

Drone Odyssey Challenge 2024

Drones For Good



Main Organizer



Co-Organizer



Supported by



Ministry of Education
SINGAPORE



DOC 2024

The Drone Odyssey Challenge is an engaging competition that combines fun with the development of technical skills, critical thinking, and an understanding of new and disruptive technologies relevant to the modern world. Open to Primary and Secondary level students, this competition involves teams working together to code their programmable drones into Unmanned Aerial Vehicles (UAVs) capable of completing tasks in specified scenarios.

Challenges



Category A
Obstacle Challenge



Category B
Obstacle Challenge



Category C
Swarming Challenge

NEW



Category D
AI Powered Visual Sensing

NEW



Category E
Drone Soccer

Challenge Schedule

DOC 2024

Registration Opens
12 April 2024

Workshops
May - June

Registration Closes
26 June 2024

Competition Dates
16 to 18 July

Drone 101 Workshop

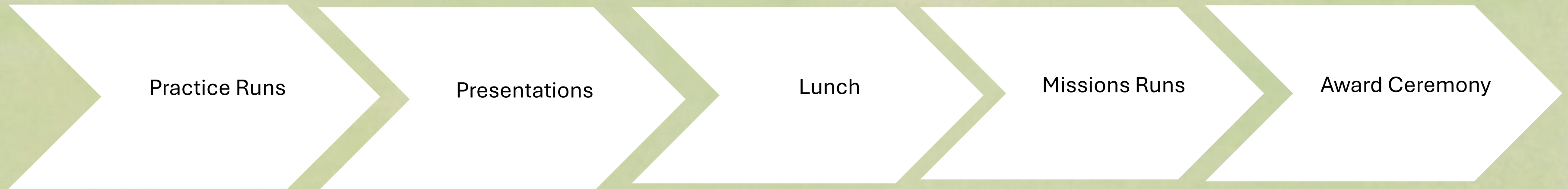
This workshop aims to equip students with practical coding abilities by providing an exhilarating opportunity to program a drone.

It will involve practical exercises, flight challenges, and the opportunity to edit their code to create new flight patterns.

**Open to Registered Participants*



Competition Flow



Estimated Duration

8.30am to 5pm



Awards

Champion

1st Runner up

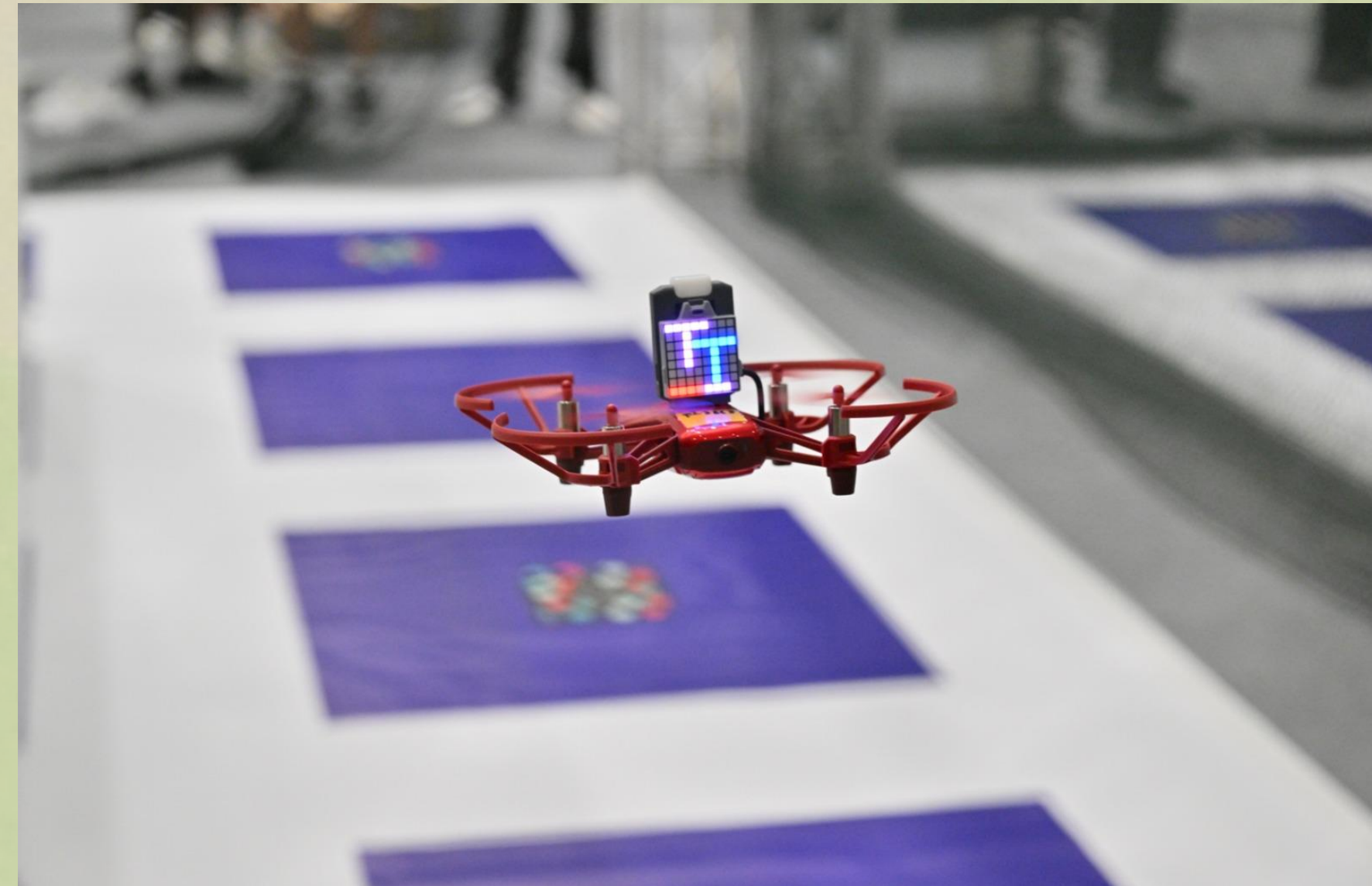
2nd Runner up

5x Merit Awards

Competition Scores Breakdown



30% Presentation



70% Drone Performance

Presentation Format

5 min Presentation

5 min Q&A

Visual materials are allowed in the presentation

Teams are to provide for their own equipment needed for their presentations.



