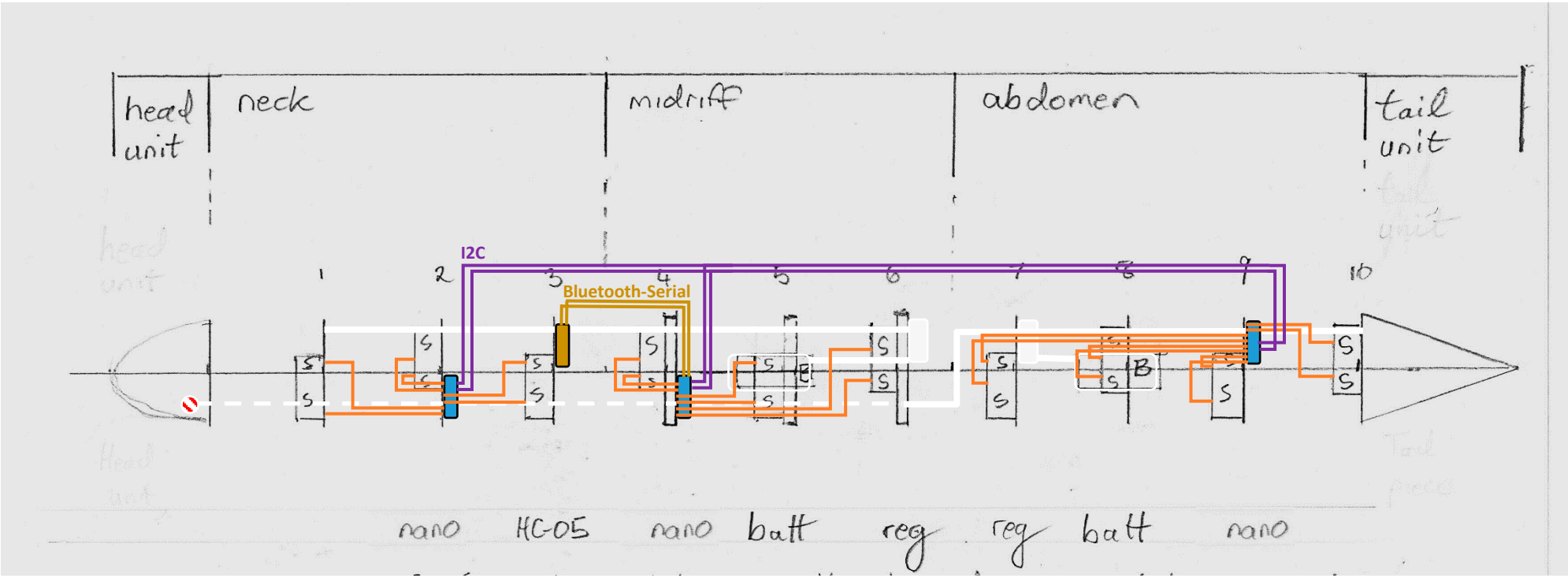
Snake Body - Arduino Nano microcontrollers document

Segment length is 90 mm including Universal Joints. Est total snake length is 1060 mm being 10 x segments (900mm) plus head (60mm) and tail (100mm) pieces.



Microcontroller Arduino Nano "Spinal Cord" notes:

Arduino Nanos are shown as blue rectangles, Bluetooth module HC-05 as brown.
Brown lines represent Bluetooth-Serial-Nano02 wiring.
Purple lines represent I2C bus. Nano02 is the I2C master unit.
Orange lines represent Nanos-Servos wiring.

Nano01 on Segment02 controls 6 Servos on Segment01, Segment02, Segment02

Nano02 on Segment04 controls 6 Servos on Segment04, Segment05, Segment06.
Nano2 also acts as the Bluetooth-Serial to I2C router.

Nano03 on Segment09 controls 8 Servos on Segment07, Segment08, Segment09, Segment10

HEAD - under evaluation for the "brain" are:

Android SmartPhone (Vodafone VFD-300) - programming in JavaScript as enabled by the DroidScript app.

Android SmartWatch (XS01) - programming in JavaScript as enabled by the DroidScript app.

Raspberry Pi Zero Linux OS - programming in JavaScript as enabled by the Node.js platform.

Copy of power supply notes.

Reg01 is mounted on Rib06 but it feeds power to Rib01 - Rib05.

Reg02 feeds Rib06 - Rib10

If we later feed power to the head computer then for load-sharing,
line from Reg02 will extend to the head. Shown here as a dotted line.

Copy of base page notes

S = Servo. Horizontally-mounted servos alternate sides segment by segment.
to even-up weight distribution.
In my prototype, midriff segments 4, 5, 6 have heavier duty Tower MG-90 metal gear servos.
Neck and Abdomen segments have Tower SG-90 plastic gear servos.
From my building experience I now recommend standardising on SG-90 for all servos.

B=Battery Wild Scorpion 2S - 7.4V nominal - 500mAH - mounted into segments 4 and 8.
Segments 4 and 8 have vertically mounted servos in the top half of the "rib" leaving bottom half clear
to mount the battery.
Power supply to segments 1-5 is separate to and independent of power supply to segments 6-10.