3D mapping system HPA

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Introduction
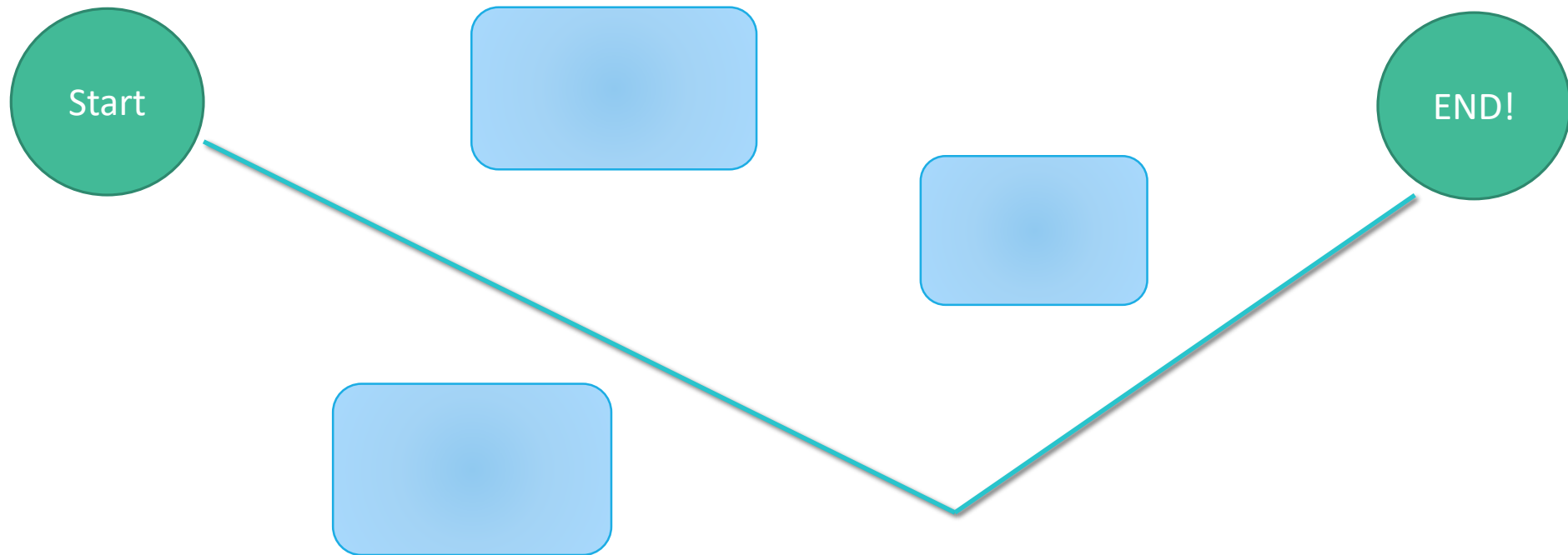
Kinect2.0 → RGB and Depth picture → Fastest roads

Goal

To simulate a 3D mapping software, which could replace GPS.

Start

END!

Model

Risk analysis

- Kinnect2.0;

- The time;

- Different type of images and their resolution;

- The first task was too complicated, therefore we reduce it.

Mission statement and scenarious

- To create simple version of mapping system that could help the determine the location of passable roads and different obstacles(e.g. buildings)