Presentation Topics



Drones for Good

Security

Search and Rescue

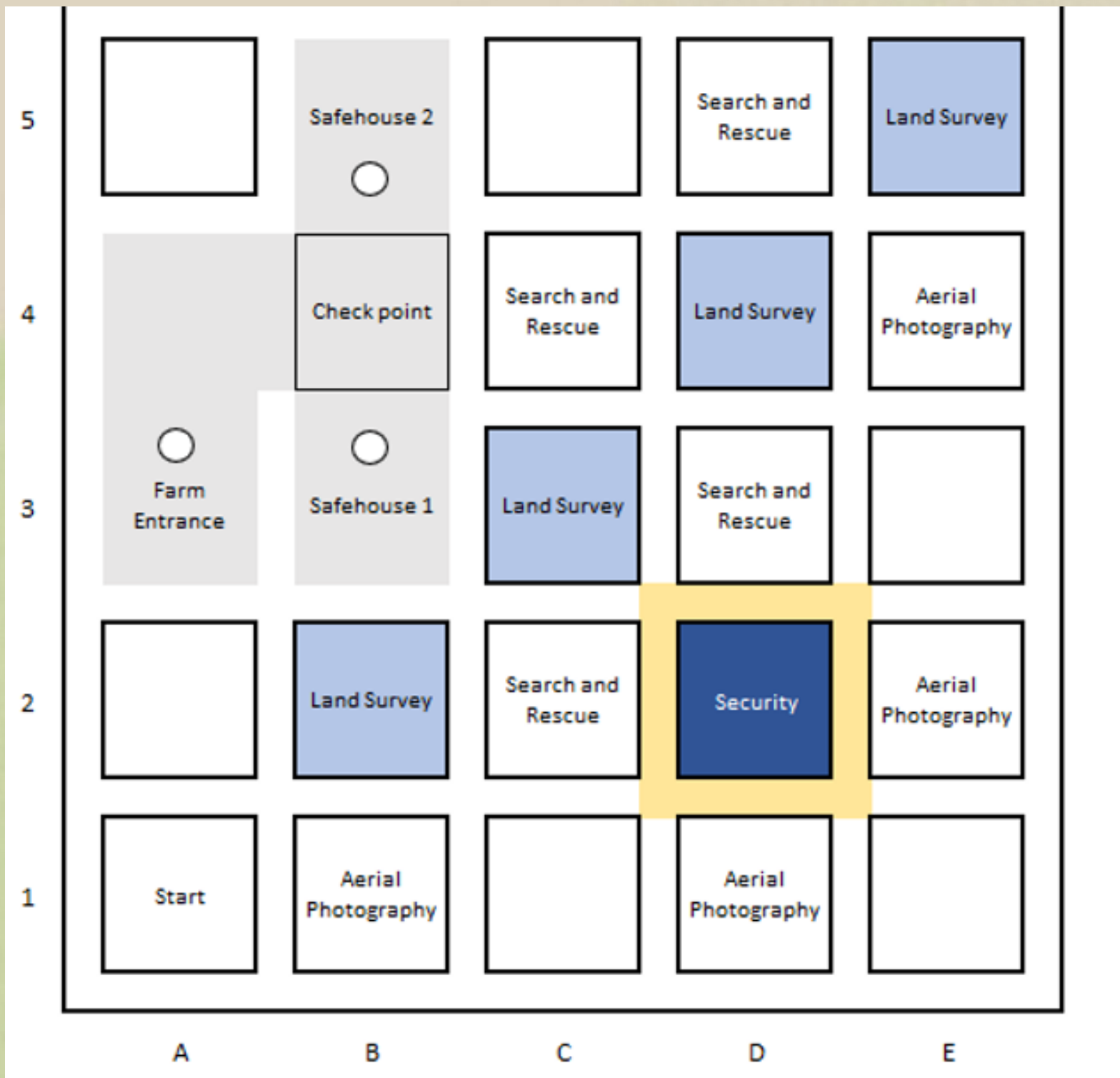
Land Survey

Livestock
Monitoring

