HEALTHDRONES

A PLATFORM

HealthDrones

ines

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CNPq/573964/2008-4

CNPq
Conselho Nacional de Desenvolvimento Científico e Tecnológico

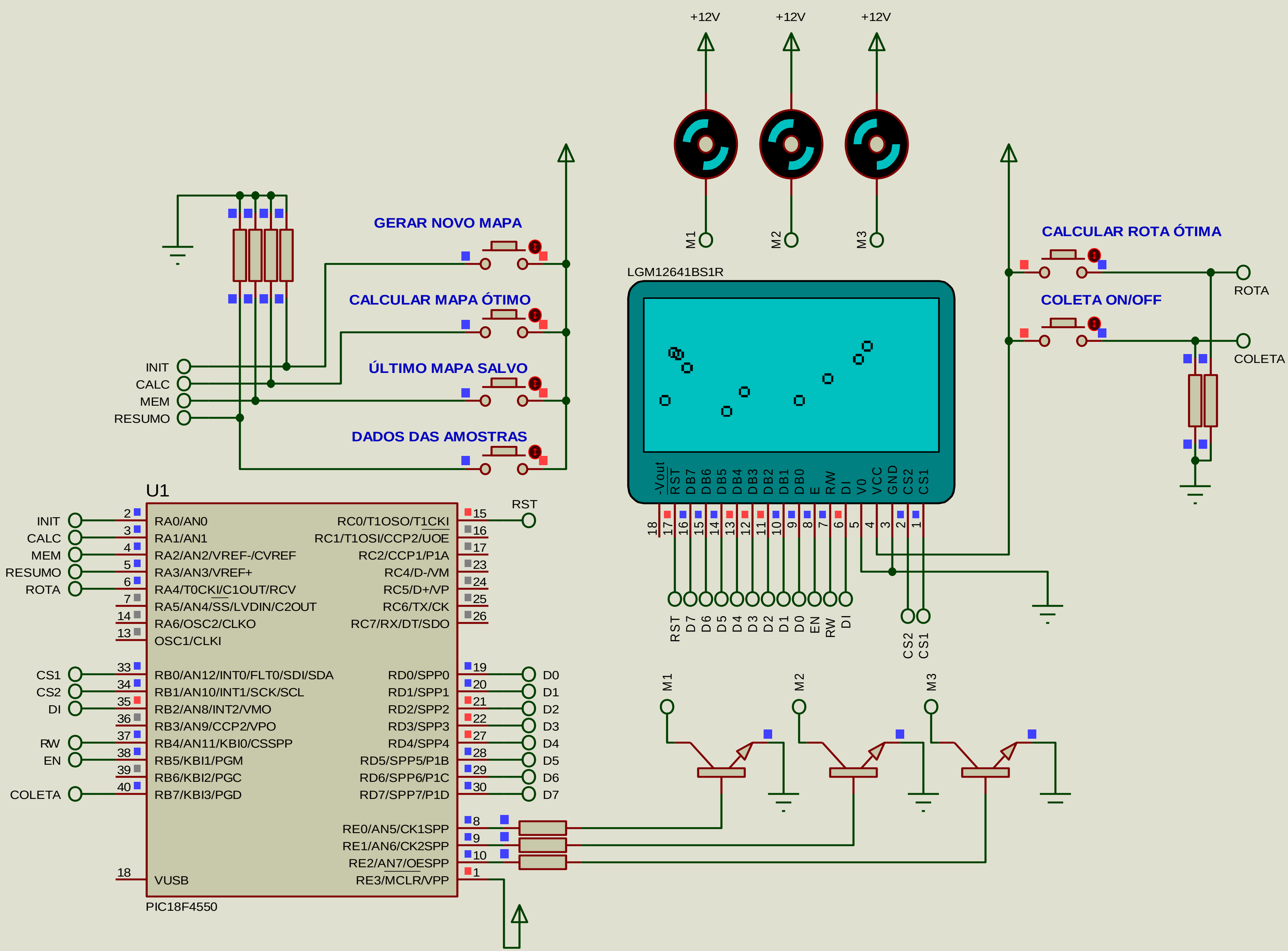
INSTITUTO SENAI DE INOVAÇÃO
TECNOLOGIA DA INFORMAÇÃO

