

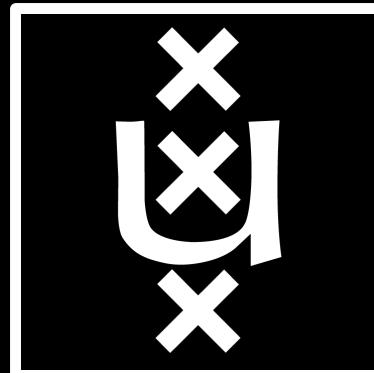
Feeling what you see

Transforming optical sensor data to a haptic model
for teleoperation of a humanoid robot

Bachelor thesis proposal

Applicant: Patrick de Kok

Supervisor: Arnoud Visser



Problem



Problem



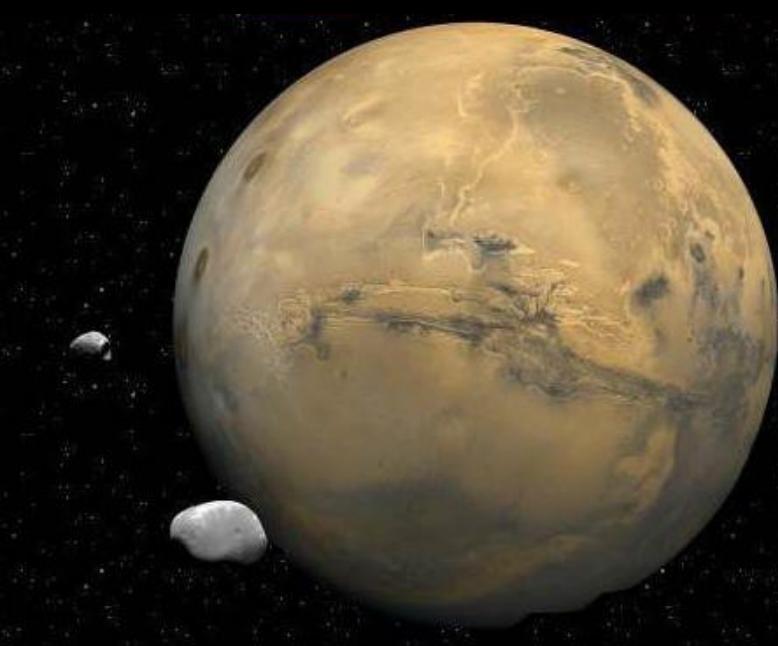
Typical systems



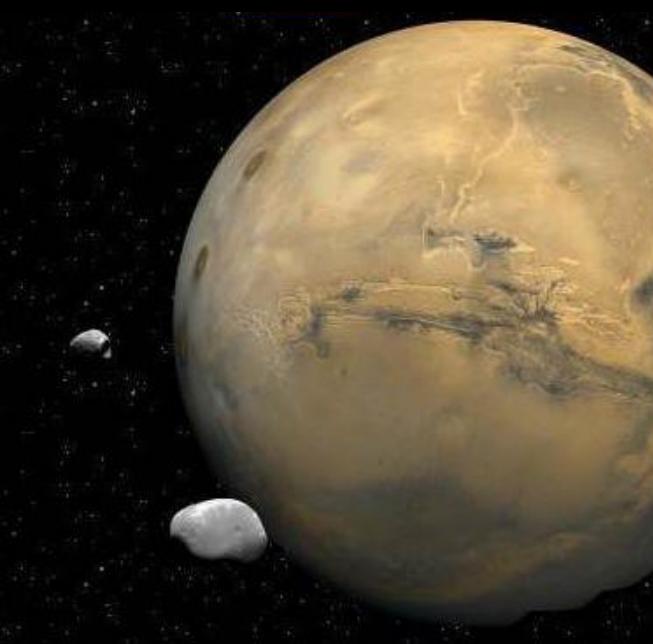
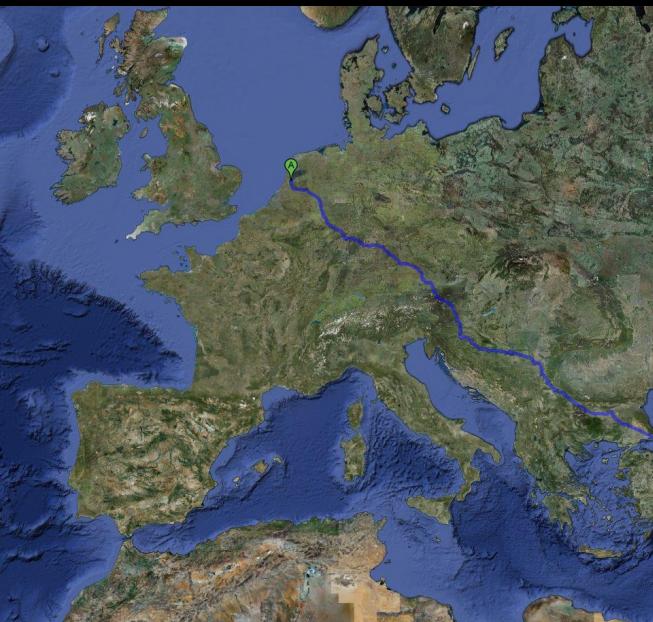
In an ideal world...



