# Midterm Presentation
## AIMBOT

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# Overview

# Group members

- Y-students
  - ► Martin Blaszczyk - Project leader and object detection
  - ► Edward Cedergård -Arm and gripping tool
  - ► Niklad Dahlqvist - Arm and gripping tool
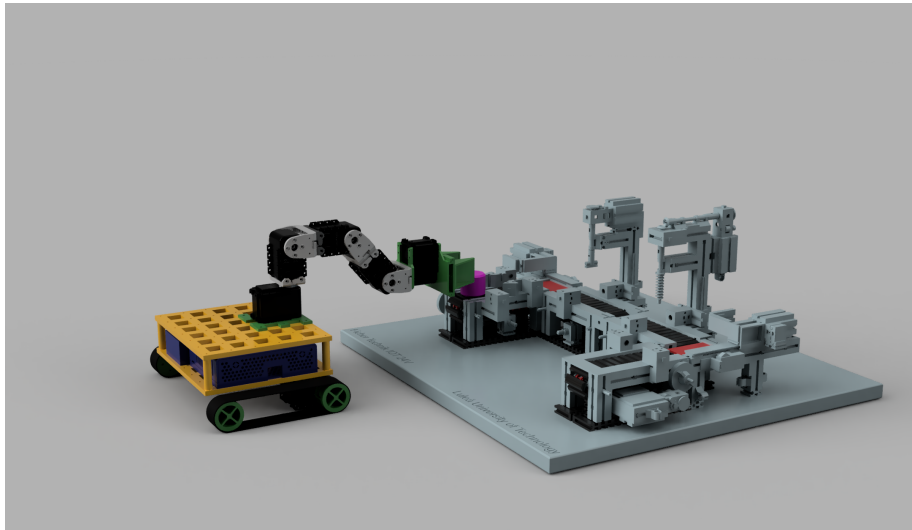  - ► Måns Norell - Movable base
- D-students
  - ► Edward Källstedt - Object detection
  - ► Albin Martinsson - Arrowhead and Git

# Overall timetable

| Sep | Oct | Nov | Dec |
|---|---|---|---|
| Concept generation | Evaluation | Evaluation | |
| Theory | Prototyping | Evaluation | Finishing up |
| Simulation | Evaluation | Evaluation | |
| Prototyping | Final Design | Evaluation | |

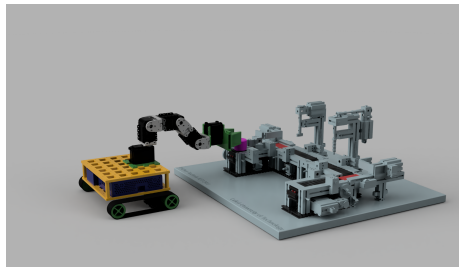# Engineering Challenge

# Concept rendering (video)

# Requirements

- Navigate the factory floor
  - Movable base
  - Line following
  - QR-detection
  - Object detection (ToDo)
- Pick up the Object
  - Robot arm with smart Servos
- Arrowhead integration
  - Certificates
  - Instructions

