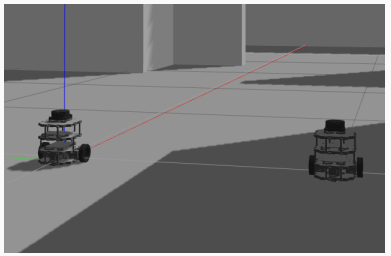
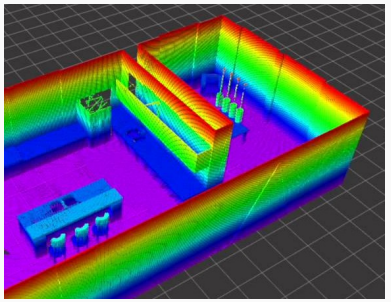
Research Project Proposals (dan_marius.novischi@upb.ro)

1. **Nonholonomic Strategies for Stable Multi-Robot Self-Organization**
   - **Large scale** multi-robot systems are hard to build and test.
   - **How to design/validate** effective strategies?
   - **Goal**: design simulated test bed, validate and improve SOA strategies.



2. **Visual Navigation and 3D Mapping for Assistive Robots**
   - **Mapping & Planning** solution - smooth motion, expensive to compute in real-time.
   - **End-to-End** deep solution - side steps mapping, setup specific , sub-optimal.
   - **Goal**: leverage advantages of both in dynamic environments for assistive robots.



Research Project Proposals (dan_marius.novischi@upb.ro)

1. **Predict Stock Trends for Boosting Trading Bots Decisions**
   - **Central task** for making trading decisions.
   - Challenging due to **information diversity**.
   - **Goal**: ”Ensemble” deep tech. to improve prediction accuracy and adaptability.

2. **Deep Detection of Fraudulent Transactions**
   - **Fraud prevention systems** not enough and loss of money is high.
   - **Challenging:** concept drift, skewed distributions, amounts of data, real-time constraints, etc...
   - **Goal**: Investigate deep tech. (e.g. GAN, 3DConvNet) to engineer data and create an effective fraud detection solution.