Evaluation Instructions

Thank you for participating!

In carrying out the tasks below, please record the current time at the requested points. If you take a break from performing the tasks, please make a note (on the survey form) of when the break started and ended. This allows us to work out how much time you took to perform each task. Thank you!

The scenario is a search and rescue domain where autonomous drones assist humans to locate and assist disaster victims. The drones assist in locating and identifying victims, via tasks assigned to them by the *human drone operator*, which they carry out autonomously. When victims are located and identified, human *first-responders* assist the victims. Therefore, there are interactions between the drones and the humans. In this setting there are two primary objectives: (i) exploration - in order to search for victims; and (ii) intervention - providing assistance to any victims found.

User and System Stories briefing

A member of the team will provide a short briefing on the system story approach for requirements gathering.

1 Task: Searching an area

1.1 Understand Requirements

Please record the current time: _____

The following specifies one of the requirements of the system: to be able to search an area in order to find victims who need assistance.

Objectives	**User Story**		**System Story**		***As***	***I want to***	***So that***	**Potential Techniques**	**Ethical Consideration**
Explore	1	Explore Area			Drone Operator	assign to drones areas to explore	They find victims and notify me.		
Explore			1.1	Find Victims	Drone	explore an area assigned to me.	I can find victims.	Path Planning Exploration	
Explore			1.2	Detect Victims	Drone	detect humans	I can locate their position	Computer Vision; Infrared Sensors	Potential Bias, Accuracy
Explore			1.3	Locate Victims	Drone	locate humans	I can inform operator	GPS; Galileo; Indoor Positioning	
Intervene	2	Assist Victim			First Responder	reach victims	I can render appropriate aid		

Please record the current time: _____

1.2 Identify Design Artifacts

Please record the current time: _____

Please examine the TDF design in Figure 1, and indicate (e.g. by drawing on the printout, annotating the PDF, or writing/typing below) which design entities relate to this feature:

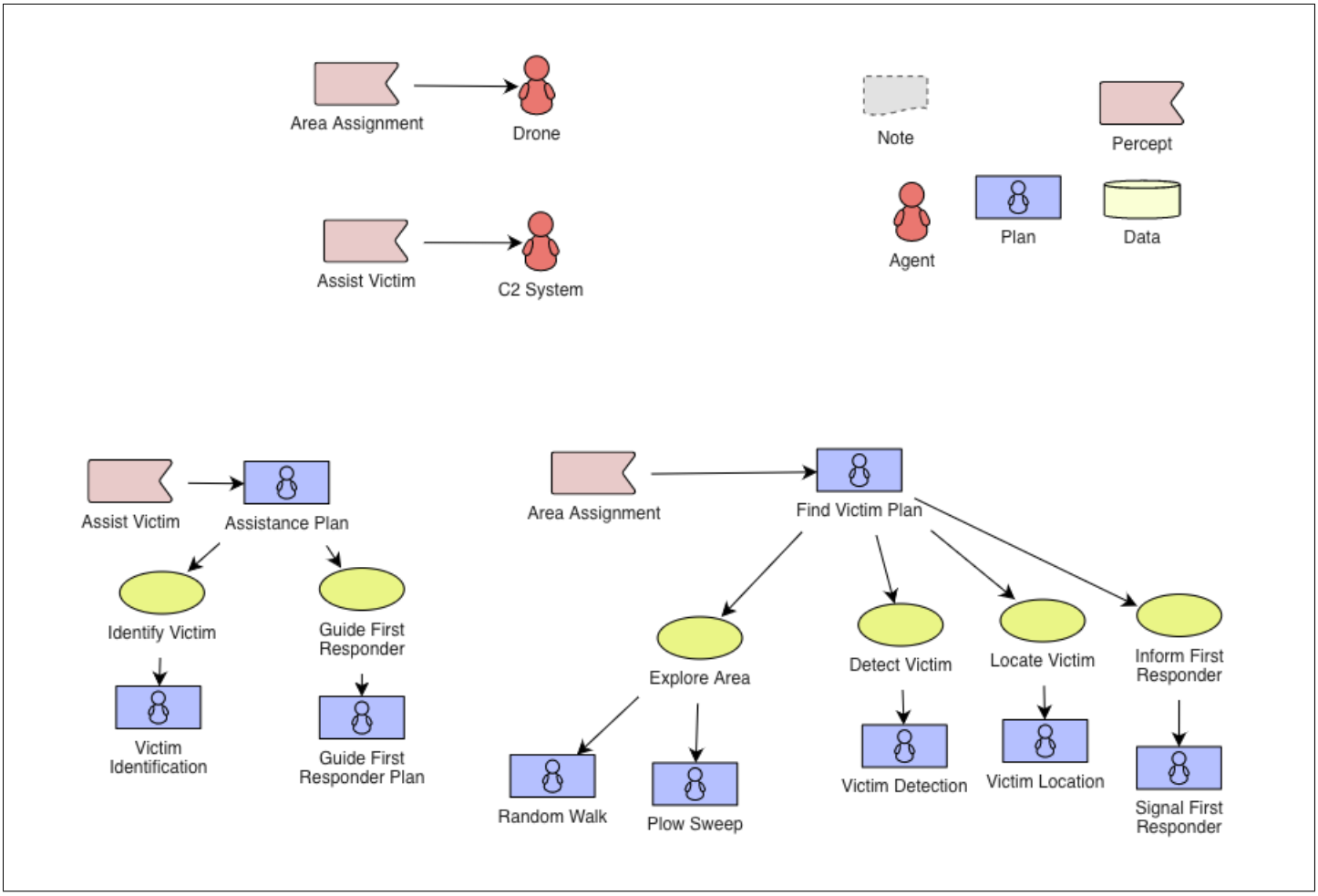

Figure 1: TDF Design for Task 1

Please record the current time: _____

1.3 Identify Implementation Artifacts

Please record the current time: _____

Please examine the SARL code, and indicate (by giving the filename and line numbers or entity name) which code entities relate to this feature:

Download SARL Code : Main code is located at 'src/main/sarl/io/sarl/hat/airsim/drones/'

_____

_____

_____

_____

_____

Please record the current time: _____

Identify System behaviour

Please record the current time: _____

Open and view the videos:

Video 1: `https://youtu.be/154tqH03_fc`
Video 2: `https://youtu.be/2TJj4yKlEDg`
Video 3: `https://youtu.be/4HFGmg5s50I`

Indicate, in your own words, which behaviour, visible in the video, relates to this feature. Give a brief description of the behaviour, and why it is related to this feature.

Please record the current time: _____

2 Task 2: Guiding a first responder to a victim

2.1 Understand Requirements

Please record the current time: _____

The following specifies one of the requirements of the system: to be able to guide a first responder to a victim who requires assistance.

Objectives	**User Story**		**System Story**		***As***	***I want to***	***So that***	**Potential Techniques**	**Ethical Consideration**
Explore	1	Explore Area			Drone Operator	assign to drones areas to explore	They find victims and notify me.		
Explore			1.1	Find Victims	Drone	explore an area assigned to me.	I can find victims.	Path Planning Exploration	
Explore			1.2	Detect Victims	Drone	detect humans	I can locate their position	Computer Vision; Infrared Sensors	Potential Bias, Accuracy
Explore			1.3	Locate Victims	Drone	locate humans	I can inform operator	GPS; Galileo; Indoor Positioning	
Intervene	2	Assist Victim			First Responder	reach victims	I can render appropriate aid		

Please record the current time: _____

2.2 Identify Design Artifacts

Please record the current time: _____

Please examine the TDF design in Figure 2, and indicate (e.g. by drawing on the printout, annotating the PDF, or writing/typing below) which design entities relate to this feature:

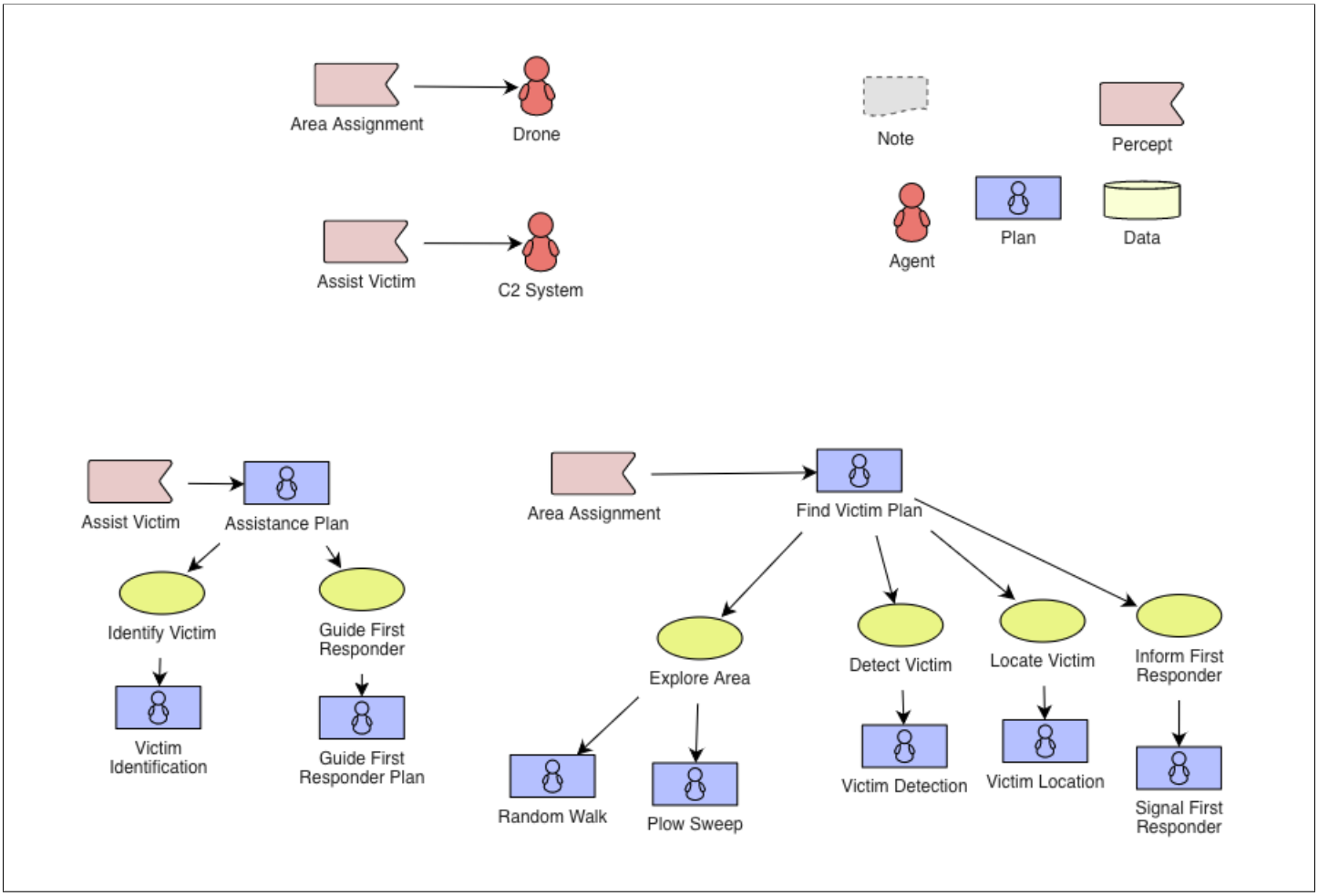

Figure 2: TDF Design for Task 2

Please record the current time: _____

2.3 Identify Implementation Artifacts

Please record the current time: _____

Please examine the SARL code (Same as previous task - Download SARL Code), and indicate (by giving the filename and line numbers or entity name) which code entities relate to this feature:

Please record the current time: _____

2.4 Identify System behaviour

Please record the current time: _____

Open and view the videos:

Video 1: `https://youtu.be/154tqH03_fc`
Video 2: `https://youtu.be/2TJj4yKlEDg`
Video 3: `https://youtu.be/4HFGmg5s50I`

Indicate, in your own words, which behaviour, visible in the video, relates to this feature. Give a brief description of the behaviour, and why it is related to this feature.

Please record the current time: _____

3 Task 3: Delivering supplies to a first responder

Please record the current time: _____

For this task, you are asked to follow a design process (described below) to add a new feature to the system: being able to deliver supplies to a first responder.

The specification for the new feature is:

> In some cases a first responder may reach a victim, and then, upon assessing the victim, realise that they require particular equipment, or supplies. The system needs to be extended so that it can, in this situation, receive a request from the first responder for particular supplies, and it will then assign an appropriate drone to collect the desired supplies and deliver them to the first responder. You can assume that all drones are interchangeable, and that "appropriate" here really just means "free".

3.1 Write User Stories

Please record the current time: _____

As discussed in briefing, please **identify user stories** for the new feature (delivering supplies to a first responder), and write them below.

Please record the current time: _____

3.2 Write System Stories

Please record the current time: _____

As discussed in briefing, please **derive system stories** for the new feature (delivering supplies to a first responder), and write them below.

Please record the current time: _____

3.3 Design Improvements

Please record the current time: _____

Please browse the TDF design and indicate below what you would add and/or modify to provide the new feature. You do not need to provide TDF diagrams, but just indicate where changes and/or new design entities would go, and sketch out briefly (in English) what those changes would be.

Please record the current time: _____

3.4 Implementation Improvements

Please record the current time: _____

Please browse the SARL code and indicate below what you would add and/or modify to provide the new feature. You do not need to provide any code, but just indicate where changes and/or new code would go.

Please record the current time: _____

Survey and Comments

To what extent did you find the requirements for **Task 1** comprehensible?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

To what extent did you find identifying the relevant parts of the TDF design for Task 1 easy to do?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

To what extent did you find identifying the relevant parts of the SARL code for Task 1 easy to do?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

To what extent did you find identifying the behaviour in the video for Task 1 easy to do?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

To what extent did you find the requirements for **Task 2** comprehensible?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

To what extent did you find identifying the relevant parts of the TDF design for Task 2 easy to do?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

To what extent did you find identifying the relevant parts of the SARL code for Task 2 easy to do?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

To what extent did you find identifying the behaviour in the video for Task 2 easy to do?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

Comparing the comprehensibility of the requirements for Task 1 against those for Task 2, would you say:

- ❒ Task 1 was much easier to understand than Task 2
- ❒ Task 1 was somewhat easier to understand than Task 2
- ❒ The two tasks were both roughly as easy to understand
- ❒ Task 2 was somewhat easier to understand than Task 1
- ❒ Task 2 was much easier to understand than Task 1

Considering Task 3, how easy did you find each of the steps to perform?
❒ 1 (very) ❒ 2 (somewhat) ❒ 3 (neutral) ❒ 4 (not really) ❒ 5 (incomprehensible)

Do you have any other comments?

Please record the current time: _____

Thank you! Please send back the completed survey, and all other relevant materials (annotated printouts/PDFs).