- Our system can be used when there is a problem with well-known systems and we need to find a fast solution of the problem.
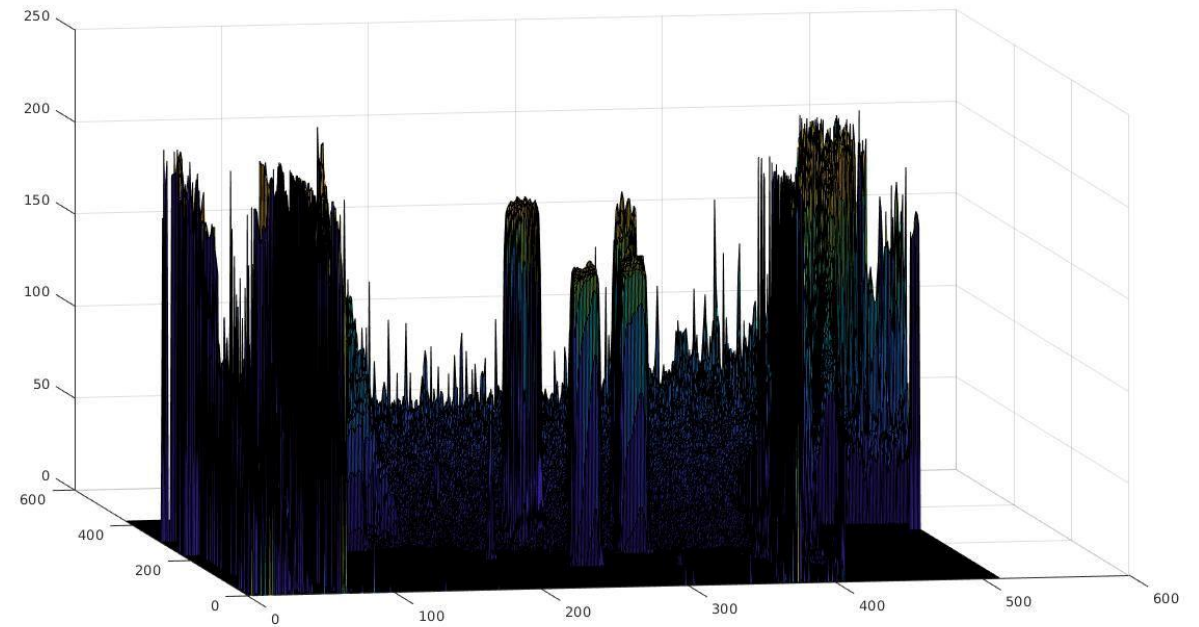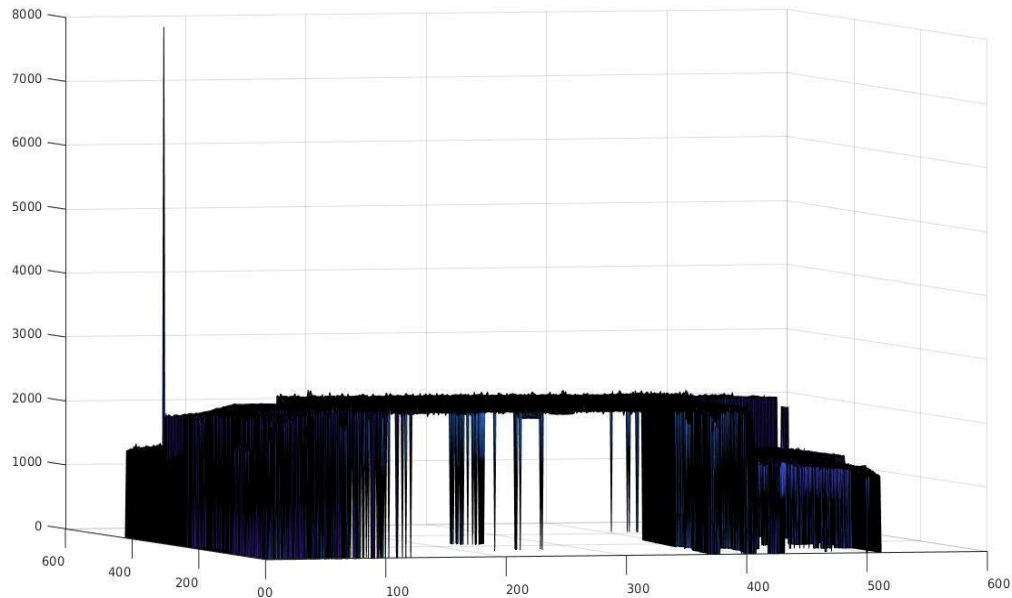
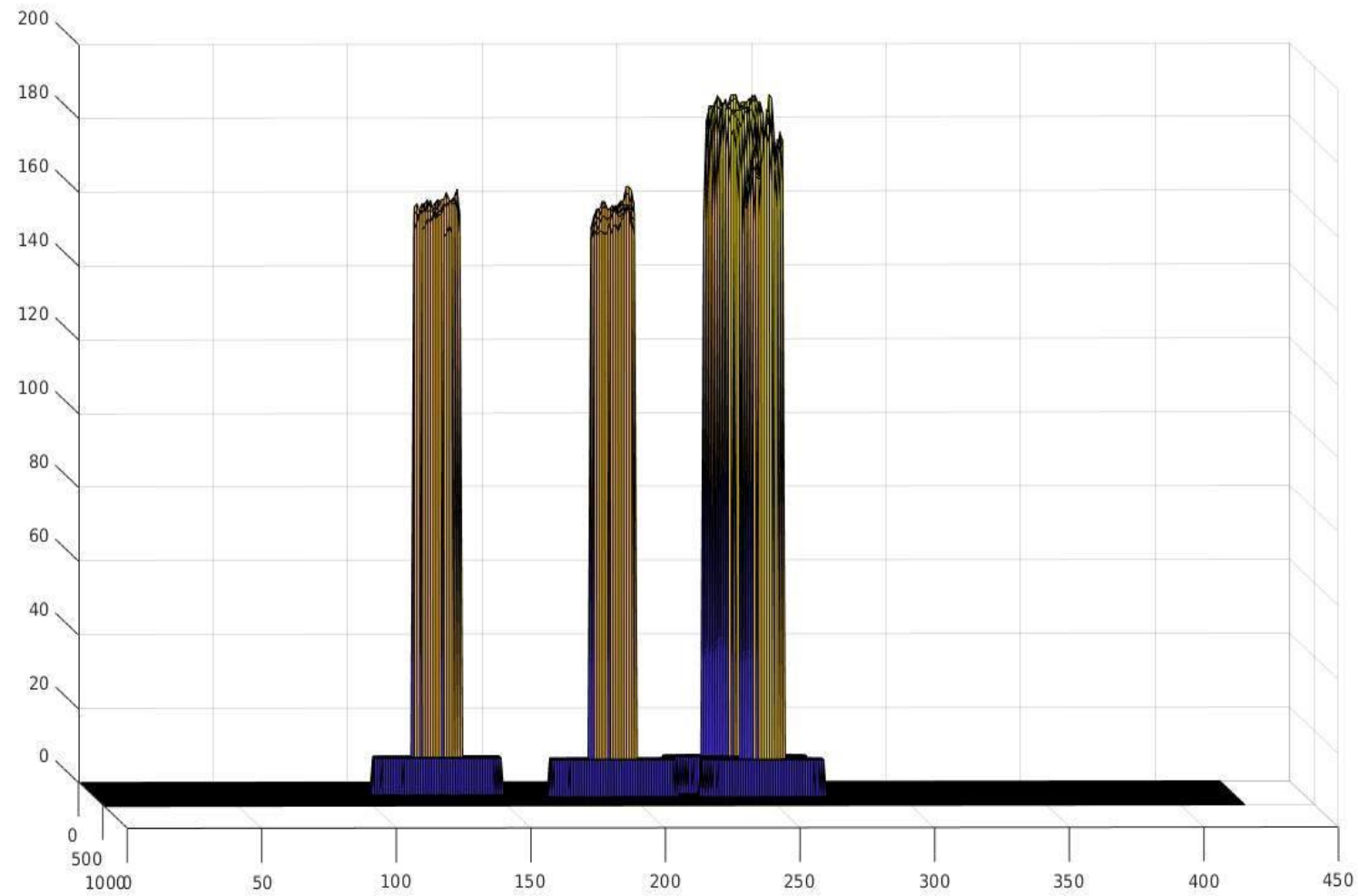- In case of earthquakes or other disasters.

