Micro controller, HX711 amplifier, SD card
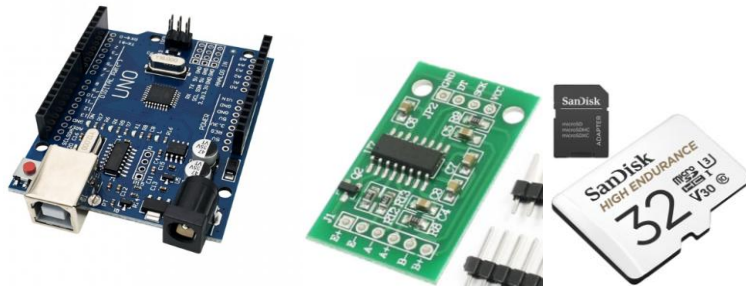

Prize: 8.50 €
Pin headers: Standard + Extra
USB <-> UART converter: CH340G
Maximum Input voltage on DC jack connection
15V (at 50mA)
12V (at 100mA)
10V (at 300mA)
7V (at 600mA)
Link: tinytronics.nl/en/development-boards/microcontroller-boards/arduino-compatible/uno-r3-compatible-usb-b

SD card:
Prize: 11€
The SD card needs to withstand harsh conditions such as extreme temperatures, water, shock, and X-rays, and must be capable of frequent writing and rewriting for continuous video recording.
Link (too long) **google**: high endurance SD card.

HX711 amplifier
Prize: 2€
The signal from the loadcells is very small and therefore needs to be amplified, this done through the HX711 load cell amplifier.
Link: https://www.tinytronics.nl/nl/sensoren/gewicht-druk-kracht/load-cellen/load-cell-versterker-hx711

Data logging shield (RTC and SD), load cell

Ensure that the shield used is of reliable quality. During the course of this thesis, the battery contact on the shield failed, resulting in incorrect timestamps. The issue occurred within a few days of use. As the shield was a clone version, it is possible that poor build quality contributed to the malfunction.
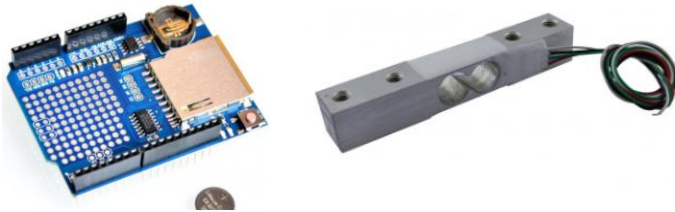
Prize: 6€
Power Supply: 5V DC
Signal Voltage: 5V
RTC (Real-Time Clock):
- **Chip:** DS1307 *(make sure to reference this specific chip number in the code!)*
- **Communication:** I2C
- **Battery:** CR1220 *(make sure to check the battery)*

Pinout:
- **DS1307:** A4 (SDA), A5 (SCL)
- **SD Card:** 10 (CS), 11 (MOSI/DI), 12 (MISO/DO), 13 (CLK)

Package Contents:
- 1x Data Logging Shield
- 1x CR1220 Battery

Link: https://www.tinytronics.nl/nl/data-opslag/modules/data-logging-shield

Mavin Load Cell - 2kg

Prize: 6€
Specifications
- Weight Range: 0–2 kg
- Recommended Input Voltage: 5–12V
- Dimensions: See images

Wire Pinout:
- Red: Power (E+)
- White: Signal (A-)
- Black: Power (Ground) (E-)
- Green: Signal (A+)