UFRPE

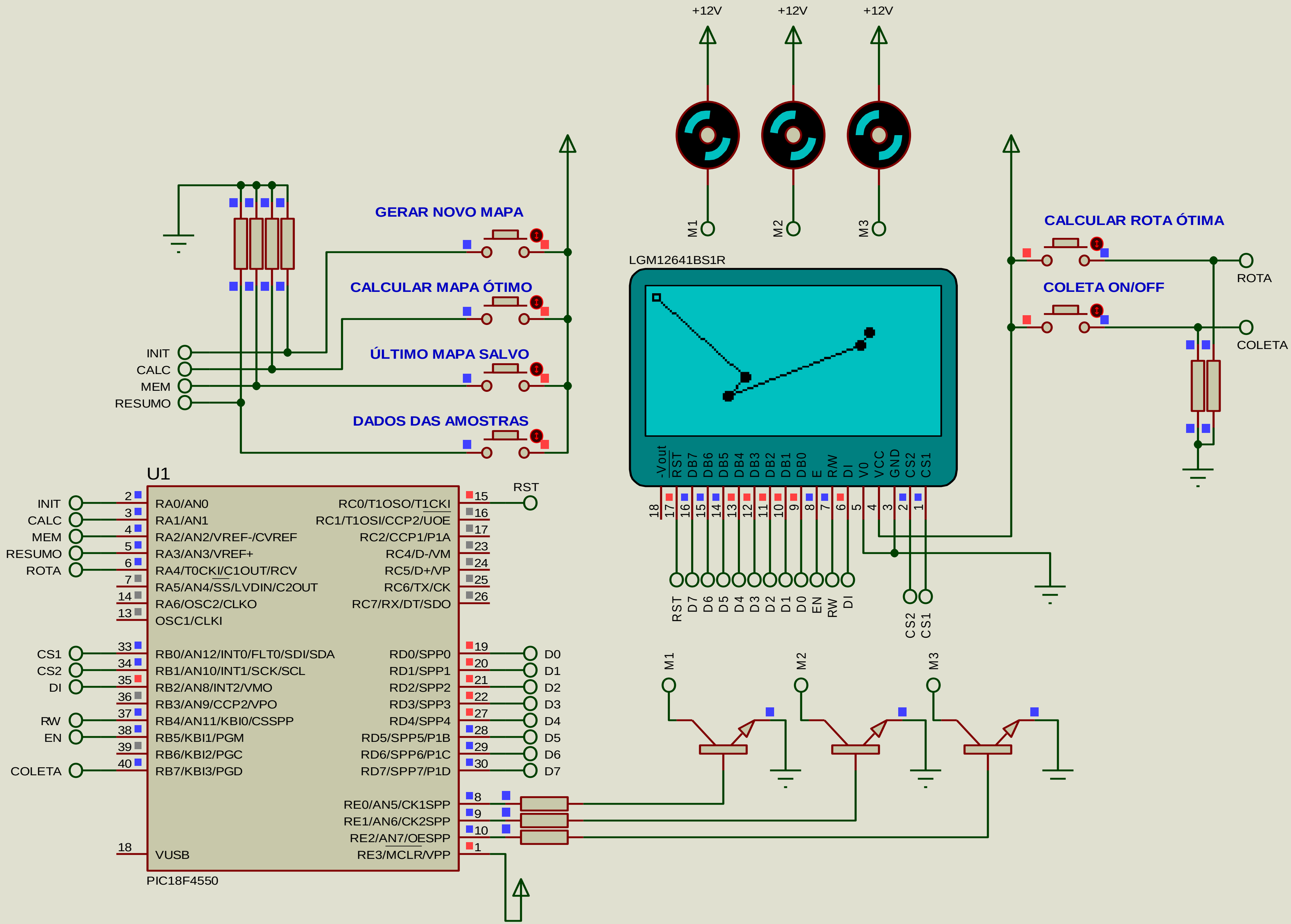
Geosere

Programação Linear

- Coletar as melhores amostras consumindo o mínimo de recursos;
- Otimização para apoiar a tomada de decisão de forma autônoma;
- Sistema que possa ser usado de forma embarcada;



