

UVIC

UNIVERSITAT DE VIC
UNIVERSITAT CENTRAL
DE CATALUNYA

eurecat
Centre Tecnològic de Catalunya

Master on Robotics

Postgraduate in Industrial Robotics
Postgraduate in Mobile Robotics

Year 2016-2017



LOOKAT 2D

Membres:

Sandra Pareja
Robert González
David Ortiz
Miquel Pons
Sergi Baiges

Equips de treball

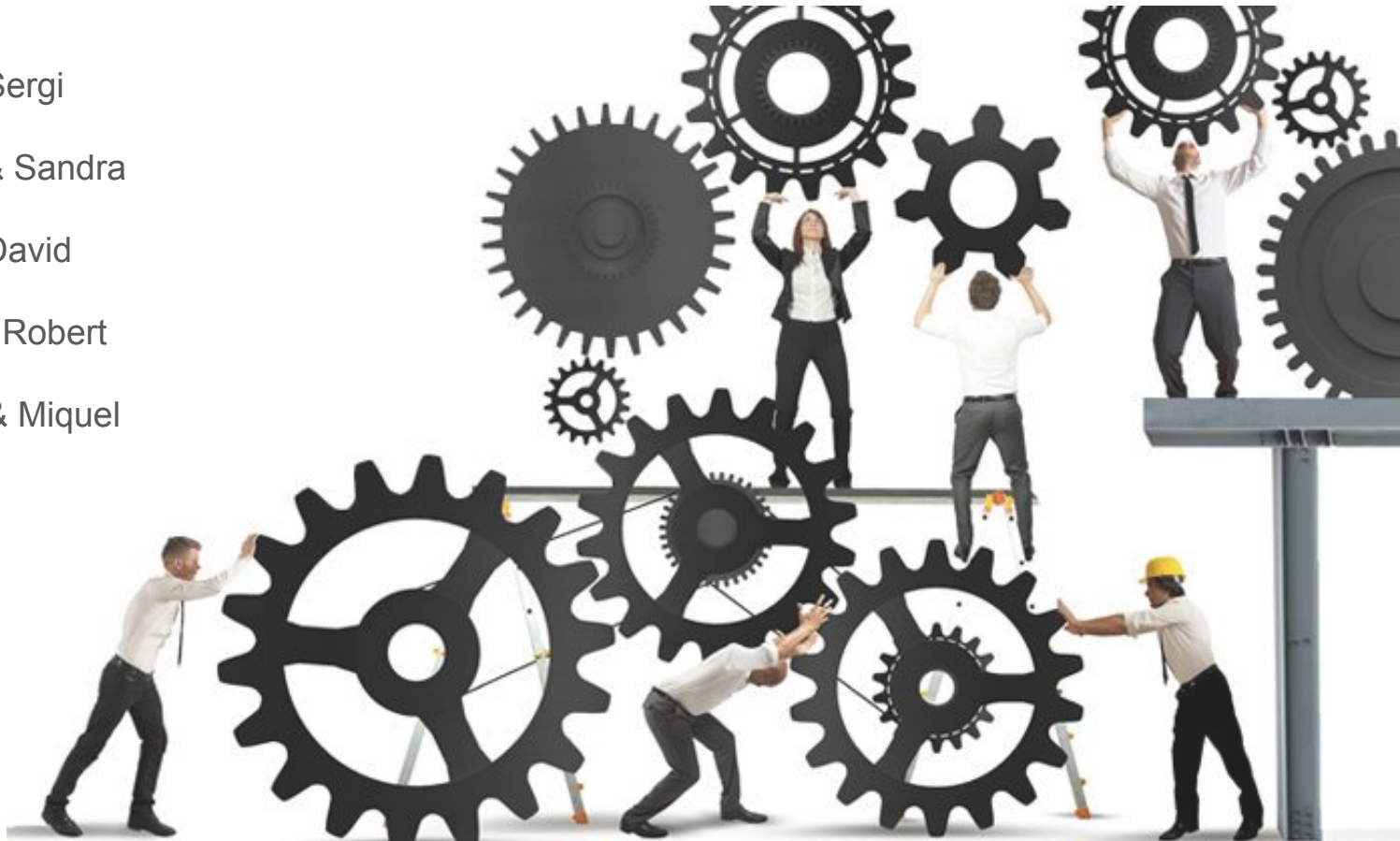
Disseny: Miquel & Sergi

Cinemàtica: Sergi & Sandra

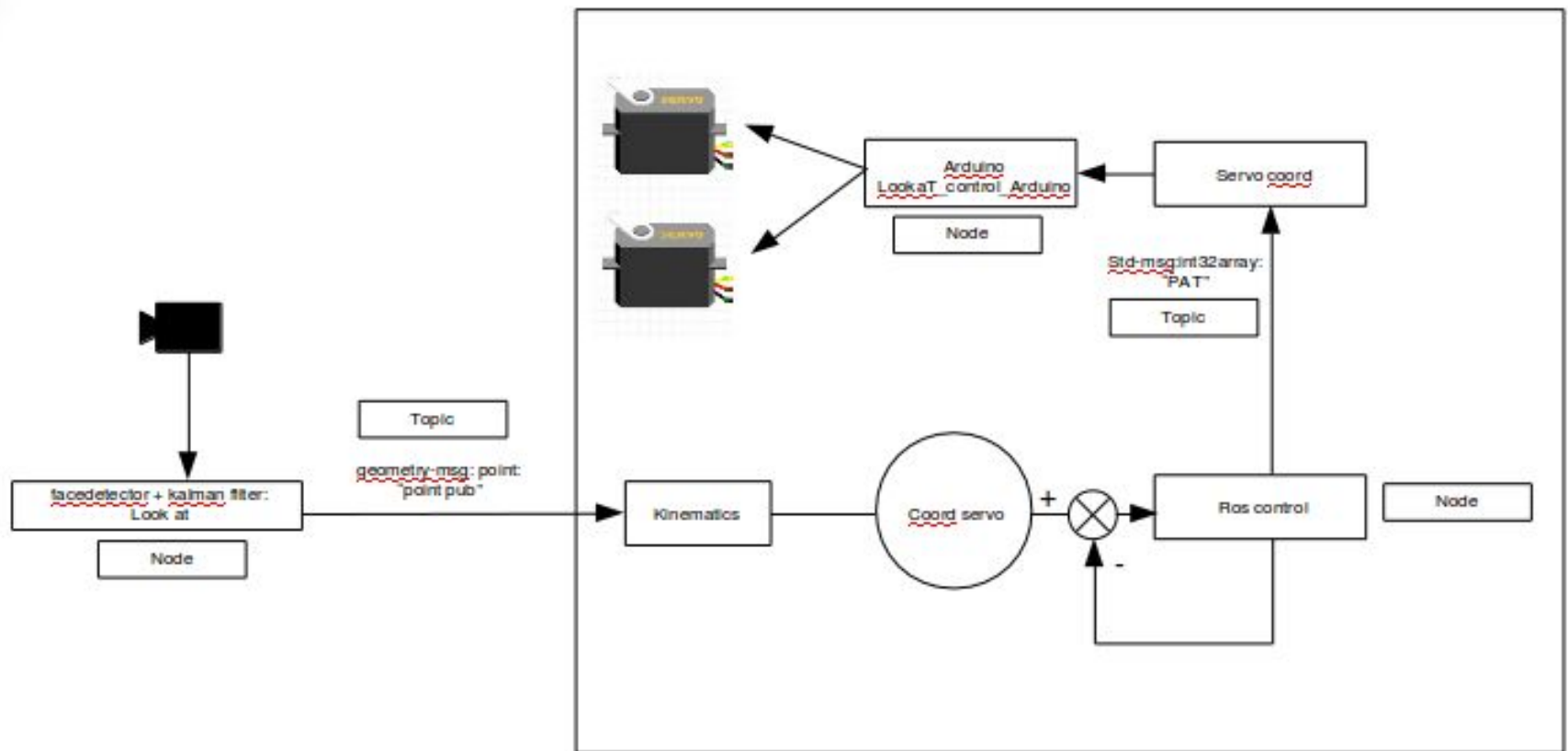
Control: Sandra & David

Percepció: David & Robert

Integració: Robert & Miquel



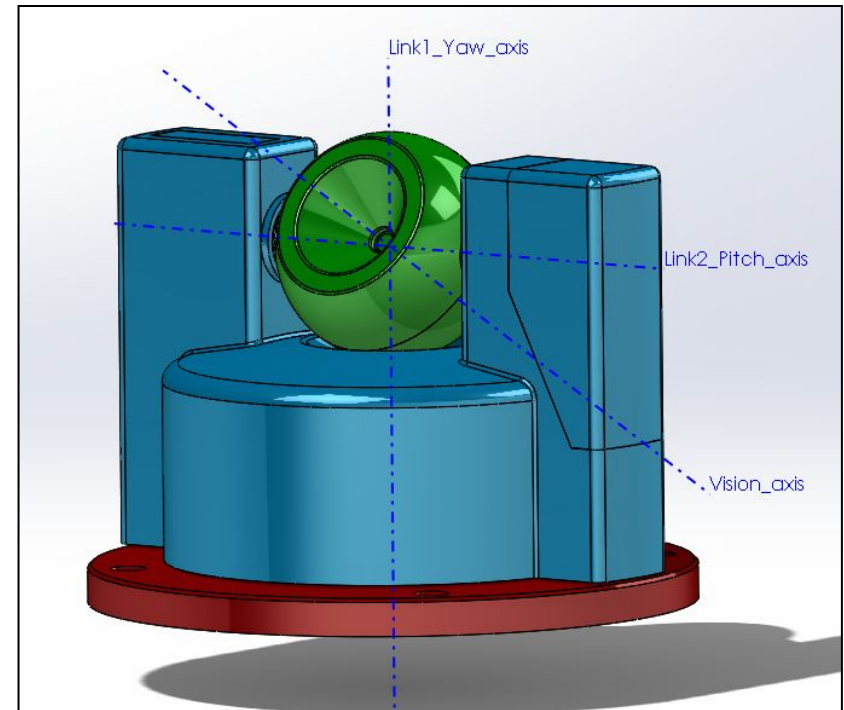
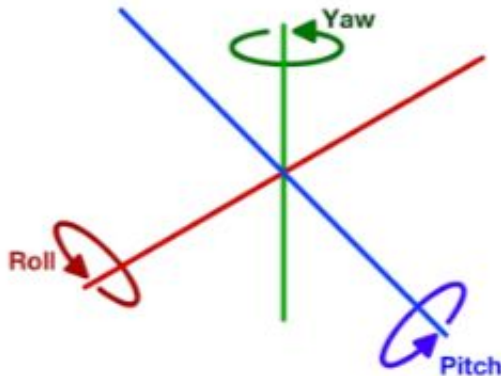
Block diagram



