HORUS

URBAN HEALTH

Wakamola in HORUS

Update on the current status and proposal for HORUS evaluation

HORUS

horus-urbanhealth.eu

Current status

- Chatbot available on the Telegram Messaging platform

- Three questionnaires
  - Ad-hoc personal and demographic questions
  - Self-reported frequency of consumption of food items based on the mediterranean pyramid
  - International Physical Activity Questionnaire (IPAQ) - short form

- Able to create connections between users to study spreading effects of health habits (**Wakamola Network**)

- Ability to send reminders

- Ability to capture **digital phenotyping** with smartphone sensors (lalaby app on Android)
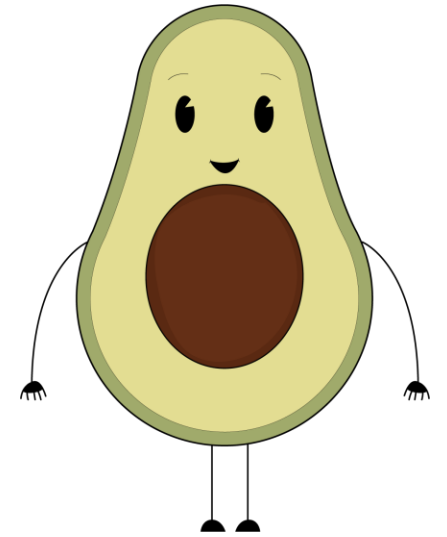
Status: Personal questionnaire (I)

- Are you a participant in the pilot? (Pilot specific)

- What code is assigned to you in the pilot? (Pilot specific)

- How much do you weigh? (in kg)

- How tall are you? (in cms)

- On average, how many hours do you sleep?

- On average, how many cigarettes do you consume daily? (0 if you are not a smoker)

- Have you ever received a diagnosis of **hypertension** or taken medication for it?

- Have you ever been diagnosed with **diabetes** or taken medication for that?

- Have you ever received a diagnosis of **high cholesterol** or taken medication for it?

- Have you ever received a diagnosis of **cardiovascular** disease or taken medication for it?
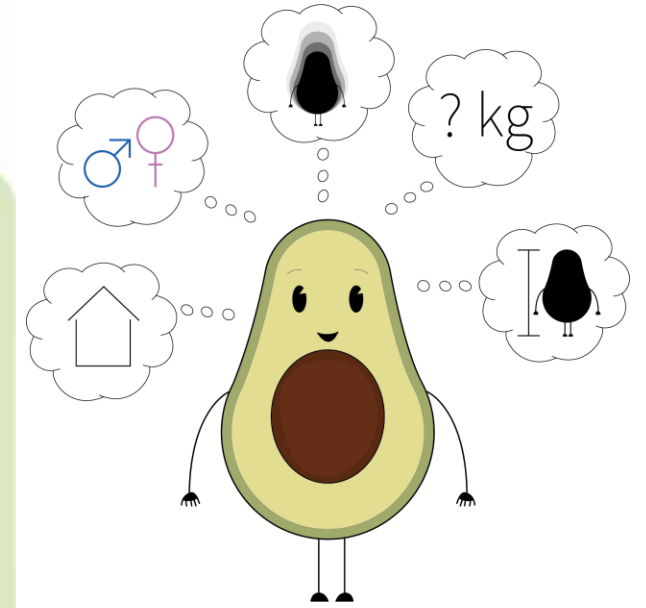
Status: Personal questionnaire (II)

- What gender do you identify with?

- How old are you?

- What is your level of education?

- What is your marital status?

- How many people are at home?

- Are you a student?

- Are you a worker?

- Do you follow any kind of diet?

- Have you changed your diet in the past year?

- Can you tell me your zip code?

