoolean
80  }
81  }
82
83 actor actWeakPerson role rnactWeakPerson cardinality [1...*] {
84
85  input interface inactWeakPerson {
86  operation ieSentdPosition() : ptBoolean
87  operation ieSentConfirmationMessage() : ptBoolean
88  operation ieSendInfo() : ptBoolean
89  operation ieConfirmPos() : ptBoolean
90  operation ieSmsForFamily(AdtMessage : dtMessage, AdtPhoneNumber : dtPhoneNumber) : ptBoolean
91
92  }
93  output interface outactWeakPerson {
94  operation oeSendHelpRequest() : ptBoolean
95  operation oeLogin() : ptBoolean
96  operation oeLogout() : ptBoolean
97  operation oeGetpostition() : ptBoolean
98  operation oeInputManualPos() : ptBoolean
99  operation oeGetInfo() : ptBoolean
100 operation oeGetPositionFromSensor() : ptBoolean
101 operation oeAlertFamily() : ptBoolean
102  }
103  }
104
105 actor actVolunteer role rnactVolunteer cardinality [1...*] {
106
107  input interface inactVolunteer {
108  operation ieSentCurrentPosition(AdtCoordinates : dtCoordinates) : ptBoolean
109  operation ieSentMissionConfirmation() : ptBoolean
110  operation ieSendRange() : ptBoolean
111  operation ieSendInRangeMission(AdtId : dtHRid, AdtCoordinates : dtCoordinates) : ptBoolean
112  operation ieRequestPosition() : ptBoolean
113  }
114  output interface outactVolunteer {
115  operation oeLogin() : ptBoolean
116  operation oeLogout() : ptBoolean
117  operation oeGetPosition() : ptBoolean
118  operation oeRegisterCoordinates() : ptBoolean
119
120  operation oeGetMissionInRagne(AdtRange : dtRange, AdtPosition : dtCoordinates) : ptBoolean
121  operation oeAcceptMission(AdtId : dtHRid) : ptBoolean
122
123  }
124  }

```