Block diagram
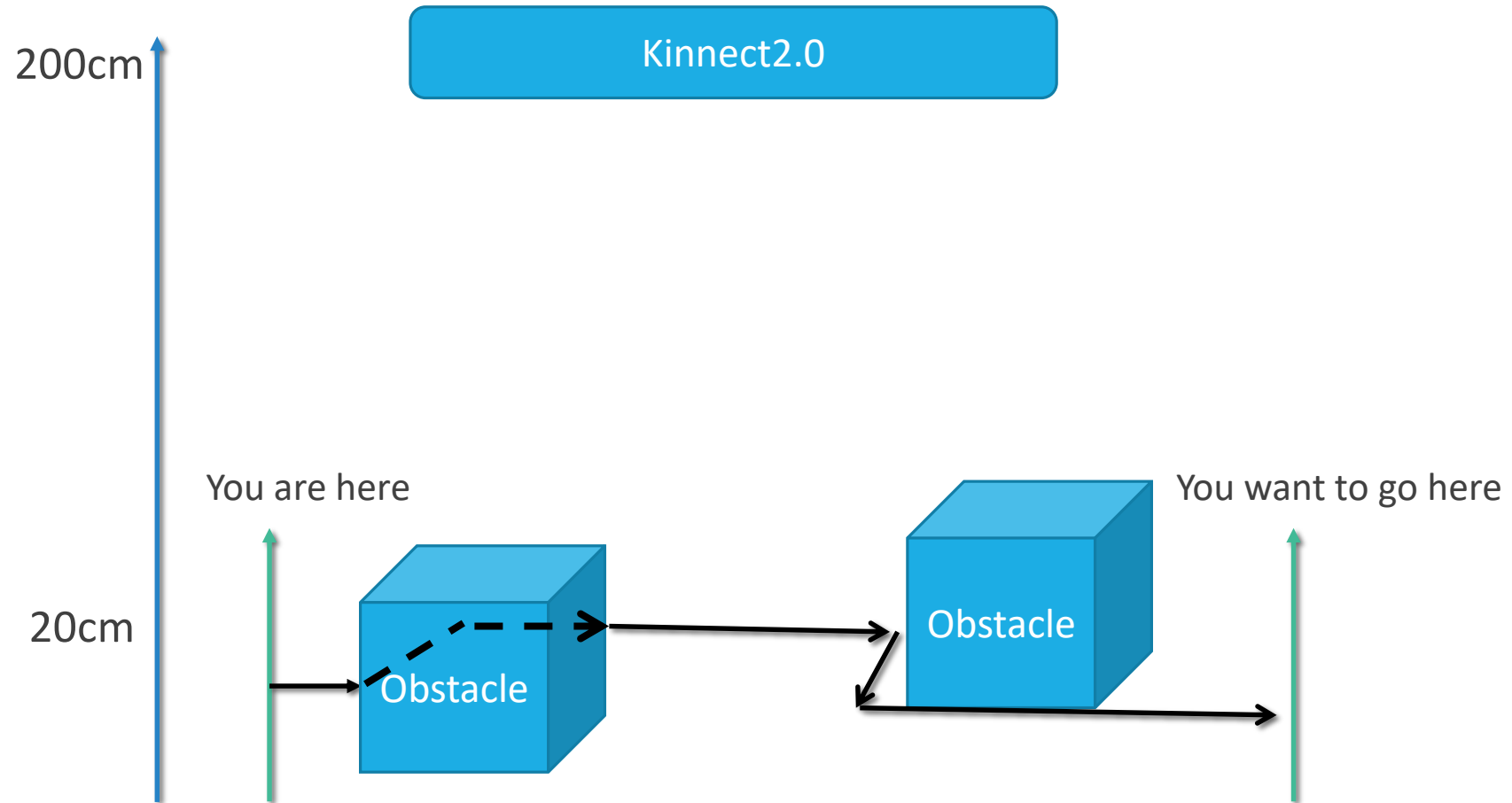
System Requirements

- A sensor that can acquire RGB and Depth images;

- Not highly reflective surface;

- High altitude;

- Objects closer to the center;

