

Formation movement is a type of coordinated movement that keeps virtual agents in a strict, prespecified shape. This thesis deals with creating a robust, parametrized group navigator, that is capable of navigating a group of distributed agents through a 3D environment of a computer game Unreal Tournament 2004. The navigator is capable of maintaining the formation in spite of environmental obstacles and a corridor width. Before writing this thesis, there was no way to control and navigate virtual agents as a group. This gives users of Pogamut, a platform that allows creating and controlling virtual agents, to operate this navigator for team tasks or experiment with this technology further. It gives them the ability to create their own formation patterns and use them with the group navigator.