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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

2.3. USE CASES MODEL

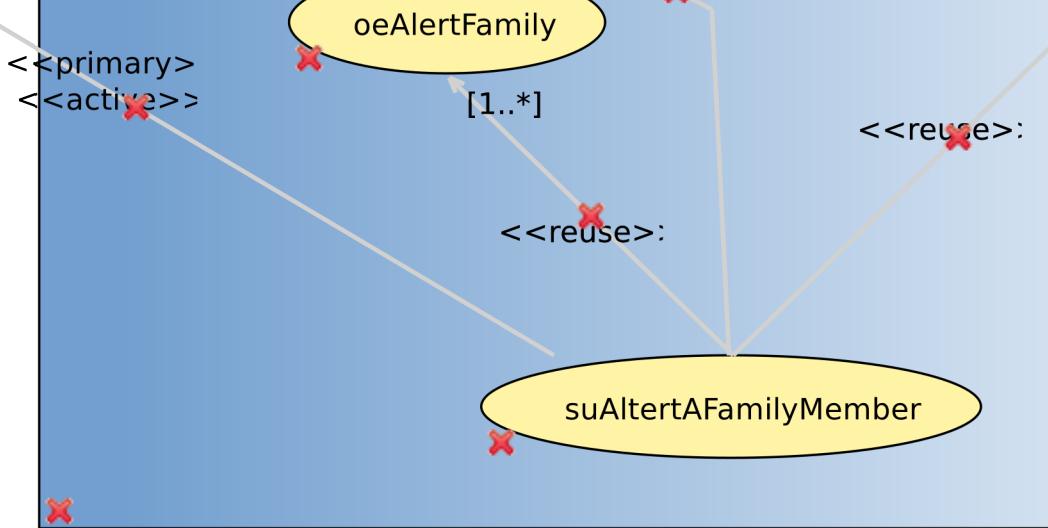


Figure 2.1:

2.3.1.3 summary-suCallSelectedHelpRequest

Figure 2.2 Use case view for Call selected help request

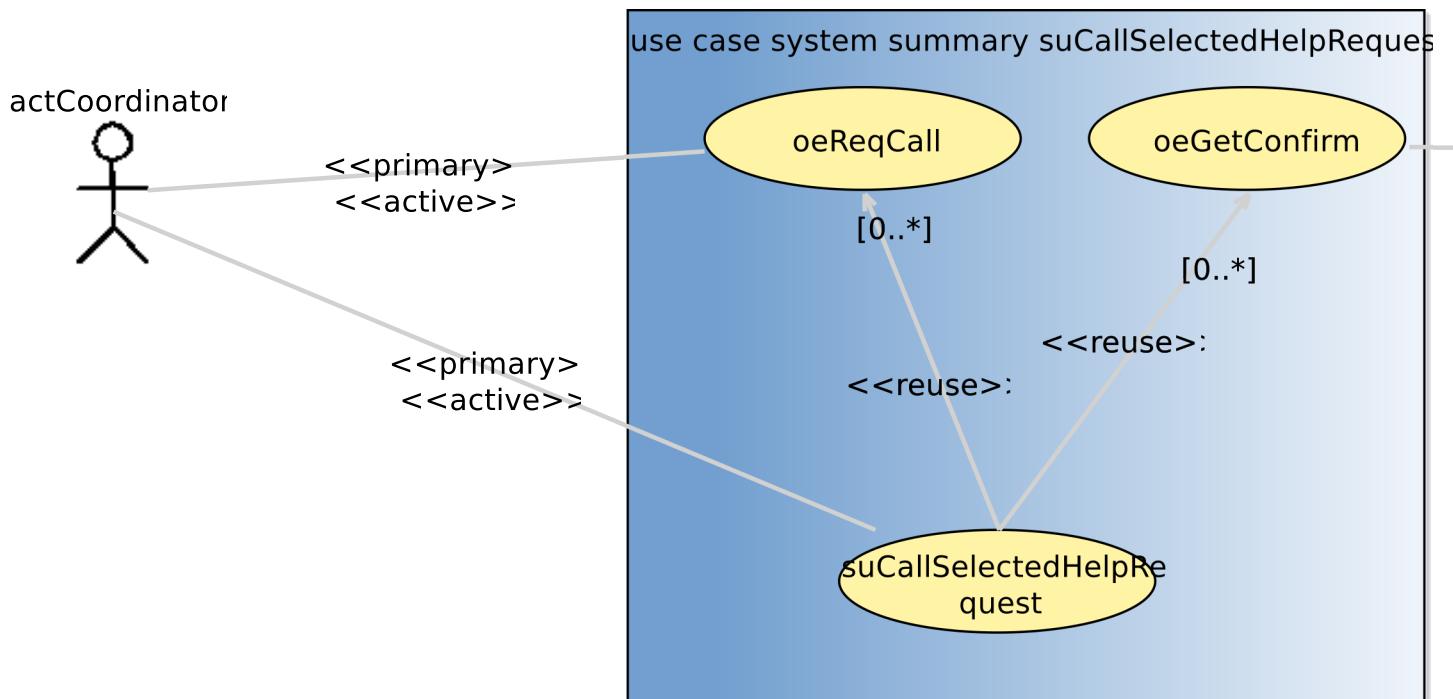


Figure 2.2:

2.3.1.4 summary-ugRequestHelp

Figure 2.3 User goal Request help

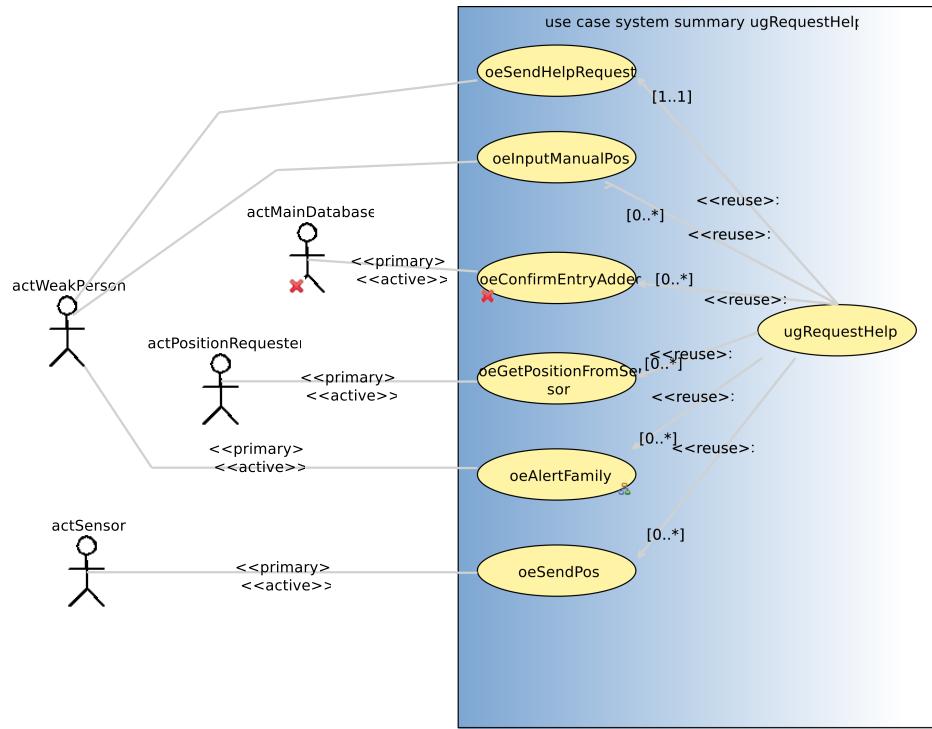


Figure 2.3:

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-ugGetMissionInRange

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

USE-CASE DESCRIPTION	
Name	ugGetMissionInRange
Scope	system
Level	usergoal
<i>Primary actor(s)</i>	
1	actVolunteer [active]
<i>Secondary actor(s)</i>	
1	actPositionRequester []
2	actSensor []
<i>Goal(s) description</i>	
The actVolunteer's goal is to retrieve help requests that are in a specific range	
<i>Protocol condition(s)</i>	
1	The system has been deployed.
<i>Pre-condition(s)</i>	
1	

continues in next page ...

