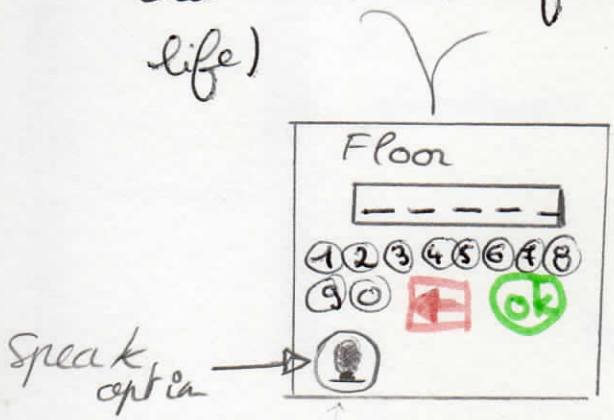
Idea 1 : Let people choose (WORST IDEA)

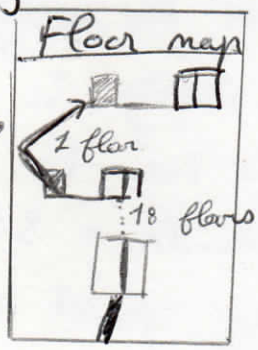
→ everyone has to choose an elevator and enter the floor wanted in the elevator on a ~~[illegible]~~ classical interface ("same" to the elevators of everyday life)



Idea 2 : GPS

→ a "Google Maps" is available for download and guide the person through the building to reach the wanted floor as fast as possible

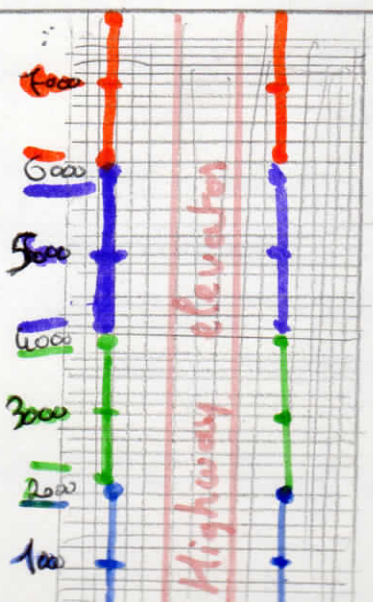
↳ elevators, stairs, floors



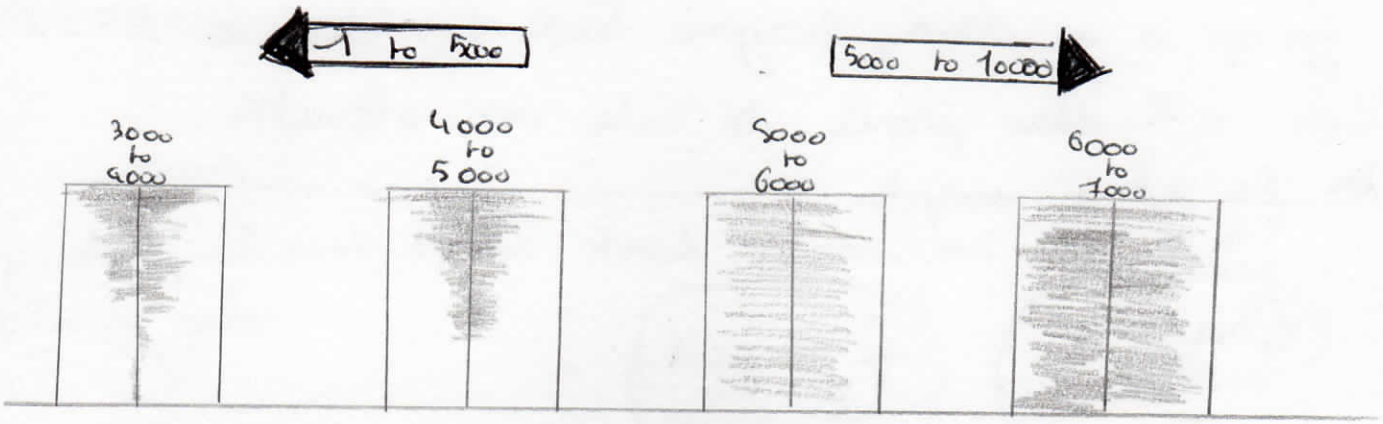
Idea 3 : Highway elevators and "low"-way elevators

→ few elevators are alike highway for cars ⇒ you can only go to 500's and 1000's floors (500 - 1000 - 1500 ...)

