

In first part of this paper, methods for reducing complexity of building 3D maps are introduced. These methods use predictions about scene properties or special hardware devices for reducing complexity such as a laser range finder, an omnidirection camera or both. Furthermore, an algorithm for creating a reconstructed scene using a camera and robot odometry is presented. The method presupposes moving on a straight floor and an indoor environment. A user can interact with the algorithm and help with creating model or with repairing parts of the model, if they were not satisfactorily created by the automatic algorithm. An interaction also allows to apply the method in various environments, which weren't initially planned. So, the adaptation to the new environment may be done by a user. The output model is exported to the common format for virtual reality VRML. This allows to view the model in e.g. a web browser. The presented method was implemented with a user interface to enable an interaction with the algorithm. The method was tested on data from the real world and the effectiveness of each user's interferences was evaluated.