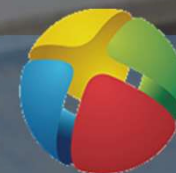


# BESKONTAKTNO UPRAVLJANI JEFTINI ROBOTSKI SISTEM

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Ideja



Potrebni delovi



Konstrukcija



Programiranje

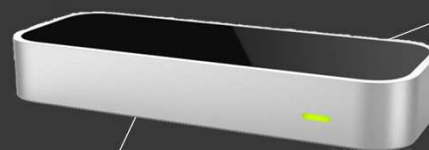


Adaptacija

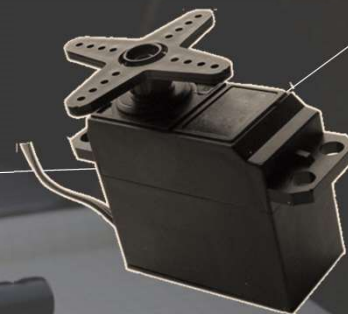
Pleksiglas



Stereovizijski  
senzor



Aktuatori



Mikrokontroler



Računarska jedinica



Napajanje





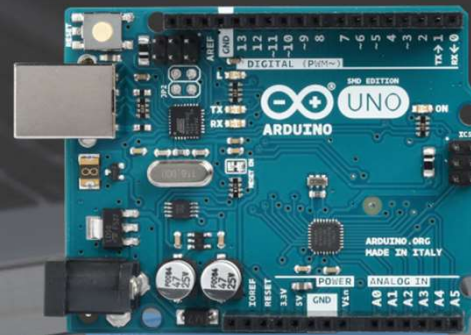
## Konfiguracija robotskog sistema



Senzor daje  
informacije o poziciji  
i ugaonoj orijentaciji  
šaka



Računar obrađuje  
signale sa senzora i  
Arduina i zadaje  
komande kontroleru

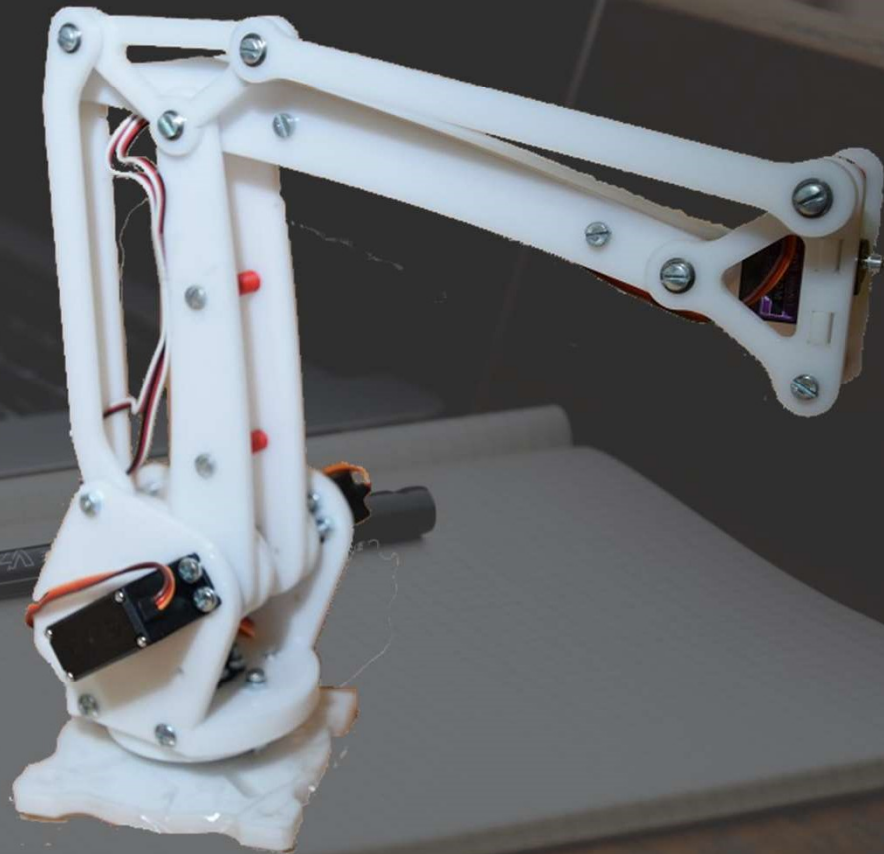


Arduino komunicira  
sa računarnom i šalje  
komande robotu



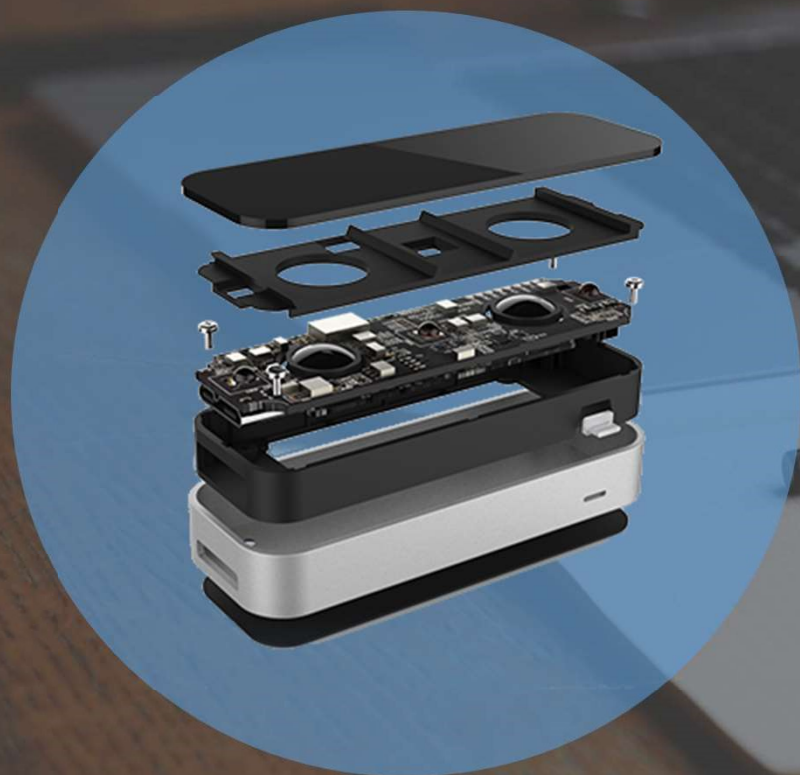
Robot prima  
komande od  
Arduino kontrolera