- Have you taken **antibiotics** in the last week? (Pilot specific)
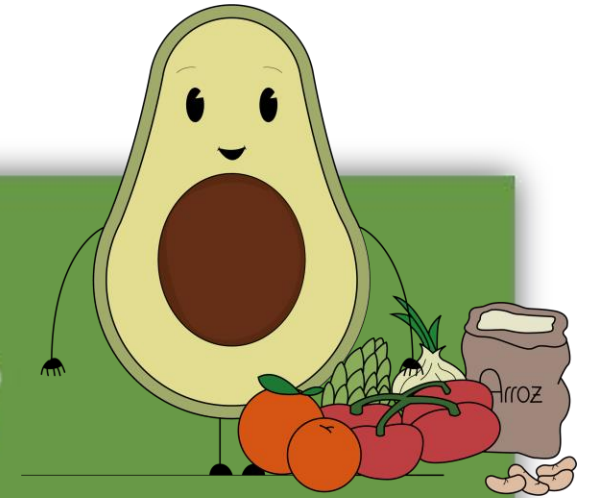
Status: Food questionnaire

- A 55 items questionnaire where participants have to indicate how many times a day (9 items) and a week (46 items) consume a certain food item

- The list is extracted from the mediterranean food pyramid

Daily consumption
1. Milk
2. Yogurt
3. Breakfast cereals
4. Biscuits without filling or covering
5. Bread in sandwich or with meals
6. Wholemeal bread
7. Olive oil
8. Other oils: sunflower, soybean, etc.
9. Butter

Weekly consumption
10. Chocolate: bar, chocolates, bars or others
11. Biscuits with chocolate or cream, with filling
12. Cupcakes, sponge cake...
13. Ensaimada, donut, croissant...
14. Salad: lettuce, tomato, escalora, gazpacho...
15. Green beans, chard or spinach
16. Garnish vegetables such as eggplant, mushrooms... or vegetable creams
17. Potatoes (not fried)
18. Legume: lentils, chickpeas, beans, soybeans
19. White rice, paella

Status: Physical activity questionnaire
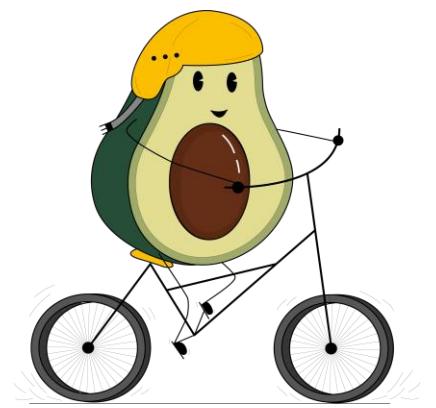
- **IPAQ questionnaire – short version**

1. During the past 7 days, how many days did you engage in vigorous physical activities such as lifting heavy objects, digging, aerobics 🏃, or fast cycling 🚴 for more than 10 minutes?

2. How many minutes did you spend in one of those days on those vigorous activities? ⏱️

3. During the last 7 days, how many days did you do moderate physical activities for more than 10 minutes such as carrying light objects, pedaling a bicycle 🚴 at a regular pace, or playing tennis doubles 🎾 ?

4. How many minutes did you dedicate in one of those days to those moderate activities?

5. During the last 7 days, how many days did you walk at work, on transfers, or for recreation at least 10 continuous minutes? 🏃

6. On one of those days, how many minutes do you normally walk?

7. During the last 7 days, how many hours in total do you usually sit?

Status: digital phenotyping

- Sensor may reduce the friction of the evaluation by not requiring the participant to perform any addition action

- Unique opportunity to link information from the environment (city mapping) and the individual information
  - **Connect the two sources of information of the project**
  - Novel approach -> huge scientific impact

- Using only one application for the data gathering may have several benefits
  - Reduced friction (against several questionnaires)
  - Data already tabulated and digitalized
 - Frequency of questionnaires not linked to pilot staff availability

