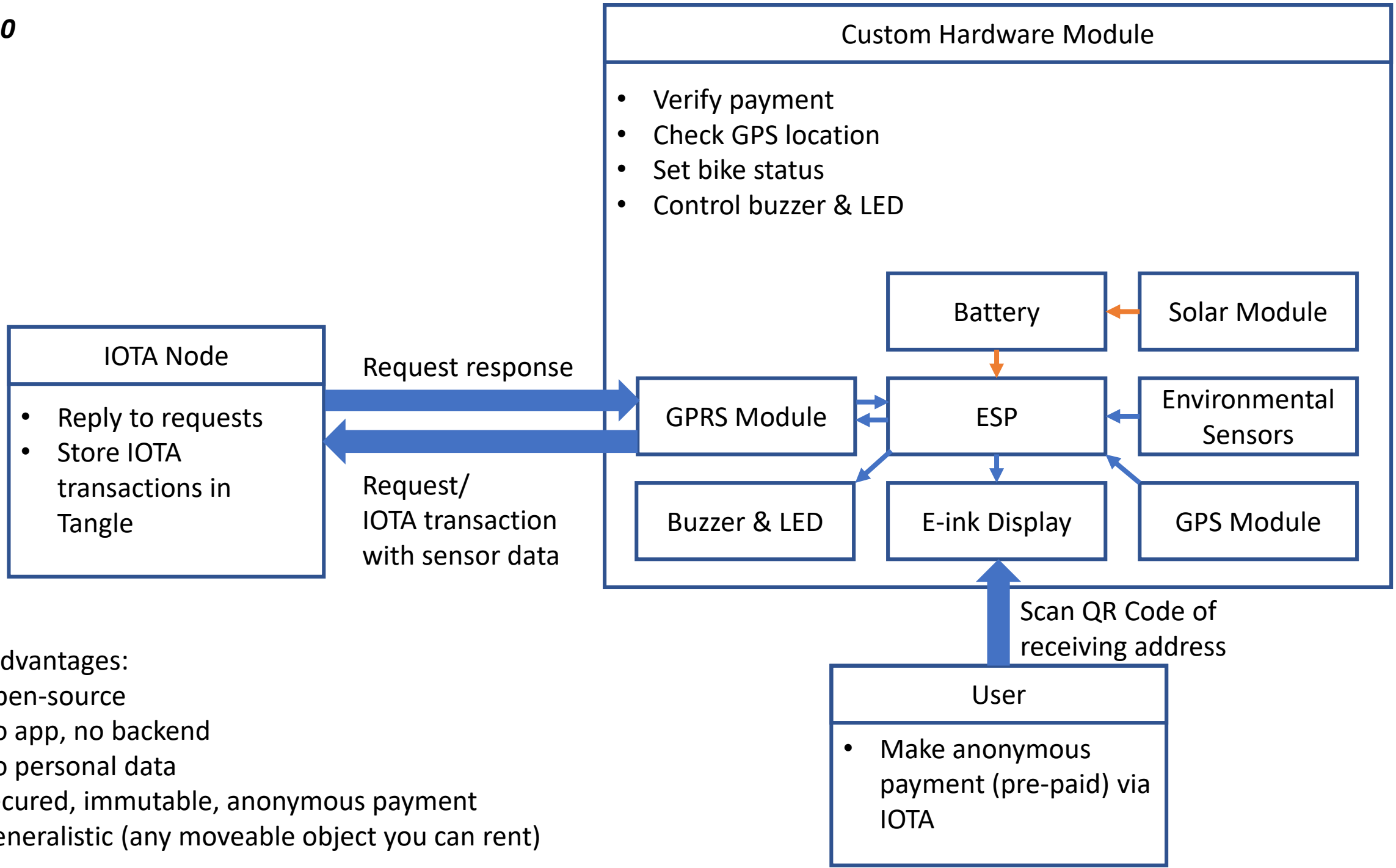
