

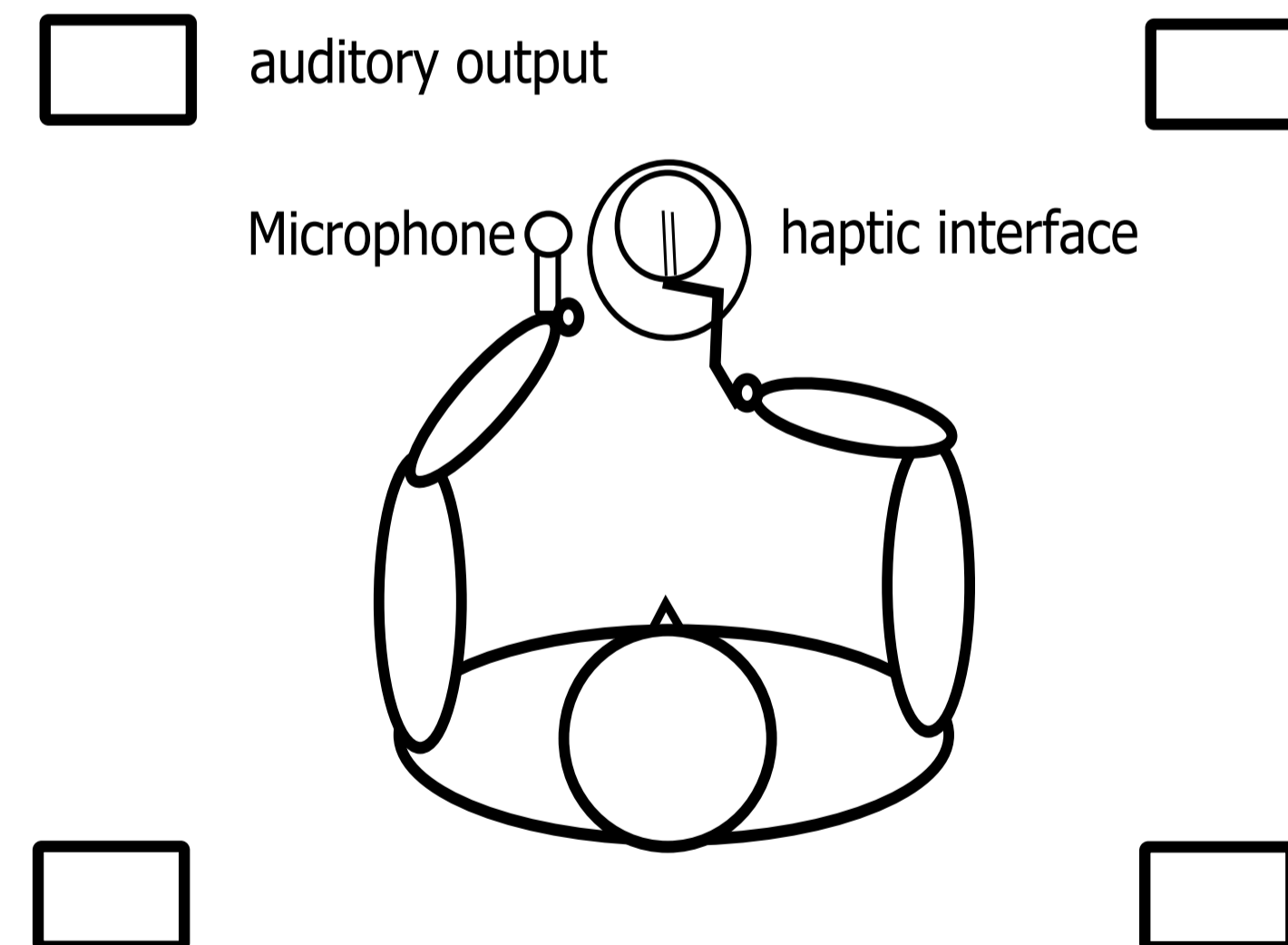
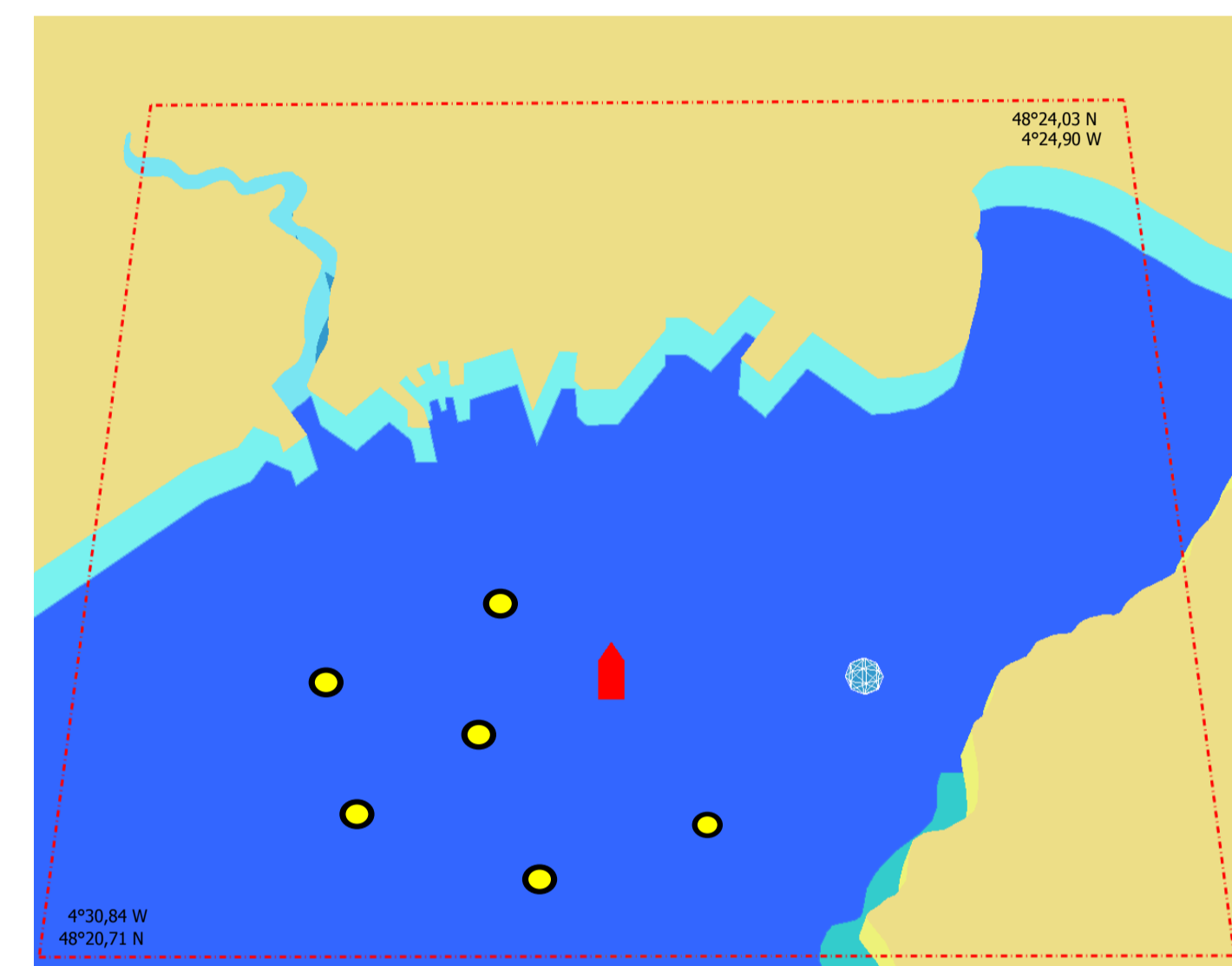
From virtual to cognitive maritime map of a blind sailor

