

iteratec

# Speed

Keep Driving and Nobody Explodes

# Idea: Defuse a moving bomb

Driver



- drive car at constant speed
- make sure it doesn't hit anything

Bomb Defuser



- move with car
- tells **Instructor** what's displayed
- enter correct defuse code

Instructor



- has the manual
- tells **Defuser** the correct code

# Components

- an on-car interface for the **Bomb Defuser**
- a manual for the **Instructor**
- a controller for the **Driver**
- a remote controlled car

# On-car interface

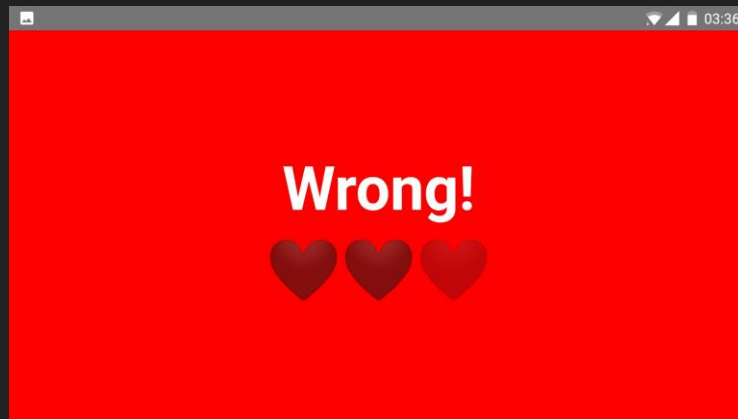
Use a smartphone app on a smartphone tied to the car!

# Codes 🤔 Simply use Emojis 😄

**Bomb defuser** needs to find the right solution.



Three lives in case of wrong answers.



Ask the **Instructor** for the correct solution.



# Instructor Manual

Defuse Codes Page 001

Task	Solution
  	
  	
  	
  	
  	
  	
  	
  	
  	
  	
  	
  	
  	
  	
  	

