

# Engineering escape game

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KNUT SØRBØ

# Framework

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Time limit of 30 minutes, including debrief

Groups of 4

Main target age: ~15

Several groups in the same room

Debrief afterwards

Modular

# Why an engineering escape game?

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1196 of CERN worked in «Scientific and engineering work» in 2019<sup>1</sup>

Showcase what engineers do

Showcase special engineering areas at CERN



# Theory

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Sociocultural learning theory

Collaboration, collaboration, collaboration

Three types of puzzles<sup>2</sup>

1. Cognitive puzzles
2. Physical puzzles
3. Metapuzzles

Group size

Different skills, different levels

# Method

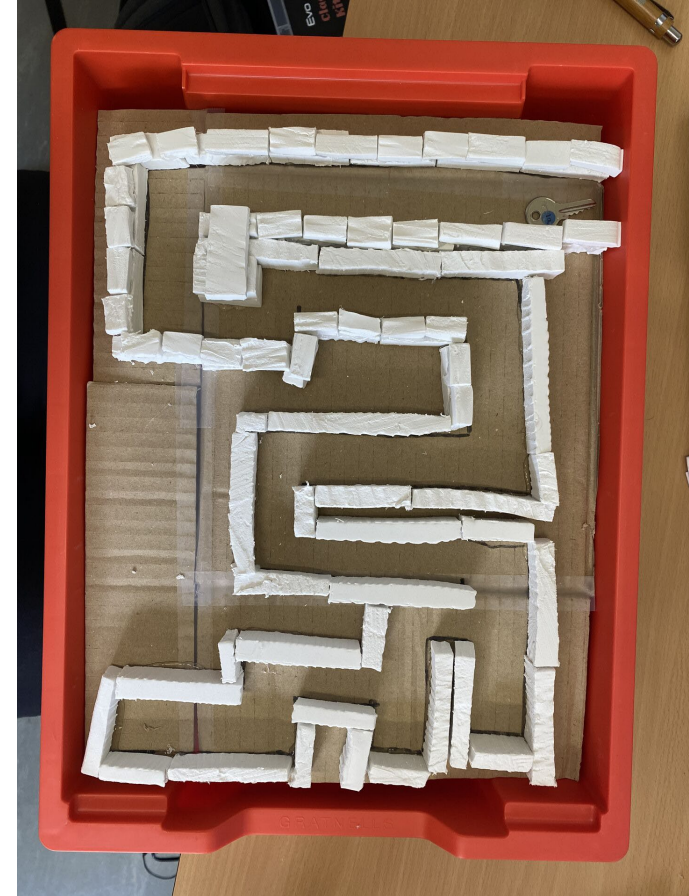
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Interviews

Prototyping

Testing

Testing on summer students and CERN personnel



# Game design

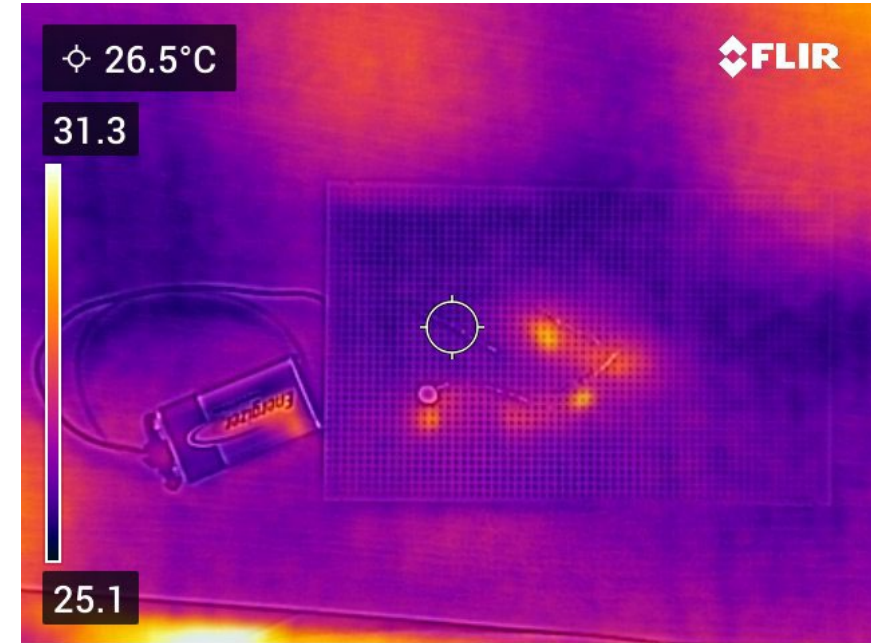
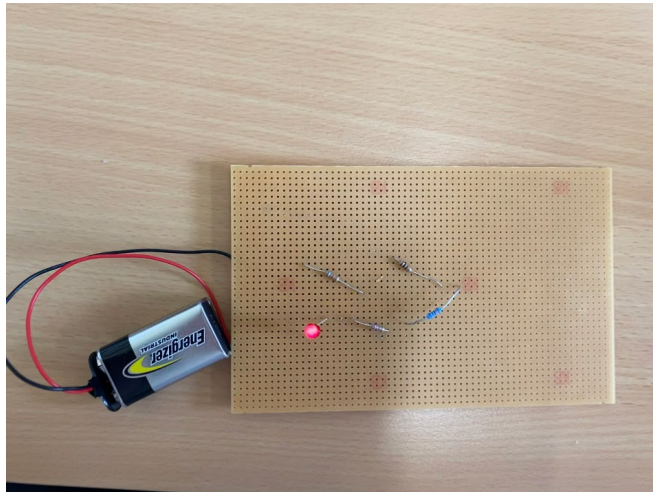
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Suitcase or trolley with compartments