- To consider the size of the moving object.
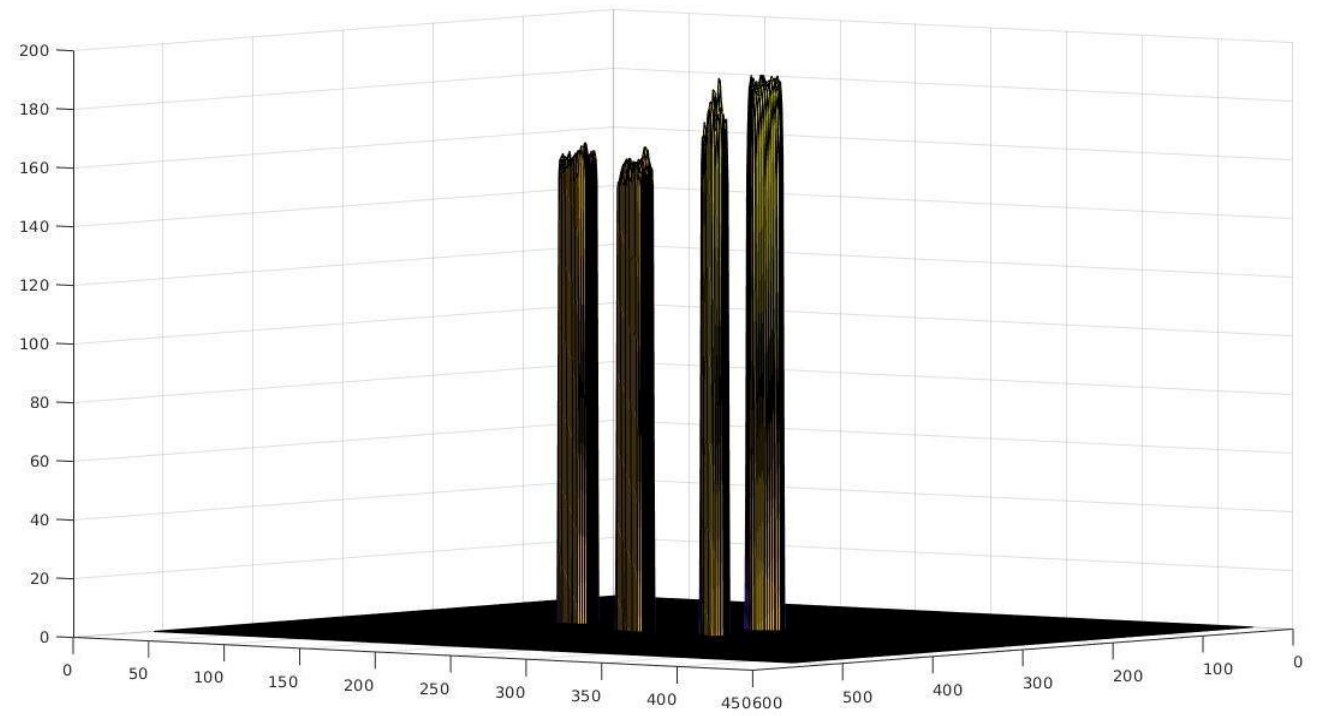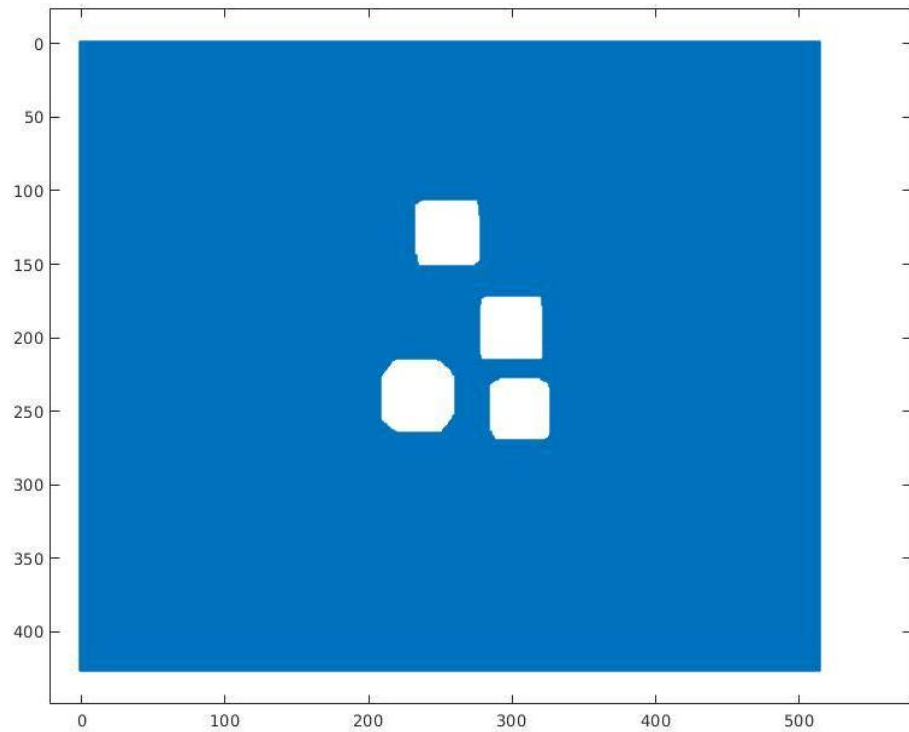
- Aligning to sesors

