Functionnalities: (user) (web)

- book a toilet at a precise time, btw 1 and 7 min
- find the closest toilet (localisation)

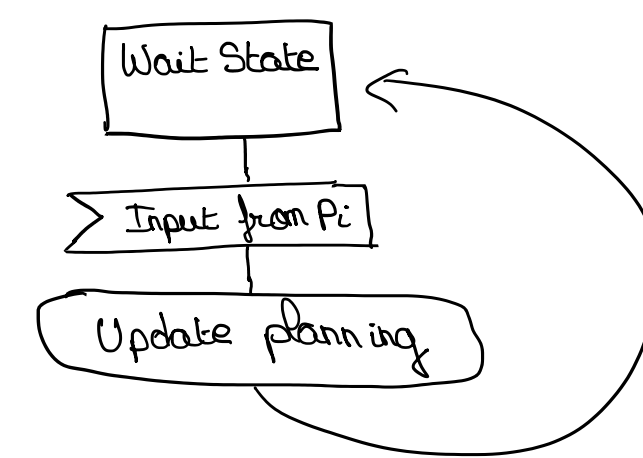Sensor [1..n] | Pi — MQTT → Server —RestAPI— Web

Server state machine

demande (web) ⟶ server → sensor (pi)
libre ?

STEP1

Without reservations:

Wait State
↓ Input from Pi
Update planning

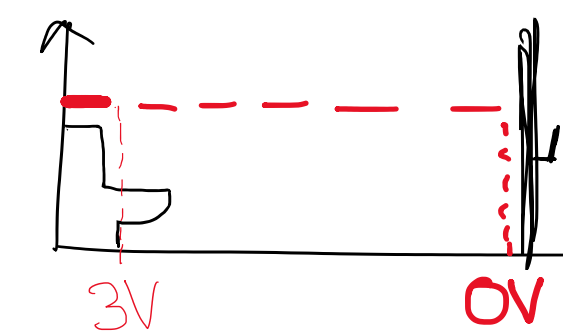Pc ⟶ | IdToilet ; Oc/Øc | → server

Update planning = write Id and Oc/Øc

Functionnalities (server)

- not several bookings one after another
- authentification of client (Id + pwd)
- if nobody after 112 min → cancel reservation
- real-time planning for all toilets
  ↳ reservations
  ↳ + sensors for occupied toilets
- display on map ?

Sensor and pi

3V   0V

Functionnalities (LEDs toilets)

- LEDs to display toilet occupation
  ↳ LED goes red as soon as we have a reservation or someone enters toilet
  ↳ LED goes green iff toilet is not occupied
     (even if reservation is over)

---

optional

Wait

User Reservation
Occupied
T   ◇   F

Send notification error to web client
↓
Wait

Update planning
↓
Wait

optional

Request closest toilet

compose all toilets locations with current user location

Send closest toilet to client
↓
Wait

New input from Pi

Update planning

Send confirmation to Pi
↓
Wait

Booking starts — booking time has arrived

Send info to Pi — so that LED → red

Wait Pi answer

Pi confirmation — LED has been turned red ✓
↓
Wait