

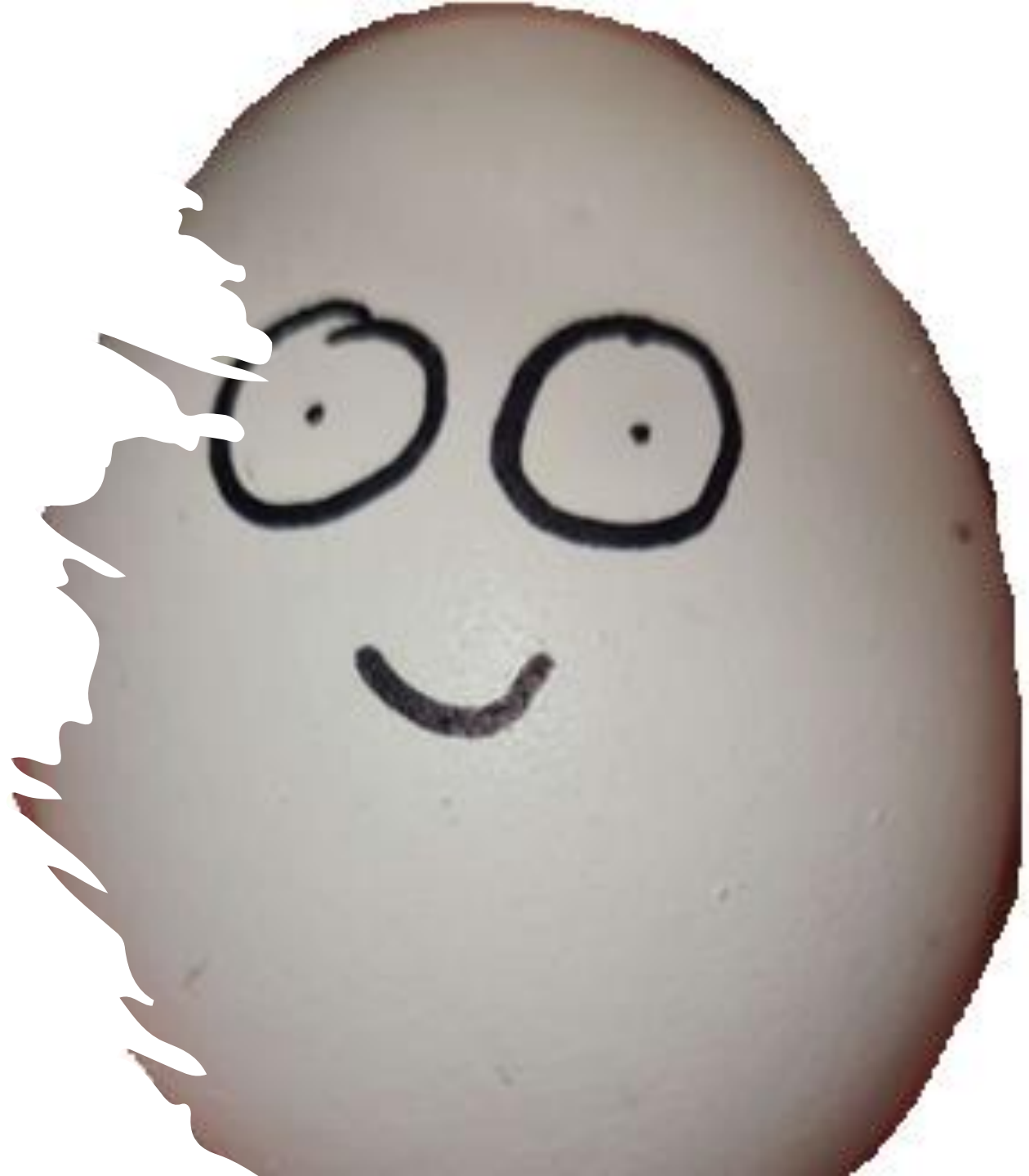


Frivillige tvunge egg som skal ut i
katapulten

Hvordan
Gruppe 42
ødela egg

Hva har vi gjort

- Forskjellige ideer til plattform
- Systemidentifikasjon
- Gjettet verdier



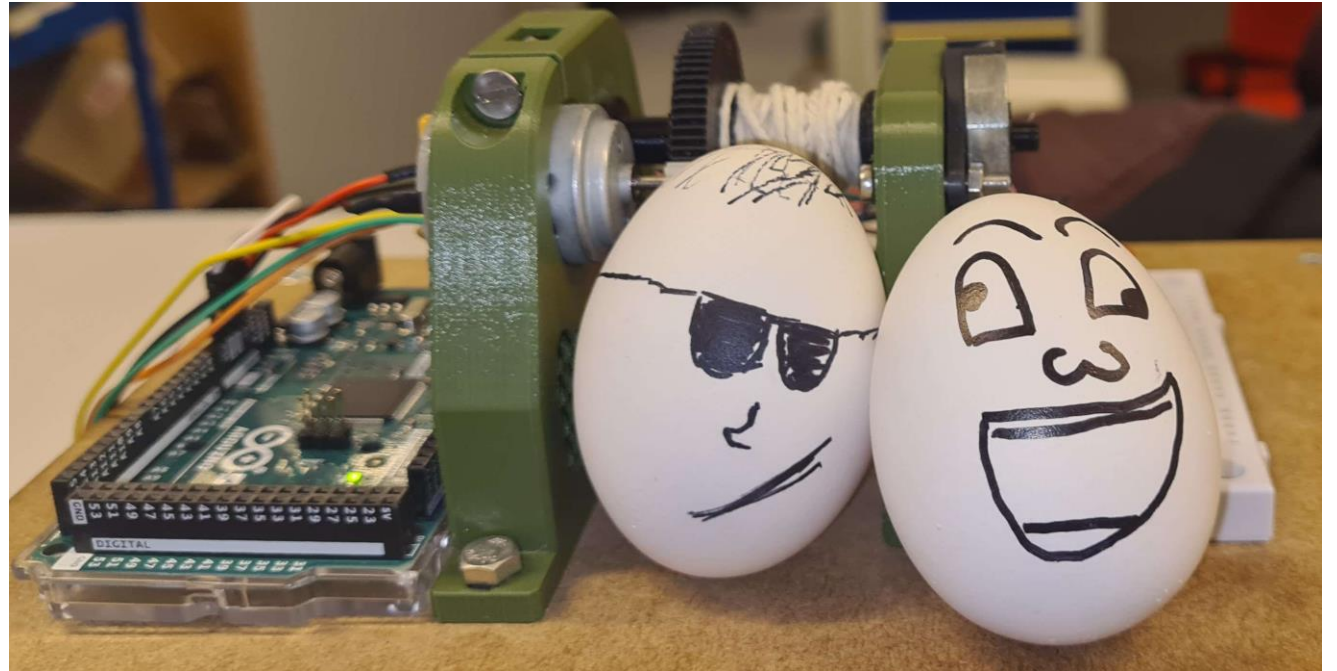
The background image shows a close-up of a robotic fish. The fish's body is made of white paper with simple black line drawings for eyes and fins. It is mounted on a piece of brown cardboard. A yellow, semi-transparent plastic sheet is visible behind the fish, possibly serving as a water tank or a protective layer. A white string is tied around the fish's body. The overall scene suggests a hands-on engineering or robotics project.