... Use-Case Description table continuation

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 <code>actPositionRequester</code> executes the <code>oeGetPositionFromSensor</code> use case
b	the actor <code>actSensor</code> executes the <code>oeSendPos</code> use case
c	the actor <code>actVolunteer</code> executes the <code>oeGetInRangeMission</code> use case
Additional Information	
none	

Figure 2.5 User goal Get mission in range

2.3.1.7 usergoal-ugRetrievePendingHelpRequestDetails

Figure 2.6 Retrieve help request details use case view

2.3.1.8 subfunction-oeAlertFamily

Figure 2.7 Sub Function AlertFamily

2.3.1.9 subfunction-oeGetPositionFromSensor

Figure 2.8 Sub Function Get position from sensor

2.3.1.10 subfunction-oeSendFamilyDetails

Figure 2.9 Sub function Send family details

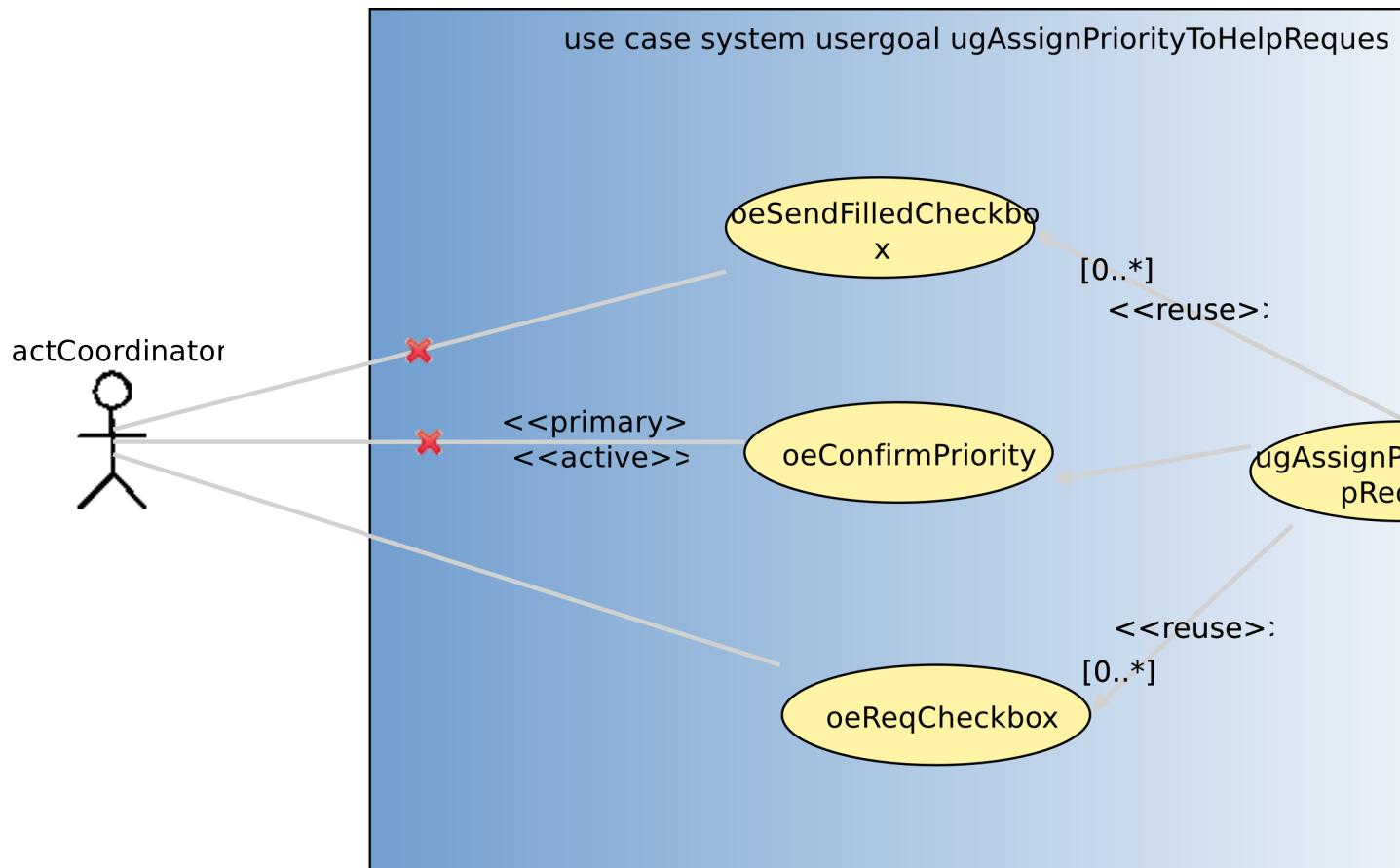


Figure 2.4:

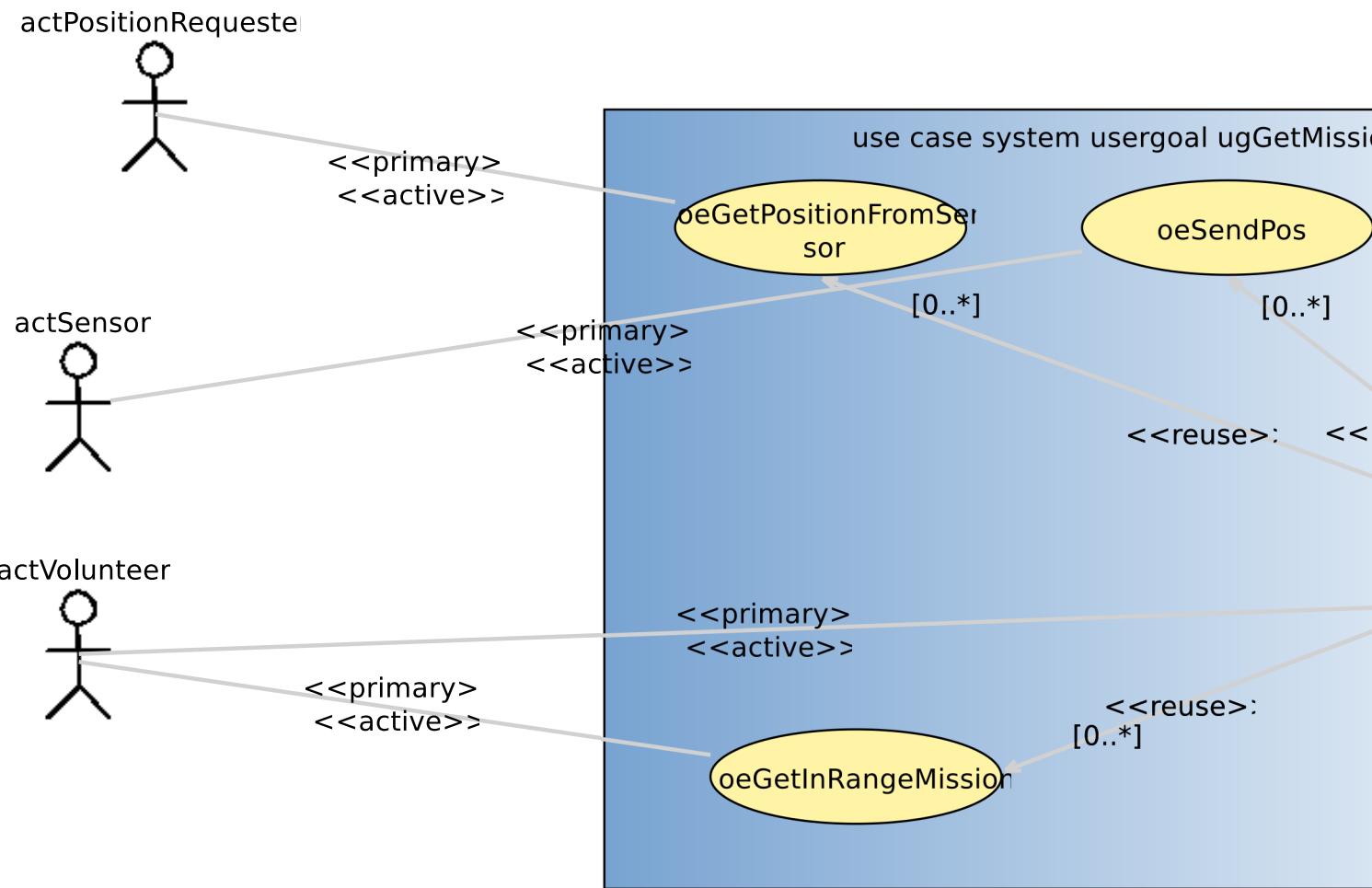


Figure 2.5:

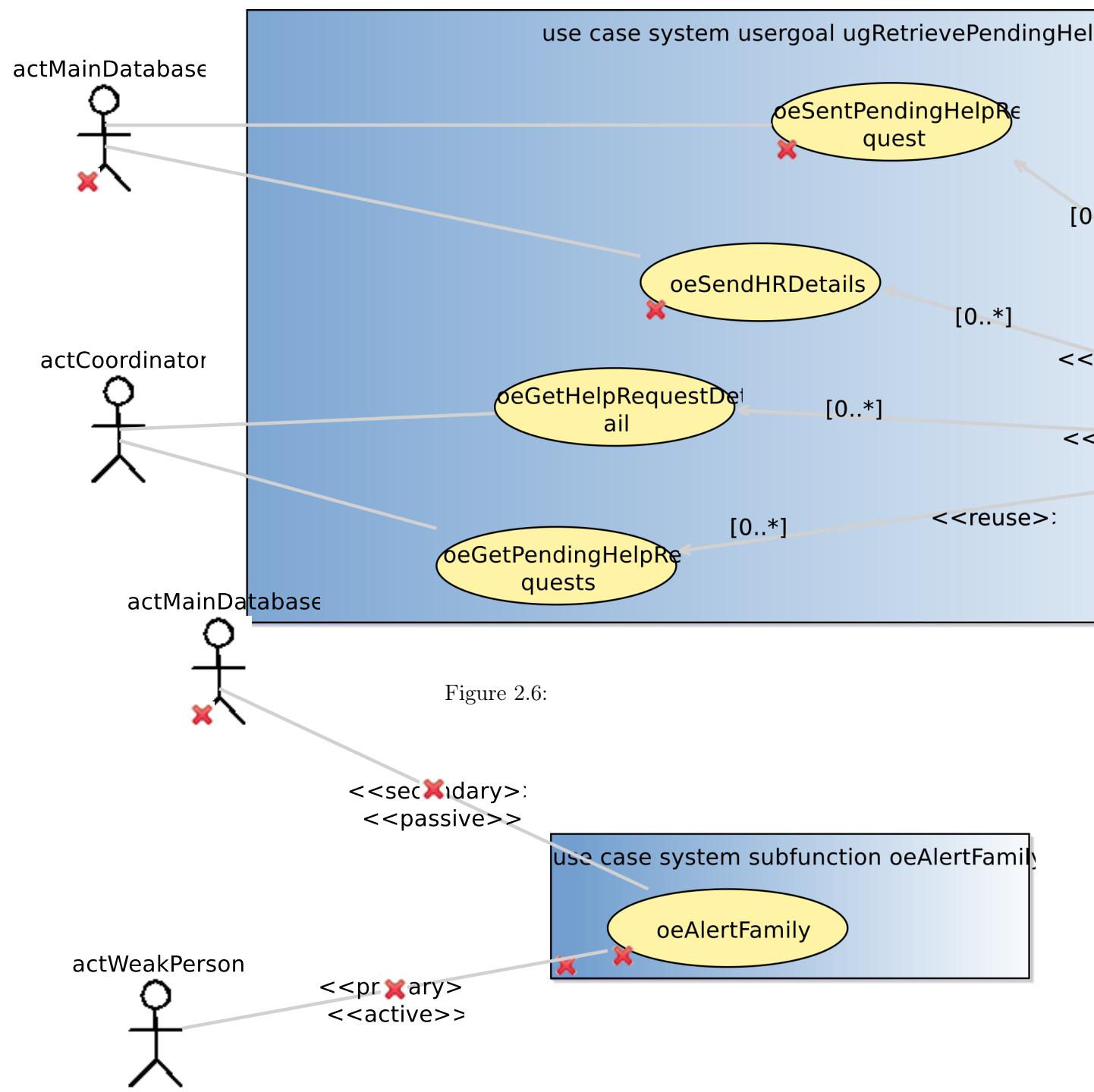


Figure 2.6:

Figure 2.7:

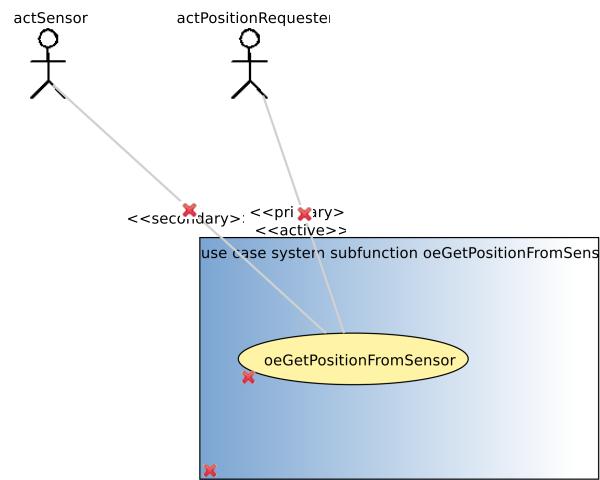


Figure 2.8:

Figure 2.9:

2.3.2 Use Case Instance(s)

2.3.2.1 Use-Case Instance - uciCallSelectedHelp:suCallSelectedHelpRequest

Figure 2.10 Call Selected help request

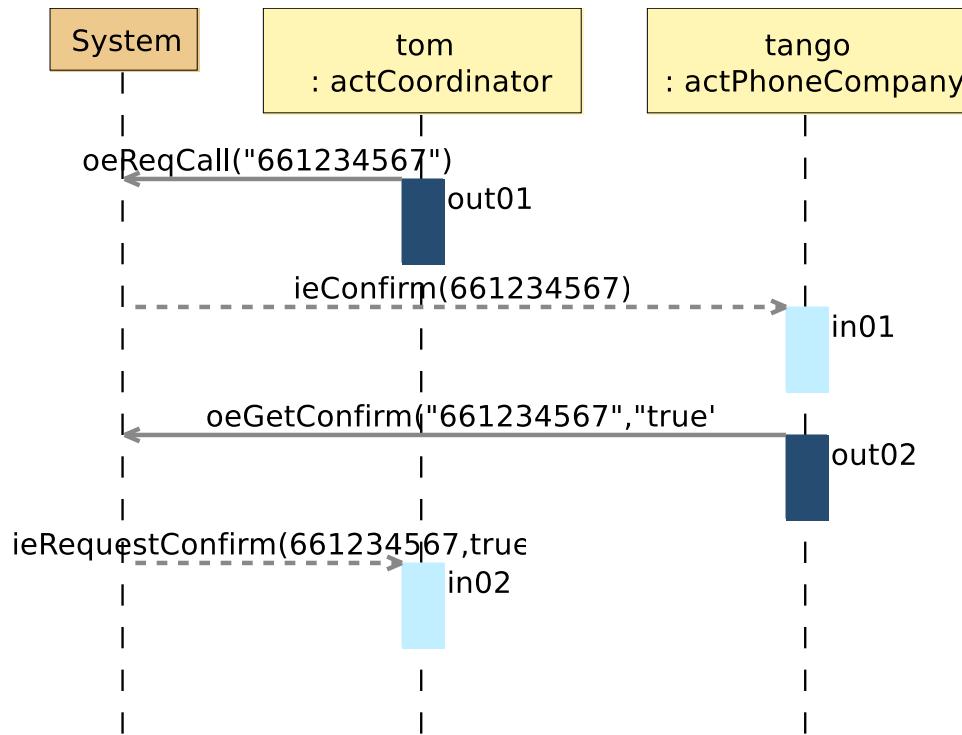


Figure 2.10:

2.3.2.2 Use-Case Instance - uciSendHelpRequest:ugRequestHelp

Figure 2.11 Send help request

2.3.2.3 Use-Case Instance - uciGetInRangeMission:ugGetMissionInRange

Figure 2.12 Get in range mission

2.3.2.4 Use-Case Instance - uciGetPendingHelpRequests:ugRetrievePendingHelpRequestDetails

Figure 2.13 Get pending help requests

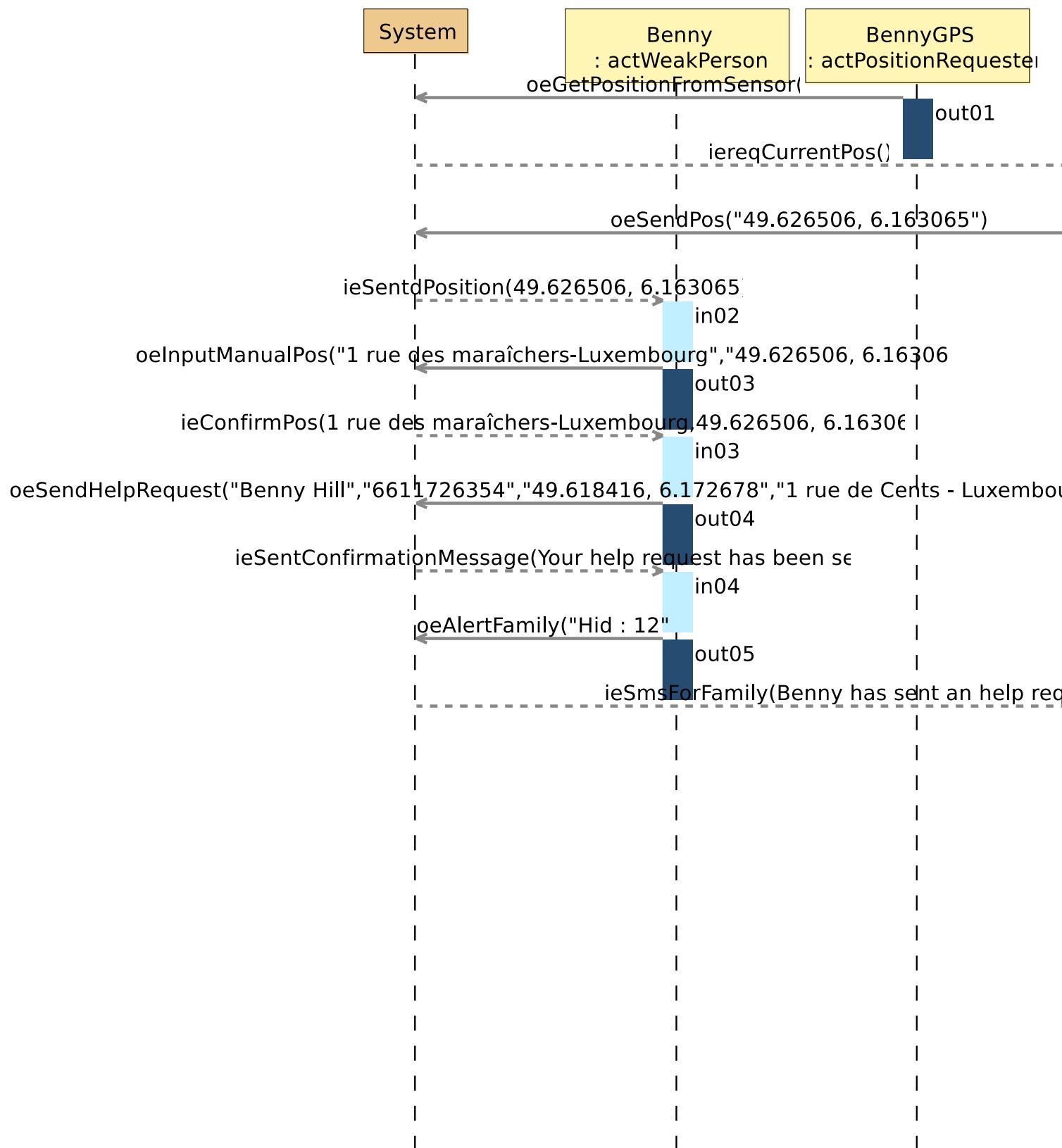


Figure 2.11:

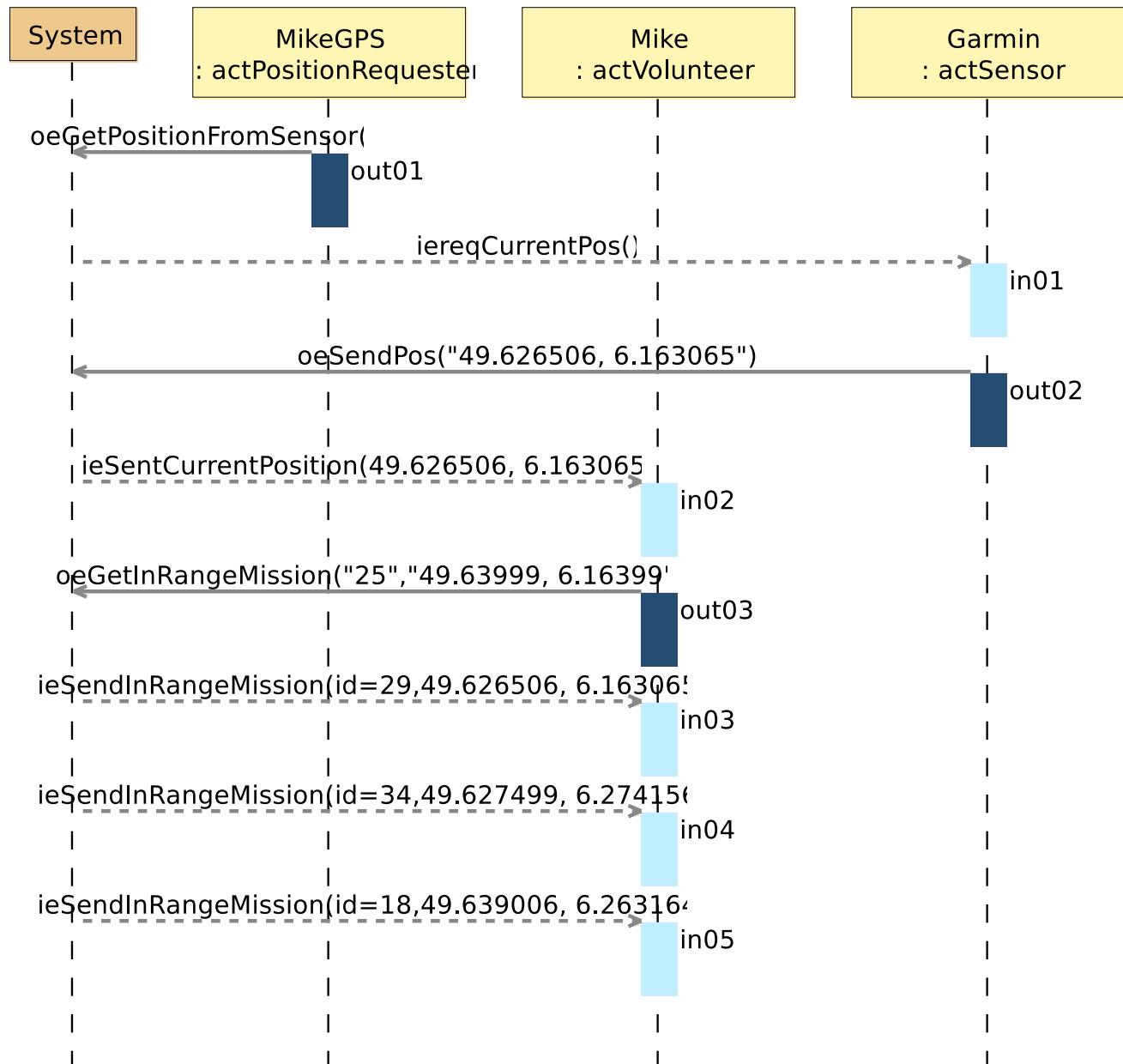


Figure 2.12:

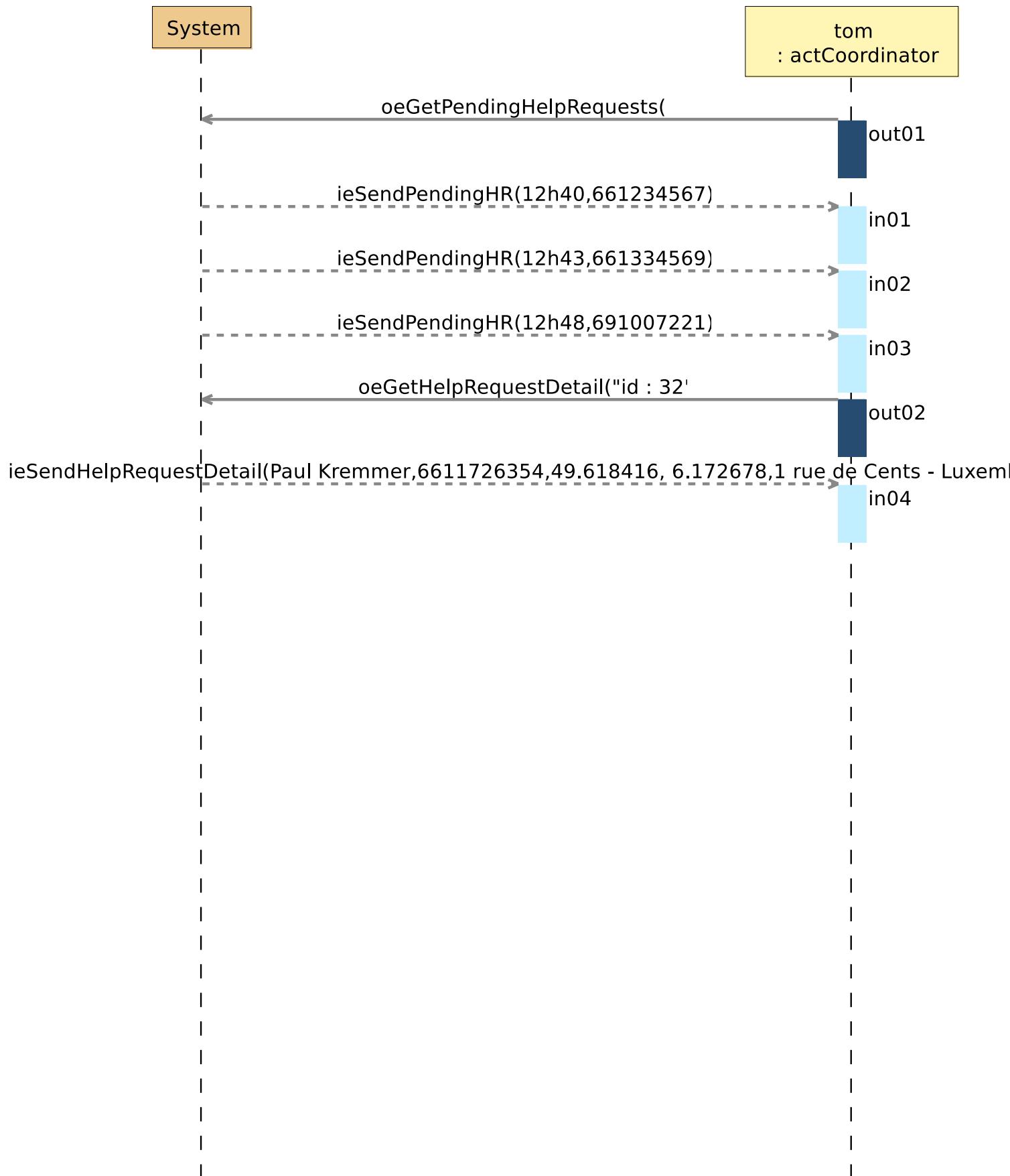


Figure 2.13:

Chapter 3

Environment Model

3.1 Environment model view(s)

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

3.2 Actors and Interfaces Descriptions

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

3.2.1 **actCoordinator** Actor

ACTOR	
<i>actCoordinator</i>	Environment Coordinator
<i>OutputInterfaces</i>	
OUT 1	oeLogin () :ptBoolean
OUT 2	oeLogout () :ptBoolean
OUT 3	oeGetPendingHelpRequests () :ptBoolean
OUT 4	oeGetHelpRequestDetail (AdtHelpRequestId:dtHRid) :ptBoolean
OUT 5	oeProceedCall () :ptBoolean
OUT 6	oeSetRiskLevel () :ptBoolean
OUT 7	oeGetVolunteersList () :ptBoolean
OUT 8	oeReqCall () :ptBoolean
OUT 9	oeReqCheckbox () :ptBoolean
OUT 10	oeSendFilledCheckbox () :ptBoolean

continues in next page ...

...Actor table continuation

OUT 11	<code>oeConfirmPriority() :ptBoolean</code>
<i>InputInterfaces</i>	
IN 1	<code>ieSendPendingHelpRequestList(AdtTime:dtTime, AdtPhoneNumber:dtPhoneNumber) :ptBoolean</code>
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>

3.2.2 actMainDatabase Actor

ACTOR
<i>actMainDatabase</i>
Environment Main Database
<i>OutputInterfaces</i>
OUT 1 <code>oeSentPendingHelpRequest(AdtTime:dtTime, AdtPhoneNumber:dtPhoneNumber) :ptBoolean</code>
OUT 2 <code>oeSendHRDetails(AdtName:dtName, AdtPhoneNumber:dtPhoneNumber, AdtCoordinates:dtCoordinates, AdtAddress:dtAddress) :ptBoolean</code>
OUT 3 <code>oeSendFamilyDetails(AdtName:dtName, AdtPhoneNumber:dtPhoneNumber) :ptBoolean</code>
OUT 4 <code>oeConfirmEntryAdded(AdtId:dtHRid, AdtConfirmation:ptBoolean) :ptBoolean</code>
<i>InputInterfaces</i>
IN 1 <code>ieReqPendingHelpRequests() :ptBoolean</code>
IN 2 <code>ieReqHRDetails(AdtId:dtHRid) :ptBoolean</code>
IN 3 <code>ieSendPendingHR(AdtTime:dtTime) :ptBoolean</code>
IN 4 <code>ieFamilyDetailsRequest() :ptBoolean</code>
IN 5 <code>ieFamilyDeliveryReport(AdtName:dtName, AdtConfirmation:ptBoolean) :ptBoolean</code>

continues in next page ...

...Actor table continuation

IN 6	<code>ieAddEntry(AdtName:dtName, AdtPhoneNumber:dtPhoneNumber, AdtCoordinates:dtCoordinates, AdtAddress:dtAddress) :ptBoolean</code>
IN 7	<code>ieConfirmationOfFamilyDetailsReceived() :ptBoolean</code>

3.2.3 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>

3.2.4 actPositionInputActor Actor

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

3.2.5 actPositionRequester Actor

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

3.2.6 **actSensor** Actor

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

3.2.7 **actVolunteer** Actor

ACTOR
<i>actVolunteer</i>
Env Volunteer
<i>OutputInterfaces</i>
OUT 1 oeLogin () :ptBoolean
OUT 2 oeLogout () :ptBoolean
OUT 3 oeGetPosition () :ptBoolean
OUT 4 oeGetMissionInRagne (AdtRange:dtRange, AdtPosition:dtCoordinates) :ptBoolean
OUT 5 oeAcceptMission (AdtId:dtHRid) :ptBoolean
<i>InputInterfaces</i>
IN 1 ieSentCurrentPosition (AdtCoordinates:dtCoordinates) :ptBoolean
IN 2 ieSentMissionConfirmation () :ptBoolean
IN 3 ieSendRange () :ptBoolean
IN 4 ieSendInRangeMission (AdtId:dtHRid, AdtCoordinates:dtCoordinates) :ptBoolean

3.2.8 **actWeakPerson** Actor

ACTOR
<i>actWeakPerson</i>
Env WeakPerson
<i>OutputInterfaces</i>
OUT 1 oeSendHelpRequest () :ptBoolean
OUT 2 oeLogin () :ptBoolean

continues in next page ...

...Actor table continuation

OUT 3	oeLogout () :ptBoolean
OUT 4	oeGetpostition () :ptBoolean
OUT 5	oeInputManualPos () :ptBoolean
OUT 6	oeGetInfo () :ptBoolean
OUT 7	oeGetPositionFromSensor () :ptBoolean
OUT 8	oeAlertFamily () :ptBoolean

InputInterfaces

IN 1	ieSentdPosition () :ptBoolean
IN 2	ieSentConfirmationMessage () :ptBoolean
IN 3	ieSendInfo () :ptBoolean
IN 4	ieConfirmPos () :ptBoolean

3.2.9 **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 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

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	
<i>ctCoordinator</i>	
	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
<i>ctHelpRequest</i>	
	This represent the object created by a WeakPerson when asking for help, it is hence associated to exactly 1 human type Weak Person
attribute	HrTime: dtTime
operation	init (AHrTime:dtTime) :ptBoolean
operation	is () :ptBoolean

continues in next page ...