→ "low"-way elevators drive people to each floors between two-thousand floors



Idea 4: one elevator to 1000 floors



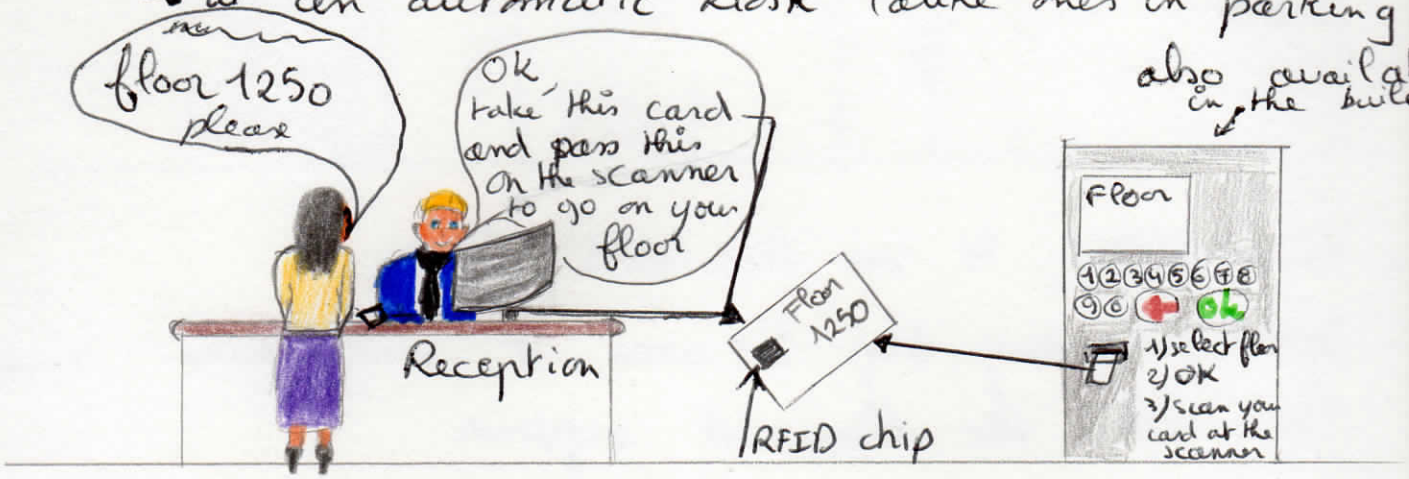
- one elevator to one thousand floors
- without any stop between, it will take 3 minutes to reach the thousand superior

Idea 5: management by a staff member

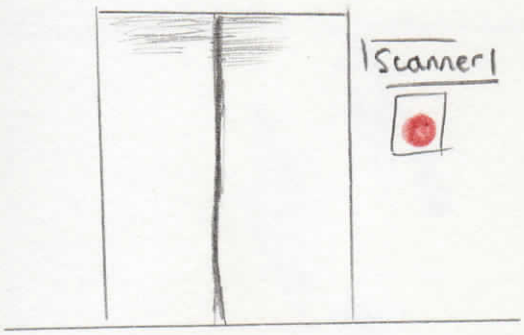
- each person must go to the reception's building, say which floor he/she wants to go and the staff member will "gave" you an elevator
  - ↳ the staff member chooses himself which elevator based on data available on his control panel