+12V
+12V
+12V
M1
M2
M3
LGM12641BS1R
GERAR NOVO MAPA
CALCULAR MAPA ÓTIMO
ÚLTIMO MAPA SALVO
DADOS DAS AMOSTRAS
CALCULAR ROTA ÓTIMA
COLETA ON/OFF
ROTA
COLETA
INIT
CALC
MEM
RESUMO
-Vout RST DB7 DB6 DB5 DB4 DB3 DB2 DB1 DB0 E R/W DI V0 VCC GND CS2 CS1
18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
RST D7 D6 D5 D4 D3 D2 D1 D0 EN RW DI
CS2 CS1
U1
RA0/AN0
RA1/AN1
RA2/AN2/VREF-/CVREF
RA3/AN3/VREF+
RA4/T0CKI/C1OUT/RCV
RA5/AN4/SS/LVDIN/C2OUT
RA6/OSC2/CLKO
OSC1/CLKI
RB0/AN12/INT0/FLT0/SDI/SDA
RB1/AN10/INT1/SCK/SCL
RB2/AN8/INT2/VMO
RB3/AN9/CCP2/VPO
RB4/AN11/KBI0/CSSPP
RB5/KBI1/PGM
RB6/KBI2/PGC
RB7/KBI3/PGD
VUSB
RC0/T1OSO/T1CKI
RC1/T1OSI/CCP2/UOE
RC2/CCP1/P1A
RC4/D-/VM
RC5/D+/VP
RC6/TX/CK
RC7/RX/DT/SDO
RD0/SPP0
RD1/SPP1
RD2/SPP2
RD3/SPP3
RD4/SPP4
RD5/SPP5/P1B
RD6/SPP6/P1C
RD7/SPP7/P1D
RE0/AN5/CK1SPP
RE1/AN6/CK2SPP
RE2/AN7/OESPP
RE3/MCLR/VPP
PIC18F4550
INIT 2
CALC 3
MEM 4
RESUMO 5
ROTA 6
7
14
13
CS1 33
CS2 34
DI 35
36
RW 37
EN 38
39
COLETA 40
18
RST 15
16
17
23
24
25
26
19 D0
20 D1
21 D2
22 D3
27 D4
28 D5
29 D6
30 D7
8
9
10
1



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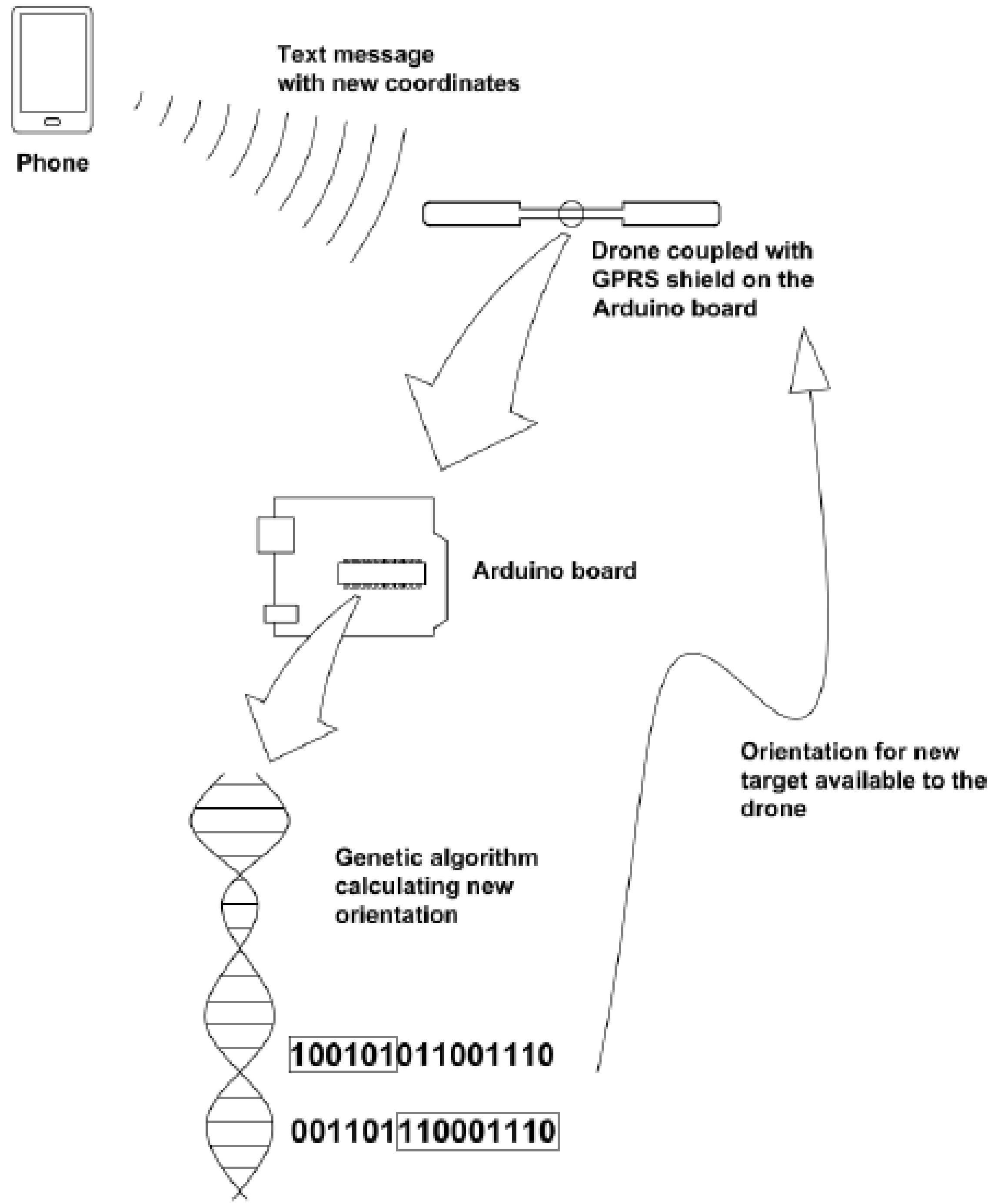
D7