```

125
126 actor actWeakPersonFamily role rnactWeakPersonFamily cardinality [1...*] {
127
128   input interface inactWeakPersonFamily {
129     operation ieSentPosition() : ptBoolean
130     operation ieGetMessage() : ptBoolean
131     operation ieGetCall(): ptBoolean
132   }
133 }
134 output interface outactWeakPersonFamily {
135
136   operation oeSubscribe() : ptBoolean
137   operation oeConfirmMessage() : ptBoolean
138   operation oeConfirmCall() : ptBoolean
139
140 }
141 }
142
143 actor actPhoneCompany role rnactPhoneCompany cardinality [1...*]{
144   input interface inactPhoneCompany{
145     operation ieRequestConfirm(AdtPhoneNumber : dtPhoneNumber) : ptBoolean
146     operation ieSmsForFamily(AdtMessage : dtMessage, AdtPhoneNumber : dtPhoneNumber) : ptBoolean
147     operation ieMessageReception(): ptBoolean
148   }
149   output interface outactPhoneCompany{
150     operation oeGetConfirm() : ptBoolean
151     operation oeSendDeliveryReport(AdtMessage : dtMessage, AdtPhoneNumber : dtPhoneNumber) :
152       ptBoolean
153   }
154
155 actor actPositionRequester role rnactPositionRequester cardinality [1...*] {
156
157   input interface inactPositionRequester {
158     operation ieSendSensorPosition() : ptBoolean
159   }
160   output interface outactPositionRequester {
161     operation oeGetPositionFromSensor() : ptBoolean
162   }
163 }
164
165 }
166 }
```

Listing B.4: Messir Spec. file environment.msr.

B.5 File [./src-gen/messir-spec/concepts/primarytypes-associations/primarytypes-associations.msr](#)

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.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.5: Messir Spec. file primarytypes-associations.msr.

B.6 File [./src-gen/messir-spec/concepts/primarytypes-classes/primarytypes-classes.msr](#)

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.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 import lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.datatypes
15 Concept Model {
16
17 Primary Types {
18
19 state class ctState {
20   attribute clock: dtTime
21   attribute reminderPeriod: dtTime
22   attribute lastReminder: ptString
23   attribute maxReminderPeriod: dtTime
24   attribute vpStarted: ptBoolean
25
26   operation init(AvpStarted:ptBoolean): ptBoolean
27 }
28
29 class ctHuman role rnctHuman cardinality [0..*]{
30
31   attribute name: dtName
32   attribute phone: dtPhoneNumber
33   attribute coordinates: dtCoordinates
34   attribute username: ptString
35   attribute password: ptString
36
37   operation is() : ptBoolean
38   operation init(Aname : dtName, APhone : dtPhoneNumber, ACoordinates : dtCoordinates, AUsername :
39     dtUserName, APassword :dtPassword ) : ptBoolean
40 }
41 class ctWeakPerson role rnctWeakPerson cardinality [1..*] extends ctHuman {
42   attribute hrId: dtHRid
43
44   operation is() : ptBoolean
45   operation init(AWid : dtInteger,Aname : dtName, APhone : dtPhoneNumber, ACoordinates :
46     dtCoordinates, AUsername : dtUserName,APassword :dtPassword) : ptBoolean
47 }
48
49 class ctCoordinator role rnctCoordinator cardinality [1..*] extends ctHuman {
50   attribute cId: ptInteger
51   operation is() : ptBoolean
52   operation init(ACId : dtInteger,Aname : dtName, APhone : dtPhoneNumber, ACoordinates :
53     dtCoordinates, AUsername : dtUserName,APassword :dtPassword) : ptBoolean
54 }
55
56 class ctVolunteer role rnctVolunteer cardinality [0..*] extends ctHuman {
57   attribute vId: ptInteger
58   attribute disp: dtDispo
59
60   operation is() : ptBoolean
61   operation init(AvId : dtInteger,Adisp : dtDispo,Aname : dtName, APhone : dtPhoneNumber,
62     ACoordinates : dtCoordinates, AUsername : dtUserName,APassword :dtPassword) : ptBoolean

```

```

59  }
60
61 class ctHelpRequest role rnctHelpRequest cardinality [1..*] {
62   attribute HrTime: dtTime
63   attribute priority: dtInteger
64   attribute handlingWaitingTime: dtTime
65   operation is() : ptBoolean
66   operation init(AHrTime : dtTime) : ptBoolean
67
68 }
69 class ctPendingHelpRequest role rnctPendingHelpRequest cardinality [1..*] {
70   attribute listId : ptInteger
71   operation is() : ptBoolean
72   operation init(AlistId : dtInteger) : ptBoolean
73 }
74 association assHelpRequest ctHelpRequest(rnctHelpRequest) [1..1] ctWeakPerson(rnctWeakPerson) [0..*]
75 aggregation assPendingHelpRequest ctPendingHelpRequest(assrnctPendingHelpRequest) [1..1]
    ctHelpRequest(assrnctHelpRequest) [0..*]
76 association assCoordinatorHelpRequest ctCoordinator(rnctCoordinator) [0..1] ctHelpRequest(rnctHR)
    [0..*]
77 }
78 }
79 }
```

Listing B.6: Messir Spec. file primarytypes-classes.msr.

B.7 File [./src-gen/messir-spec/concepts/primarytypes-datatypes/primarytypes-datatypes.msr](#)

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.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       operation is() : ptBoolean
19     }
20
21     datatype dtDispo {
22       attribute time : dtDateAndTime
23     }
24     datatype dtHRid {
25       attribute value : ptInteger
26       operation is() : ptBoolean
27     }
28
29     datatype dtName {
30       attribute value : ptString
31       operation is() : ptBoolean
32     }
33     datatype dtCoordinates {
34       attribute long : ptReal
35       attribute lat : ptReal
36       operation is() : ptBoolean
37     }
38     datatype dtAddress {
```

