Spatial cognition as a model for study of learning, memory and problem solving has a long history in neurosciences. This cognitive ability is used for several reasons. Firstly, the ability to form the inner representation of a space, to orient in an environment, to perceive positions of prominent objects and of other animals is essential for all mammals and birds. Thus it is natural for animals to perform such behavior even in experimental conditions. Secondly, it is possible to compare spatial cognition of different species in similar tasks. And thirdly, there are strong indices of the possible neuroanatomical substrate and mechanism underlying spatial cognition.

There are different strategies of navigation in an environment, which could be distinguished by different criterions.

They differ in the frames of reference in which the observer operates, i.e. whether the co-ordinates are centered in a subject (egocentric orientation) or whether the co-ordinates encode only the relations between objects and dominants in the environment and they are not dependent on observer (geocentric orientation).

The navigational strategies also differ by the type of cues that are used for navigation. In allothetic orientation the subject employs external landmarks, which may be not only visual stimuli, but also the stimuli of other sensory modalities.

The inner information about self-motion in space, which came from statokinetic system or from proprioreceptors, are used in idiothetic orientation (path integration). Path integration is the ability to determine the subject's position by integrating subject's velocity with respect to time.

Interaction between different strategies can reduce navigational errors (Collett and Graham, 2004).