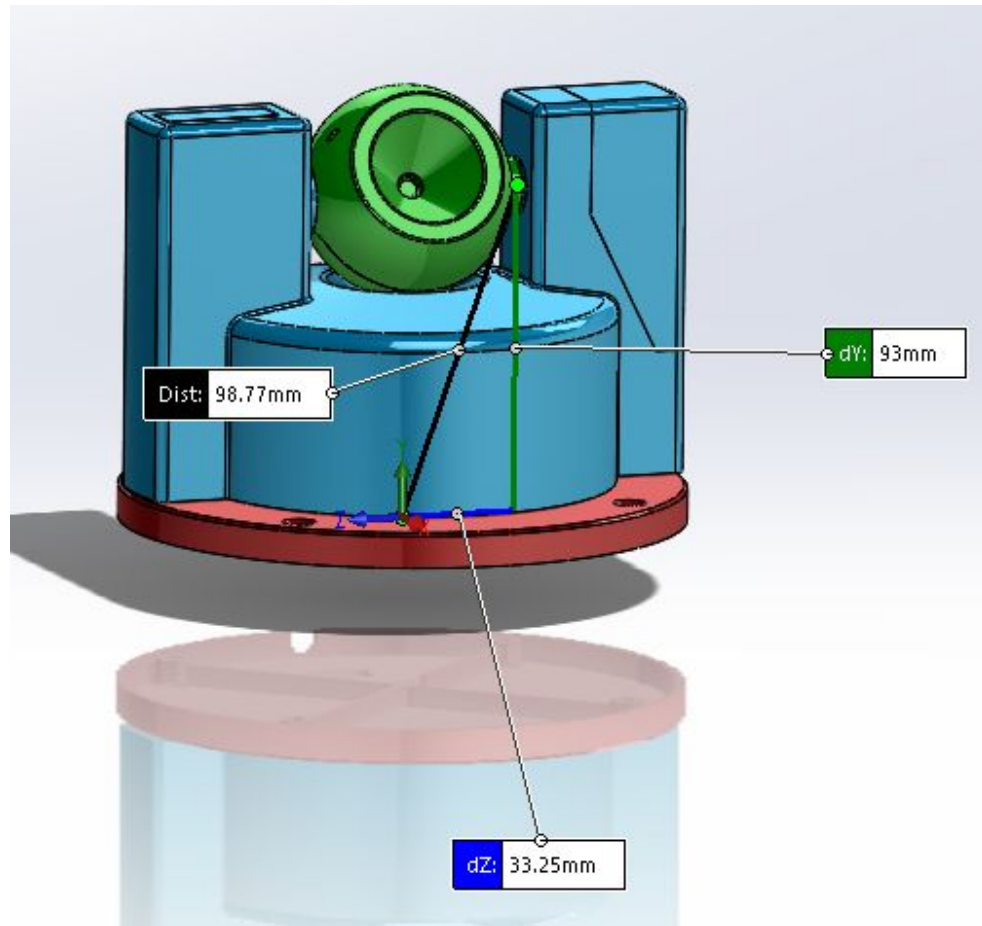
Disseny

Premises:

- 2 eixos de moviment:
 - Pitch i Yaw
- 2 servos de $\pm 90^\circ$
 - Futaba S3003
 - MG995
- Coincidència d'eixos en un punt:

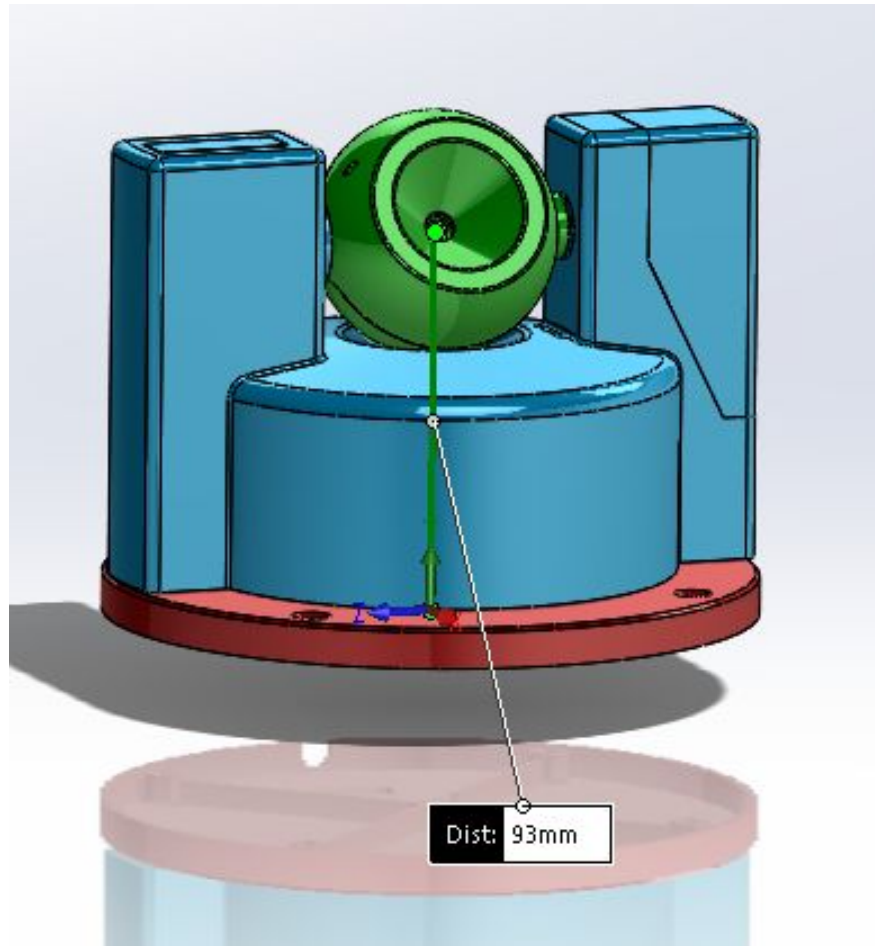


- Origin Master - Link 2 Origin:



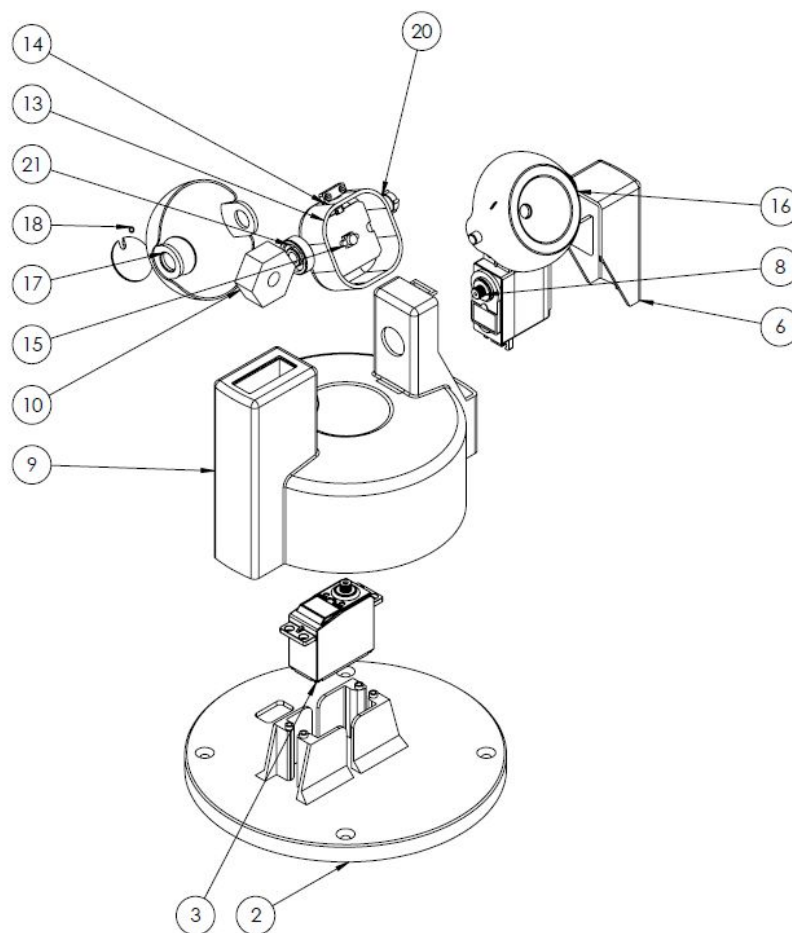
Disseny

- Origin Master - Webcam Axis Origin:

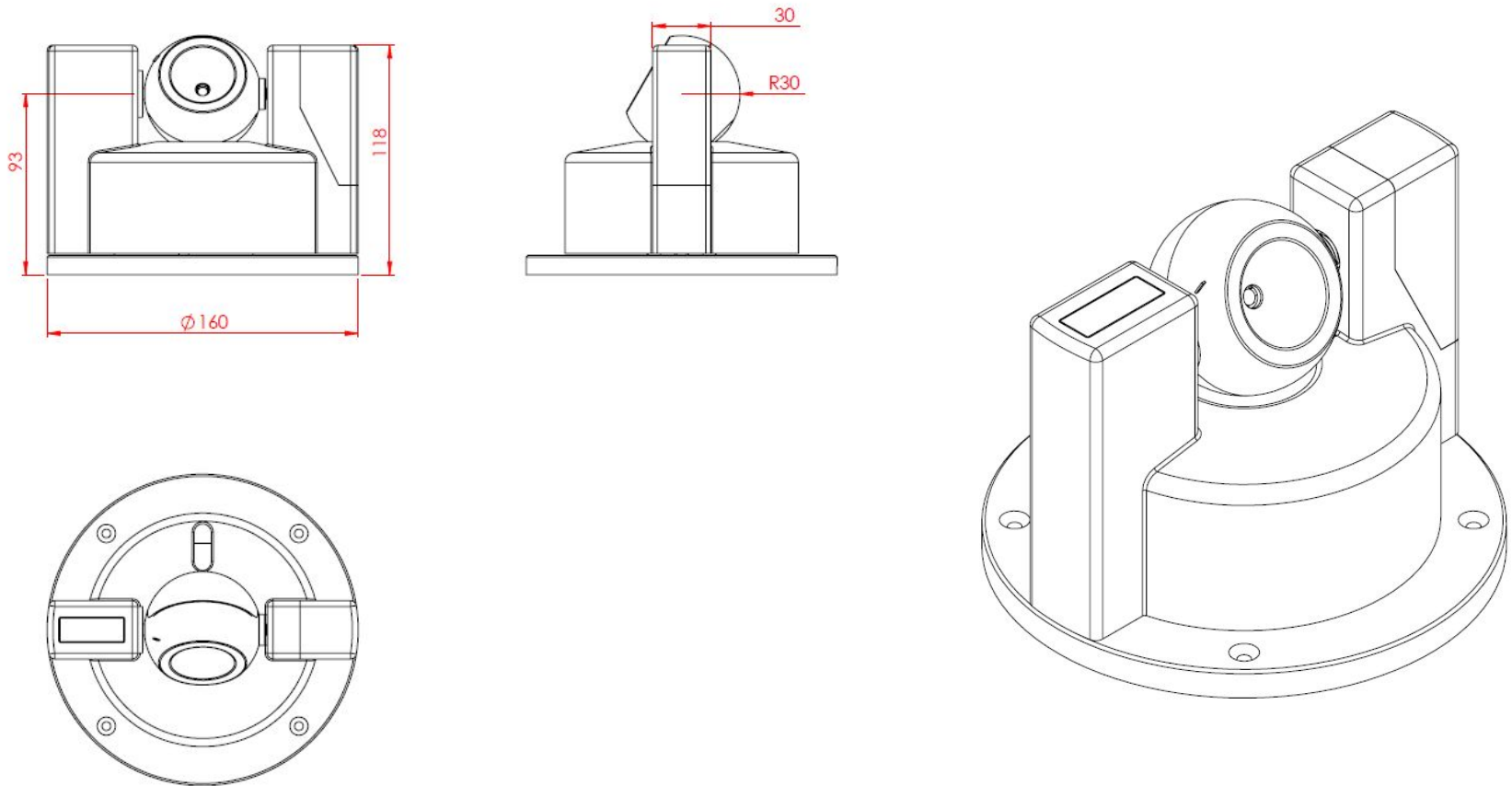


Explosionat

| ITEM NO. | PART NUMBER | QTY. |
|----------|---|------|
| 1 | Link_base | 1 |
| 2 | camara_ground | 1 |
| 3 | Servo Futaba S3003 | 1 |
| 4 | Link_1 | 1 |
| 5 | tapa_contrapes | 1 |
| 6 | tapa_servo_tower_pro | 1 |
| 7 | TOWER PRO MG-995, ANALOG SERVO | 1 |
| 8 | TOWER PRO MG-995, ANALOG SERVO, BODY, TOP | 1 |
| 9 | camara_base | 1 |
| 10 | Copy of Copy of Part3^ensamblatge camara | 1 |
| 11 | CONJUNT_CAMARA | 1 |
| 12 | intern_camara | 1 |
| 13 | caixa_camara_microsoft | 1 |
| 14 | suport_camara | 1 |
| 15 | placa_camara | 1 |
| 16 | camara | 1 |
| 17 | carcassa_back_camara | 1 |
| 18 | carcassa_back_camara_usb_outlet | 1 |
| 19 | link_eix | 1 |
| 20 | link_eix_2 | 1 |
| 21 | bearing | 1 |