**DS SOLIDWORKS**

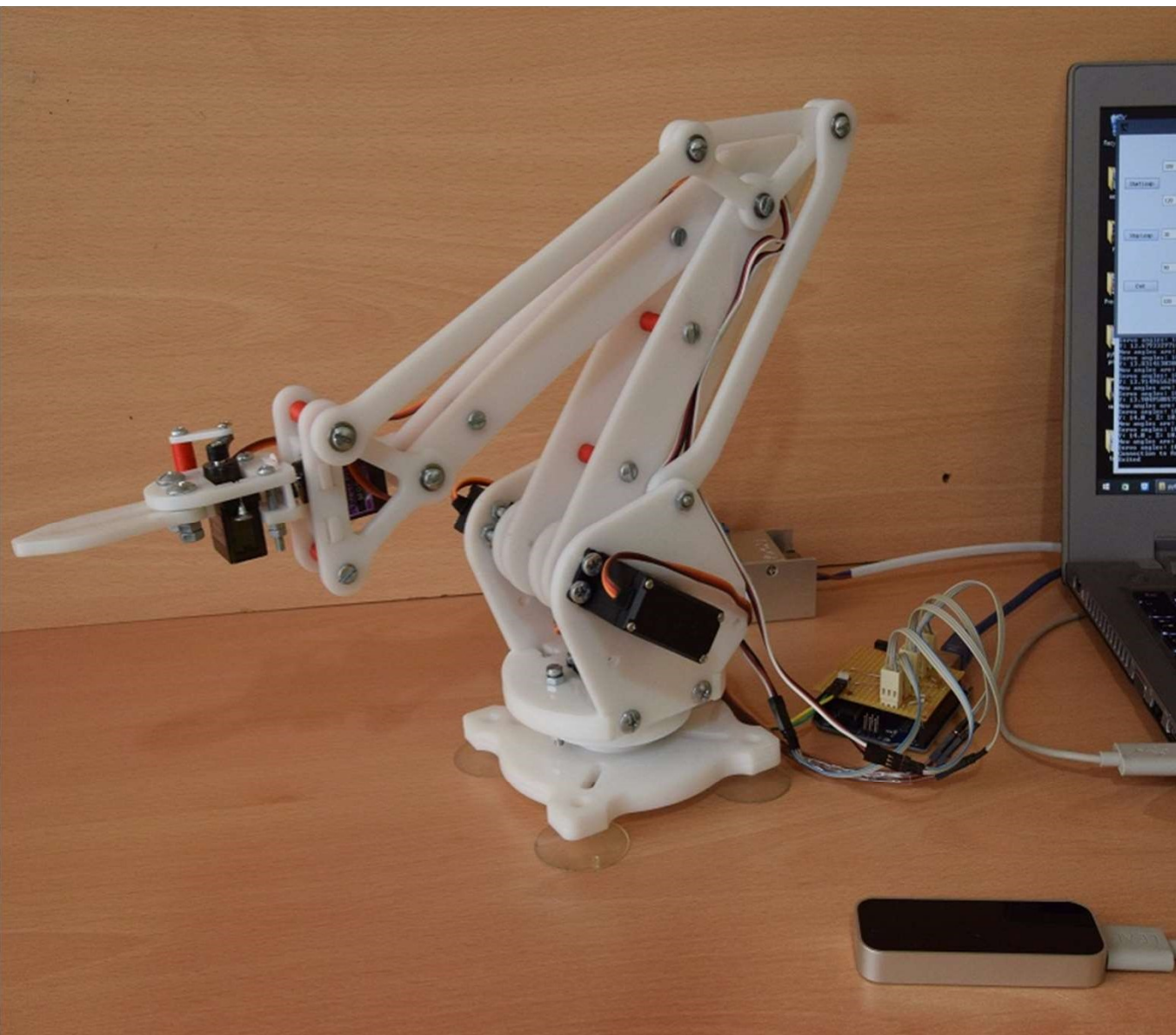




## Leap Motion sensor







## Konfiguracija roboškog sistema

Niskobudžetne komponente sistema  
doprinose njegovoj maloj ceni

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Robot  
Arduino Uno  
Napajanje } 100 €