```

40   attribute num : ptInteger
41   attribute street : ptString
42   attribute city : ptString
43 }
44 datatype dtMessage {
45   attribute MessageText : ptString
46   operation is() : ptBoolean
47 }
48
49 datatype dtRange {
50   attribute value : ptInteger
51   operation is() : ptBoolean
52 }
53 datatype dtUserName {
54   attribute value : ptString
55   operation is() : ptBoolean
56 }
57
58 datatype dtPassword {
59   attribute value : ptString
60   operation is() : ptBoolean
61 }
62 }
63 }
64 }
```

Listing B.7: Messir Spec. file primarytypes-datatypes.msr.

B.8 File [./src-gen/messir-spec/concepts/secondarytypes-associations/secondarytypes-associations.msr](#)

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.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.8: Messir Spec. file secondarytypes-associations.msr.

B.9 File [./src-gen/messir-spec/concepts/secondarytypes-classes/secondarytypes-classes.msr](#)

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.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.9: Messir Spec. file secondarytypes-classes.msr.

B.10 File [./src-gen/messir-spec/concepts/secondarytypes-datatatypes/secondarytypes-datatypes.msr](#)

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.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   datatype dtTime {
17     attribute value : ptString
18   }
19
20 }
21
22 }
23 }
```

Listing B.10: Messir Spec. file secondarytypes-datatypes.msr.

B.11 File [./src-gen/messir-spec/tests/tests.msr](#)

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.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.11: Messir Spec. file tests.msr.

B.12 File [./src-gen/messir-spec/concepts/ucCoordinator.msr](#)

```

1 /*
2 * @author Adriano
3 * @date Wed Nov 16 16:19:01 CET 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.usecases.coordinator {
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.g01.specification.environment
13
14 Use Case Model {
15   use case instance uciGetPendingHelpRequests : ugRetrievePendingHelpRequestDetails() {
16     actors {
17       tom : actCoordinator
18
19     }
20     use case steps {
21       tom executed instanceof subfunction oeGetPendingHelpRequests() {
22         ieSendPendingHR("12h40", "661234567") returned to tom
23         ieSendPendingHR("12h43", "661334569") returned to tom
24         ieSendPendingHR("12h48", "691007221") returned to tom
25
26     }
27
28     tom executed instanceof subfunction oeGetHelpRequestDetail("id : 32") {
29       ieSendHelpRequestDetail("Paul Kremmer", "6611726354", "49.618416, 6.172678", "1 rue de Cents
30         - Luxembourg") returned to tom
31
32     }
33   }
34 }
35 use case instance uciCallSelectedHelp: suCallSelectedHelpRequest{
36   actors{
37     tom : actCoordinator
38     tango : actPhoneCompany
39   }
40   use case steps {
41     tom executed instanceof subfunction oeReqCall("661234567"){
42       ieConfirm("661234567") returned to tango
43     }
44     tango executed instanceof subfunction oeGetConfirm("661234567","true"){
45       ieRequestConfirm("661234567","true") returned to tom
46     }
47
48   }
49 }
50
51 use case instance uciAssignPriority: ugAssignPriorityToHelpRequest{
52   actors{
53     tom : actCoordinator
54   }
55   use case steps {
56     tom executed instanceof subfunction oeReqCheckbox(){
57       ieSendCheckbox("Speaks slowly", "Needs Water", "Conscious") returned to tom
58     }
59     tom executed instanceof subfunction oeSendFilledCheckbox("Yes", "Yes", "Yes"){
60       ieSendCalculatedPriority("The calculated priority is: Urgent") returned to tom
61     }
62
63     tom executed instanceof subfunction oeConfirmPriority("OK"){
64       ieSendResult("Urgent") returned to tom
65     }
66   }
67 }
68 }
69