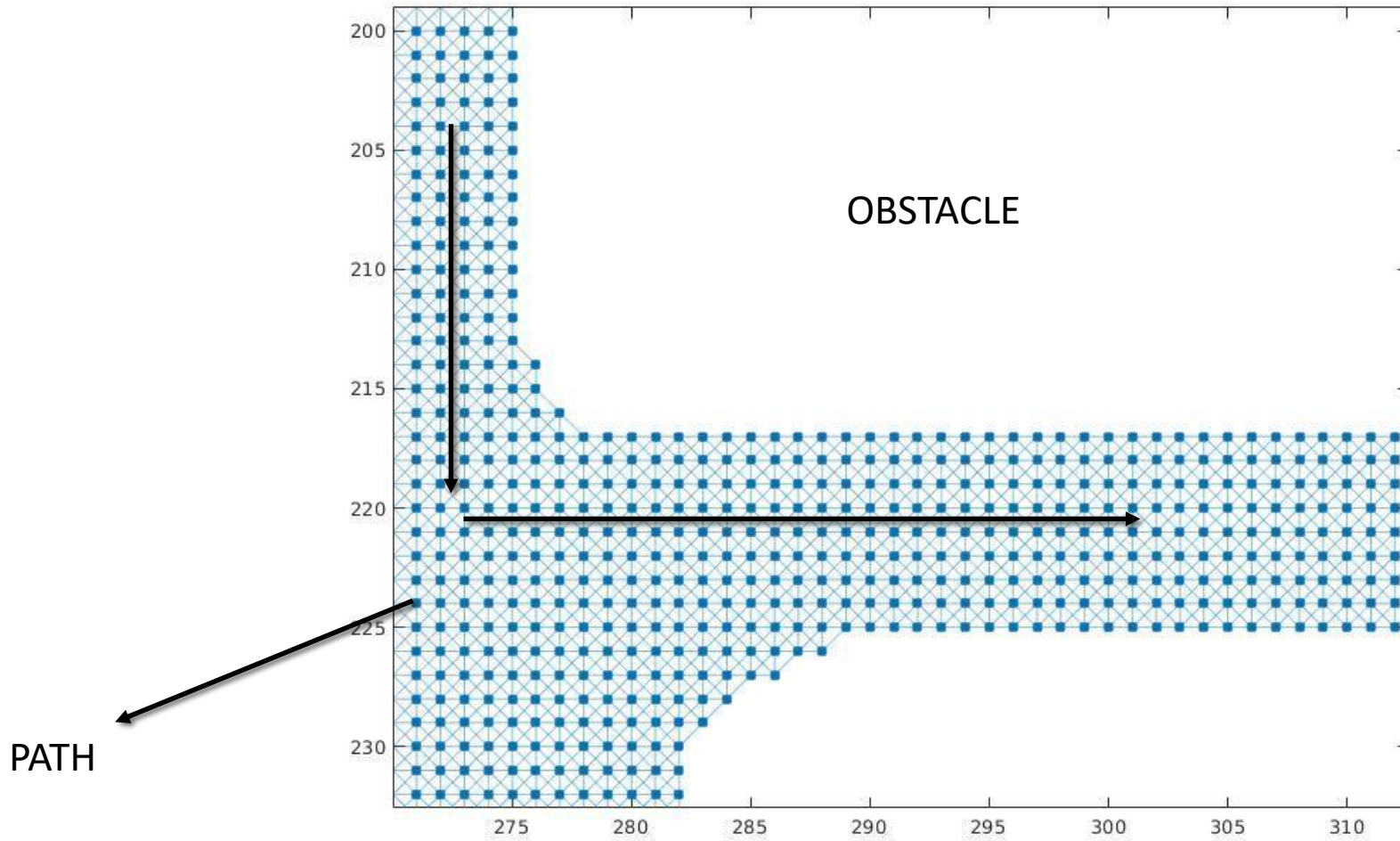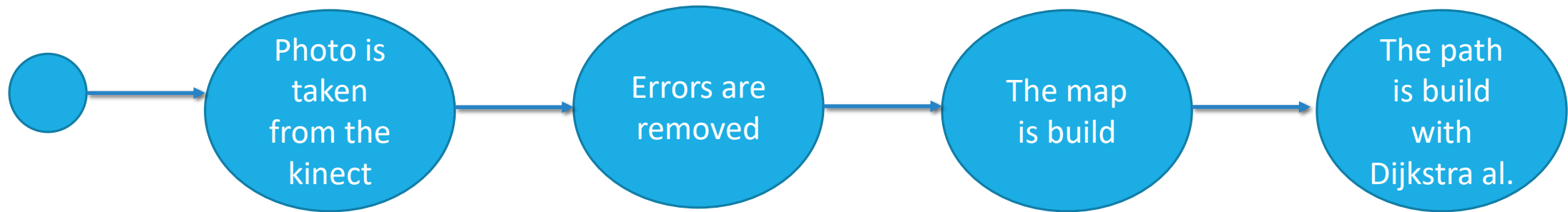# Removing the errors

