

Crisis Management Reference Specification in MSVCM

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1 Scenario SC01

1.1 Description:

This scenario allows a crisis analyst (the coordinator) to create a crisis record (here, a car crash record) based on the information obtained from witnesses.

1.2 Flow of events

Code	Feature	User Action	System Response
SC01.1	-	Coordinator informs location and type of crisis as reported by the witness.	CMS (Crisis Management System) provides Coordinator with a crisis-focused checklist.
SC01.2	-	Coordinator provides crisis information to CMS as reported by the witness.	CMS assigns an initial emergency level to the crisis and sets the crisis status to active.
SC01.3	-	-	CMS recommends to Coordinator the missions (< <i>MISSIONS</i> >) that are to be executed based on the current information about the crisis and available resources.
SC01.4	-	Coordinator selects one or more missions recommended by the system.	For each selected mission, the CMS assigns internal and external resources so as to properly solve the crisis.

2 Scenario SC02

2.1 Description:

After a previous assignment, this scenario allows an (local site) Observer to monitor the situation at the crisis site and to notify the CMS any relevant information related to the crisis.

2.2 Flow of events

Code	Feature	User Action	System Response
SC02.1	-	Observer notifies the CMS his (her) arrival at the mission location.	CMS sends a crisis-specific checklist to Observer.
SC02.2	-	Observer feeds CMS with additional crisis information.	CMS reports the information to the system coordinator.
SC02.3	-	Observer judges that his (her) presence is no longer needed at the crisis location and request the CMS to finish the corresponding mission.	CMS finishes the observer mission. [LogFile]

3 Scenario SC03

3.1 Description:

After a previous assignment, this scenario allows the crisis analyst to monitor the process of transporting possible victims of the car crash

3.2 Flow of events

Code	Feature	User Action	System Response
SC03.1	-	-	CMS interacts with the Hospital External System, requesting an appropriate hospital for receiving the victims.
SC03.2	-	-	CMS recommends to the Coordinator the list of suitable hospitals.
SC03.3	-	Based on his (her) experience, coordinator selects one of the recommended hospitals.	CMS interacts with the Hospital External System, informing that all possible victims of the accident will be sent to the selected hospital.
SC03.4	-	-	After receiving a notification of the Hospital External System, CMS notifies the Coordinator that the victims had arrived at the hospital.
SC03.5	-	The coordinator request the CMS to finish the corresponding mission.	CMS finishes the transporting mission. [LogFile]

4 Scenario SC04

4.1 Description:

After a previous assignment, this scenario allows the crisis analyst to monitor the process of first aid procedures.

4.2 Flow of events

Code	Feature	User Action	System Response
SC04.1	-	The First Aid Leader acknowledges the mission assignment to the CMS.	CMS presents detailed information (possible number of victims, location, transporting data) about the car crash.
SC04.2	-	-	CMS presents a list of first aid collaborators that are present.
SC04.3	-	The First Aid Leader selects one or more collaborators to send to the car crash location.	CMS sends a beep message to the selected collaborators.
SC04.4	-	-	CMS request transporting to bring the selected collaborators to the car crash location.
SC04.5	-	At the car crash location, the First Aid Leader informs each medical procedure that had been taken at the car crash location.	CMS reports the information to the system coordinator.
SC04.6	-	The First Aid Leader requests the CMS to finish the corresponding mission.	CMS finishes the rescue mission. [LogFile]

5 Advice ADV-CAM-SURV

5.1 Description:

This advice is related to the Camera Surveillance feature.

5.2 Pointcut:

After SC01.2

5.3 Flow of events

Code	Feature	User Action	System Response
ADV-CAM-SURV-1	-	Coordinator request visual information from CMS.	CMS requests video feed from Surveillance System.
ADV-CAM-SURV-2	-	-	Surveillance System starts sending video feed to CMS.
ADV-CAM-SURV-3	-	-	CMS starts displaying video feed for Coordinator.