*... Classes table continuation**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

ctVolunteer

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

ctWeakPerson

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

continues in next page ...

... *Classes table continuation*

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

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 Scheme for actVolunteer

5.1.1 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
<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.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.coordinator.oeReqCall
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeReqCheckbox
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeSendFilledCheckbox

- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeSendHRDetails
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.oeSentPendingHelpRequest
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.oeAlertFamily
- lu.uni.lassy.excalibur.g01.specification.usescases.weakperson.oeConfirmEntryAdded
- 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.oeSendFamilyDetails
- 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.uciSendHelpRequest
- usecases.ucisuAltertAFamilyMember.ucisuAltertAFamilyMember

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.volunteer.uciGetInRangeMission
- lu.uni.lassy.excalibur.g01.specification.usecases.coordinator.uciGetPendingHelpRequests

A.3 Undocumented Actors

- lu.uni.lassy.excalibur.g01.specification.environment.actGeneralPopulation

A.4 Undocumented Primary Types

A.4.1 Undocumented Primary Classe Types

- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.ctState

A.4.2 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.5.2 Undocumented Primary Type Aggregations

- lu.uni.lassy.excalibur.g01.specification.concepts.primarytypes.classes.assPendingHelpRequest

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 Concept Model Views

- cm-view4

A.8 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.ctHuman.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.classes.ctWeakPerson.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.actMainDatabase.outactPendingHelpRequestList.oeCom
- lu.uni.lassy.excalibur.g01.specification.environment.actMainDatabase.outactPendingHelpRequestList.oeSend
- lu.uni.lassy.excalibur.g01.specification.environment.actMainDatabase.outactPendingHelpRequestList.oeSend
- lu.uni.lassy.excalibur.g01.specification.environment.actPhoneCompany.outactPhoneCompany.oeGetConfirm
- lu.uni.lassy.excalibur.g01.specification.environment.actPhoneCompany.outactPhoneCompany.oeSendDeliver
- lu.uni.lassy.excalibur.g01.specification.environment.actPositionInputActor.outactPositionInputActor.oeInpu
- 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.oeGetPosition
- lu.uni.lassy.excalibur.g01.specification.environment.actVolunteer.outactVolunteer.oeLogout
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeAlertFamily
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeGetInfo
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeGetPositionFromS
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeGetpostition
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeInputManualPos
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeLogin
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeLogout
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPerson.outactWeakPerson.oeSendHelpRequest

- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPersonFamily.outactWeakPersonFamily.oeConfirmCa
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPersonFamily.outactWeakPersonFamily.oeConfirmMe
- lu.uni.lassy.excalibur.g01.specification.environment.actWeakPersonFamily.outactWeakPersonFamily.oeSubscribe

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 actSensor role rnactSensor cardinality [1..*] {
17
18 input interface inactSensor {
19     operation iereqCurrentPos() : ptBoolean
20 }
21 output interface outactSensor {
22     operation oeSendPos():ptBoolean
23 }
24 }
25
26 actor actPositionInputActor role rnactPositionInputActor cardinality [1..*] {
27
28 input interface inactPositionInputActor {
29     operation ieSentPosition() : ptBoolean
30 }
31 output interface outactPositionInputActor {
32     operation oeInputPost() : ptBoolean
33 }
34 }
35
36 actor actCoordinator role rnactCoordinator cardinality [1..*] {
37
38 input interface inactCoordinator {
39     operation ieSendPendingHelpRequestList(AdtTime:dtTime, AdtPhoneNumber :dtPhoneNumber) : ptBoolean
40     operation ieSendHelpRequestDetail(AdtName : dtName, AdtPhoneNumber : dtPhoneNumber ,
        AdtCoordinates : dtCoordinates , AdtAddress : dtAddress) : ptBoolean
41     operation ieSendVolunteerList() : ptBoolean
42     operation ieConfirm() : ptBoolean
43     operation ieSendCheckbox() : ptBoolean
44     operation ieSendCalculatedPriority() : ptBoolean
45     operation ieSendResult() : ptBoolean
46 }
47 output interface outactCoordinator {
48     operation oeLogin() : ptBoolean
49     operation oeLogout() : ptBoolean
50     operation oeGetPendingHelpRequests() : ptBoolean
51     operation oeGetHelpRequestDetail(AdtHelpRequestId : dtHRid) : ptBoolean
52     operation oeProceedCall() : ptBoolean
53     operation oeSetRiskLevel() : ptBoolean
54     operation oeGetVolunteersList() : ptBoolean
55     operation oeReqCall() : ptBoolean
```

```

56  operation oeReqCheckbox() : ptBoolean
57  operation oeSendFilledCheckbox() : ptBoolean
58  operation oeConfirmPriority() : ptBoolean
59 }
60 }
61
62 actor actWeakPerson role rnactWeakPerson cardinality [1...*] {
63
64  input interface inactWeakPerson {
65    operation ieSentdPosition() : ptBoolean
66    operation ieSentConfirmationMessage() : ptBoolean
67    operation ieSendInfo() : ptBoolean
68    operation ieConfirmPos() : ptBoolean
69
70 }
71  output interface outactWeakPerson {
72    operation oeSendHelpRequest() : ptBoolean
73    operation oeLogin() : ptBoolean
74    operation oeLogout() : ptBoolean
75    operation oeGetpostition() : ptBoolean
76    operation oeInputManualPos() : ptBoolean
77    operation oeGetInfo() : ptBoolean
78    operation oeGetPositionFromSensor() : ptBoolean
79    operation oeAlertFamily() : ptBoolean
80 }
81 }
82
83 actor actVolunteer role rnactVolunteer cardinality [1...*] {
84
85  input interface inactVolunteer {
86    operation ieSentCurrentPosition(AdtCoordinates : dtCoordinates) : ptBoolean
87    operation ieSentMissionConfirmation() : ptBoolean
88    operation ieSendRange() : ptBoolean
89    operation ieSendInRangeMission(AdtId : dtHRid, AdtCoordinates : dtCoordinates) : ptBoolean
90 }
91  output interface outactVolunteer {
92    operation oeLogin() : ptBoolean
93    operation oeLogout(): ptBoolean
94    operation oeGetPosition() : ptBoolean
95
96    operation oeGetMissionInRagne(AdtRange: dtRange,AdtPosition : dtCoordinates) : ptBoolean
97    operation oeAcceptMission(AdtId : dtHRid) : ptBoolean
98
99 }
100 }
101
102 actor actGeneralPopulation role rnactGeneralPopulation cardinality [1...*] {
103
104  input interface inactGeneralPopulation {
105
106 }
107  output interface outactGeneralPopulation {
108
109 }
110 }
111
112 actor actWeakPersonFamily role rnactWeakPersonFamily cardinality [1...*] {
113
114  input interface inactWeakPersonFamily {
115    operation ieSentPosition() : ptBoolean
116    operation ieGetMessage() : ptBoolean
117    operation ieGetCall(): ptBoolean
118
119 }
120  output interface outactWeakPersonFamily {
121
122    operation oeSubscribe() : ptBoolean
123    operation oeConfirmMessage() : ptBoolean
124    operation oeConfirmCall() : ptBoolean
125 }
```

