**Ideas of Group #4: Both doors & first puzzle**

**Puzzle:**

-Mario-

**Doors:**

1) Mechanism

-Sarah-

2) Detection of objects in closing area

Concept: Use infrared emitter and sensors to detect if the door area is free in order to close the door

3) Detection of participants in Lab Room:

* Concept: Dead-man-switches spread across lab room have to be activated 🡪 1st door closes and adventure continues
* Hardware: Plasma globe / simple switch, current sensor (shunt resistor), uC/ relais, wiring
* Current flow through plasma globe changes when touched by hands 🡪 measure current flow with shunt resistor and close door when each plasma globe is touched (make sure by positioning that no person can reach more than one plasma globe simultaneously)
* Remark: Reliability of “plasma globe switch” has to be tested and in worst case exchanged by simple button switches