Python generated PDF  
with random solutions

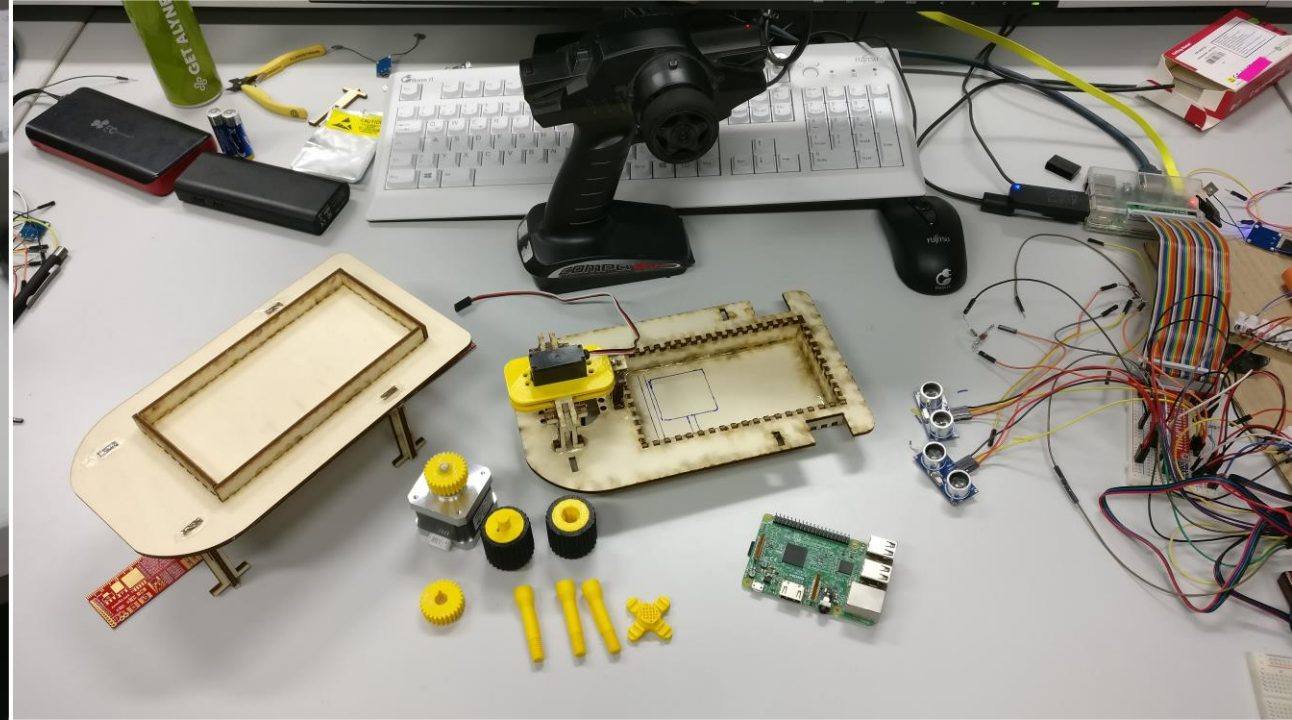
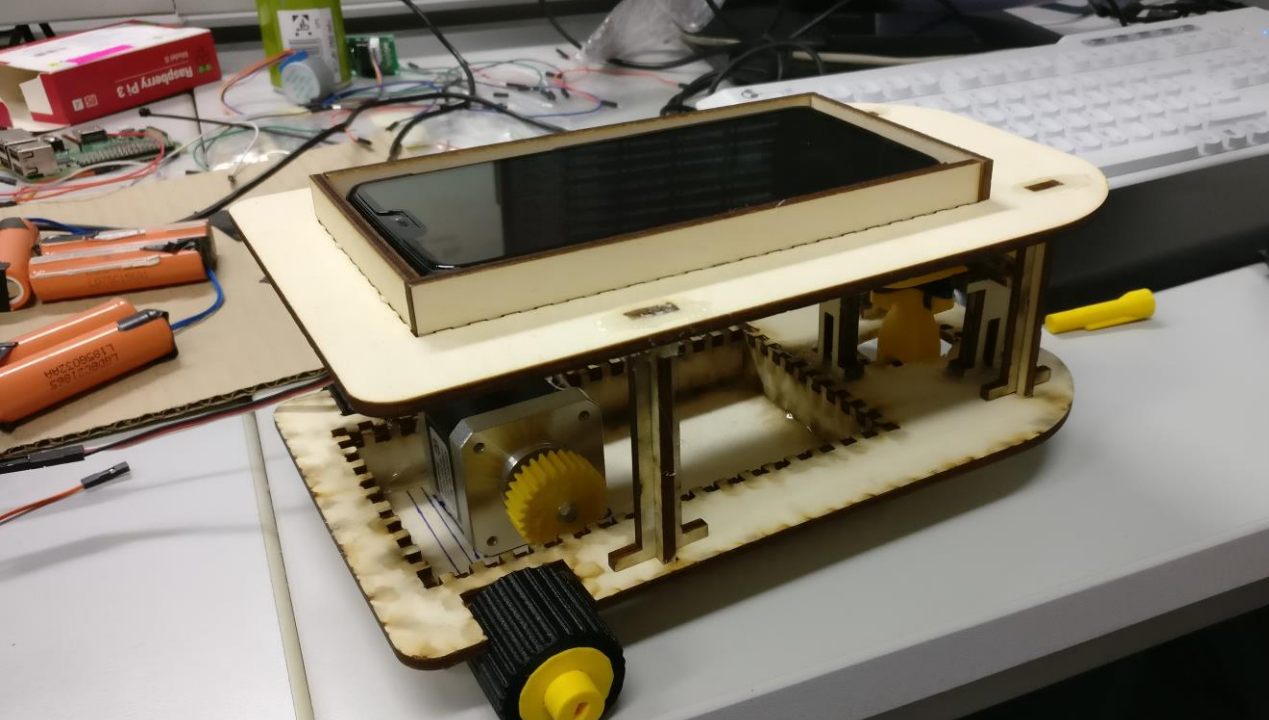
# Controller