Leap Motion senzor 80 €

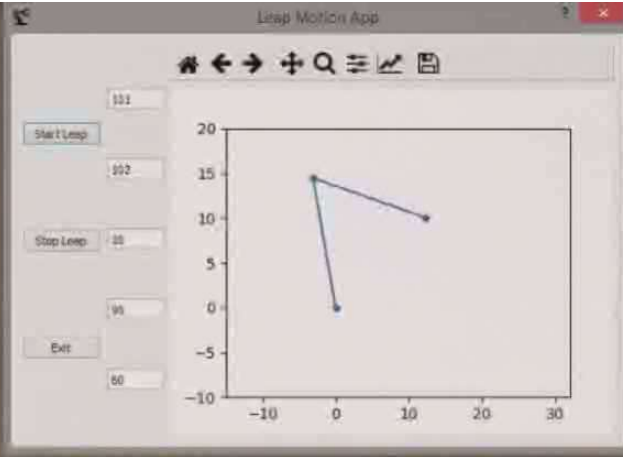
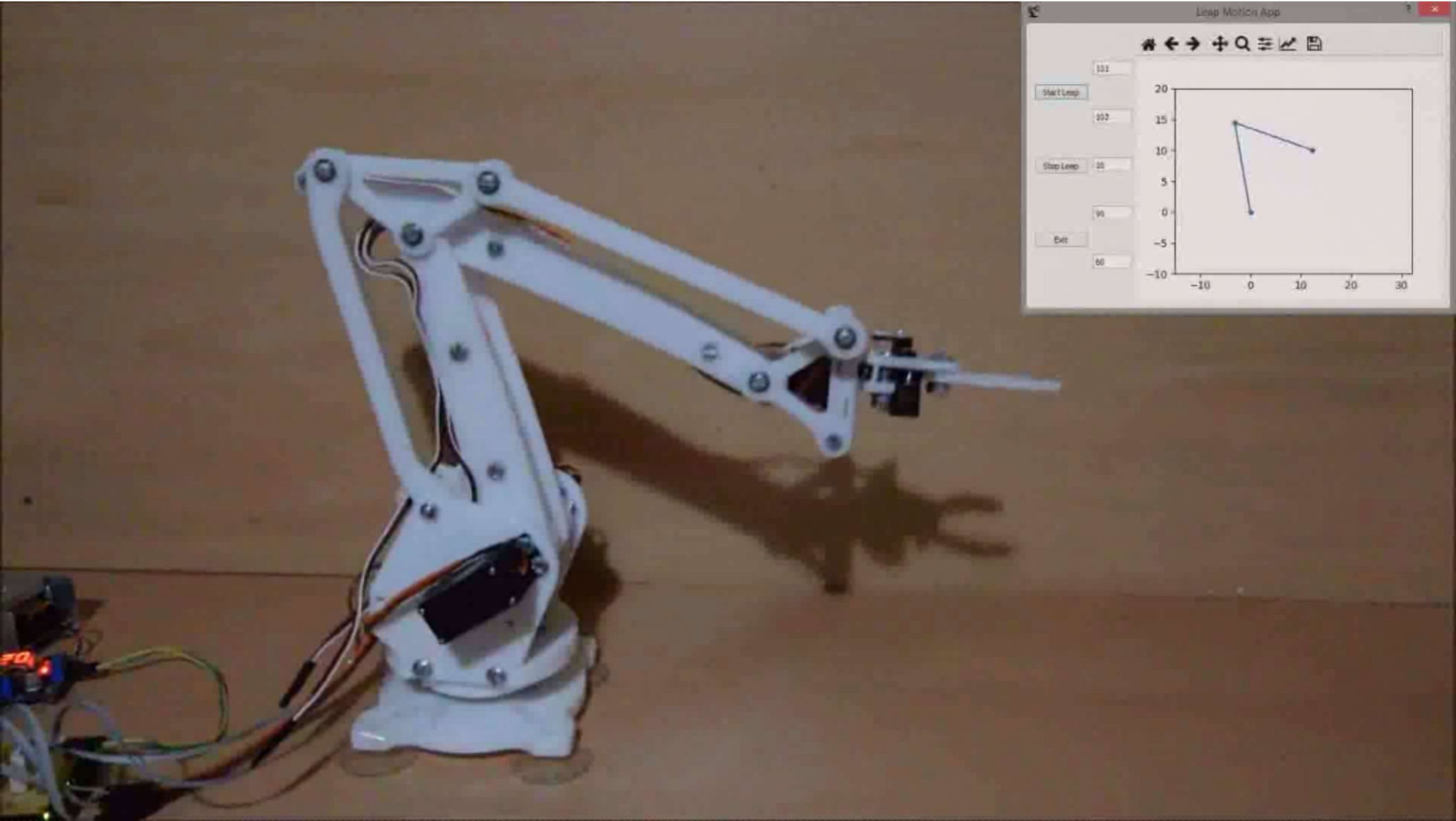
=180 €