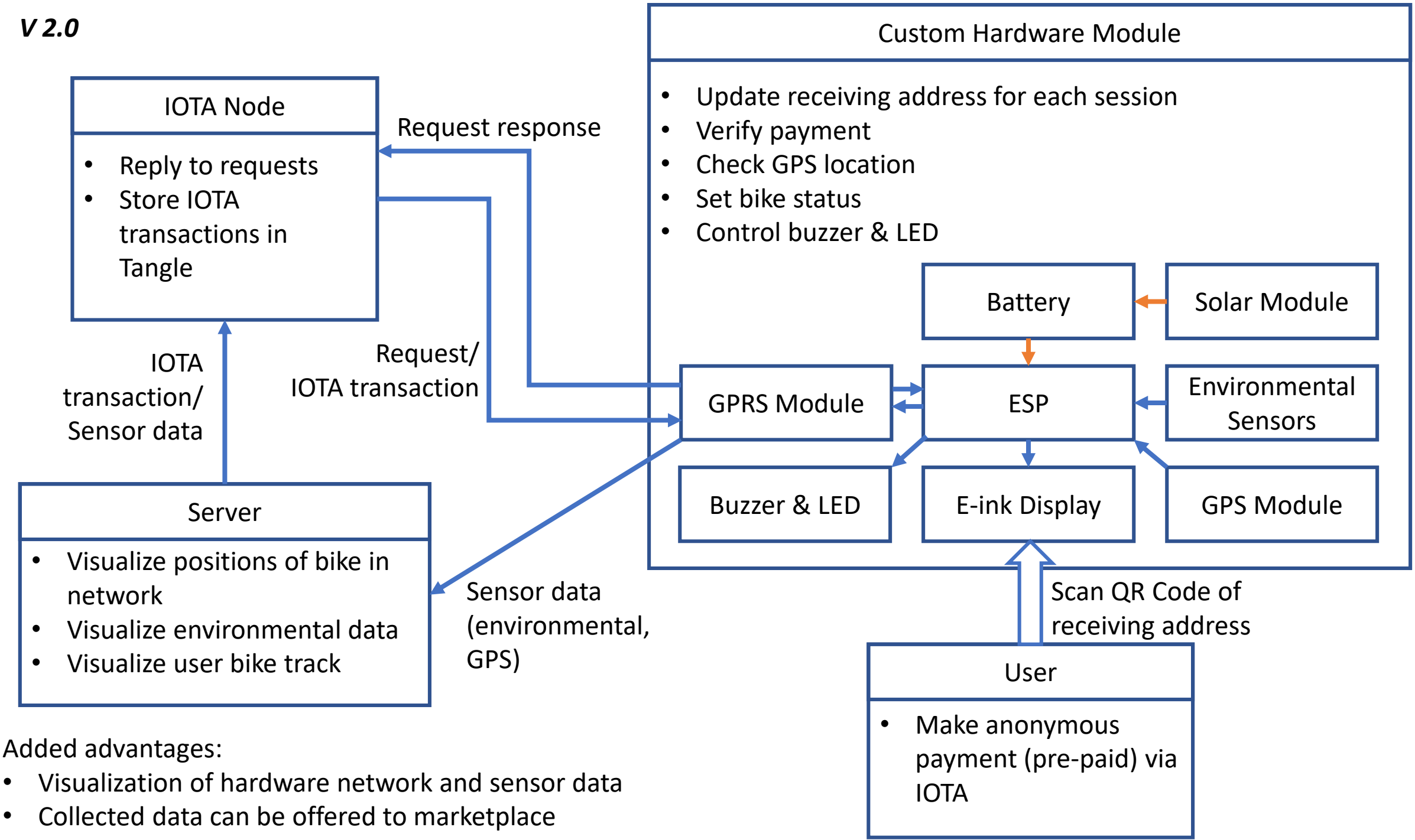
V 1.0