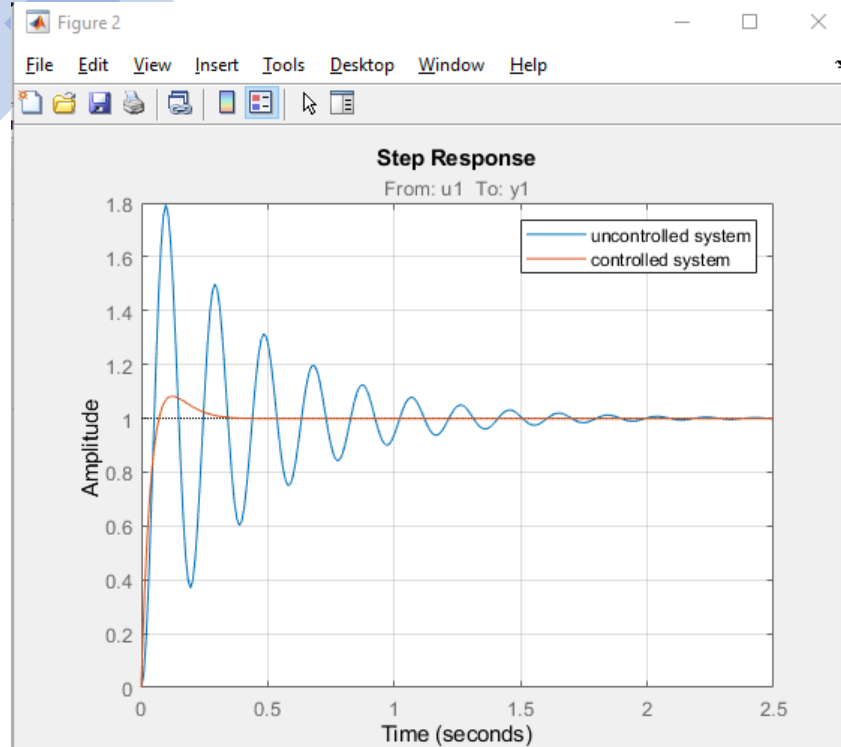
Vanskeligheter under prosjektet

- Knytte egg holder
- Motor driver
- Enkoder
- For stramme fjærer
- Systemidentifikasjon

Systemidentifikasjon

- Forskjellige forsøk for å samle data
- 2 ordens system
- Simulering og praktisk forsøk

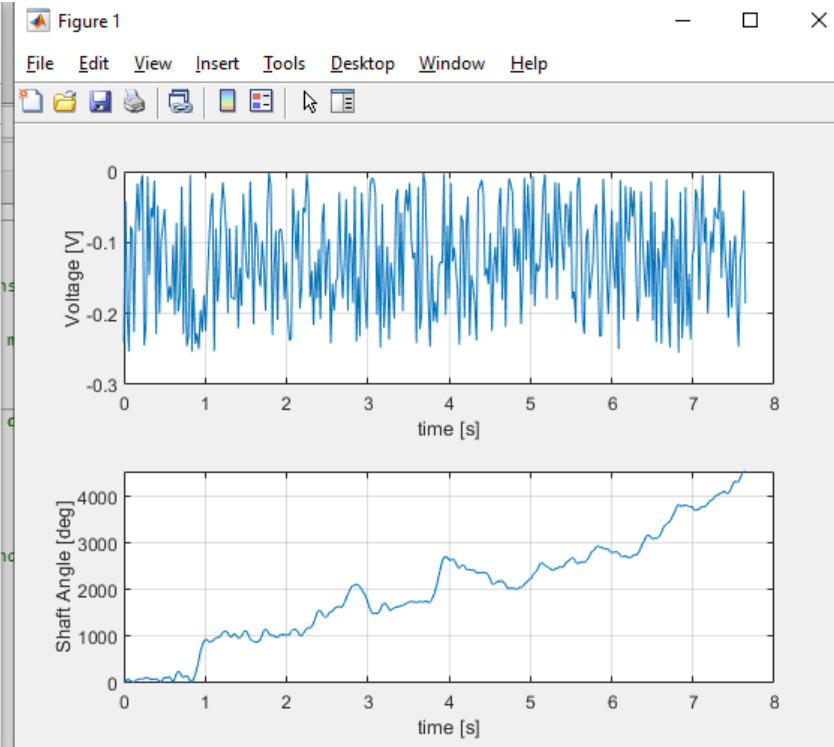




```

106 %% We then define our PID
107
108 Kp = 0.35;    %Proportional
109 Kd = 0.03;    %Differential
110 Ki = 0.005;   %Integral
111
112 % Our control transfer function is
113 Gc = pid(Kp, Ki, Kd);
114
115 % And we can define our controlled system
116 Mc = feedback(Gc*Gp, H);
117
118 step(Mc)
119 grid on
120 legend('uncontrolled system', 'controlled system')

```



Command Window

new to MATLAB? See resources for [Getting Started](#).

Maximum sample time [ms]:
21.4120

Minimum sample time [ms]:
20.7160

The average sample time is [ms]
21.0647

Our sampling time is, Ts [sec]
0.0210

Gp =

From input "u1" to output "y1":
1052

 $s^2 + 4.753 s + 0.501$

Continuous-time identified transfer function

Parameterization:
Number of poles: 2 Number of zeros: 0
Number of free coefficients: 3
Use "tfdata", "getpvec", "getcov" for par

Status:
Estimated using TFEST on time domain data "I
Fit to estimation data: -31.66%
FPE: 2.305e+06, MSE: 2.242e+06

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