Adding Air Bags

System design

Removing the errors from the blocking objects

Making a graph map

Activity diagram
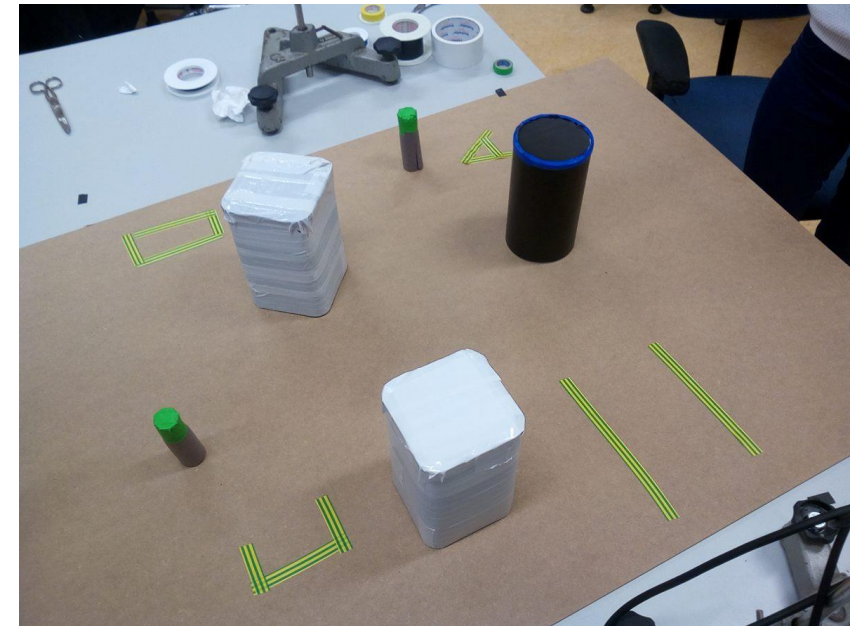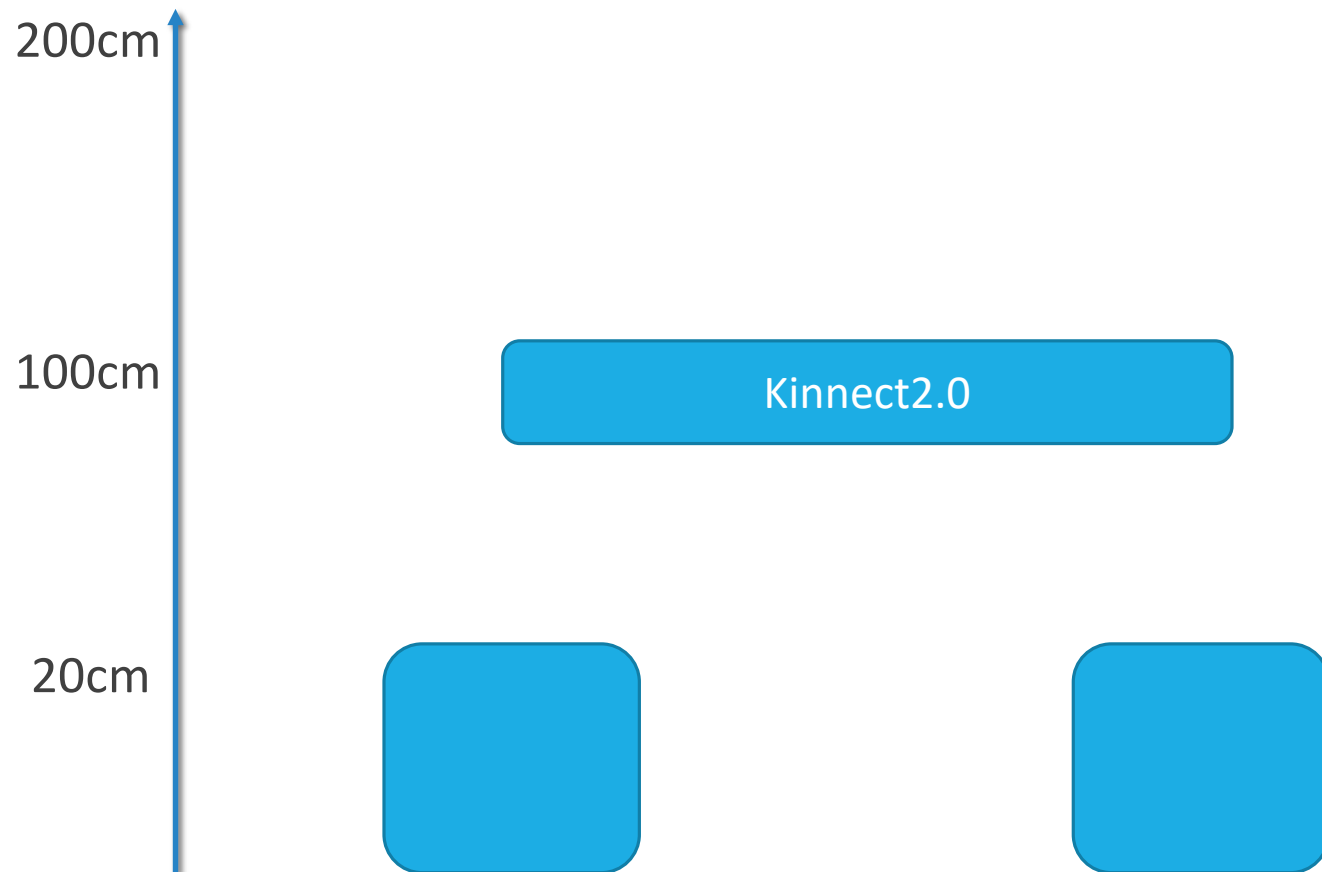
Problems

200cm

Kinnect2.0

20cm

Problems

200cm

100cm

Kinnect2.0

20cm

Problems

SOCIAL RELEVANCE

A systems during disasters and special cases, when a more reliable systems are not available.

System Improvement

- Retrieving fastest path between cities;

- After that sending the information to the robot

- Performing save and fast travel

CONCLUSION

It is challenging to work with the Kinect, but that is not to reason not to try. Our idea could be useful in modern day life.(in autonomous cars, mapping cities, finding fast roads)

Thank you for the attention!

☺