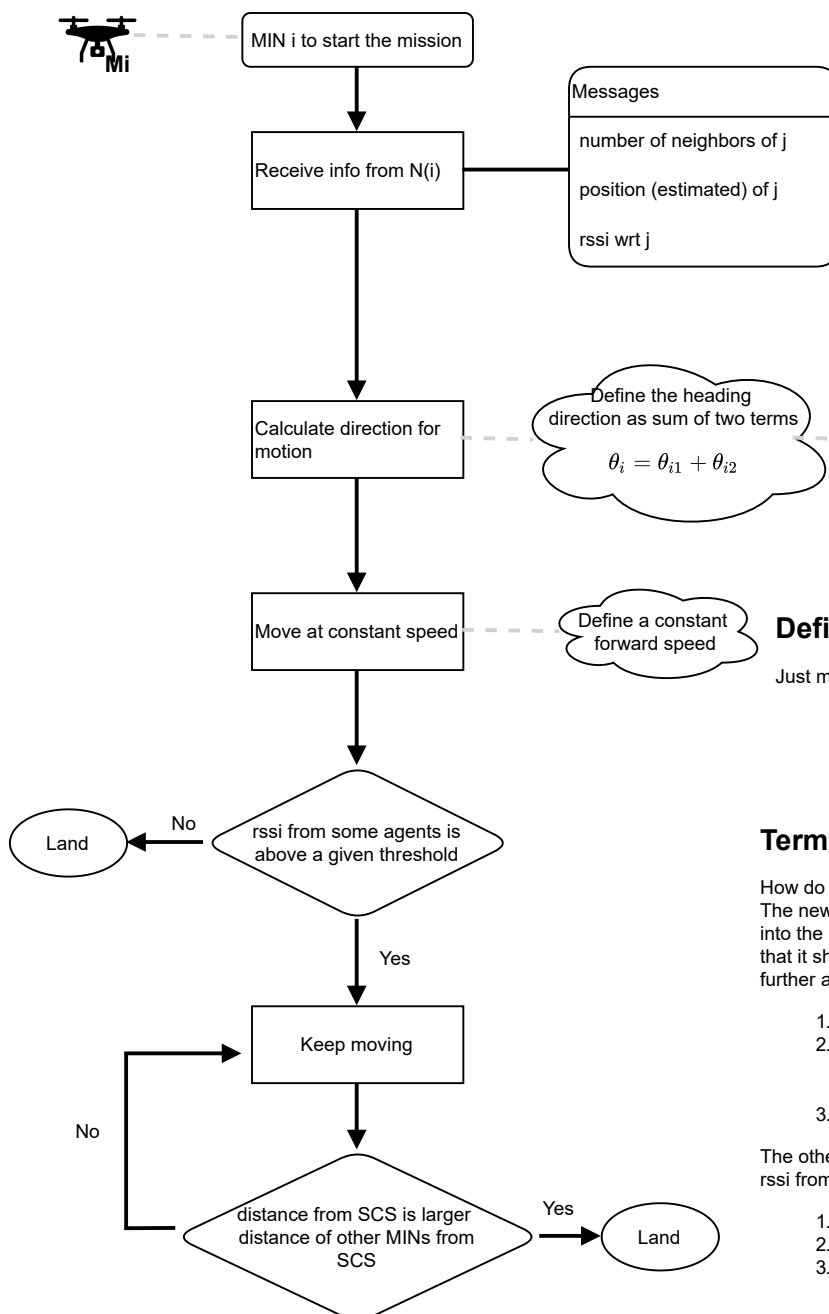


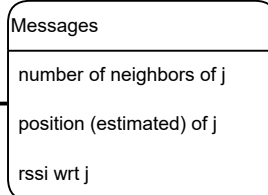
Illustration of the principle

Direction of the drones to be defined based on the position of the drones already in the room.
The direction pointing towards the other drones is available considering the positions of the other drones



Messages

Minimal messages needed to elaborate a motion strategy based on info from neighbors



Definition of the direction

Two components:

- one considers the "connectivity" of the system. The new drone entering the network shall move towards drones which have not many neighbors
- random component to enforce exploration

$$\theta_{i1} = \frac{\sum_j^{N(i)} \alpha_j \theta_{ij}}{\sum_j \alpha_j}$$

$$\alpha_j = \begin{cases} 0 & \text{if } j \text{ has more than } \kappa \text{ neighbors} \\ 1 & \text{if } j \text{ has 0 or 1 neighbor} \end{cases}$$

$$\theta_{i1} = \text{randm value}$$

Define the heading direction as sum of two terms

$$\theta_i = \theta_{i1} + \theta_{i2}$$

Definition of the speed

Just move at constant speed

Termination conditions

How do we define this?
The new drones shall move "deeper" into the room. To do this we could say that it shall stop when it has moved further away than:

- some other drone?
- the average distance from the SCS of the already landed drones?
- other?

The other condition shall consider the rssi from:

- the latest drone landed?
- the one "deepest" in the room?
- other?

LIMITATIONS

No obstacle considers at the moment.
A collision avoidance strategy shall be included as:

- a third angular element to be added in θ_i ?
- in the termination conditions?
- Most likely both!