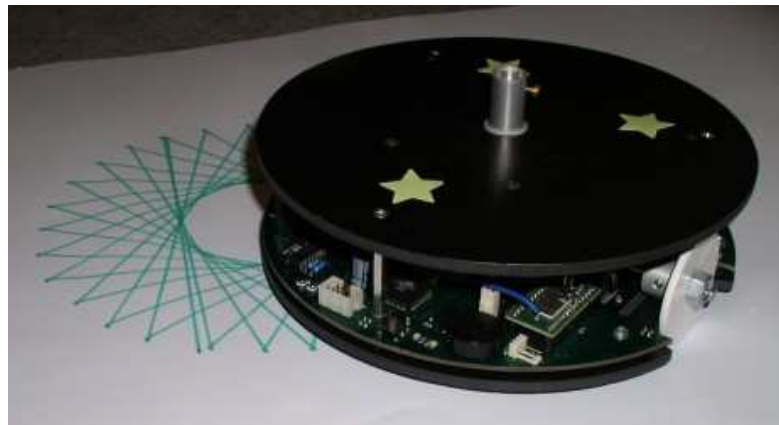


Robotnačka the drawing robot



Richard Balogh

balogh@elf.stuba.sk

STU FEI Bratislava



Contents

1. Parameters
2. Software
3. Features
4. Add-ons
5. Conclusions

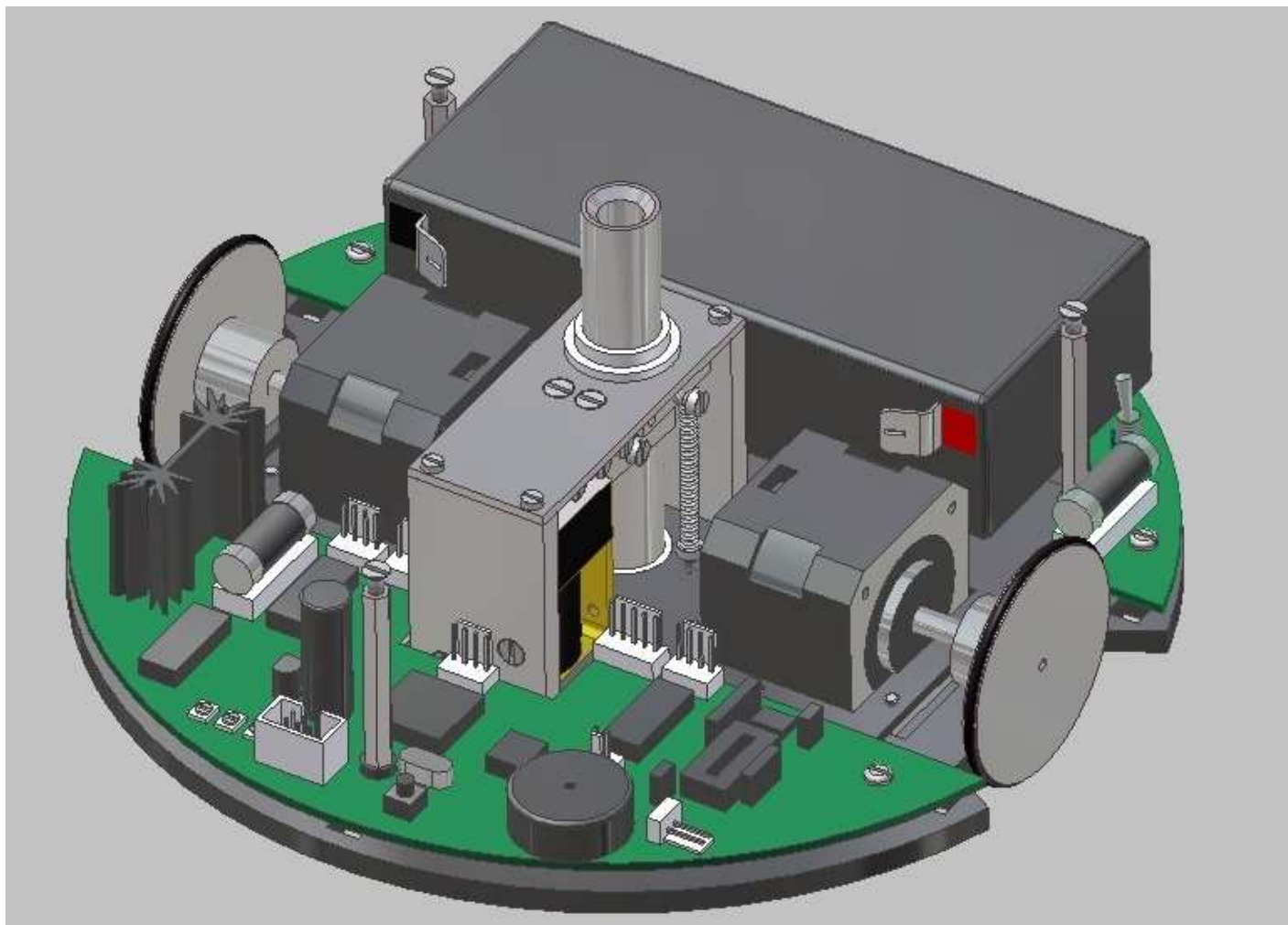
Robotnačka



Robotnačka - parameters

- 2 x stepper motor MICROCON SL17
- solenoid controlled pen
- powered from Pb 6 V / 3,3 Ah acu
- dimension ϕ 210 mm \times 70 mm
- wheels ϕ 25 mm, L 180 mm