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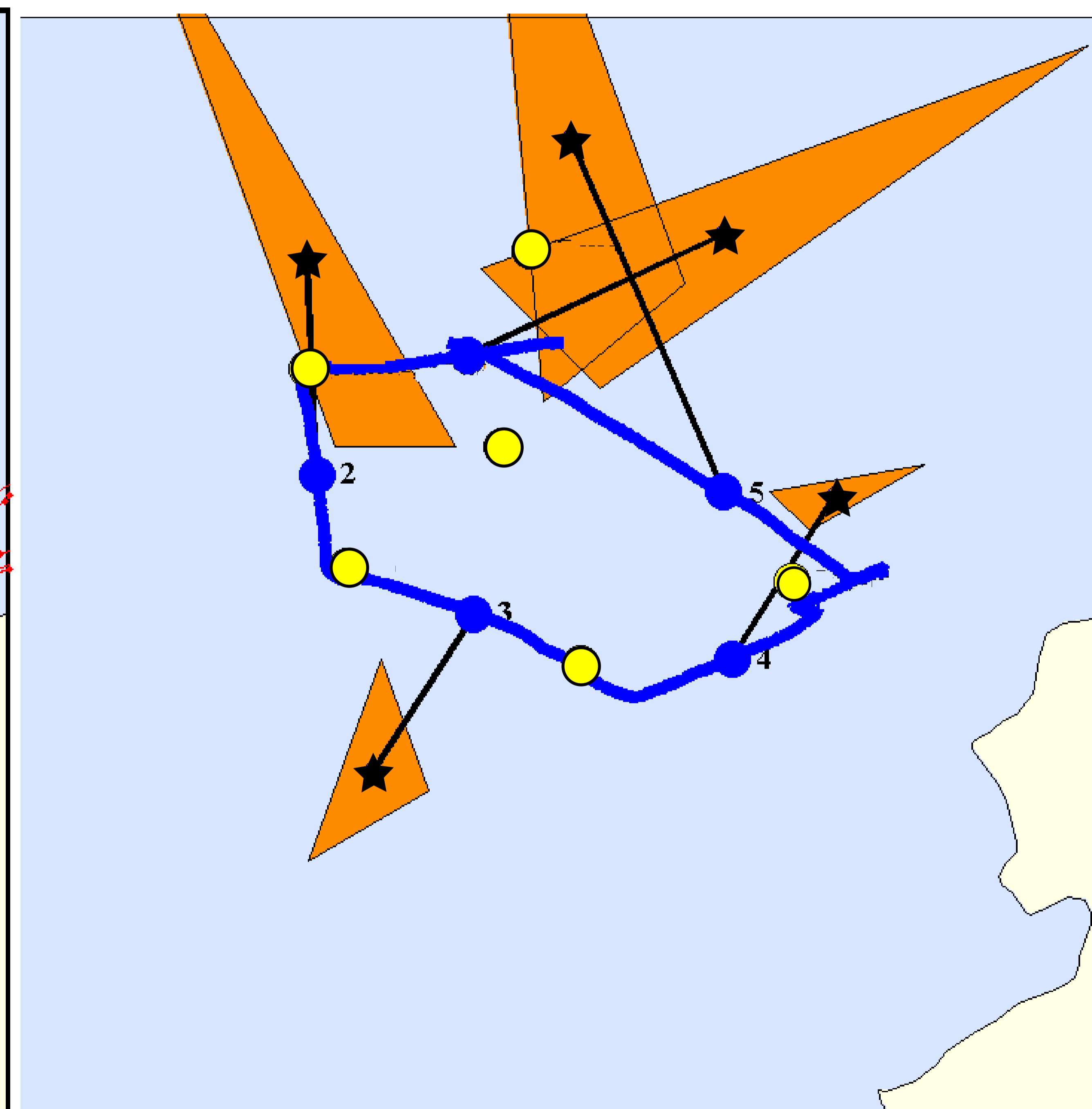
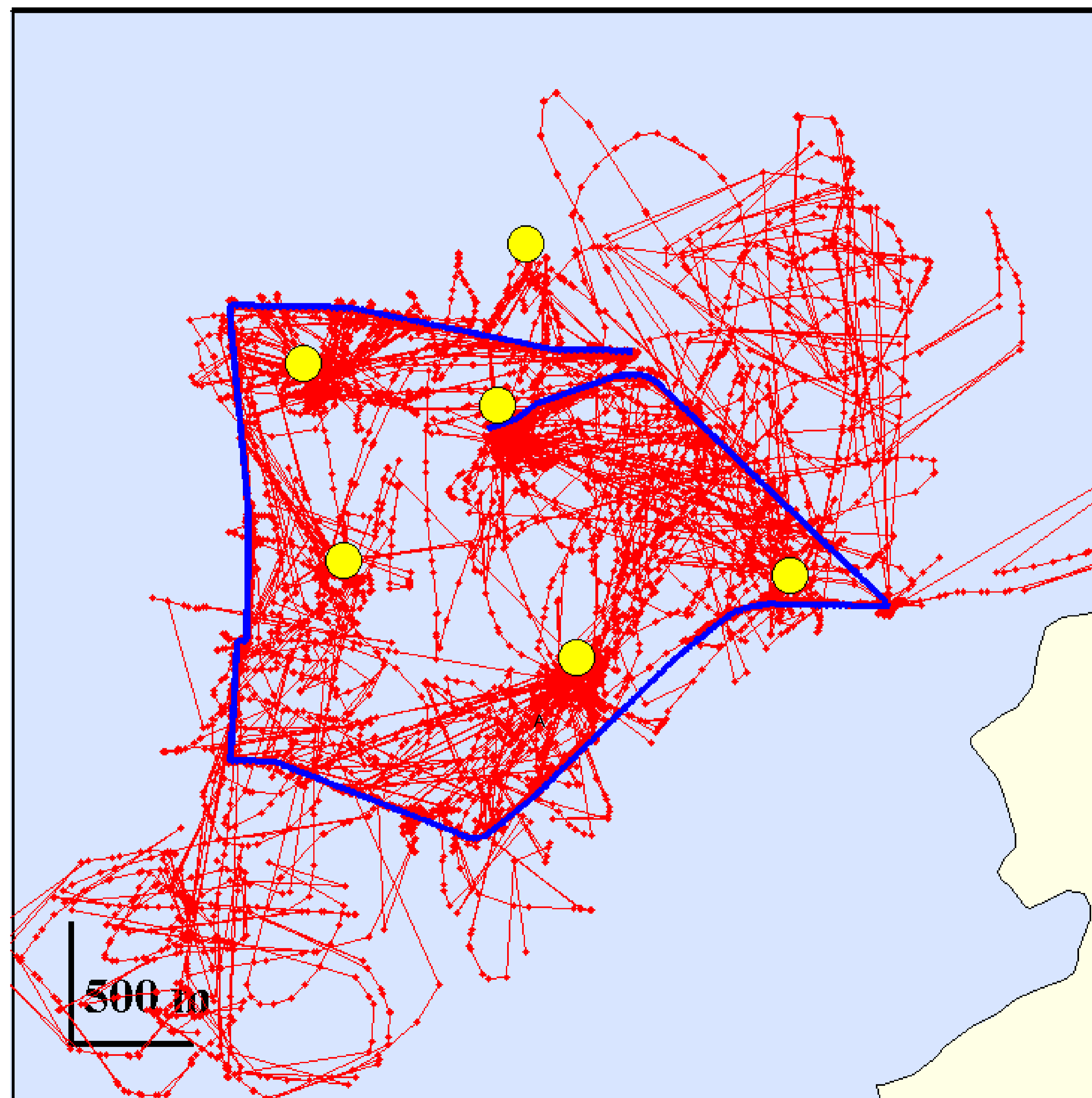
SeaTouch maritime virtual environment
 3D haptic, vocal and auditory map

1st step: virtual training.
 Trajectories of the haptic stylus and virtual ship

2nd step: Real navigation.
 Cognitive locations and trajectory of the real ship



Blind subject



Legends:

- Haptic cursor
- Sailboat
- Sea area
- Land area
- Virtual beacon

During this first phase, the blindsailor virtually navigated in SeaTouch environnement. At the south east, the haptic pattern of exploration seems to show that the participant briefly gost lost.

- Sailboat course
- Haptic trajectory

During this second phase, participant trully got on board. During the voyage, he estimated directions of three beacons per segment of the course. We triangulated to obtain area of the triangle error and cognitive locations.

- Area of the cognitive error
- Cognitive location
- Current location
- Distance between current and cognitive location