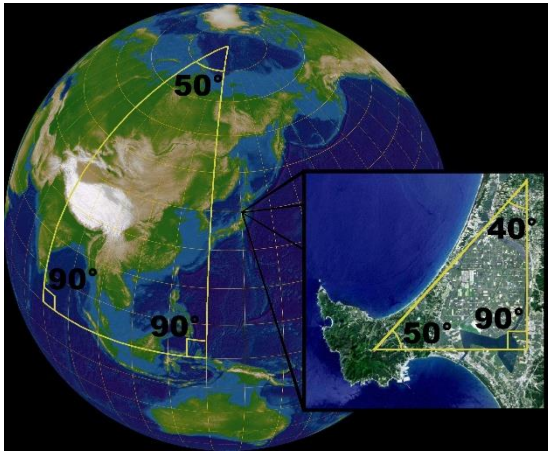

Text message
with new coordinates
Phone
Drone coupled with
GPRS shield on the
Arduino board
Arduino board
Orientation for new
target available to the
drone
Genetic algorithm
calculating new
orientation
1001010110011110
001101110001110

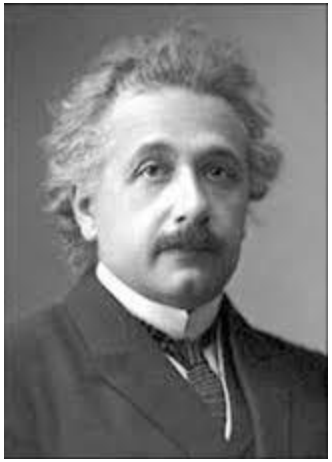
Innovation? 300 BC!! ☺

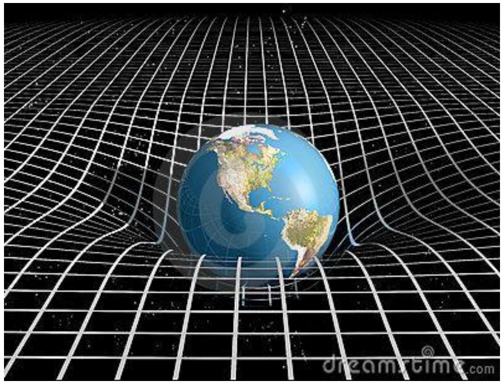
$$\phi = \mathrm{Atan2}\left(-r_{31}, \sqrt{r_{11}^2 + r_{21}^2}\right)$$

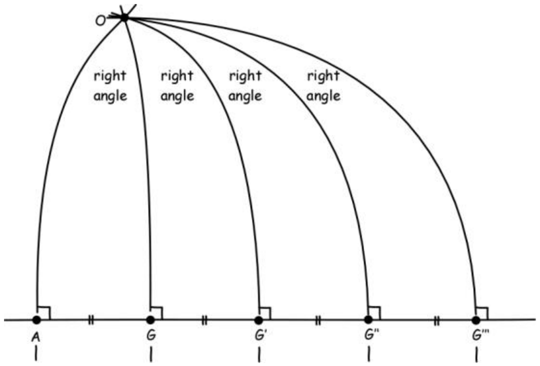
$$\psi = -\mathrm{Atan2}\left(\frac{r_{21}}{\cos(\phi)}, \frac{r_{11}}{\cos(\phi)}\right)$$

$$\theta = \mathrm{Atan2}\left(\frac{r_{32}}{\cos(\phi)}, \frac{r_{33}}{\cos(\phi)}\right)$$



