The aim of this bachelor’s thesis was an implementation of a library, which should enable to develop controllers for autonomous mobile robots. The controllers are based on ideas of Behaviour-based robotics. This means that such a robot has a set of elementary behaviours and its control system consists of a set of parametrized rules, which decide according to the state of its sensors which one of the pre-defined elementary behaviours the robot has to use. This program shifts the substantial part of a robot control development from programming to defining such elementary behaviours and sets of rules. It includes a genetic algorithm that can help to optimize parameters of the rules used and/or the behaviours used in a controller. As a proof-of-concept a simulated experiment with multiple agents was conducted, in which the robots were assigned a simple construction task. All simulations were done in the Player/Stage simulator.