```

```

70  use case system summary suCallSelectedHelpRequest() {
71
72    actor actCoordinator[primary,active]
73    actor actPhoneCompany[secondary]
74
75    step a : actCoordinator executes oeReqCall()
76    step b : actPhoneCompany executes oeGetConfirm()
77
78  }
79
80  use case system subfunction oeReqCall() {
81    actor actCoordinator[primary,active]
82
83    returned messages{
84      ieConfirm(dtPhoneNumber) returned to actCoordinator
85    }
86  }
87
88  use case system subfunction oeGetConfirm() {
89    actor actPhoneCompany[primary,active]
90
91    returned messages{
92      ieRequestConfirm(AdtPhoneNumber, dtBoolean) returned to actPhoneCompany
93    }
94  }
95  use case system usergoal ugRetrievePendingHelpRequestDetails() {
96    actor actCoordinator[primary,active]
97
98    step a : actCoordinator executes oeGetPendingHelpRequests()
99    step b : actCoordinator executes oeGetHelpRequestDetail()
100   }
101
102 use case system subfunction oeGetPendingHelpRequests() {
103   actor actCoordinator[primary,active]
104
105   returned messages{
106
107     ieSendPendingHR(AdtTime) returned to actCoordinator
108
109   }
110 }
111
112 use case system subfunction oeGetHelpRequestDetail() {
113   actor actCoordinator[primary,active]
114
115   returned messages {
116
117     ieSendHelpRequestDetail() returned to actCoordinator
118   }
119 }
120
121 use case system usergoal ugAssignPriorityToHelpRequest() {
122   actor actCoordinator [primary,active]
123
124   step a : actCoordinator executes oeReqCheckbox()
125   step b : actCoordinator executes oeSendFilledCheckbox()
126   step c : actCoordinator executes oeConfirmPriority()
127 }
128
129 use case system subfunction oeReqCheckbox() {
130   actor actCoordinator[primary,active]
131
132   returned messages{
133     ieSendCheckbox(AdtCheckbox) returned to actCoordinator
134   }
135
136 }
137
138 use case system subfunction oeSendFilledCheckbox() {
139   actor actCoordinator[primary,active]

```

```

140
141     returned messages{
142         ieSendCalculatedPriority(dtString) returned to actCoordinator
143     }
144
145 }
146
147 use case system subfunction oeConfirmPriority(){
148     actor actCoordinator[primary, active]
149
150     returned messages{
151         ieSendResult(dtString) returned to actCoordinator
152     }
153
154 }
155
156 }
157
158 }
```

Listing B.12: Messir Spec. file uc_{coordinator}.msr.

B.13 File ./src-gen/messir-spec/concepts/uc_{volunteer}.msr

```

1 /*
2 * @author Adriano
3 * @date Sat Nov 19 15:04:07 CET 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.usescases.volunteer {
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.g01.specification.environment
13 import lu.uni.lassy.excalibur.g01.specification.usescases.weakperson
14
15 Use Case Model {
16     use case instance uciGetInRangeMission : ugGetMissionInRange {
17         actors {
18             MikeGPS : actPositionRequester
19             Mike : actVolunteer
20             Garmin : actSensor
21         }
22         use case steps {
23             MikeGPS executed instanceof subfunction oeGetPositionFromSensor() {
24                 iereqCurrentPos() returned to Garmin
25             }
26             Garmin executed instanceof subfunction oeSendPos("49.626506, 6.163065") {
27                 ieSentCurrentPosition("49.626506, 6.163065") returned to Mike
28             }
29             Mike executed instanceof subfunction oeGetInRangeMission("25", "49.63999, 6.16399") {
30                 ieSendInRangeMission("id=29", "49.626506, 6.163065") returned to Mike
31                 ieSendInRangeMission("id=34", "49.627499, 6.274156") returned to Mike
32                 ieSendInRangeMission("id=18", "49.639006, 6.263164") returned to Mike
33             }
34         }
35     }
36 }
37
38 use case instance uciGetCurrentPositon : ugGetCurrentPosition {
39     actors {
40         Mike : actVolunteer
41         Garmin : actSensor
42     }
43     use case steps {
44         Mike executed instanceof subfunction oeGetCurrentPosition() {
45             ieRequestPos() returned to Garmin