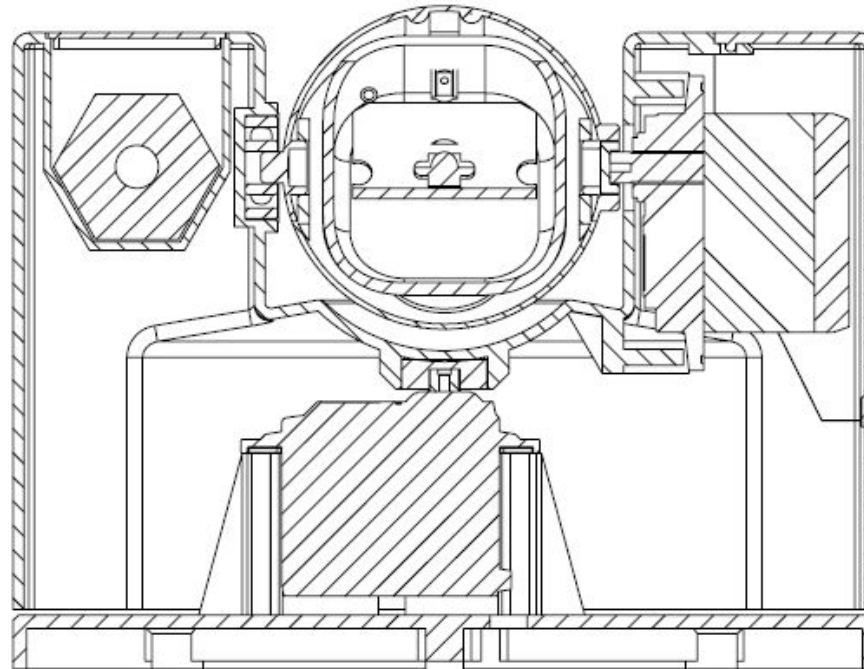
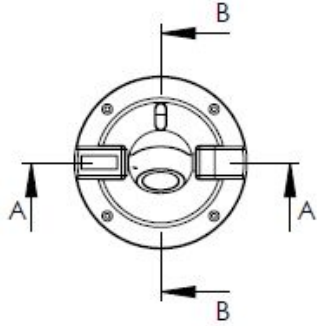


Dimensions generals



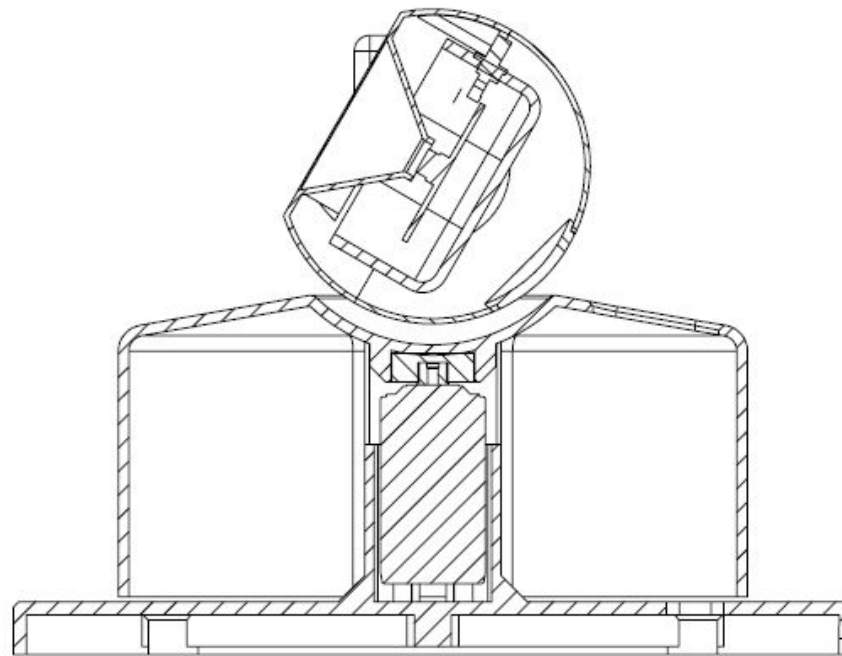
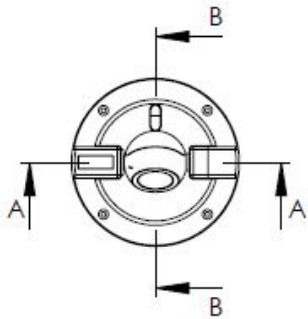
Disseny