# NVIDIA Jetson Nano

- Runs Ubuntu
- Two camera ports (CSI)
- More powerful GPU than RPi

# Cameras

- Compatible with NVIDIA and RPi
- Small package
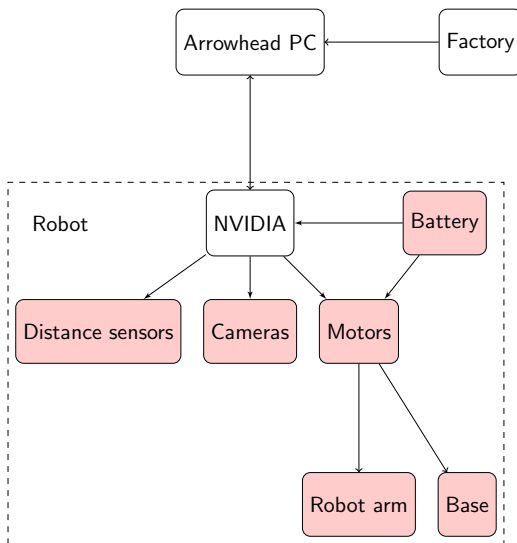- 8 megapixels
- Video:
  - 1080p @ 30 fps
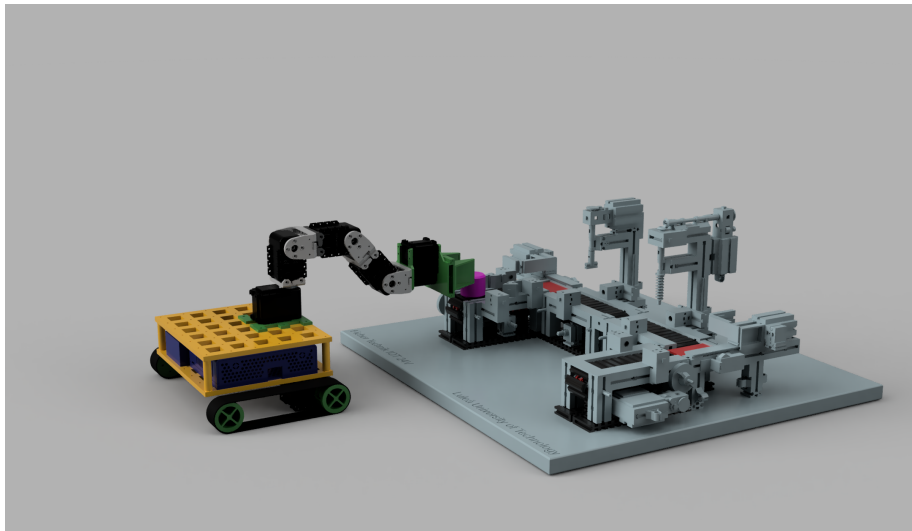  - 720p @ 60fps

# Dynamixel Smart Motors
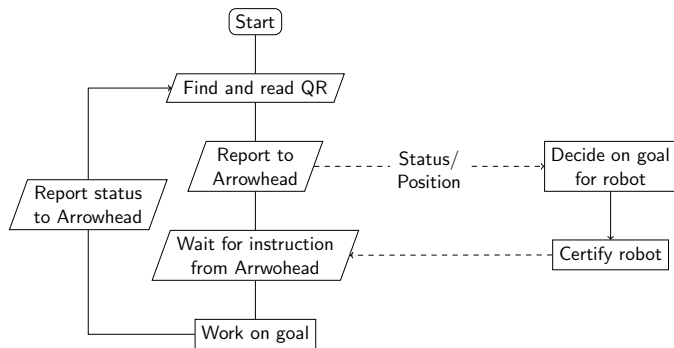


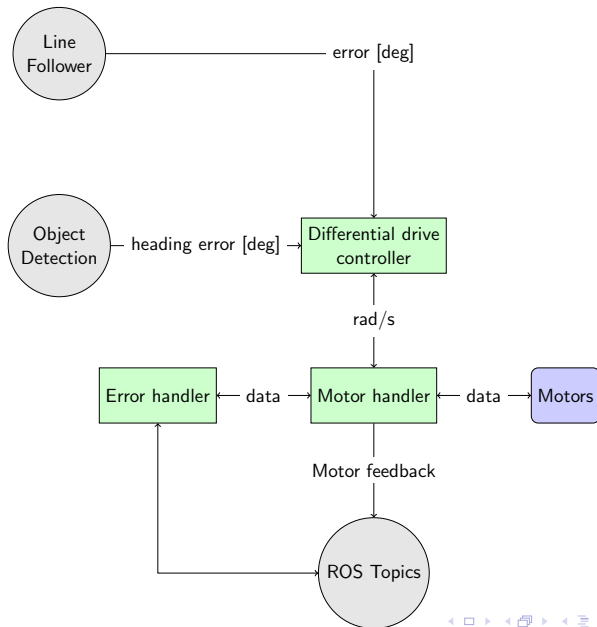- Connects in series
- Angle and wheel mode
- Feedback

# Hardware

# Concept rendering

# Positioning - Arrowhead

# ROS-Base example

# Machine vision

Questions?