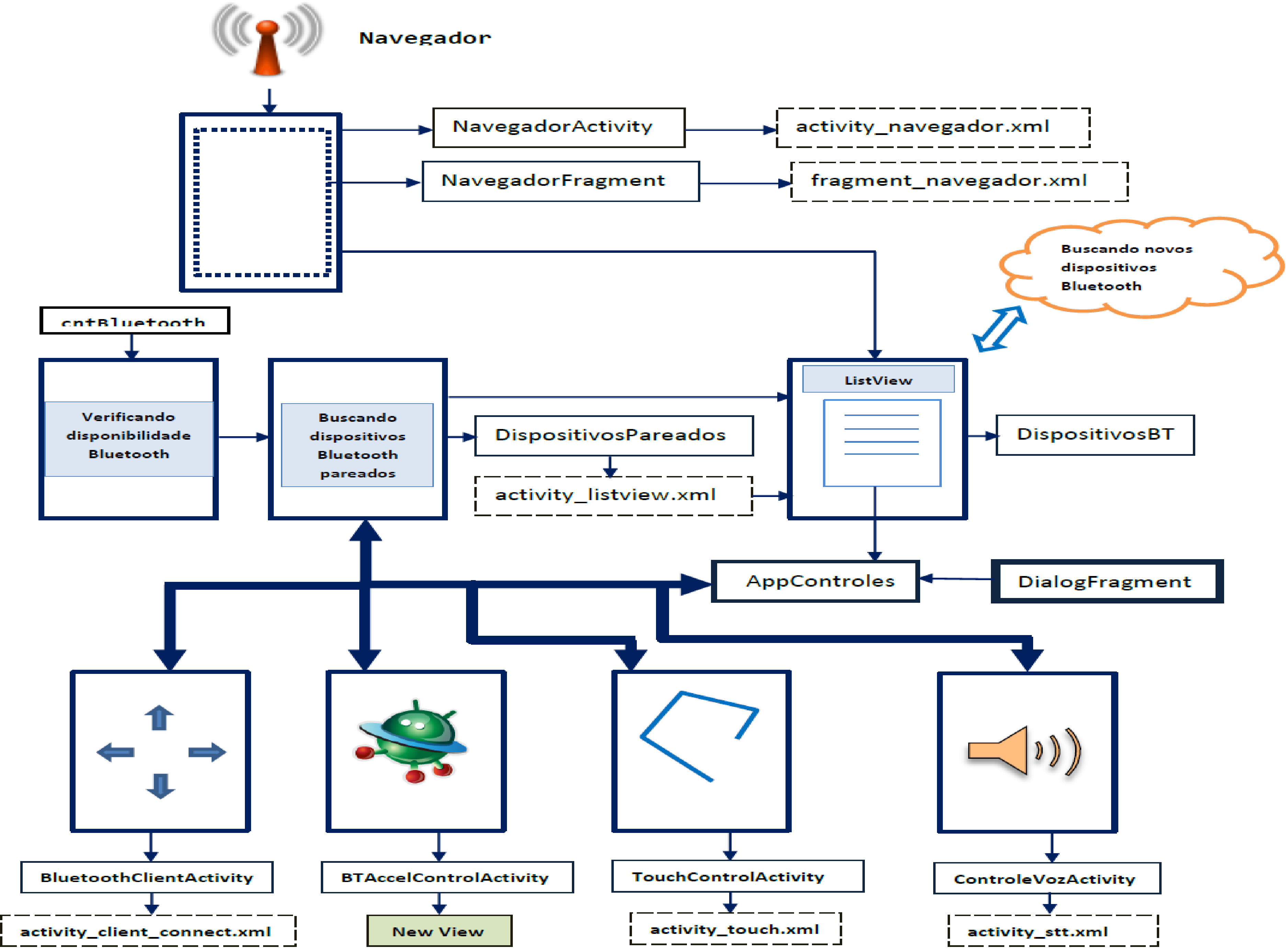






PROGRAMAÇÃO APLICADA

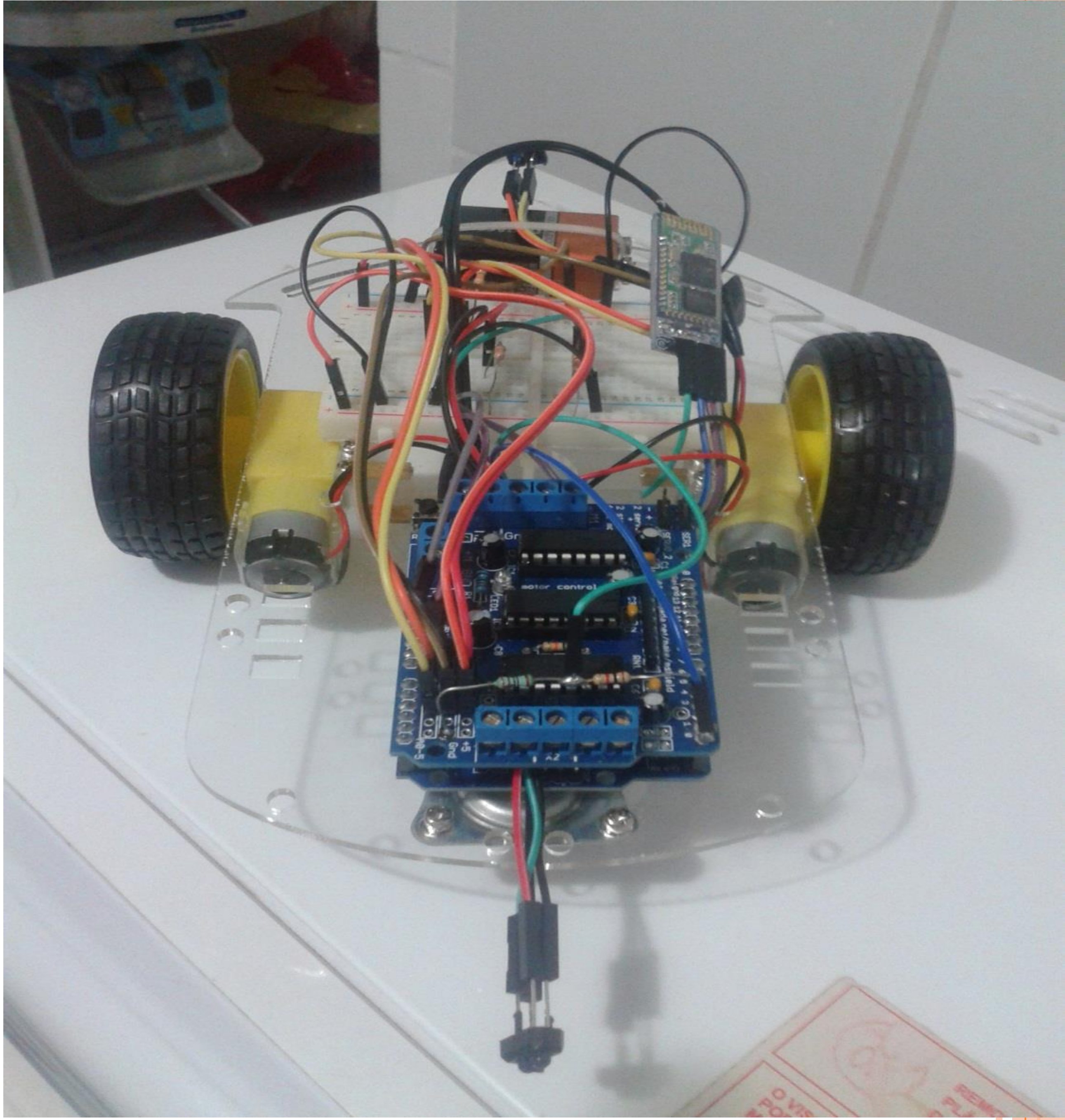
- Módulo de navegação via Android ®, por **geometria euclidiana**, para controlar mecanismos automatizados;
  - Operar dispositivos microcontrolados por meio de smartphones Android.
  - Realizar controle remoto local e em qualquer parte do globo.
  - Possibilitar a indivíduos portadores de necessidades especiais (PNE), condições de operarem mecanismos.