Key advantages:

- Open-source
- No app, no backend
- No personal data
- Secured, immutable, anonymous payment
- Generalistic (any moveable object you can rent)

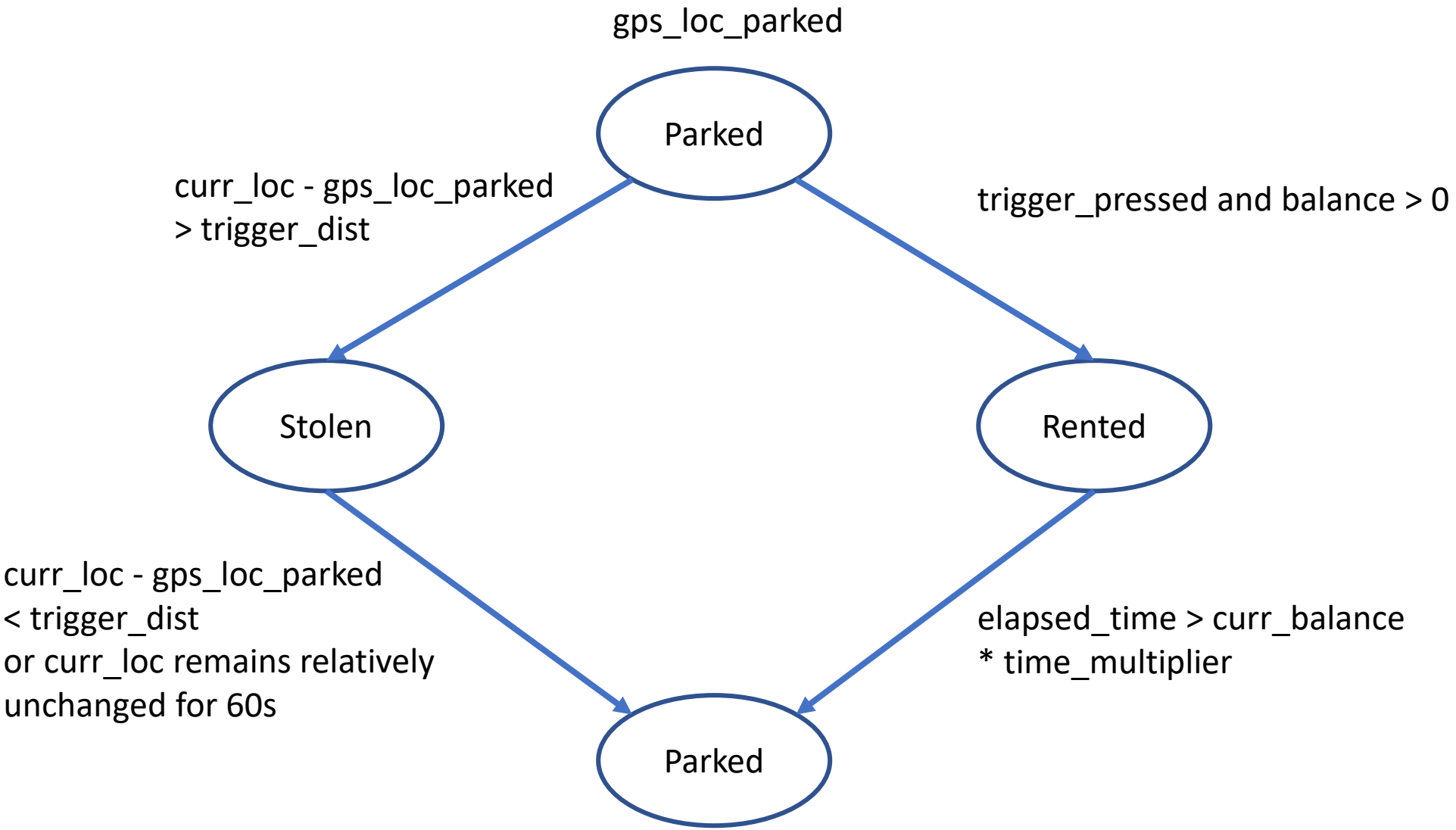
V 2.0



Added advantages:

- Visualization of hardware network and sensor data
- Collected data can be offered to marketplace

State diagram of hardware module



"Parked" loop

- Check if trigger button is pressed
  - If true: get_balance()

Loop 10 times

- Go to sleep
- Wake up every 60 seconds
- Take sensor data
- check_if_stolen()
  - If true: get start_loc, get start_time, break loop

- Send to server all data

get_balance()

Loop 10 times

- Get account balance B
  - If B = 0: delay 10s
  - If B > 0: status = rented, break loop

check_if_stolen()

curr_loc – gps_loc_parked > trigger_dist

- If true: status = stolen,
- If false: status = parked

"Rented" loop

- Collect sensor data & send to server
- Check balance for top-ups
- Check if session expires
  - If true: status = parked, update receiving address, break loop

"Stolen" loop

- check_if_stolen()
  - If false: break loop
  - If true:
    - loc_avg = (start_loc + curr_loc)/2,
    - If time > 60 seconds:
      - If (loc_avg – start_loc) < trigger_dist: status = parked, gps_loc_parked = loc_avg, break loop

Database tables

HARDWARE_STATUS	
***hardwareID**	*integer*
address_index	*integer*
session_address	*text*
status	*text*
latittude	*real*
longitude	*real*

SENSOR_DATA	
***index**	*big serial*
hardwareID	*integer*
address	*text*
latitude	*real*
longitude	*real*
temperature	*real*
humidity	*real*
timestamp	*timestamp with timezone*

USERS	
***id**	*big serial*
user	*text*
email	*text*
password	*text*

***hardwareID** – primary key
user – unique attribute