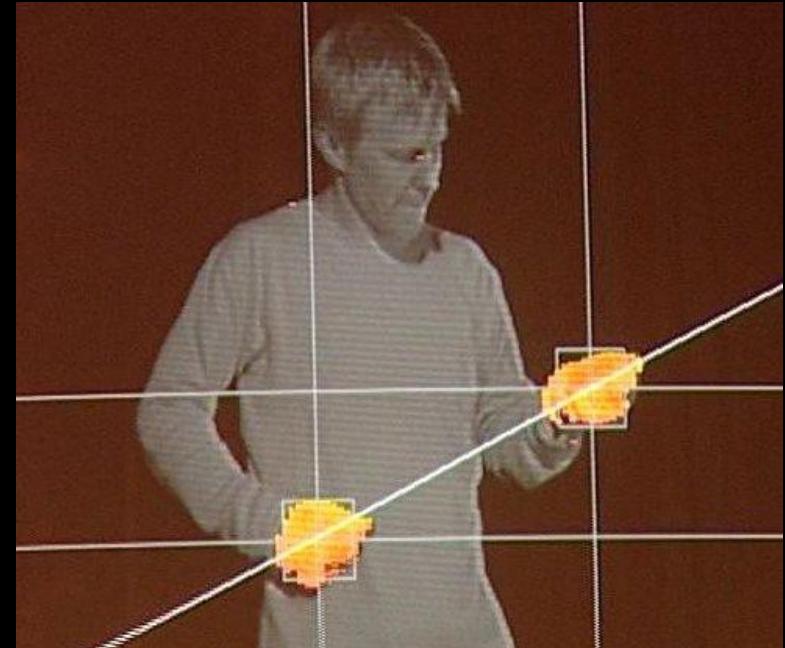
Class of problems



Class of problems



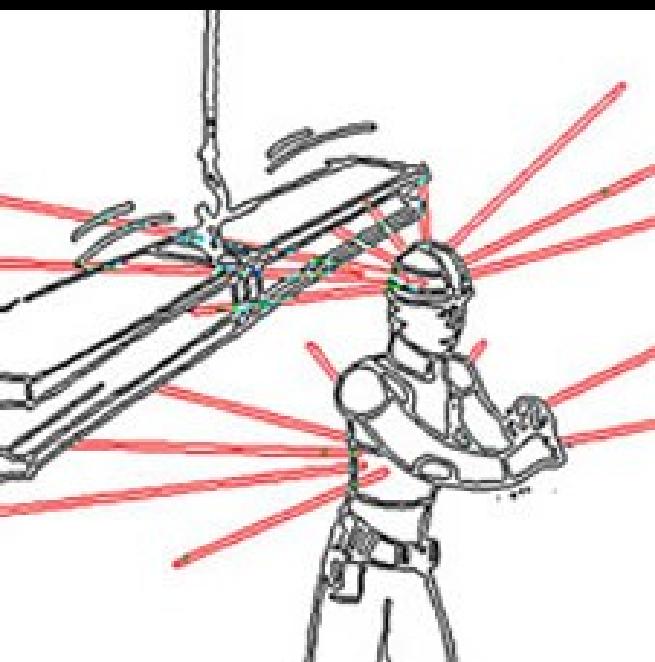
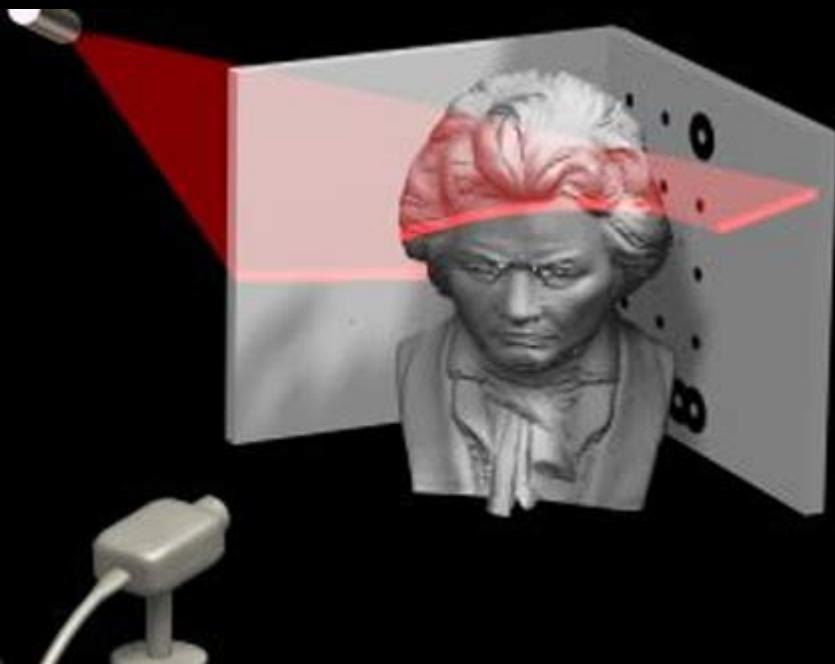
Typical systems



Research question

How do you create a haptic model of the environment with an optical range sensor and act upon it from another point of view?

Current applications



Possible solution



Scientific relevance

Questions

Planning

Wk 13 – 15: reading up on 3D imaging techniques

Wk 15 – 17: haptic feature extraction from model

Wk 19 – 20: map input device to arm movement

Wk 22 – 24: implement models

Wk 25: final presentation

Wk 26 – 27: dynamic 3D model generation

Wk 27 – 29: write paper (honours part)