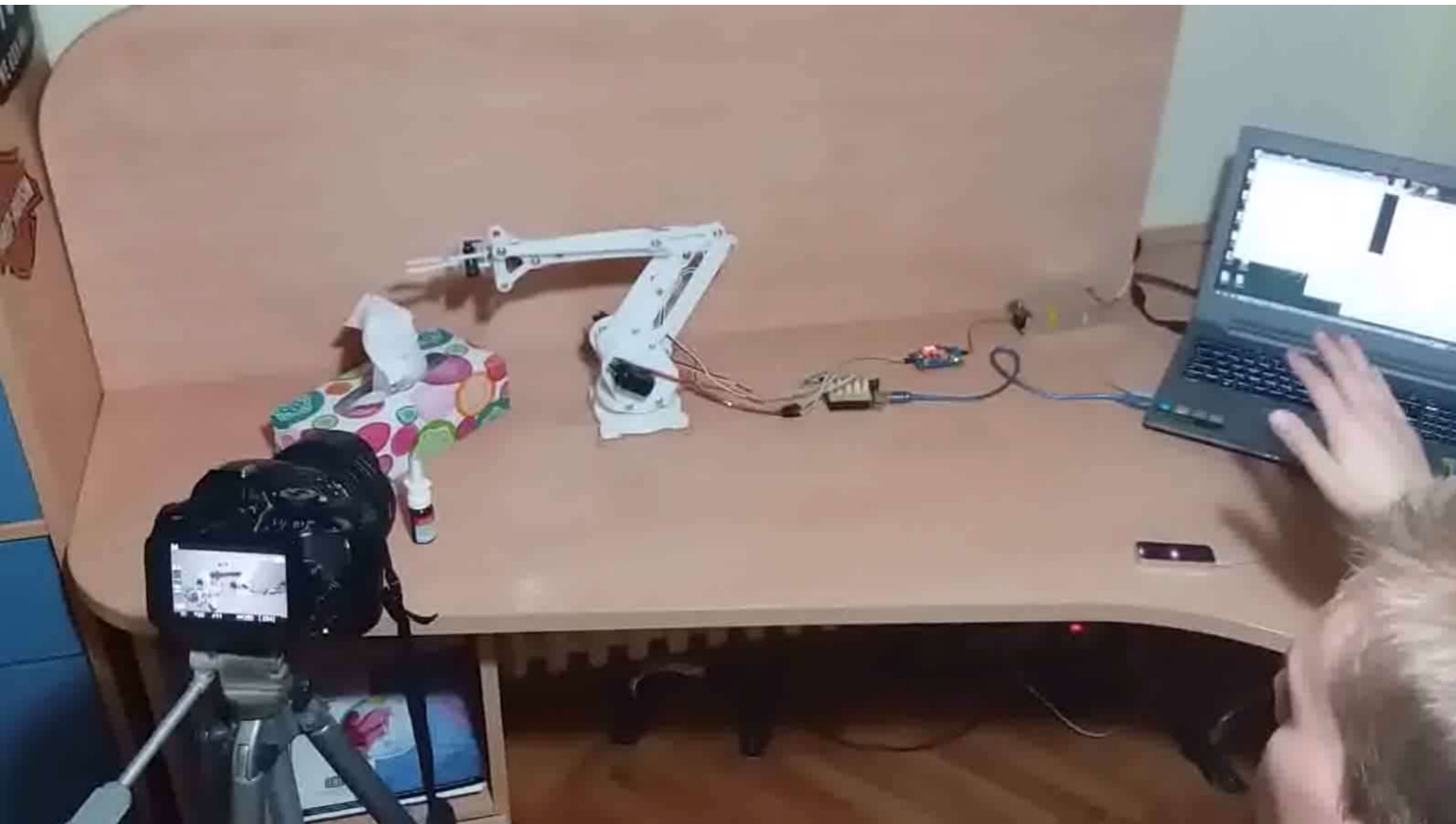


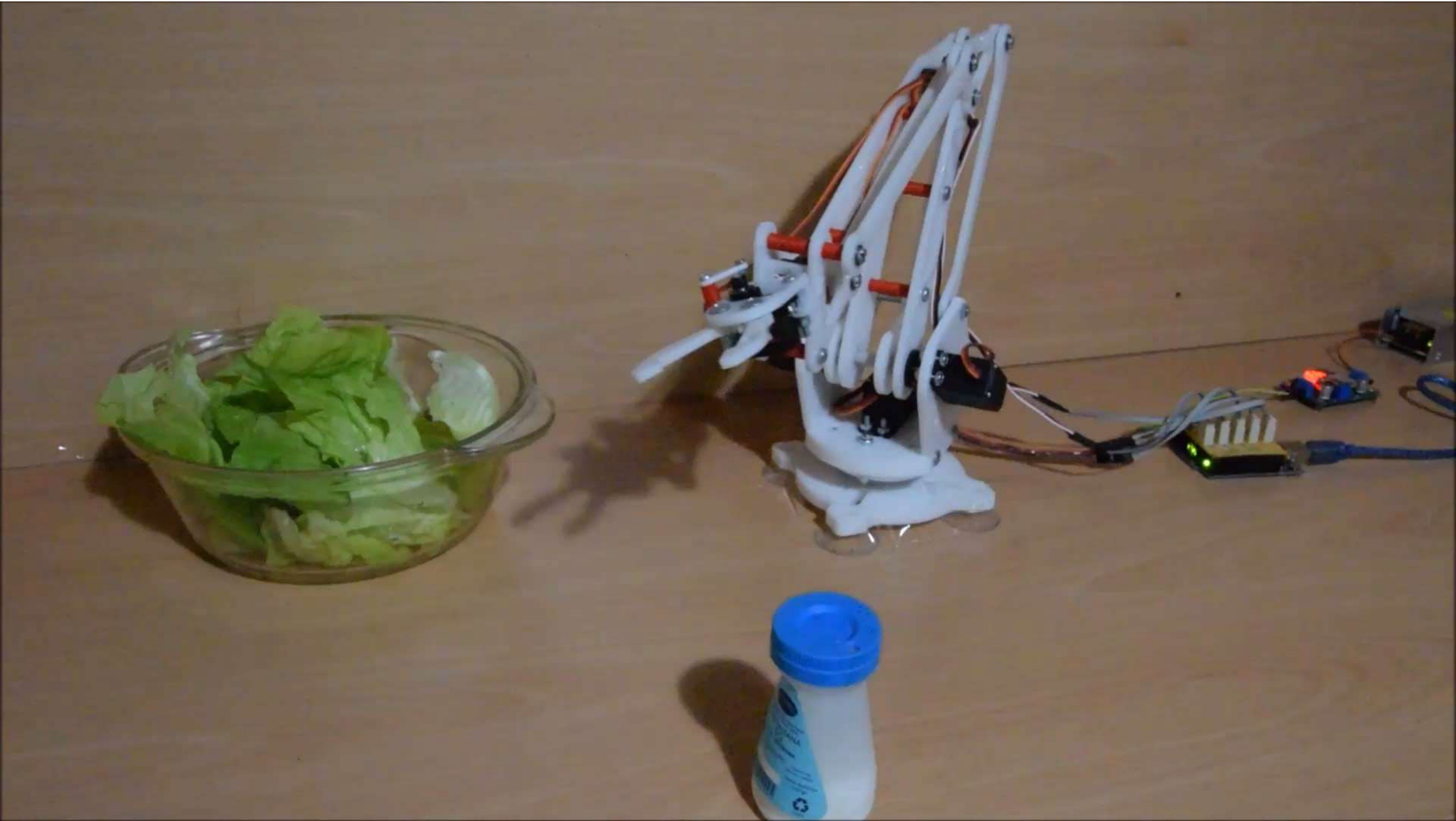


## Programski jezici











# Primena

Rehabilitacija



Biofeedback sistemi  