Sensor	How data is collected
GPS	Using the WP2 mapping, we could select the healthiest spaces of the city as "beacons", so the only information recorded is how many beacons the participant has been in (daily). Also, if these beacons have a category or a score, they could be aggregated
Light sensor	Amount of light in luxes captured in a given time
Accelerometer	Amount of movement (acceleration; m/s^2)
Microphone	Sound frequency (intensity and dominant frequency) at a given time
Step counter	How many steps a day the participants have walked
Screen usage	How many minutes the user has been using the screen of their device and using the Wakamola app. In minutes daily.
Internet Data usage	Megabytes (MB) transmitted through the network daily
Phone calls	Amount of incoming and outcoming phone calls daily
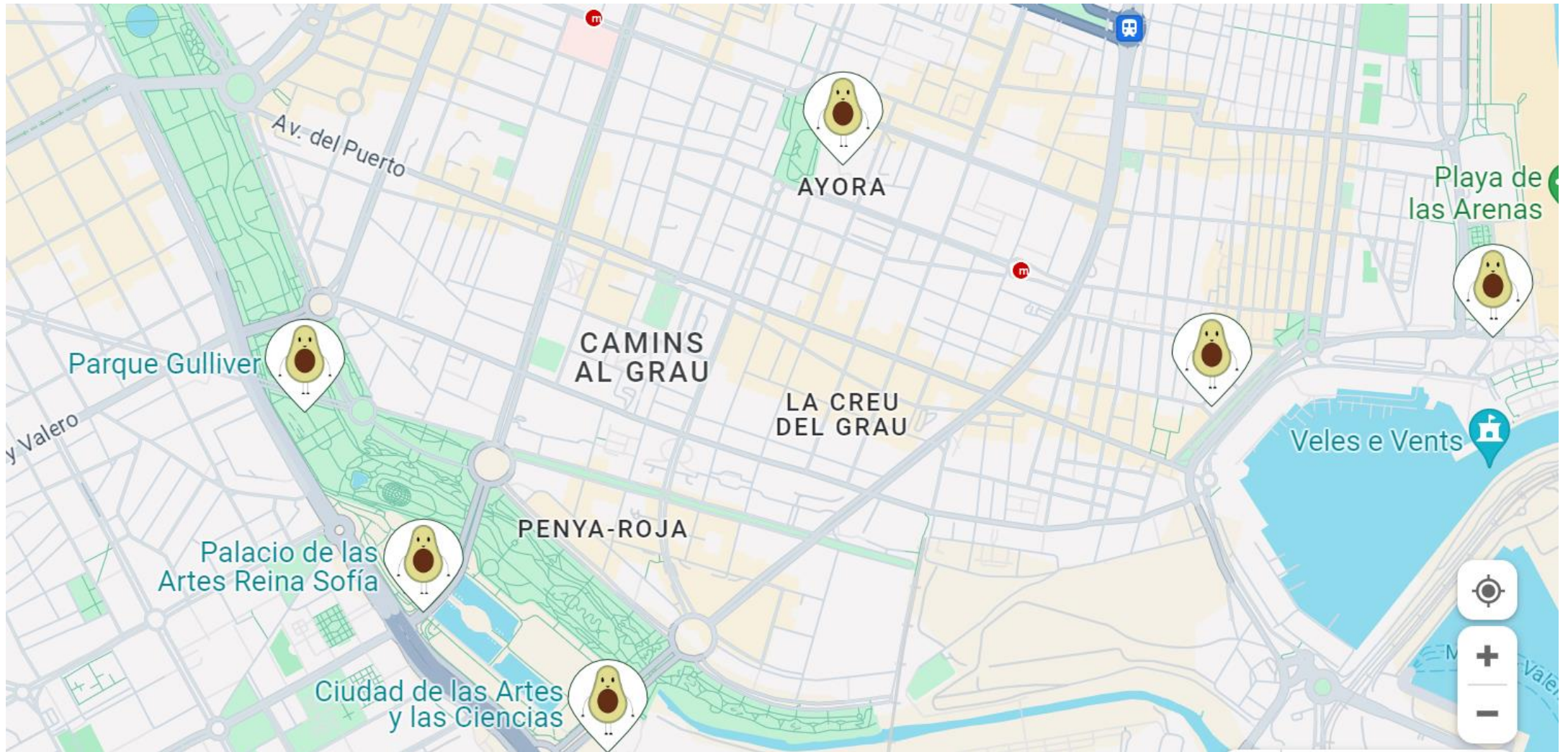
What we want to do!

- Adapt (modify or substitute) the current questionnaires for our interventions

- Use sensors to gather crucial information without burdening the participant for more information

- Link this information, through location, with the environment information collected in WP2

Thanks for your attention!
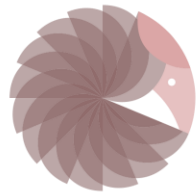
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