★ AI Intelligent
Drones

CAT A1 / B1

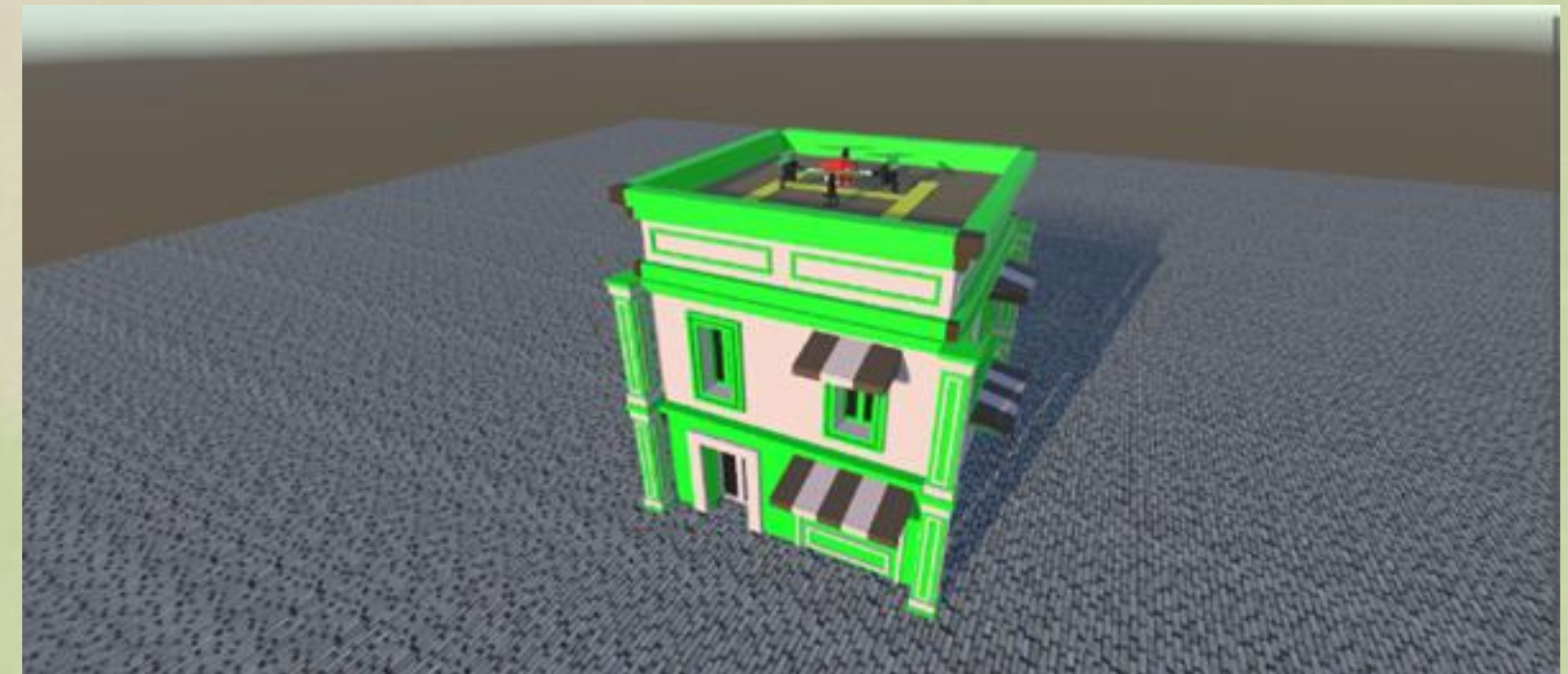
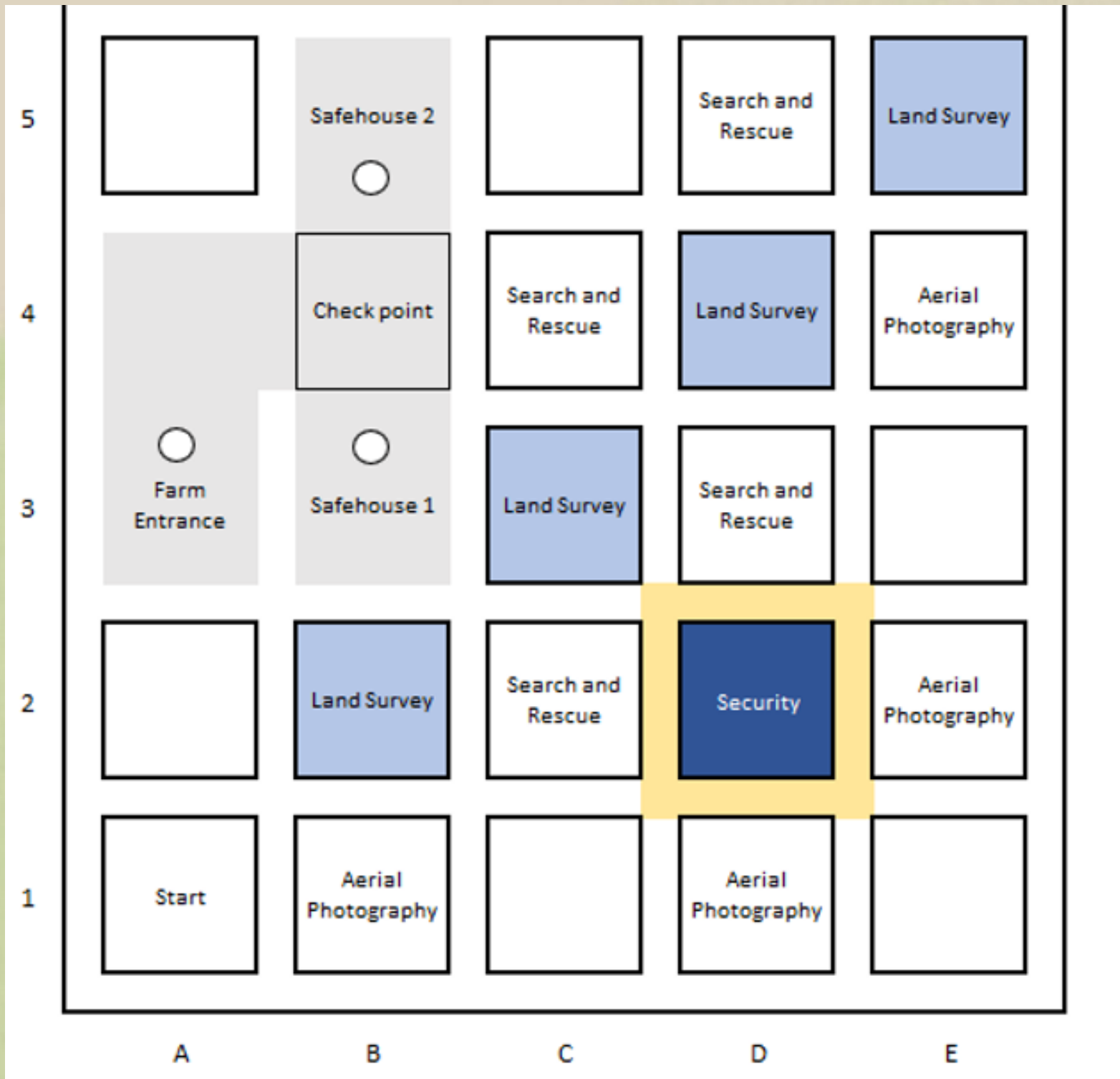
Drones : Parrot Mambo & CoDrones