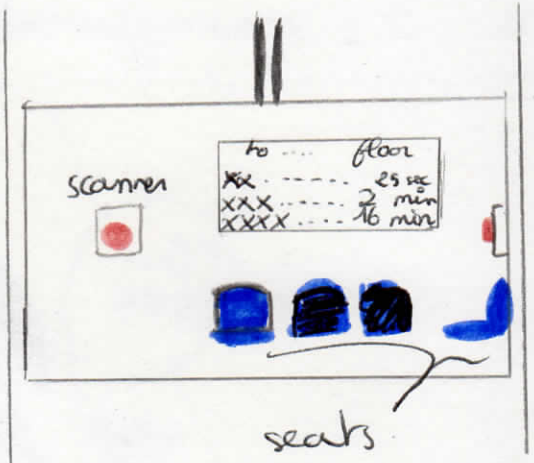
Idea 6 : RFID

- to go up a go down, everyone have to take a RFID which will allow people to take one elevator
  - at a receptia
  - at an automatic kiosk (alike ones in parking)

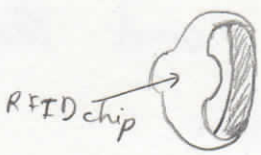


before the elevator (or) in the elevator





- also available → permanent RFID on
  - personal card
  - RFID on credit card
  - wristlet
  - necklace
  - etc