- mass ca. 2 kg
- controlled by 8-bit micro AT89S8252
- communication IR 2 m, Bluetooth 10 m
- embedded charger

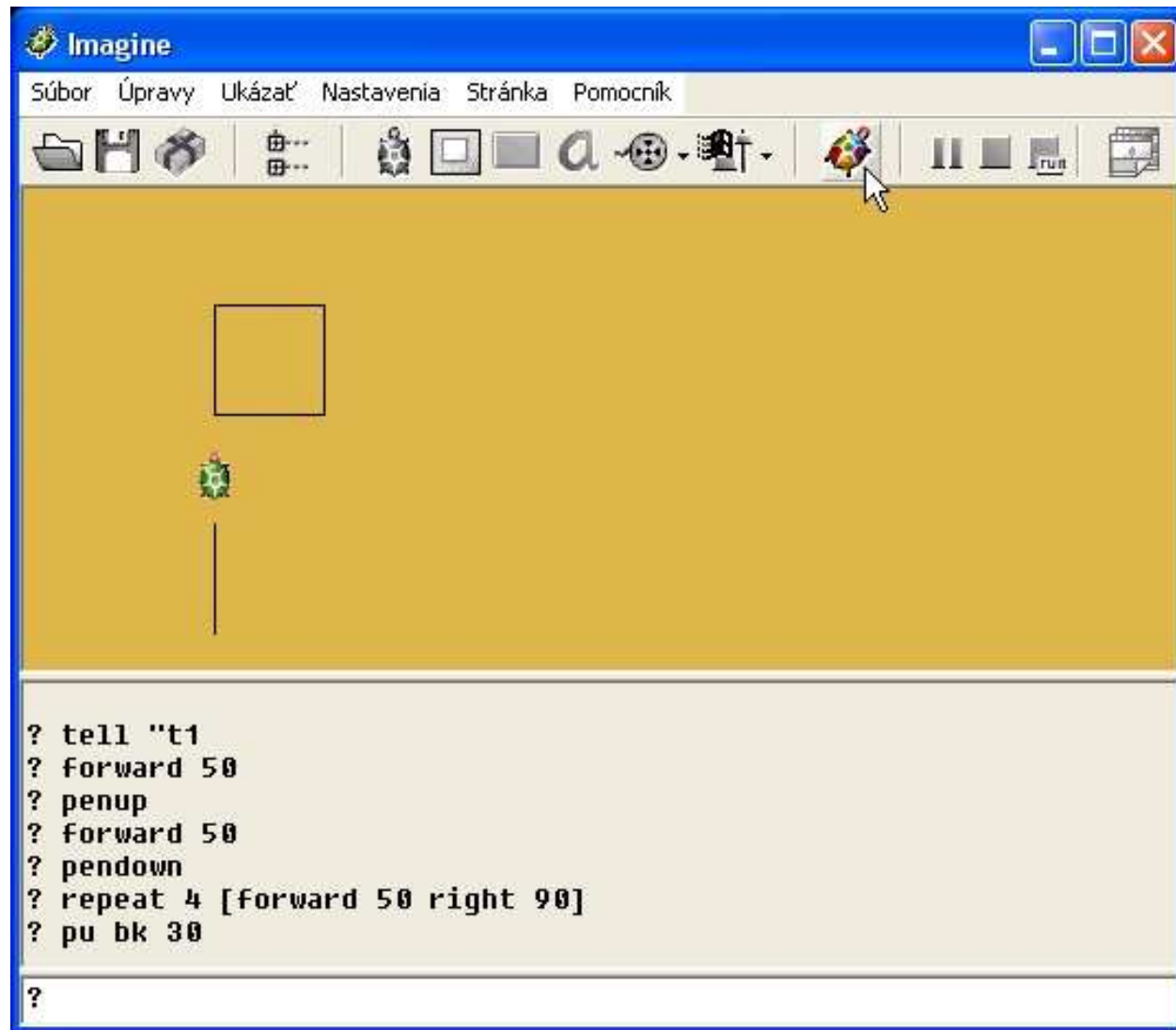
Robotnačka



Robotnačka - features

- drawing on the paper, or horizontal table
- control from any high-level language (using DLL): C++, Java, Imagine Logo, . . .
- position control: rotate, forward, back
- speed control: independent for each wheel
- curve approximation