<u>Livestock Monitoring</u>	
Herd the sheep(s) to the Checkpoint at the end of the run	5
Number of sheep(s) at selected safehouse at the end of run	10
Maximum Score	50

CAT A1 / B1

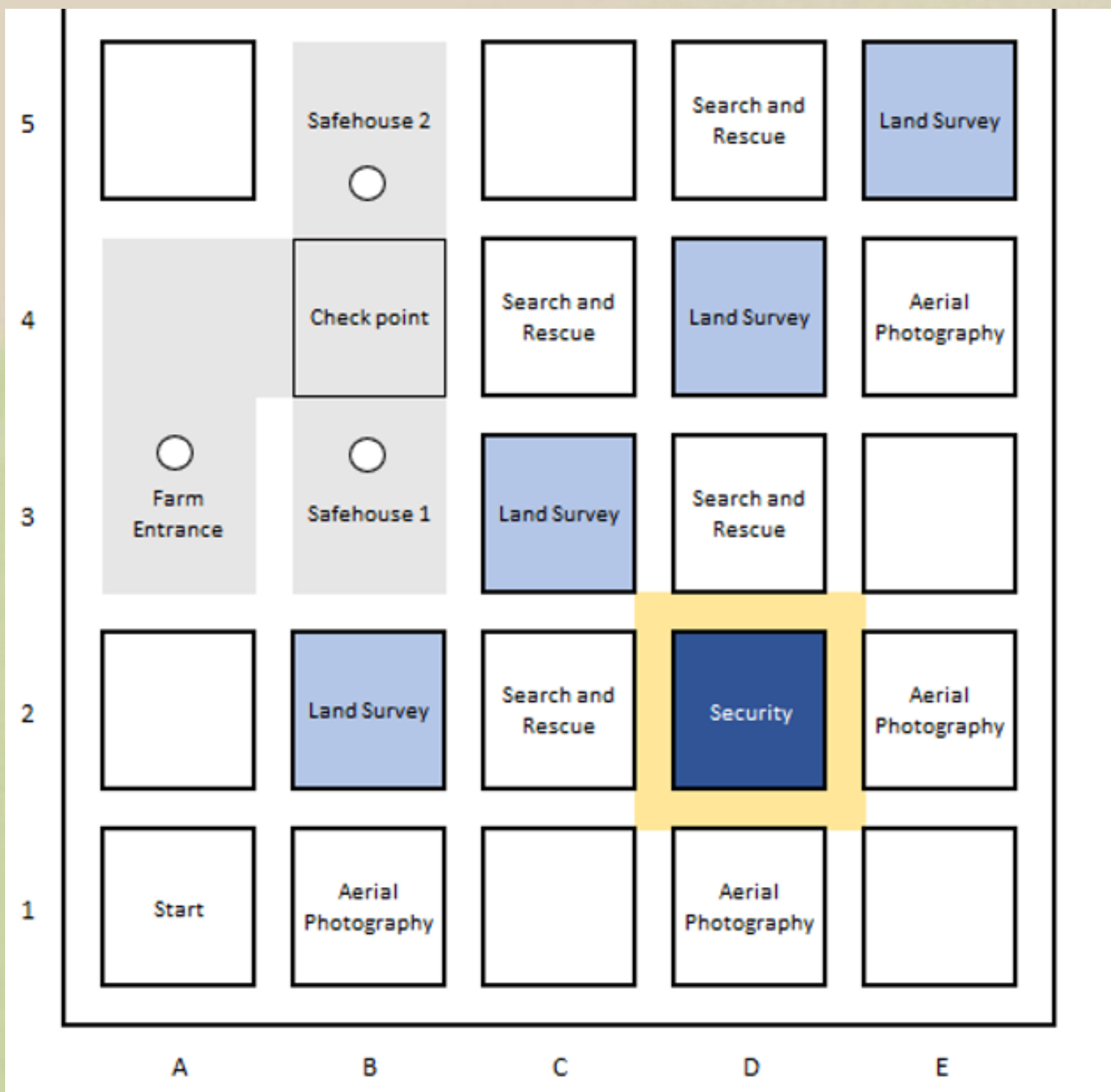
**Drones :
Parrot Mambo & CoDrones**



Security	
Patrol the perimeter of D2 in a single program	50