```

126     }
127   }
128
129 actor actMainDatabase role rnactMainDatabase cardinality [1..*] {
130
131   input interface inactPendingHelpRequestList {
132     operation ieReqPendingHelpRequests() : ptBoolean
133     operation ieRequHRDetails(AdtId : dtHRid) : ptBoolean
134     operation ieSendPendingHR(AdtTime : dtTime) : ptBoolean
135     operation ieFamilyDetailsRequest() : ptBoolean
136     operation ieConfirmationOfFamilyDetailsReceived() : ptBoolean
137     operation ieFamilyDeliveryReport(AdtName : dtName, AdtConfirmation : ptBoolean) : ptBoolean
138     operation ieAddEntry(AdtName : dtName, AdtPhoneNumber : dtPhoneNumber, AdtCoordinates :
139       dtCoordinates , AdtAddress : dtAddress) : ptBoolean
140   }
141   output interface outactPendingHelpRequestList {
142     operation oeSentPendingHelpRequest(AdtTime:dtTime,AdtPhoneNumber :dtPhoneNumber) : ptBoolean
143     operation oeSendHRDetails(AdtName : dtName, AdtPhoneNumber : dtPhoneNumber , AdtCoordinates :
144       dtCoordinates , AdtAddress : dtAddress) : ptBoolean
145     operation oeSendFamilyDetails(AdtName : dtName, AdtPhoneNumber : dtPhoneNumber) : ptBoolean
146     operation oeConfirmEntryAdded(AdtId : dtHRid , AdtConfirmation : ptBoolean) : ptBoolean
147   }
148
149 actor actPhoneCompany role rnactPhoneCompany cardinality [1..*]{
150   input interface inactPhoneCompany{
151     operation ieRequestConfirm(AdtPhoneNumber : dtPhoneNumber) : ptBoolean
152     operation ieSmsForFamily(AdtMessage : dtMessage, AdtPhoneNumber : dtPhoneNumber) : ptBoolean
153   }
154   output interface outactPhoneCompany{
155     operation oeGetConfirm() : ptBoolean
156     operation oeSendDeliveryReport(AdtMessage : dtMessage, AdtPhoneNumber : dtPhoneNumber) :
157       ptBoolean
158   }
159
160 actor actPositionRequester role rnactPositionRequester cardinality [1..*] {
161
162   input interface inactPositionRequester {
163     operation ieSendSensorPosition() : ptBoolean
164   }
165   output interface outactPositionRequester {
166     operation oeGetPositionFromSensor() : ptBoolean
167   }
168
169 }
170 }
```

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 vpStarted: ptBoolean
21
22   operation init(AvpStarted:ptBoolean): ptBoolean
23 }
24
25 class ctHuman role rnctHuman cardinality [0..*]{
26
27   attribute name: dtName
28   attribute phone: dtPhoneNumber
29   attribute coordinates: dtCoordinates
30   attribute username: ptString
31   attribute password: ptString
32
33   operation is() : ptBoolean
34   operation init(Aname : dtName, APhone : dtPhoneNumber, ACoordinates : dtCoordinates, AUsername :
35     dtUserName, APassword :dtPassword ) : ptBoolean
36 }
37 class ctWeakPerson role rnctWeakPerson cardinality [1..*] extends ctHuman {
38   attribute hrId: dtHRid
39
40   operation is() : ptBoolean
41   operation init(AWid : dtInteger,Aname : dtName, APhone : dtPhoneNumber, ACoordinates :
42     dtCoordinates, AUsername : dtUserName,APassword :dtPassword) : ptBoolean
43 }
44 class ctCoordinator role rnctCoordinator cardinality [1..*] extends ctHuman {
45   attribute cId: ptInteger
46   operation is() : ptBoolean
47   operation init(ACId : dtInteger,Aname : dtName, APhone : dtPhoneNumber, ACoordinates :
48     dtCoordinates, AUsername : dtUserName,APassword :dtPassword) : ptBoolean
49 }
50 class ctVolunteer role rnctVolunteer cardinality [0..*] extends ctHuman {
51   attribute vId: ptInteger
52   attribute disp: dtDispo
53
54   operation is() : ptBoolean
55   operation init(AvId : dtInteger,Adisp : dtDispo,Aname : dtName, APhone : dtPhoneNumber,
56     ACoordinates : dtCoordinates, AUsername : dtUserName,APassword :dtPassword) : ptBoolean
```

```

55  }
56
57 class ctHelpRequest role rnctHelpRequest cardinality [1..*] {
58   attribute HrTime: dtTime
59   operation is() : ptBoolean
60   operation init(AHrTime : dtTime) : ptBoolean
61
62 }
63 class ctPendingHelpRequest role rnctPendingHelpRequest cardinality [1..*] {
64   attribute listId : ptInteger
65   operation is() : ptBoolean
66   operation init(AlistId : dtInteger) : ptBoolean
67 }
68 association assHelpRequest ctHelpRequest(rnctHelpRequest) [1..1] ctWeakPerson(rnctWeakPerson) [0..*]
69 aggregation assPendingHelpRequest ctPendingHelpRequest(assrnctPendingHelpRequest) [1..1]
    ctHelpRequest(assrnctHelpRequest) [0..*]
70 association assCoordinatorHelpRequest ctCoordinator(rnctCoordinator) [0..1] ctHelpRequest(rnctHR)
    [0..*]
71 }
72 }
73 }
```

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
39     datatype dtAddress {
40       attribute num : ptInteger
41       attribute street : ptString
42   }
```

```

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-datatypes/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       db1 : actMainDatabase
19
20     }
21     use case steps {
22       tom executed instanceof subfunction oeGetPendingHelpRequests() {
23         ieReqPendingHelpRequests() returned to db1
24       }
25       db1 executed instanceof subfunction oeSentPendingHelpRequest("12h40", "661234567") {
26         ieSendPendingHR("12h40", "661234567") returned to tom
27       }
28       db1 executed instanceof subfunction oeSentPendingHelpRequest("12h42", "661234156") {
29         ieSendPendingHR("12h42", "661234156") returned to tom
30       }
31       db1 executed instanceof subfunction oeSentPendingHelpRequest("12h48", "691007221") {
32         ieSendPendingHR("12h48", "691007221") returned to tom
33       }
34
35       tom executed instanceof subfunction oeGetHelpRequestDetail("id : 32") {
36         ieRequHRDetails("id : 32") returned to db1
37
38     }
39     db1 executed instanceof subfunction oeSendHRDetails("Paul Kremmer", "6611726354", "49.618416,
40       6.172678", "1 rue de Cents - Luxembourg") {
41       ieRequHRDetails("Paul Kremmer", "6611726354", "49.618416, 6.172678", "1 rue de Cents -
42         Luxembourg") returned to tom
43     }
44   use case instance uciCallSelectedHelp: suCallSelectedHelpRequest{
45     actors{
46       tom : actCoordinator
47       tango : actPhoneCompany
48     }
49     use case steps {
50       tom executed instanceof subfunction oeReqCall("661234567"){
51         ieConfirm("661234567") returned to tango
52       }
53       tango executed instanceof subfunction oeGetConfirm("661234567", "true"){
54         ieRequestConfirm("661234567", "true") returned to tom
55       }
56
57     }
58   }
59
60   use case instance uciAssignPriority: ugAssignPriorityToHelpRequest{
61     actors{
62       tom : actCoordinator
63       Database : actMainDatabase
64     }
65     use case steps {
66       tom executed instanceof subfunction oeReqCheckbox(){
67         ieSendCheckbox("Speaks slowly", "Needs Water", "Conscious") returned to tom
68       }
69       tom executed instanceof subfunction oeSendFilledCheckbox("Yes", "Yes", "Yes"){
70         ieSendCalculatedPriority("The calculated priority is: Urgent") returned to tom

```