```

```

46      }
47  Garmin executed instanceof subfunction oeSendCurrentPosition() {
48      ieReturnCurentPosition("49.626506, 6.163065") returned to Mike
49  }
50  Mike executed instanceof subfunction oeRegisterPosition("49.626506, 6.163065") {
51  }
52  }
53  }
54  }
55  }

56 use case system usergoal ugGetMissionInRange() {
57  actor actVolunteer[primary, active]
58  actor actPositionRequester[secondary]
59  actor actSensor[secondary]

60  step a: actPositionRequester executes oeGetPositionFromSensor()
61  step b: actSensor executes oeSendPos()
62  step c: actVolunteer executes oeGetInRangeMission()
63  }

64 use case system usergoal ugGetCurrentPosition() {
65  actor actVolunteer[primary, active]
66  actor actSensor[secondary]

67  step a : actVolunteer executes oeGetCurrentPosition()
68  step b : actSensor executes oeSendCurrentPosition()
69  step c : actVolunteer executes oeRegisterPosition()
70  }

71 use case system subfunction oeGetCurrentPosition() {
72  actor actVolunteer[primary,active]

73  returned messages{
74      ieRequestPos() returned to actSensor
75  }
76  }

77 use case system subfunction oeSendCurrentPosition() {
78  actor actSensor[primary,active]

79  returned messages{
80      ieReturnCurentPosition(adtCoordinates) returned to actVolunteer
81  }
82  }

83 use case system subfunction oeGetInRangeMission() {
84  actor actVolunteer[primary,active]

85  returned messages{
86      ieSendInRangeMission() returned to actVolunteer
87  }
88  }

89 use case system summary suRetrieveMissionDetails(){
90  actor actVolunteer[primary,active]

91  step a: actVolunteer executes ugGetMissionInRange()
92  step b: actVolunteer executes oeGetMissionDetails()
93  }

94 use case system subfunction oeGetMissionDetails(){
95  actor actVolunteer[primary, active]

96  returned messages{
97      ieSendMissionDetails() returned to actVolunteer
98  }
99  }

100 use case system summary suAcceptMission(){
101  actor actVolunteer[primary,active]
102  }
103  
```

```

116
117   step a: actVolunteer executes ugGetMissionInRange()
118   step b: actVolunteer executes oeAcceptMission()
119 }
120
121 use case system subfunction oeAcceptMission() {
122   actor actVolunteer[primary, active]
123
124   returned messages{
125     ieSendDistanceMessage() returned to actVolunteer
126   }
127 }
128
129 use case system subfunction oeRegisterPosition() {
130   actor actVolunteer[primary,active]
131
132 }
133
134 }
135
136 }
```

Listing B.13: Messir Spec. file uc.volunteer.msr.

B.14 File ./src-gen/messir-spec/usecases/usecases.msr

```

1 /*
2 * @author Adriano
3 * @date Sat Oct 22 12:57:25 CEST 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.old {
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.g01.specification.environment
13
14 Use Case Model {
15
16 }
17 }
```

Listing B.14: Messir Spec. file usecases.msr.