Maximum Score	50

CAT A1 / B1

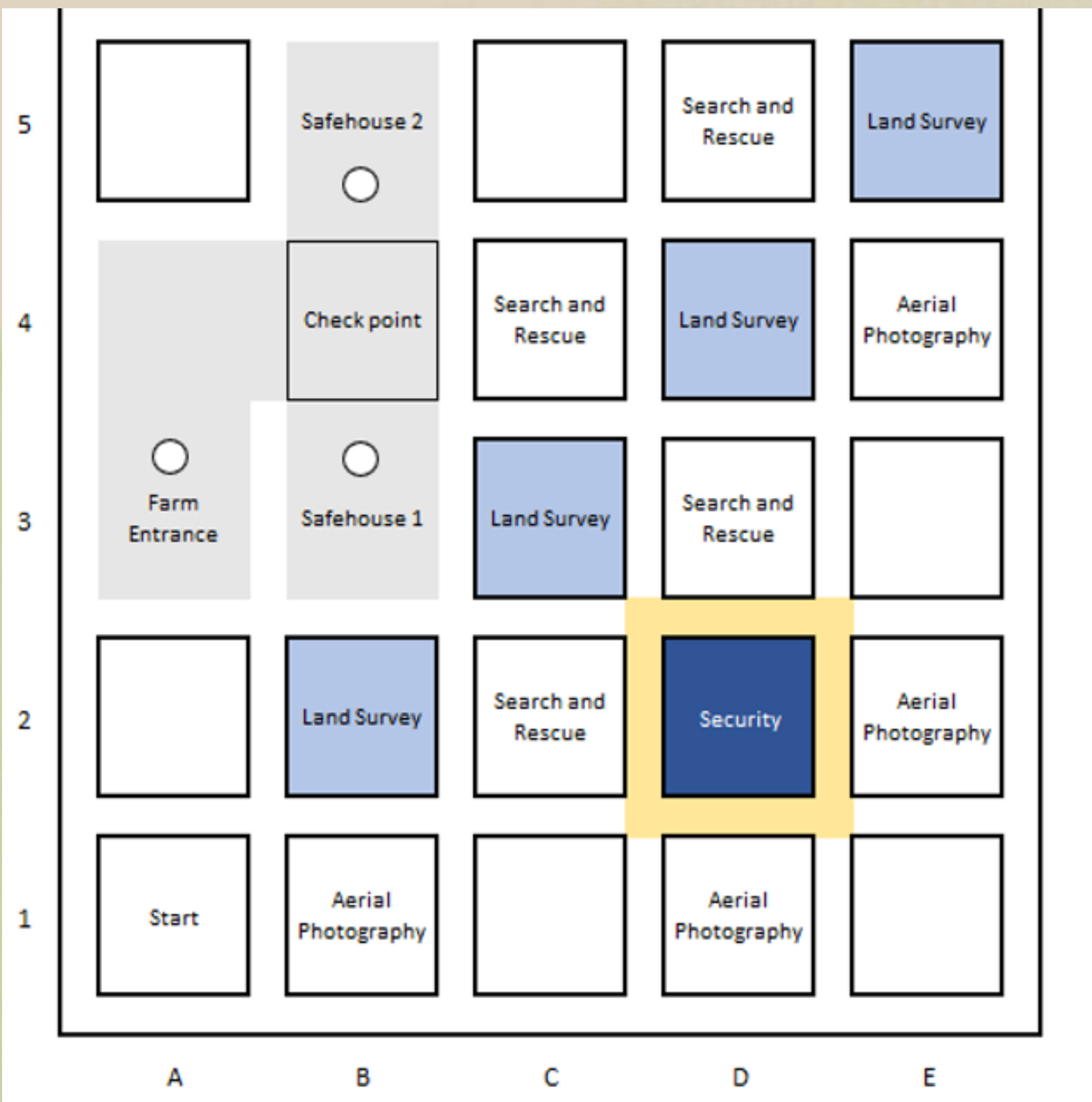
Drones in Play : CoDrones



<u>Land Survey</u>		
Detect and record the reading in a variable of one location in a single program	20	
Detect and record the readings at different locations in a single program	50	
Maximum Score		50