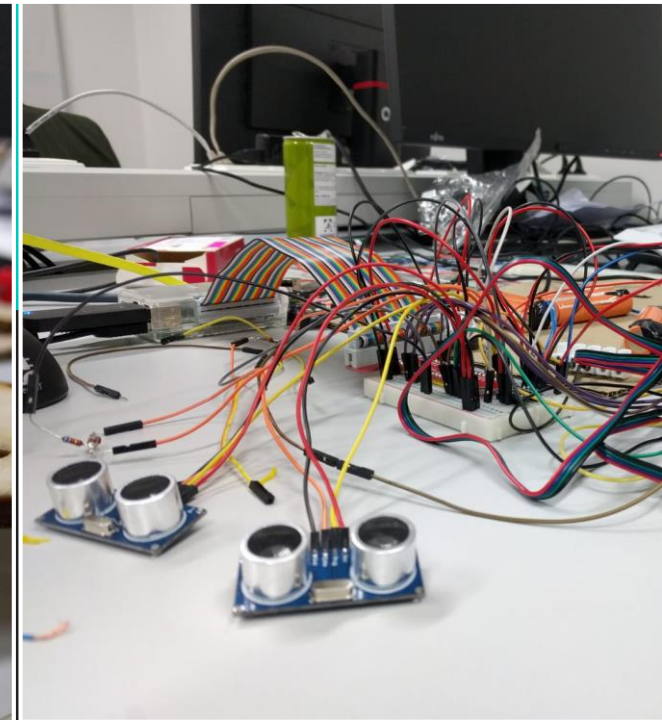
# The car

- Raspberry PI
- Servo motor
- Stepper motor
- 3D printed wheels, tires, axis, gears
- Distance sensors
- Batteries