Lečenje dece od cerebralne paralize

Industrijska robotika



Zamena za "teach-pendant"  
Brže i lakše planiranje trajektorije

Telemanipulacioni sistemi



"Remote working"  
Za visokorizične operacije

Podloga za dalja istraživanja



Machine learning  
Edukacija



Rezime

LEAP  
MOTION





## Zahvalnica

Dr Milica  
Janković

Mentorstvo

Tehnička podrška

Smernice pri izradi



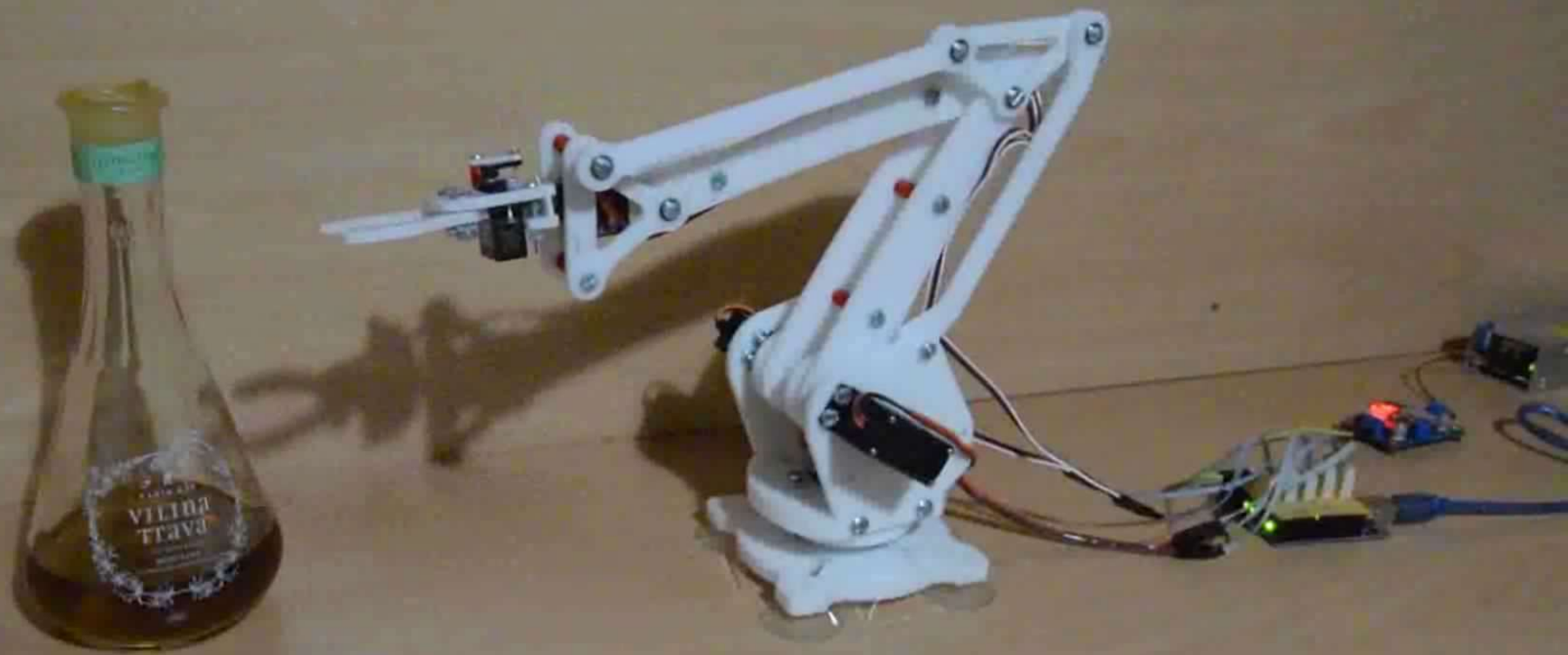
3D štampač

Prostor za izradu

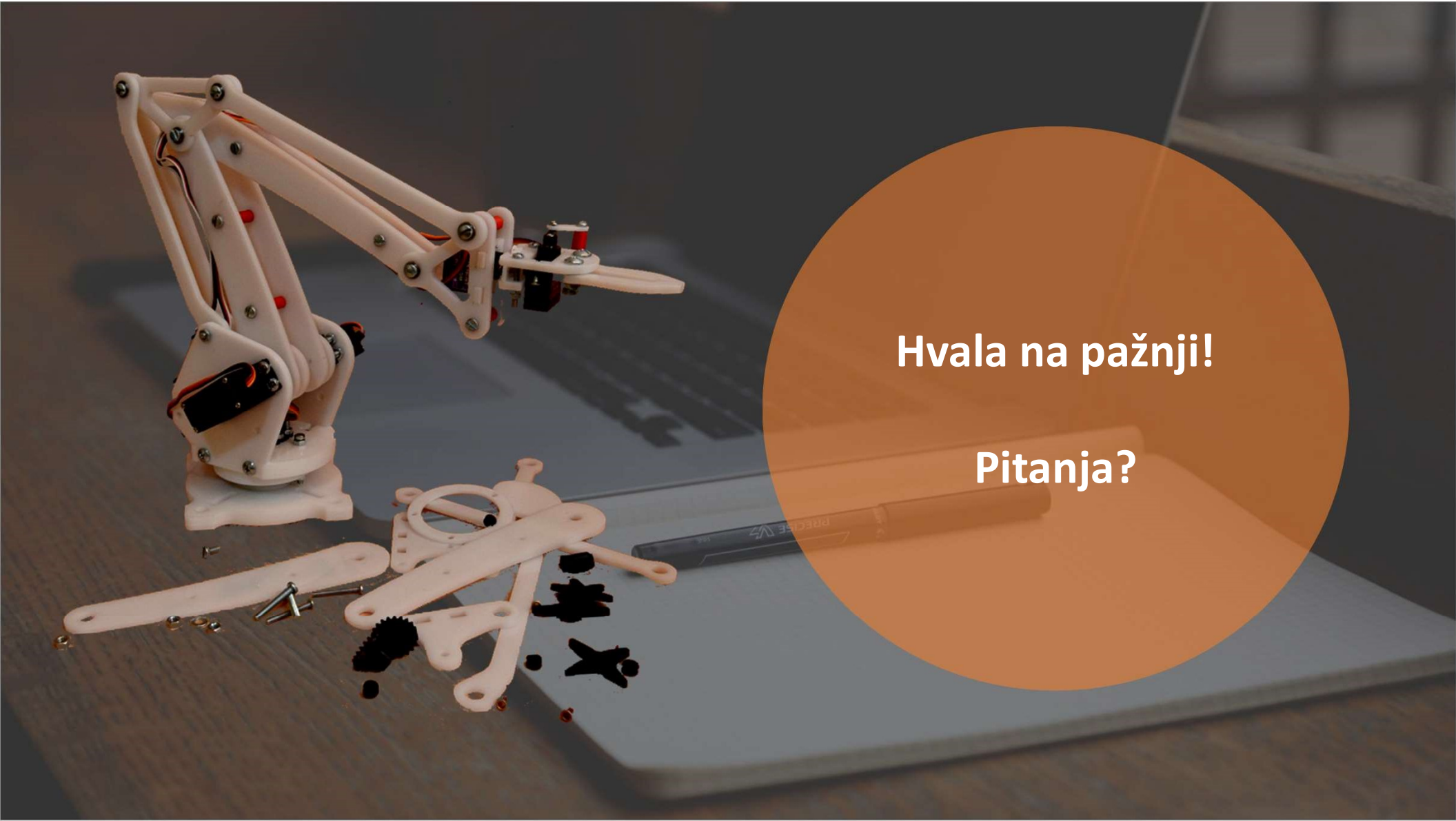


ETF Robotics

Mehanička  
konstrukcija







**Hvala na pažnji!**

**Pitanja?**