CAT A1 / B1

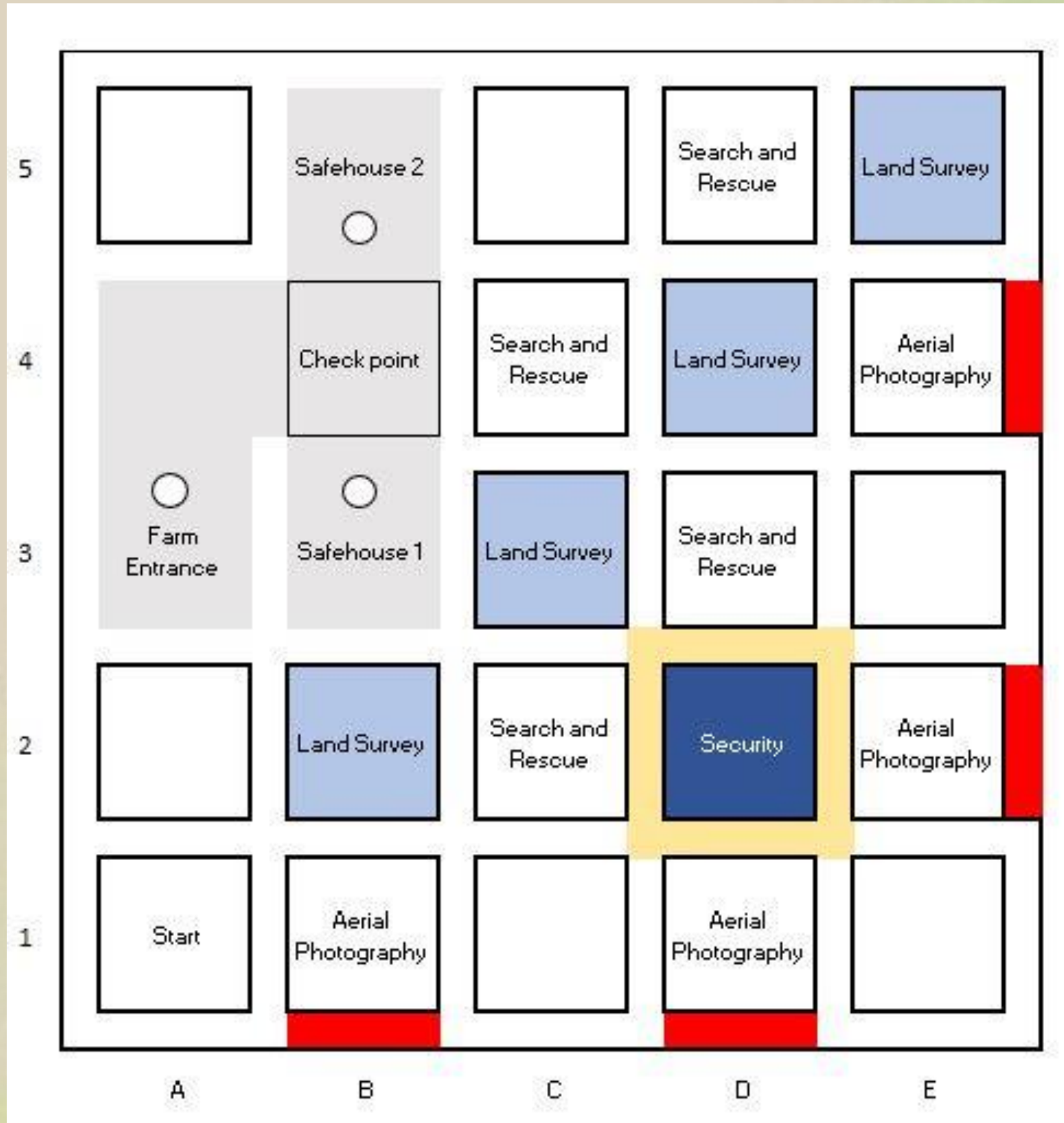
Drones in Play : Parrot Mambo



<u>Filming Drone</u>	
Take Aerial photography of one location in a single program	20
Take Aerial photography of multiple locations in a single program	50
Maximum Score	50

CAT A2 / B2

Drones :
DJI Tello



Search and Rescue

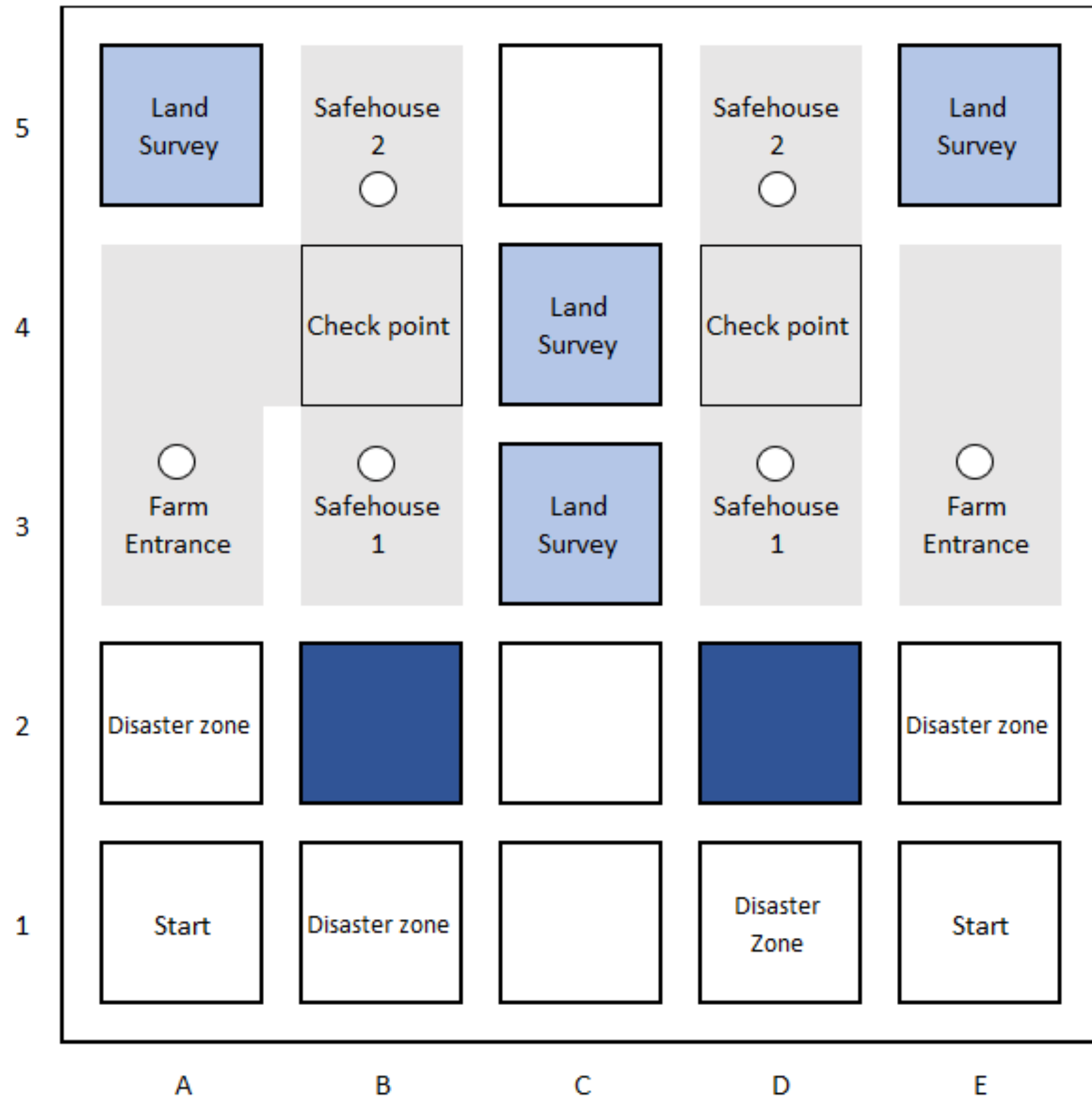
Display the number of people (Mission Pad value) in distress in one of the disaster zones	20
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Consolidate and display the total sum of people (Mission Pad value) in distress in all the disaster zone	50
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Maximum Score	50
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CAT C1