Secció A-A



SECTION A-A
SCALE 1:1

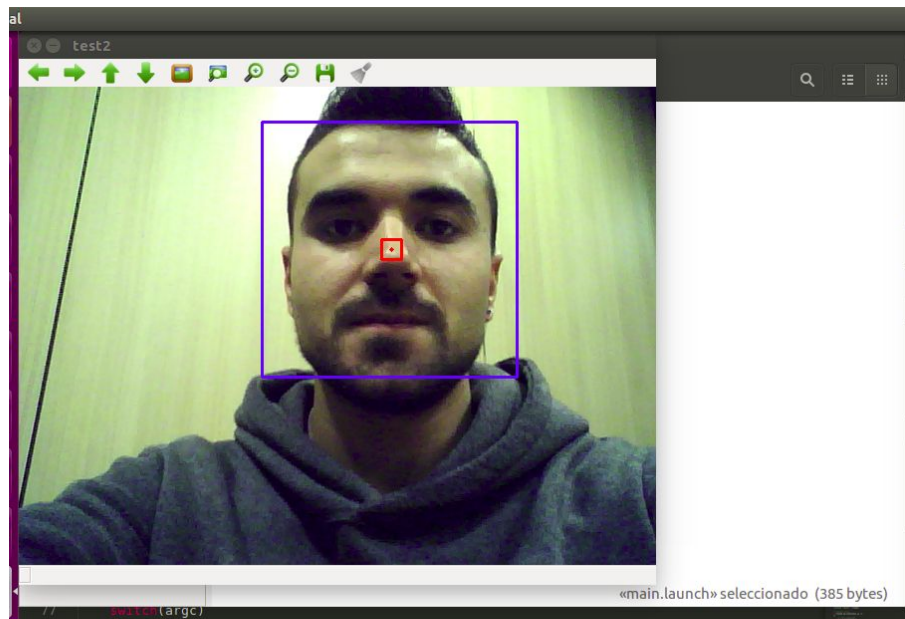
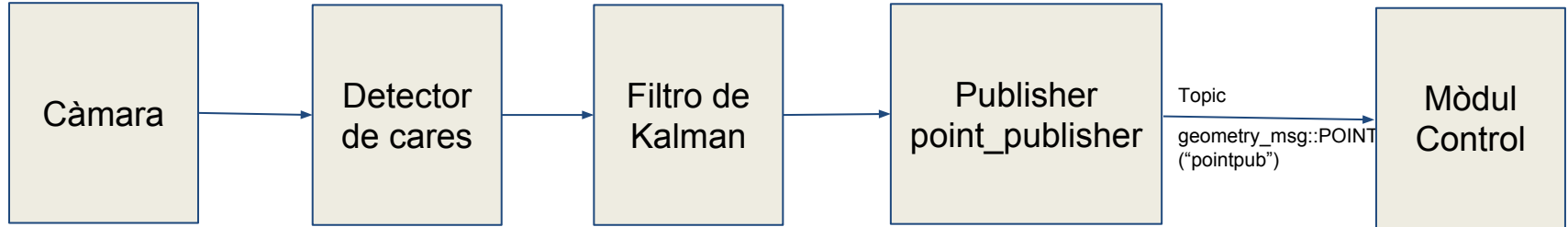
Secció B-B



SECTION B-B
SCALE 1 : 1

Percepció

Blocs percepció



Cinemàtica

Posició inicial dels motors:

yaw = 90;

pitch = 65;

Limits:

Pan 0° - 180° ---> Range final = 180°

Tilt 30° - 100° ---> Range final = 70°

Conversión de píxels a graus:

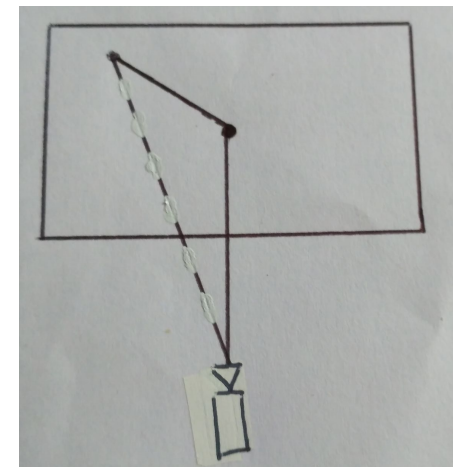
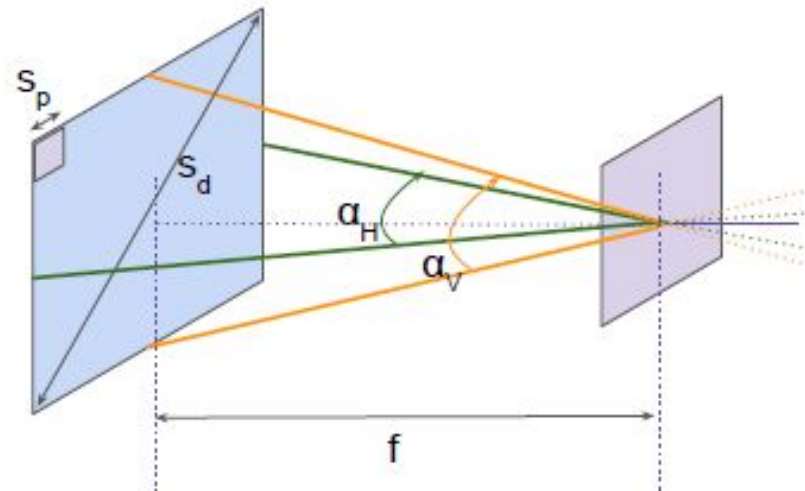
DEGREE_ADJUST_X = 0.14;

DEGREE_ADJUST_Y = 0.1875;