Imagine Logo



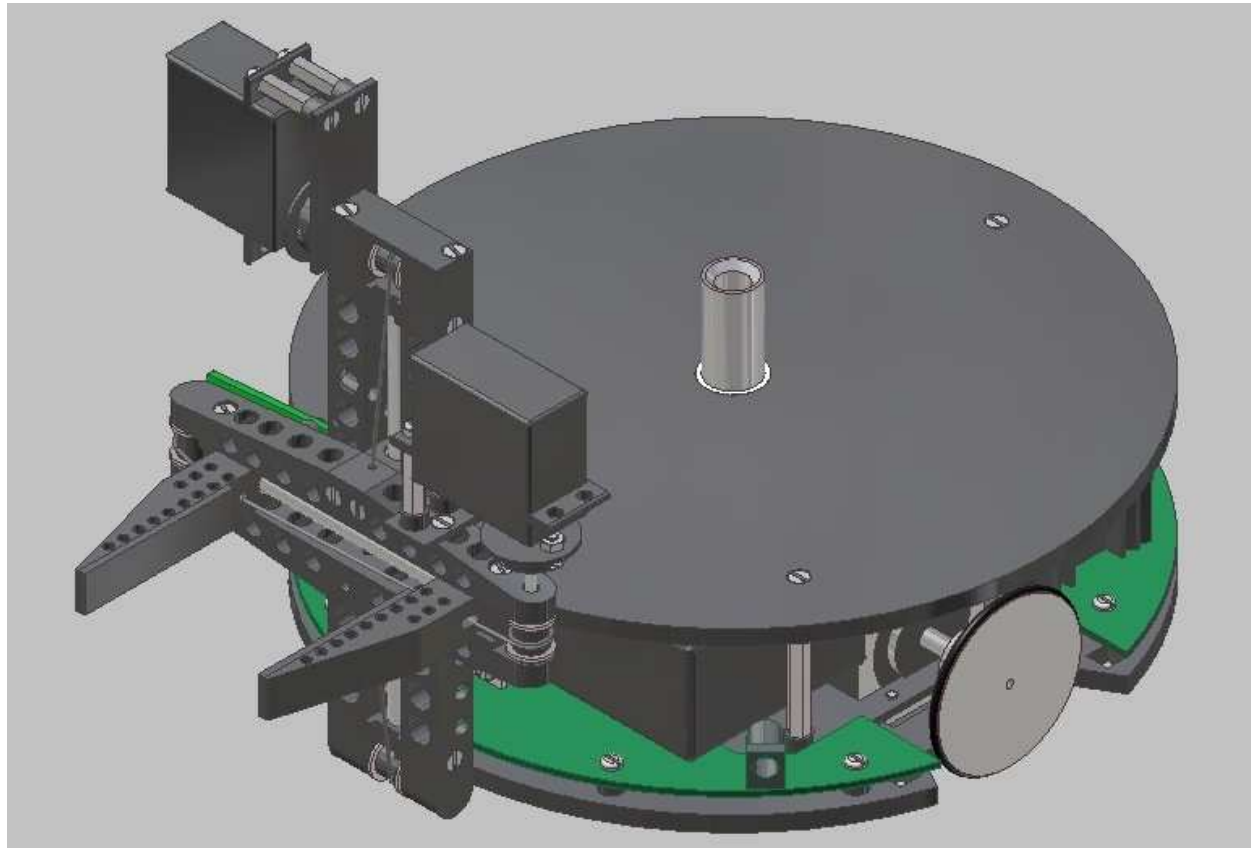
Robotnačka – example

```
tell "robotturtle           ; connect
fd 500                       ; forward
pu                            ; pen up
fd 500                       ; forward
pd                            ; pen down
repeat 10 [fd 1000 rt 108]   ; loop
pu                            ; pen up
```


Robotnačka – add-ons

- sensors
- gripper
- camera
- autonomous recharging
- remote lab
- education of the math, physics a programming
- image processing library (OpenCV)
- Linux port, robot.ocx

Gripper



[Click here to run video](#)

Partnership

- FEI STU (Dušan Ďurina, Oto Kužma)
- FMFI UK (Peter Tomcsány, Pavel Petrovič)
- MicroStep-MIS. s.r.o (Jozef Omelka, Andrej Lúčný)



***MicroStep* - MIS**



Conclusions

Robotika je budúcnosť
na ktorej sa chceme podieľať.

[Click here to run video](#)