Drones:
DJI Tello

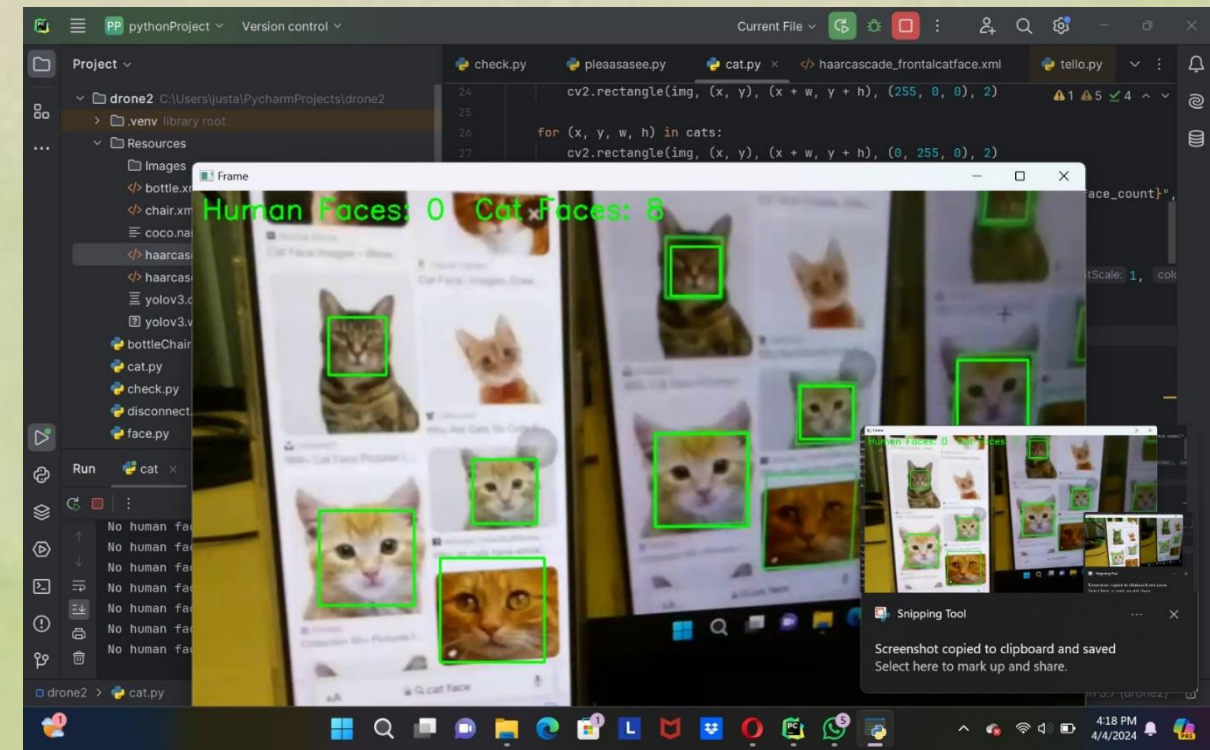
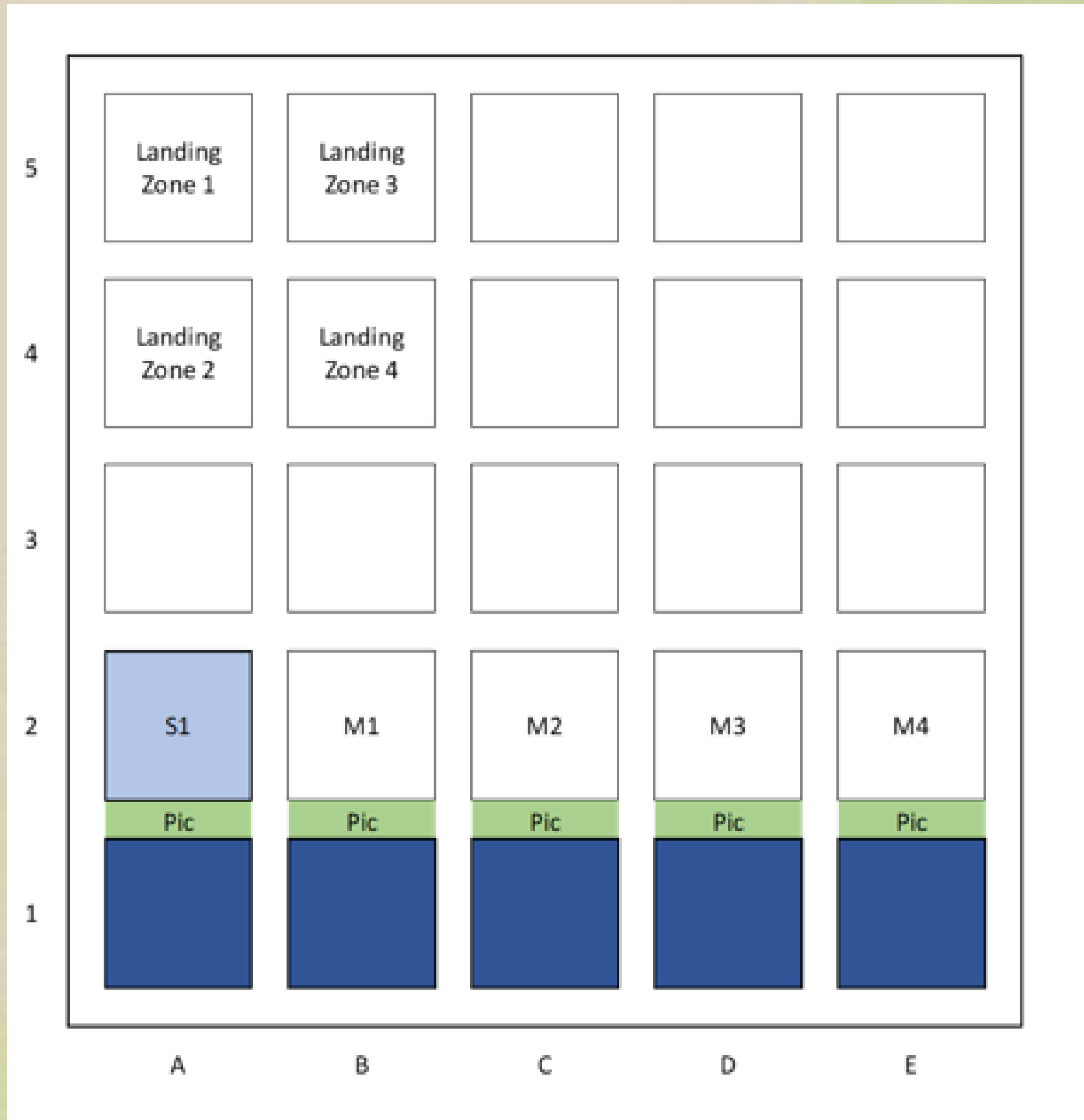