6 Advice ADV-LOG

6.1 Description:

This advice details the Log behavior, which is applied to all supported missions.

6.2 Pointcut:

After [LogFile]

6.3 Flow of events

Code	Feature	User Action	System Response
ADV-LOG-1	-	-	CMS updates the log file, registering all relevant actions performed for concluding this mission.
ADV-LOG-2	-	-	CMS updates the statistics data about crisis handling.

7 Advice ADV-REG-LOCAL

7.1 Description:

This advice is related to the specific behavior required when the software is deployed in local regions..

7.2 Pointcut:

Before SC03.1

7.3 Flow of events

Code	Feature	User Action	System Response
ADV-REG-LOCAL-1	-	The Transporting Leader acknowledges the mission assignment to the CMS.	CMS presents the list of available ambulances to the Transporting Leader. Detailed data of the ambulances (equipment, current location, distance to the car crash site, etc.) have to be presented.
ADV-REG-LOCAL-2	-	The transporting leader selects one or more of the available ambulances.	CMS places a radio voice message to the corresponding ambulance drivers.
ADV-REG-LOCAL-3	-	-	CMS waits until each ambulance driver informs the estimated time of arrival.

8 Advice ADV-REG-REMOTE

8.1 Description:

This advice is related to the specific behavior required when the software is deployed in remote regions.

8.2 Pointcut:

Before SC03.1

8.3 Flow of events

Code	Feature	User Action	System Response
ADV-REG-REMOTE-1	-	The External Transport Manager acknowledges the mission assignment to the CMS.	CMS sends detailed information about the crisis location to the Transport Manager.
ADV-REG-REMOTE-2	-	-	CMS request transport data (such as estimated time of arrival and helicopter identification) to the Transport Manager.
ADV-REG-REMOTE-3	-	The External Transport Manager fills in the requested data.	CMS updates the crisis data and notifies the Coordinator.

9 Advice ADV-REQ-ADD-MISS

9.1 Description:

This advice is related to the Request Additional Missions feature

9.2 Pointcut:

After SC02.2

9.3 Flow of events

Code	Feature	User Action	System Response
ADV-REQ-ADD-MISS-1	-	-	CMS suggests crisis-specific missions to Observer.
ADV-REQ-ADD-MISS-2	-	For each mission he (she) wants to create, the observer selects one of the suggested missions.	CMS sends a mission-specific information request to Observer.
ADV-REQ-ADD-MISS-3	-	Observer sends mission-specific information to CMS.	CMS acknowledges the mission creation to Observer.
ADV-REQ-ADD-MISS-4	-	-	After being notified by each specific mission, CMS informs Observer that all additional missions were completed successfully.

10 Advice ADV-WIT-REG

10.1 Description:

This advice is related to the Registered Witness feature

10.2 Pointcut:

After SC01.2

10.3 Flow of events

Code	Feature	User Action	System Response
ADV-WIT-REG-1	-	-	CMS requests the witness data (name, residence and phone)
ADV-WIT-REG-2	-	Coordinator fills in the requested data.	CMS contacts Phone Company to verify witness information.
ADV-WIT-REG-3	-	-	CMS validates information received from the Phone Company. This scenario proceeds only if the witness information is correct.
ADV-WIT-REG-4	-	-	CMS update the crisis information by providing witness data.

11 Configuration Knowledge

Expression	Transformations
Crisis Management System	select scenario SC01, bind parameter MISSIONS to Mission
Observe	select scenario SC02
Transport	select scenario SC03
Rescue	select scenario SC04
Mission	evaluate advice ADV-LOG
Camera Surveillance	evaluate advice ADV-CAM-SURV
Registered	evaluate advice ADV-WIT-REG
Request Additional Missions	evaluate advice ADV-REQ-ADD-MISS
Local	evaluate advice ADV-REG-LOCAL
Remote	evaluate advice ADV-REG-REMOTE