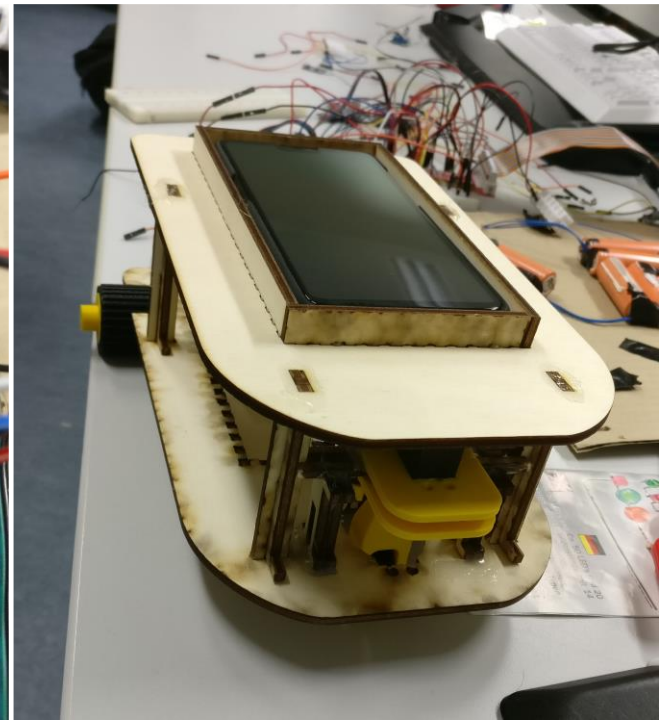
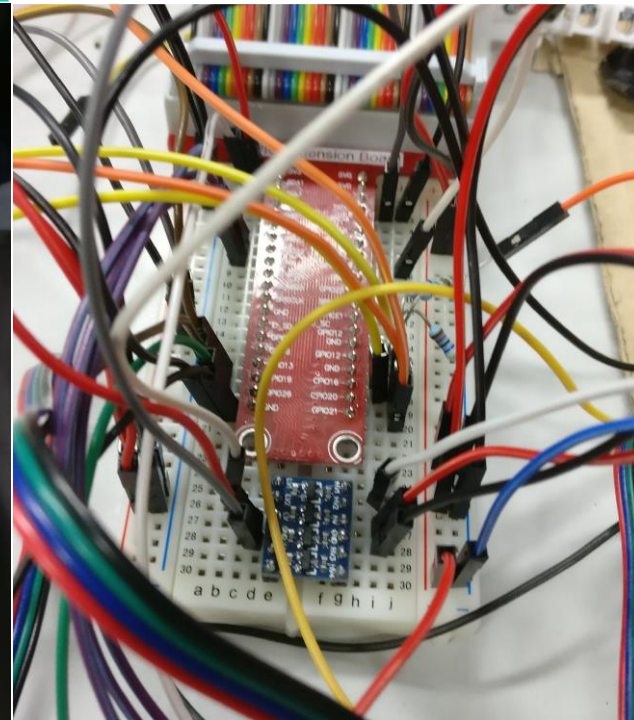
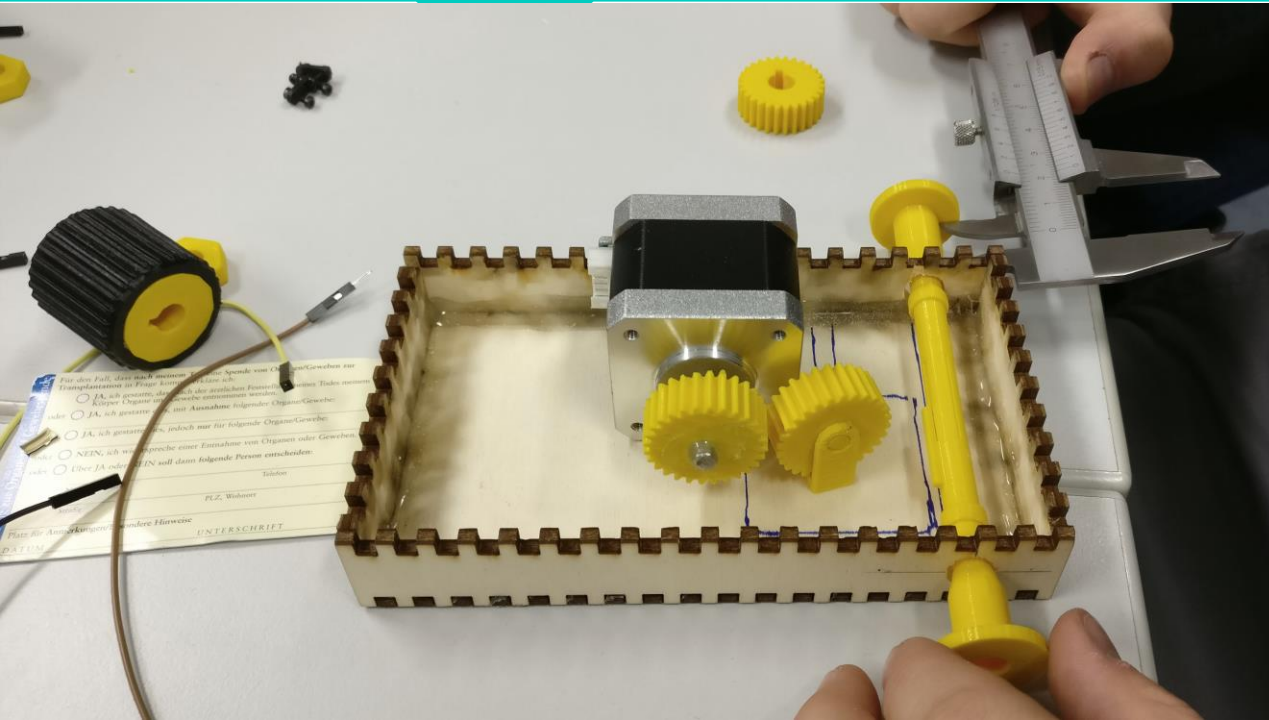
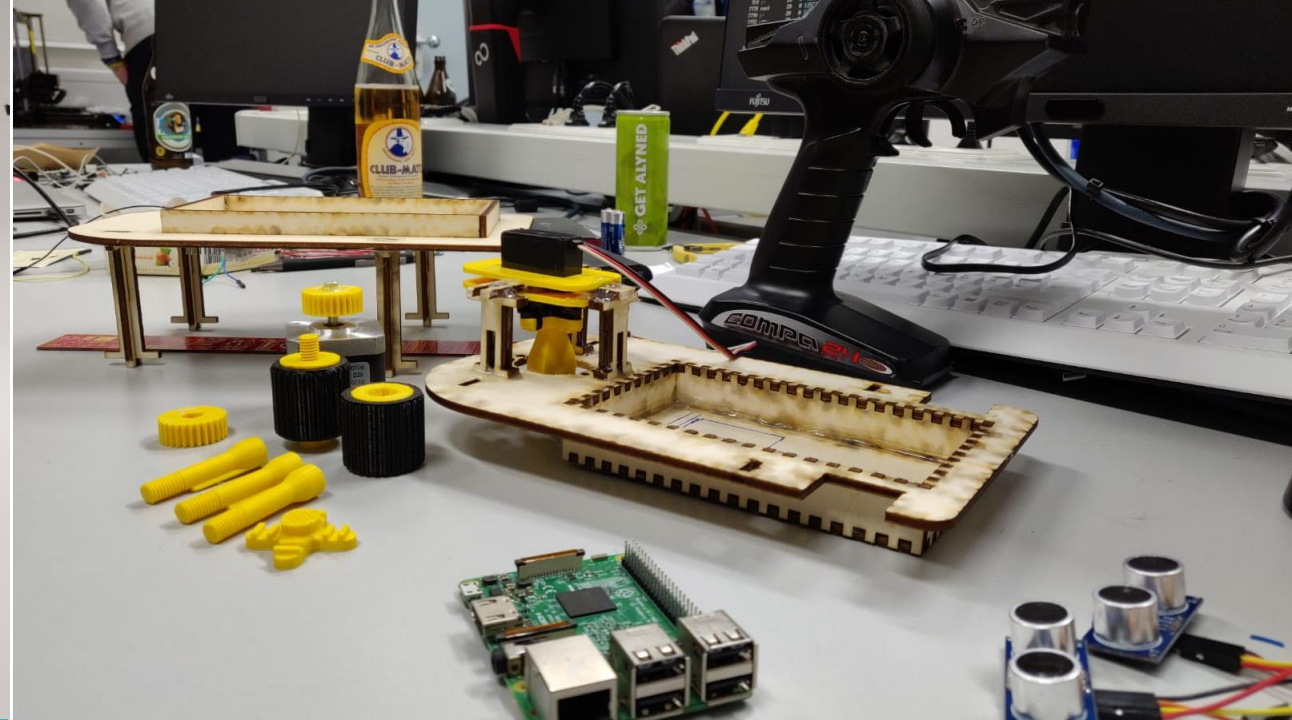
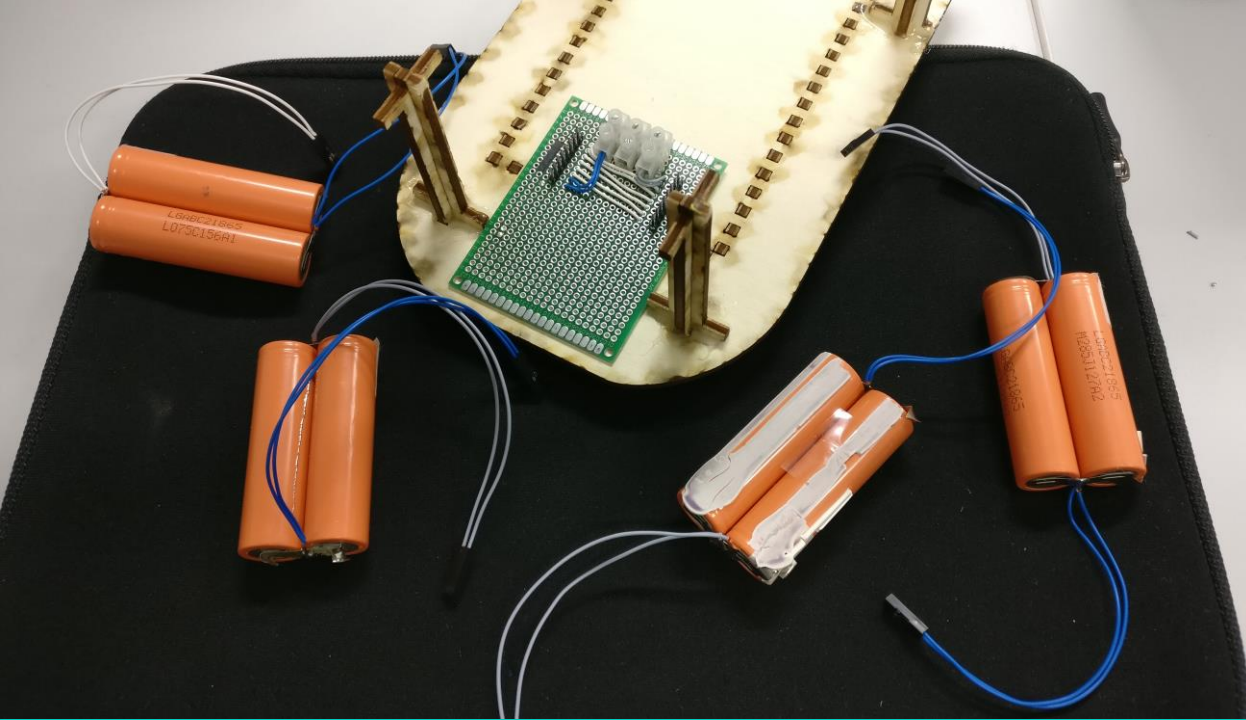




# Building the car – Impressions







# What's done

- ✓ Android app
- ✓ Communication with the Raspberry  
(stop motor on failure and send collision data)
- ✓ Run stepper motor
- ✓ Parse controller data to move steering wheel
- ✓ Collision sensors
- ✓ Batteries
- ✗ **Missing:** Putting it all together in one chassis