Resolució de la càmera

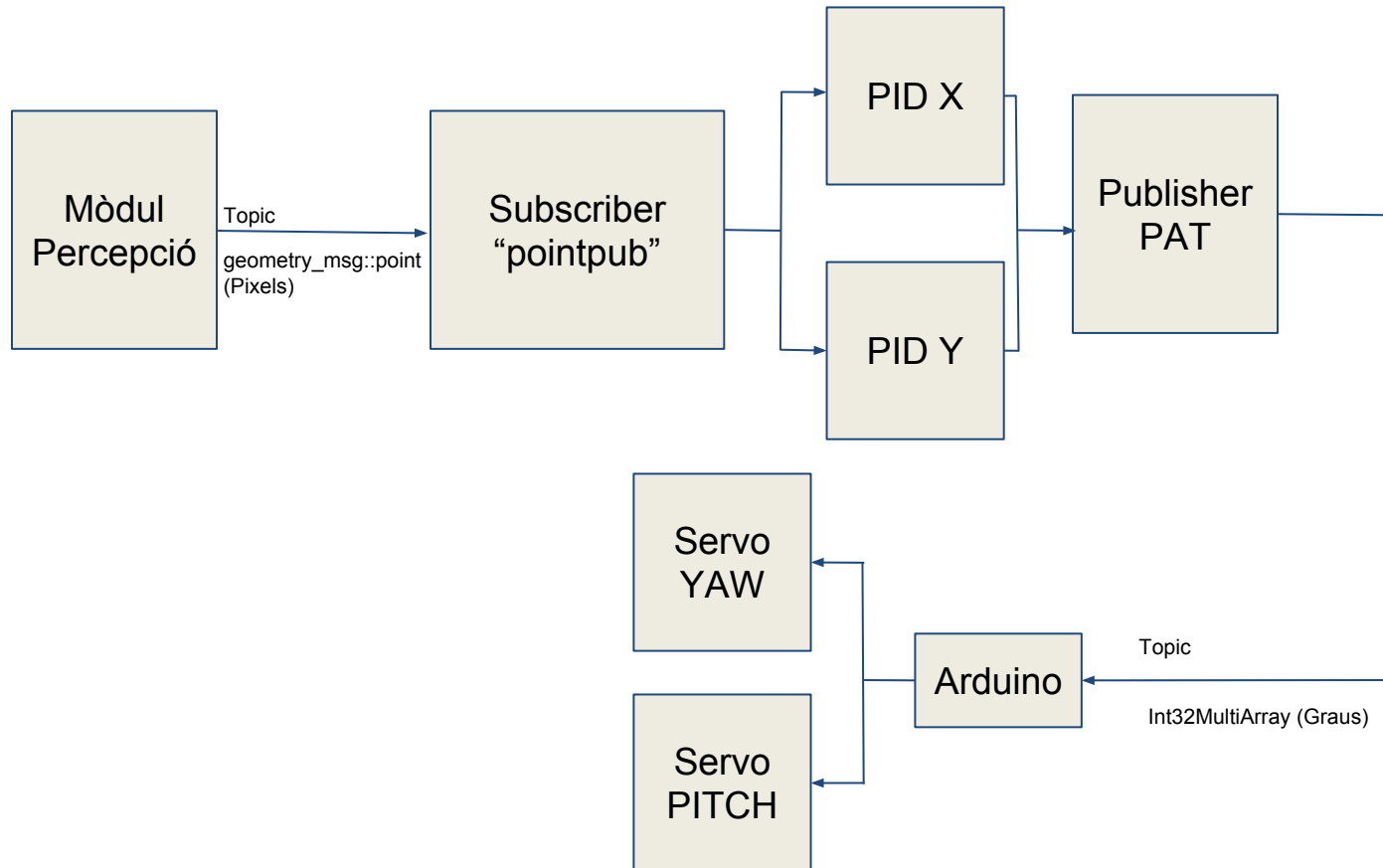
WIDTH = 640;

HEIGHT = 480;

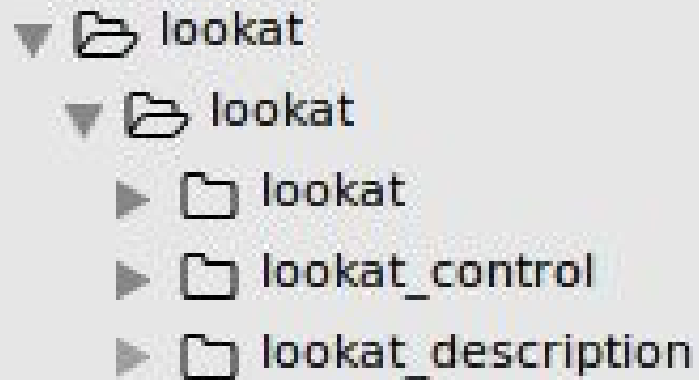


Control

Mòdul de control:



Ros Tree



Llicencia: GNU

GitHub: <https://github.com/Sandraa03/lookat>

Lookat description