```

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

```

```

141     ieSendPendingHelpRequestList() returned to actCoordinator
142
143     }
144 }
145
146 use case system subfunction oeGetHelpRequestDetail() {
147   actor actCoordinator[primary, active]
148   actor actMainDatabase[secondary]
149
150   returned messages {
151     ieRequHRDetails() returned to actMainDatabase
152     ieSendHelpRequestDetail() returned to actCoordinator
153   }
154 }
155
156 use case system usergoal ugAssignPriorityToHelpRequest() {
157   actor actCoordinator [primary, active]
158
159   step a : actCoordinator executes oeReqCheckbox()
160   step b : actCoordinator executes oeSendFilledCheckbox()
161   step c : actCoordinator executes oeConfirmPriority()
162 }
163
164 use case system subfunction oeReqCheckbox() {
165   actor actCoordinator[primary, active]
166   actor actMainDatabase[secondary]
167
168   returned messages{
169     ieSendCheckbox(AdtCheckbox) returned to actCoordinator
170   }
171
172 }
173
174 use case system subfunction oeSendFilledCheckbox() {
175   actor actCoordinator[primary, active]
176   actor actMainDatabase[secondary]
177
178   returned messages{
179     ieSendCalculatedPriority(dtString) returned to actCoordinator
180   }
181
182 }
183
184 use case system subfunction oeConfirmPriority(){
185   actor actCoordinator[primary, active]
186   actor actMainDatabase[secondary]
187
188   returned messages{
189     ieSendResult(dtString) returned to actCoordinator
190   }
191
192 }
193
194 }
195
196 }

```

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.usecases.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 system usergoal ugGetMissionInRange() {
39   actor actVolunteer[primary, active]
40   actor actPositionRequester[secondary]
41   actor actSensor[secondary]
42
43   step a: actPositionRequester executes oeGetPositionFromSensor()
44   step b: actSensor executes oeSendPos()
45   step c: actVolunteer executes oeGetInRangeMission()
46 }
47
48 use case system subfunction oeGetInRangeMission(){
49   actor actVolunteer[primary,active]
50
51   returned messages{
52     ieSendInRangeMission() returned to actVolunteer
53   }
54 }
55
56 use case system summary suRetrieveMissionDetails(){
57   actor actVolunteer[primary,active]
58
59   step a: actVolunteer executes ugGetMissionInRange()
60   step b: actVolunteer executes oeGetMissionDetails()
61 }
62
63 use case system subfunction oeGetMissionDetails(){
64   actor actVolunteer[primary, active]
65
66   returned messages{
67     ieSendMissionDetails() returned to actVolunteer
68   }
69 }
70
71 use case system summary suAcceptMission(){
72   actor actVolunteer[primary,active]
73
74   step a: actVolunteer executes ugGetMissionInRange()
75   step b: actVolunteer executes oeAcceptMission()
76 }
77
78 use case system subfunction oeAcceptMission() {

```

```

79  actor actVolunteer[primary, active]
80
81  returned messages{
82    ieSendDistanceMessage() returned to actVolunteer
83  }
84 }
85
86 }
87
88 }
```

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

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

```

1 package usecases.ucisuAltertAFamilyMember {
2   import lu.uni.lassy.excalibur.g01.specification.usescases.weakperson
3   import lu.uni.lassy.excalibur.g01.specification.environment
4
5   Use Case Model {
6
7     use case instance ucisuAltertAFamilyMember : lu.uni.lassy.excalibur.g01.specification.usescases.
8       weakperson.suAltertAFamilyMember{
9         actors {
10           John : actWeakPerson
11           DB1 : actMainDatabase
12           Orange : actPhoneCompany
13         }
14
15         use case steps {
16           John executed instanceof subfunction lu.uni.lassy.excalibur.g01.specification.usescases.
17             weakperson.oeAlertFamily() {
18               ieFamilyDetailsRequest() returned to DB1
19             }
20             DB1 executed instanceof subfunction lu.uni.lassy.excalibur.g01.specification.usescases.
21               weakperson.oeSendFamilyDetails("Emily Smith", "691 432 132") {
22                 ieConfirmationOfFamilyDetailsReceived() returned to DB1
23                 ieSmsForFamily("John has just used the request help function through the Heat Wave Prevention
24                   System, serious danger may exist for this person",
25                   "691 432 132") returned to Orange
26               }
27             }
28           }
29         }
30     }
```

Listing B.14: Messir Spec. file *usecaseinstance-suAltertAFamilyMember-ucisuAltertAFamilyMember.msr*.

B.15 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.15: Messir Spec. file usecases.msr.

B.16 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   use case instance uciSendHelpRequest : ugRequestHelp {
16     actors {
17
18       Benny : actWeakPerson
19       BennyGPS : actPositionRequester
20       Garmin : actSensor
21       DB1 : actMainDatabase
22
23     }
24     use case steps {
25       BennyGPS executed instanceof subfunction oeGetPositionFromSensor() {
26         iereqCurrentPos() returned to Garmin
27       }
28       Garmin executed instanceof subfunction oeSendPos("49.626506, 6.163065") {
29         ieSentdPosition("49.626506, 6.163065") returned to Benny
30       }
31       Benny executed instanceof subfunction oeInputManualPos("1 rue des mara chers-Luxembourg", "
32         49.626506, 6.163065") {
33         ieConfirmPos("1 rue des mara chers-Luxembourg", "49.626506, 6.163065") returned to Benny
34       }
35       Benny executed instanceof subfunction oeSendHelpRequest() {
36         ieAddEntry("Benny Hill", "6611726354", "49.618416, 6.172678", "1 rue de Cents - Luxembourg")
37         returned to DB1
38       }
39       DB1 executed instanceof subfunction oeConfirmEntryAdded("id : 27", "true") {
40         ieSentConfirmationMessage("Your help request has been sent") returned to Benny
41       }
42     }
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 actMainDatabase[secondary]
52
53   reuse oeSendHelpRequest[1..1]
```

```

55
56 step a : actPositionRequester executes oeGetPositionFromSensor()
57 step b : actSensor executes oeSendPos()
58 step c : actWeakPerson executes oeInputManualPos()
59 step d : actWeakPerson executes oeSendHelpRequest()
60 step e : actMainDatabase executes oeConfirmEntryAdded()
61 step f : actWeakPerson executes oeAlertFamily()
62
63 ordering constraint "step (a) is always the first step "
64 ordering constraint "step (b) must be executed after step (a) "
65 ordering constraint "step (f) may not be executed (if actWeakPerson is not signed up)"
66 ordering constraint "step (e) is always the last step "
67
68 }
69
70 use case system subfunction oeGetPositionFromSensor() {
71   actor actPositionRequester[primary, active]
72   actor actSensor[secondary]
73
74   returned messages{
75     iereqCurrentPos() returned to actSensor
76   }
77 }
78
79 use case system subfunction oeSendPos() {
80   actor actSensor[primary, active]
81   actor actWeakPerson[secondary]
82   actor actVolunteer[secondary]
83
84   returned messages{
85     ieSentdPosition() returned to actWeakPerson
86     ieSentCurrentPosition() returned to actVolunteer
87   }
88 }
89
90 use case system subfunction oeInputManualPos() {
91   actor actWeakPerson[primary, active]
92
93   returned messages{
94     ieConfirmPos() returned to actWeakPerson
95   }
96 }
97
98 use case system subfunction oeSendHelpRequest() {
99   actor actWeakPerson[primary, active]
100  actor actMainDatabase[secondary]
101
102  returned messages{
103    ieAddEntry() returned to actMainDatabase
104  }
105 }
106
107 use case system subfunction oeConfirmEntryAdded() {
108   actor actMainDatabase[primary, active]
109   actor actWeakPerson[secondary]
110   returned messages{
111     ieSentConfirmationMessage() returned to actWeakPerson
112   }
113 }
114
115 use case system summary suAlertAFamilyMember() {
116   actor actWeakPerson [primary, active]
117   actor actPhoneCompany[secondary, active]
118   actor actMainDatabase[secondary, active]
119
120   reuse oeAlertFamily[1...*]
121   reuse oeSendFamilyDetails[1...*]
122   reuse oeSendDeliveryReport[1...*]
123
124   step a: actWeakPerson executes oeAlertFamily()

```

```

125  step b: actMainDatabase executes oeSendFamilyDetails()
126  step c: actPhoneCompany executes oeSendDeliveryReport()
127 }
128 }
129
130 use case system subfunction oeAlertFamily() {
131   actor actWeakPerson[primary,active]
132   actor actMainDatabase[secondary,passive]
133
134   returned messages {
135     ieFamilyDetailsRequest() returned to actMainDatabase
136   }
137 }
138
139 use case system subfunction oeSendFamilyDetails() {
140   actor actMainDatabase[primary,active]
141   actor actPhoneCompany[secondary, passive]
142   returned messages {
143     ieConfirmationOfFamilyDetailsReceived() returned to actMainDatabase
144     ieSmsForFamily() returned to actPhoneCompany
145   }
146 }
147 }
148
149 use case system subfunction oeSendDeliveryReport() {
150   actor actPhoneCompany[primary,active]
151   actor actMainDatabase[secondary, passive]
152   returned messages{
153     ieFamilyDeliveryReport() returned to actMainDatabase
154   }
155 }
156 }
157
158 }
159
160 }
```

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

