Robots Formation is a multi-agent project in which a small group of robots will form specific polygons defined by the user. They have to generate the best suitable coordinates or vertices through localization techniques; thus, forming the dynamic user-defined size and pattern as fast as possible.

Robots Formation is a multi-agent project in which a small group of robots will form specific polygons. Robots run in a 200x200cm arena. A user inputs the dimension of a regular polygon that they want the robots to form. The robots are placed at random points in the arena. The robots will work in unison to form the shape in the fastest possible time based on their locations in the arena. The robots will use the walls and optical sensors to create a virtual coordinate system for localization. Based on the robots’ individual coordinates, they will move to their calculated vertices until the polygon is created.