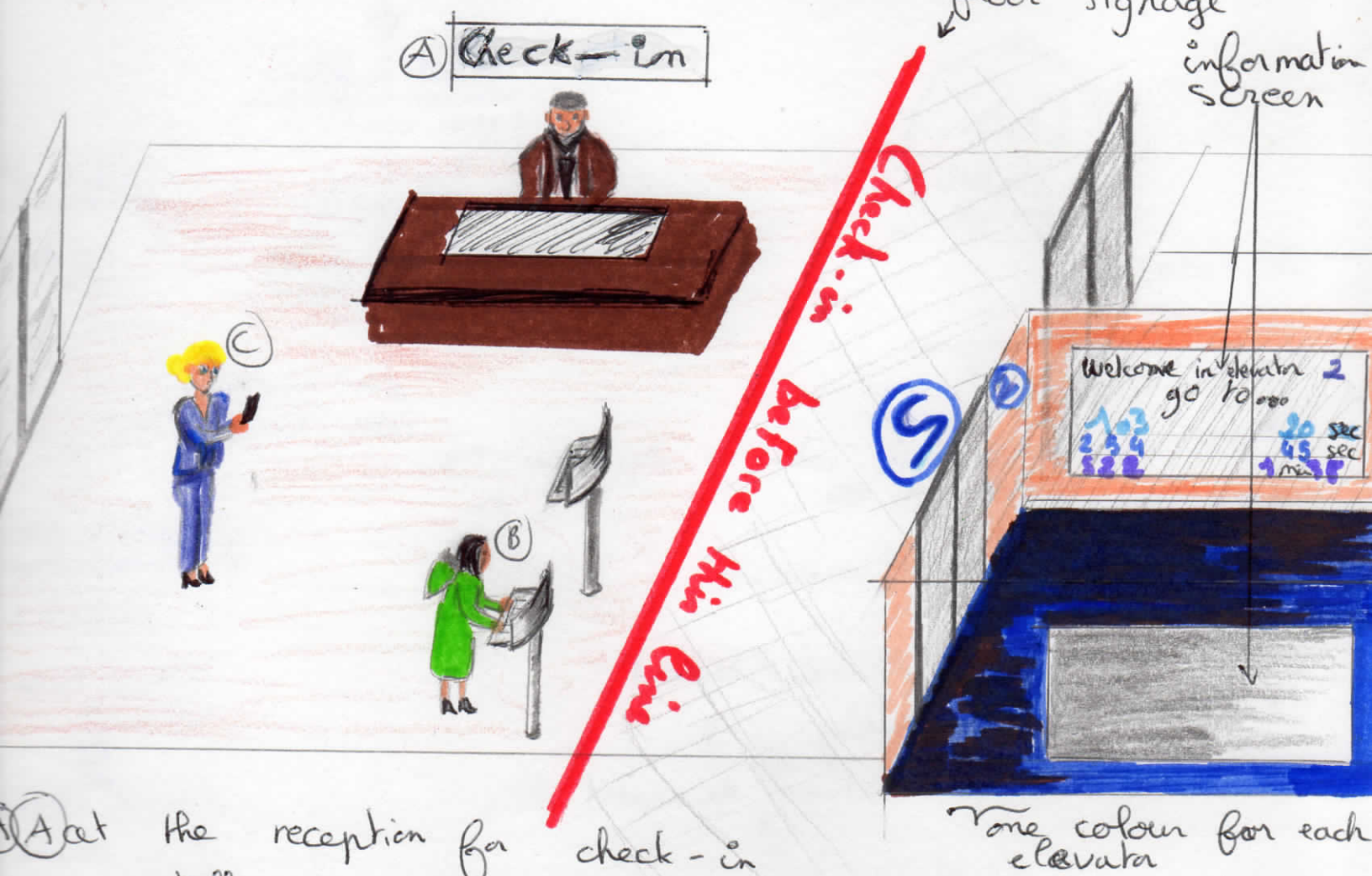


- When somebody rescan his RFID, he can go down return to the ground floor

~~Idea~~ 4: people flow management by a computer program

→ a program checks and drives any person who wants to go up or go down in the building

1) when somebody gets into the building, he must "say" to the program which floor he wants to go
→ 3 options A, B, C



A at the reception for check-in
↳ staff member will "check-in" the floor in the program and this one will assignate an elevator to take

B check-in "alone" on one of the devices available before the elevators

C check-in from a personal device (smartphone, tablet, laptop...)

one colour for each elevator

• example of interface :

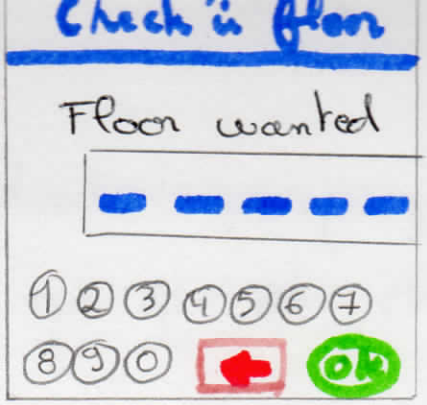
↳ click one each number of the floor

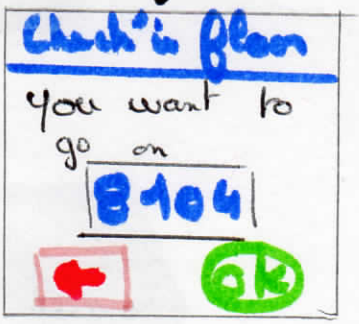
ex. : if this is the 8104's floor that is wanted, the person can enter 8 1 0 4

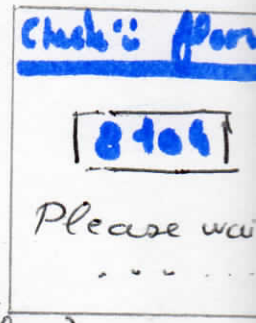
or 0 8 1 0 4

and click on ok button

↳ correction available by clicking on ←







points appear { (alike loading logo)

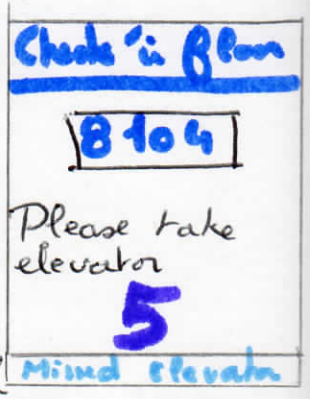
Data Center → analyze

depends on

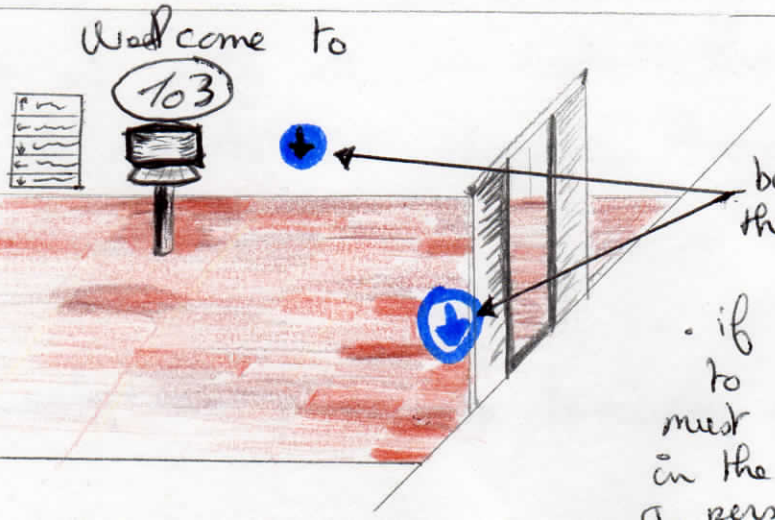
* number of passengers
* floors wanted
* elevators { available at the departure { close