<u>Land Survey</u>	
Detect and record the readings of two opposite location in a single program	20
Detect and record the readings at all locations in a single program	50
Maximum Score	50
<u>Search and Rescue</u>	
Display the sum of people in distress in two opposite location at the disaster zone	20
Consolidate and display the sum of people in distress in all the disaster zone	50
Maximum Score	50
<u>Security</u>	
Patrol the perimeter of B2 and D2 in a single program	50
Maximum Score	50

NEW

CAT D1

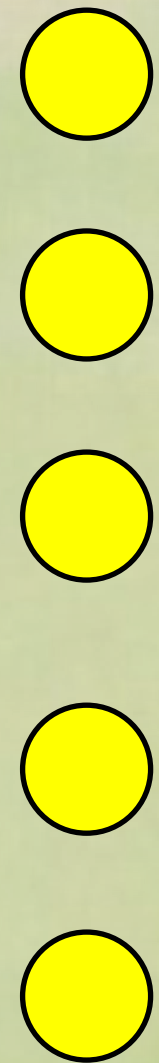
Drones:
DJI Tello



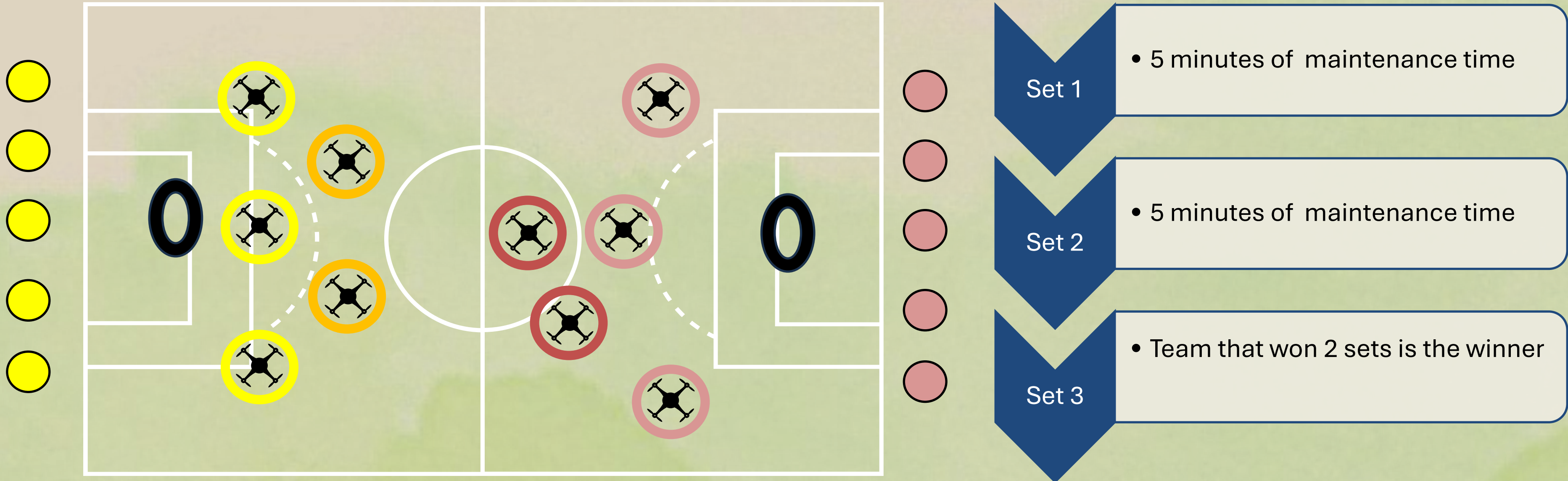
Security	
Drone reached specific area and take a picture (5 Location) •A2 , B2, C2, D2, E2	10 / location
Recognise the object (5 Image)	10 / object
Perform action based on object (5 action) •If detect “Cat”, land •If detect “Dog”, fly back •If detect “Car”, flip	10 / action
Note: Data set will be provided	

NEW

Drone Soccer



NEW Drone Soccer



Drone Soccer



Registrations will be on a 1st come, 1st served basis

Each School are allowed to send 2 teams maximum

Registered Schools will have to attend a Gameplay and Set Up Briefing

We will be hosting Drone Soccer Practice sessions for registered participants



**Registrations will open
12 April 2024.**

Check our website for updates



Q & A Sessions

For Enquiries do email us at Drone_Odyssey@science.edu.sg