B.15 File ./src-gen/messir-spec/usecases/weakperson.msr

```

1 /*
2 * @author Carlos
3 * @date Wed Nov 30 12:33:17 CET 2016
4 */
5
6 package lu.uni.lassy.excalibur.g01.specification.usescases.weakperson {
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.g01.specification.environment
13
14 Use Case Model {
15
16   use case instance uciSendHelpRequest : ugRequestHelp {
17     actors {
18
19       Benny : actWeakPerson
20       BennyGPS : actPositionRequester
21     }
22   }
23 }
```

```

21     Garmin : actSensor
22     Tango : actPhoneCompany
23
24 }
25 use case steps {
26     BennyGPS executed instanceof subfunction oeGetPositionFromSensor() {
27         iereqCurrentPos() returned to Garmin
28     }
29     Garmin executed instanceof subfunction oeSendPos("49.626506, 6.163065") {
30         ieSentdPosition("49.626506, 6.163065") returned to Benny
31     }
32     Benny executed instanceof subfunction oeInputManualPos("1 rue des mara chers-Luxembourg", "
33         49.626506, 6.163065") {
34         ieConfirmPos("1 rue des mara chers-Luxembourg", "49.626506, 6.163065") returned to Benny
35     }
36     Benny executed instanceof subfunction oeSendHelpRequest("Benny Hill", "6611726354", "49.618416,
37         6.172678", "1 rue de Cents - Luxembourg") {
38         ieSentConfirmationMessage("Your help request has been sent") returned to Benny
39     }
40
41     Benny executed instanceof subfunction oeAlertFamily("Hid : 12") {
42         ieSmsForFamily("Benny has sent an help request", "6611726354") returned to Tango
43     }
44 }
45
46 use case system summary ugRequestHelp() {
47
48     actor actWeakPerson[primary,active]
49     actor actSensor[secondary]
50     actor actPositionRequester[secondary]
51     actor actPhoneCompany[secondary]
52
53     reuse oeSendHelpRequest[1..1]
54
55     step a: actPositionRequester executes oeGetPositionFromSensor()
56     step b : actSensor executes oeSendPos()
57     step c : actWeakPerson executes oeInputManualPos()
58     step d : actWeakPerson executes oeSendHelpRequest()
59     step e : actWeakPerson executes oeAlertFamily()
60
61     ordering constraint "step (a) is always the first step "
62     ordering constraint "step (b) must be executed after step (a) "
63     ordering constraint "step (e) is always the last step "
64
65 }
66
67 use case system subfunction oeGetPositionFromSensor() {
68     actor actPositionRequester[primary,active]
69     actor actSensor[secondary]
70
71     returned messages{
72         iereqCurrentPos() returned to actSensor
73     }
74 }
75
76 use case system subfunction oeSendPos() {
77     actor actSensor[primary,active]
78     actor actWeakPerson[secondary]
79     actor actVolunteer[secondary]
80
81     returned messages {
82         ieSentdPosition() returned to actWeakPerson
83         ieSentCurrentPosition() returned to actVolunteer
84     }
85 }
86
87 use case system subfunction oeInputManualPos() {
88     actor actWeakPerson[primary,active]

```

```

89
90     returned messages{
91         ieConfirmPos() returned to actWeakPerson
92     }
93 }
94
95 use case system subfunction oeSendHelpRequest() {
96     actor actWeakPerson[primary, active]
97
98     returned messages{
99         ieSentConfirmationMessage() returned to actWeakPerson
100    }
101 }
102
103 use case system summary suAlertAFamilyMember() {
104     actor actWeakPerson [primary, active]
105     actor actPhoneCompany[secondary, active]
106
107     reuse oeAlertFamily[1...*]
108     reuse oeSendDeliveryReport[1...*]
109
110     step a: actWeakPerson executes oeAlertFamily()
111     step b: actPhoneCompany executes oeSendDeliveryReport()
112
113 }
114
115 use case system subfunction oeAlertFamily() {
116     actor actWeakPerson[primary, active]
117
118     returned messages {
119         ieSmsForFamily() returned to actPhoneCompany
120     }
121 }
122
123 use case system subfunction oeSendDeliveryReport() {
124     actor actPhoneCompany[primary, active]
125
126     returned messages{
127         ieMessageReception() returned to actPhoneCompany
128
129     }
130 }
131
132 use case instance uciAlertTheFamily : suAlertAFamilyMember() {
133     actors {
134         John : actWeakPerson
135         Tango : actPhoneCompany
136
137     }
138     use case steps {
139         John executed instanceof subfunction oeAlertFamily() {
140
141             ieSmsForFamily("John has just used the request help function through the Heat Wave Prevention
142                 System, serious danger may exist for this person", "691 432 132") returned to Tango
143         }
144         Tango executed instanceof subfunction oeSendDeliveryReport() {
145             ieMessageReception() returned to Tango
146
147         }
148     }
149 }
150 }
151 }
```

Listing B.15: Messir Spec. file weakperson.msr.