constraints

* number maximum of passengers in each elevator
* time maximum of ascent/descent
* maximum time of waiting
* maximum "distance" between the wanted floor



option if the elevator is missed



buttons to go to the ground floor

• if somebody wants to go to another floor, she must to check-in in the device or use a personal device

Next Ideas : Accelerating the elevators

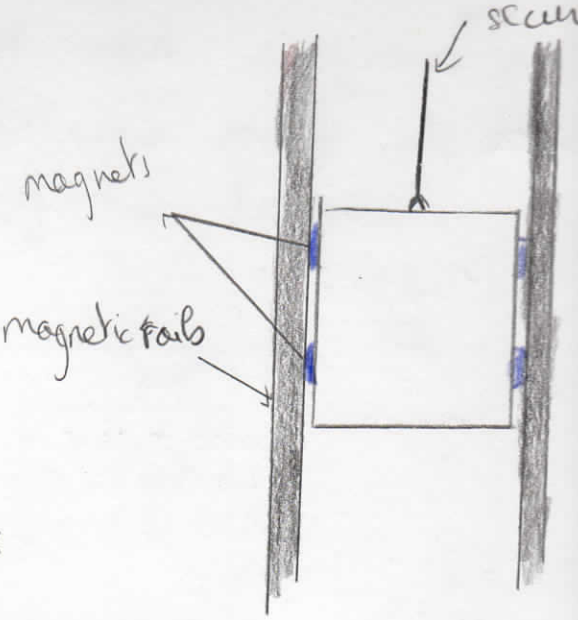
Idea 8: magnetic elevator

Cs alike the Shinkansen in Japan, we can imagine apply magnetic rails principle at an elevator

→ in Shinkansen the average speed is between 240 k/h and 320 k/h
67 m/s 89 m/s

→ reach the top floor in 10 min for 67 m/s and 6-7 min for 89 m/s

(principle: magnets that repelling each other)

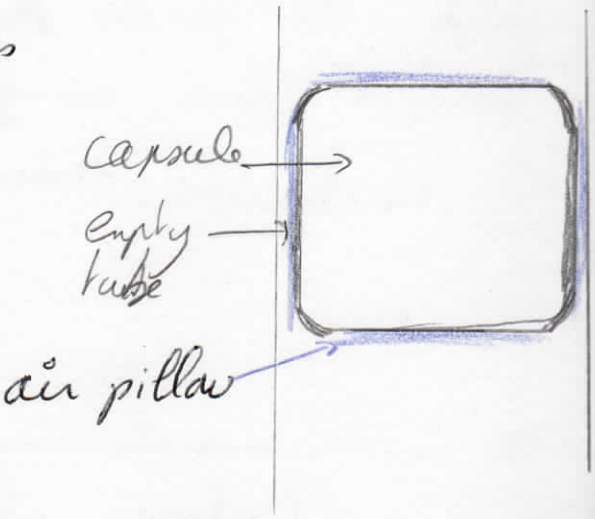


Idea 9: empty tube tunnel for elevator

→ to reduce the air friction, machines create empty in a tube, which allow a train to speed up to 1200 km/h - 333 m/s

→ average speed estimate: 300 k/h
83 m/s

(Hyperloop / Elon Musk principle)



Idea 10: wind system

Cs alike helicopter, we can create an elevator with a wind funnel which speeds-up the cabin with a rotor system

→ speed between 100 k/h and 300 k/h
28 m/s 83 m/s