First puzzle is cross group collaborative

The rest can be solved on their own

Clue from each to open the final box



# Storyline

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Engineers from different groups at CERN

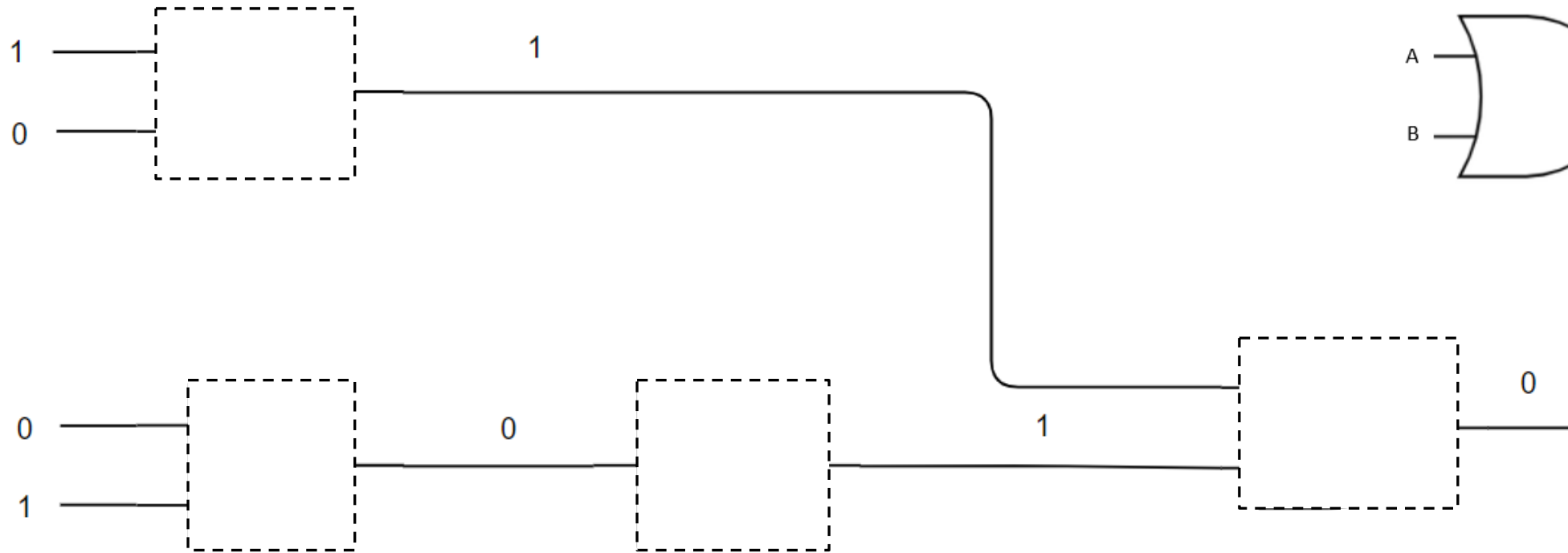
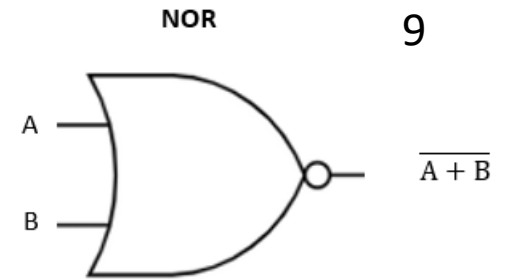
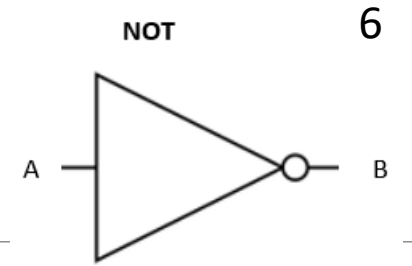
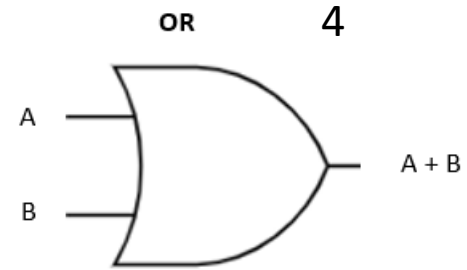
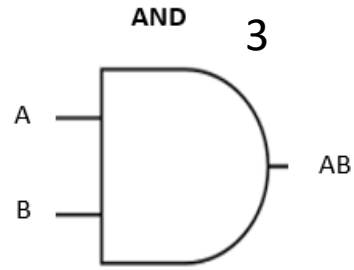
- Cryogenics
- Microelectronics
- Electronics
- Mechanical engineering

Different story for every puzzle

- Faulty wiring → troubleshooting
- Insulated box → prototyping
- Measuring bolts → precision
- Magnet maze → concept introduction
- Logic gates → logic puzzle



Let's try it out!





Answer: 4369

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# Sources

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