Navegador
NavegadorActivity
activity_navegador.xml
NavegadorFragment
fragment_navegador.xml
Buscando novos dispositivos Bluetooth
cntBluetooth
Verificando disponibilidade Bluetooth
Buscando dispositivos Bluetooth pareados
ListView
DispositivosPareados
activity_listview.xml
DispositivosBT
AppControles
DialogFragment
BluetoothClientActivity
activity_client_connect.xml
BTAccelControlActivity
New View
TouchControlActivity
activity_touch.xml
ControleVozActivity
activity_stt.xml

Projeto
MAX PLANC I

http://bit.ly/VideosPlanc

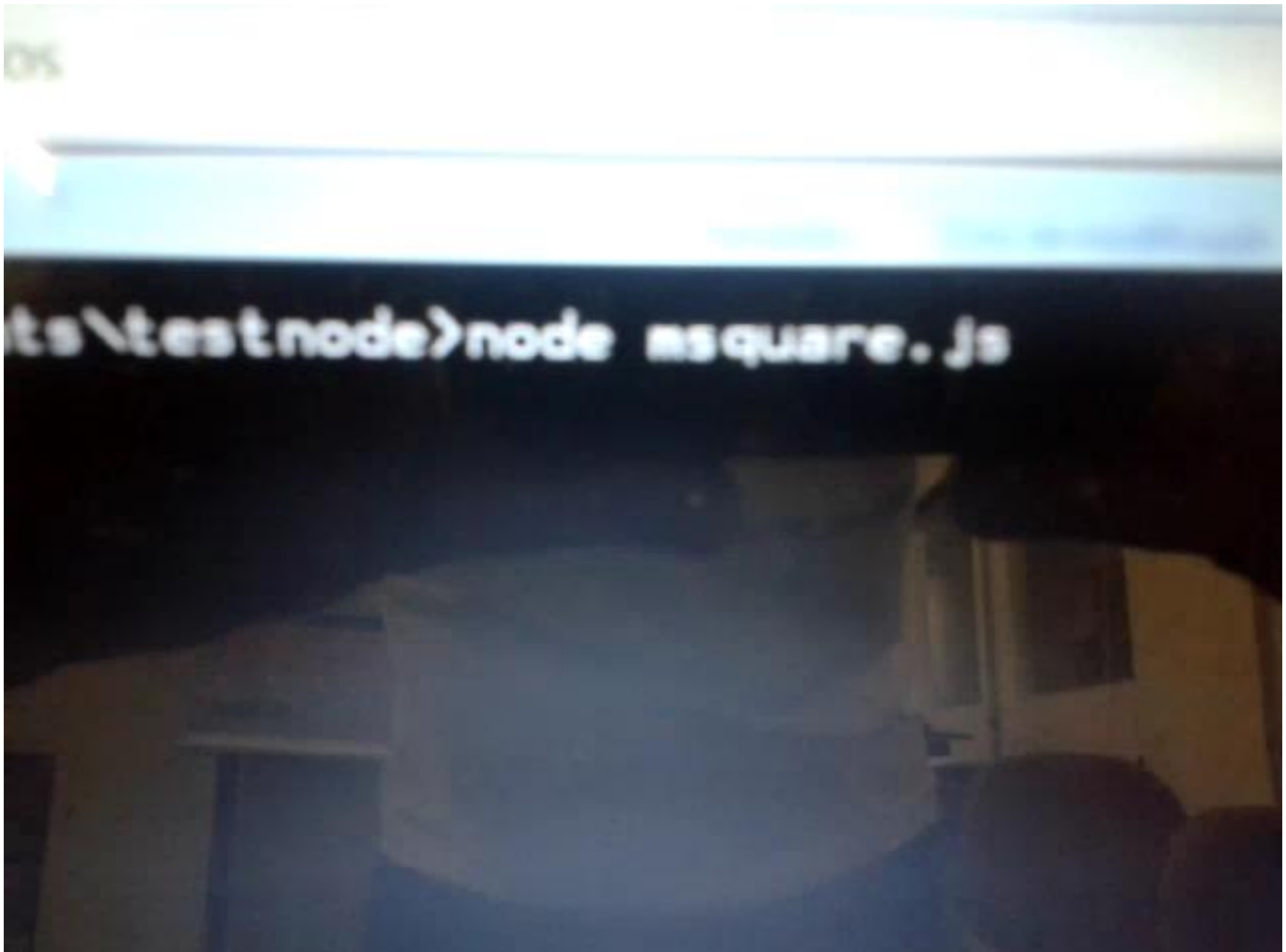


PROJETO CHANNON

- Planejamento de trajetória e controle autônomo de missão para drones;
- Abordagem evolucionária (NSGA-II);
- Modelo de estudo: Parrot Ar Drone 2.0:

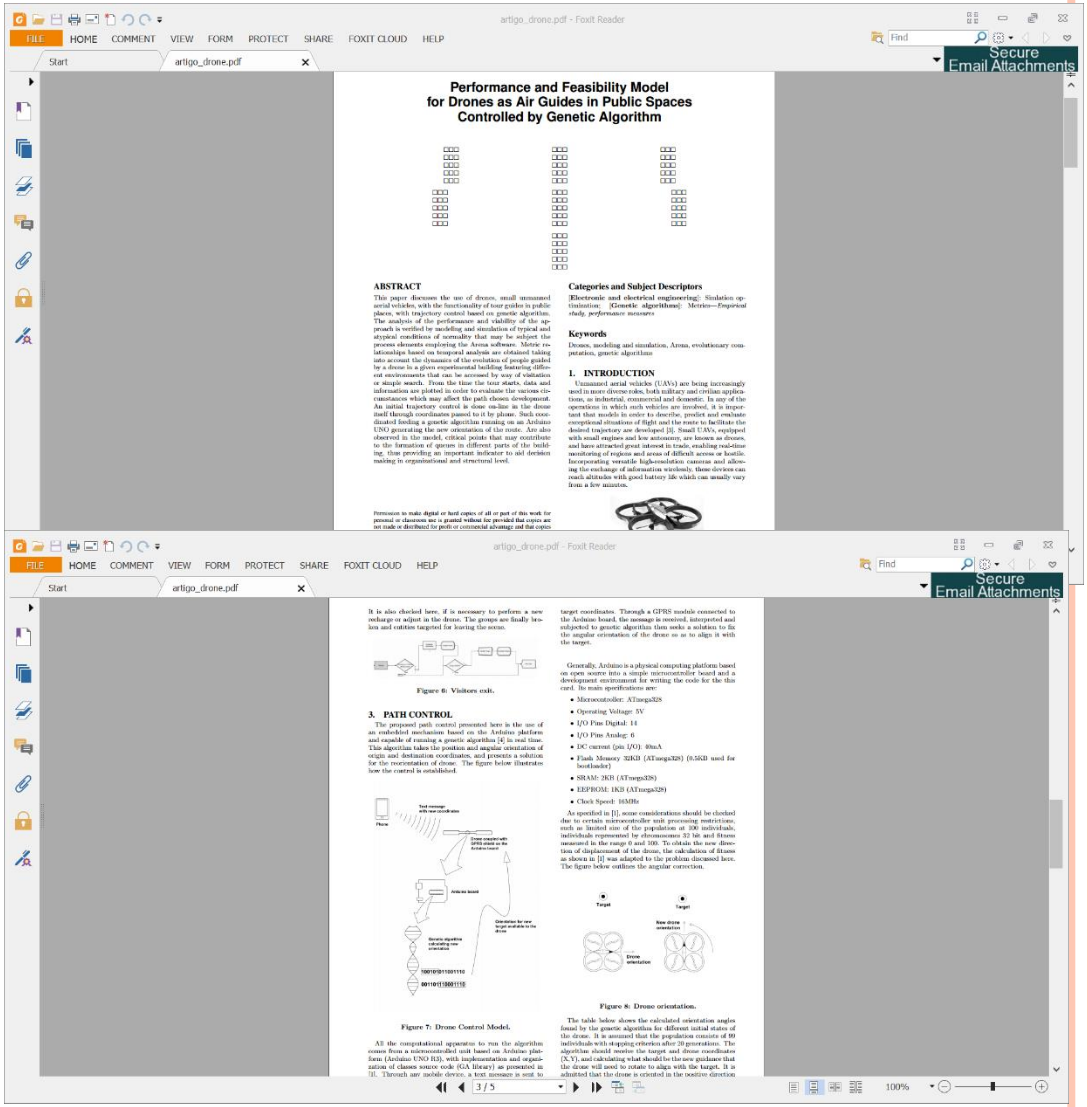
- Plataformas: YaDrone, AutoFlight , Node-JS

Quadrado ok!



STATUS

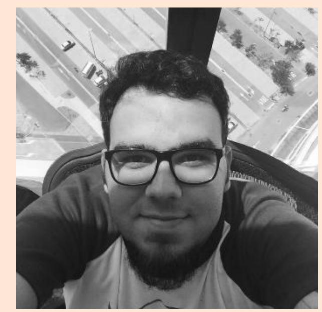
- Master thesis (dec)
- Reports (jan)
- Startup (CPRH) ☺



TEAM

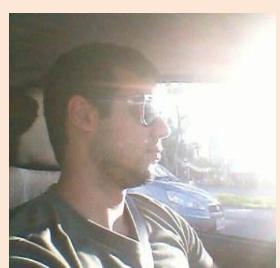




EPITRACK



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