

# Introductory Report

Juuso Sipola  
Juho Sipola  
Joonas Valkama

## 1. Concept

The main concept of the project is to create mounting for a small display and mechanism so that the display can be moved in vertical direction. The display will be mounted to a small cart. The display will be connected to a raspberry pi 3 and a power source. Several options for the mechanism which moves the display was considered but after careful consideration a system which is easy to implement was chosen, a servo motor which rotates a bar with a ball screw which in turn is attached to the display. The rotation of the motor is transformed into linear movement for the display. A similar system is found in 3d printers to control the position of the extruder. A system which involves several gear wheels was also considered but was deemed too complex.

### 1.1 Sketches

### 1.2 Bill of materials

We already have most of the required components for this project but we need one servo motor.

Item	ID-number	Price
Micro servo motor	2214601 (Jameco)	\$4.95