# eXplore
# INTERACTION
## Progress Report

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Explore Interactions

A project that makes me constantly curi-
ous, constantly exploring and constant
adapting.

Through this project, I aim to discover
interesting and inspiring phenomenon and
interaction in our dailylife. Research and
find out the underlying meaning of such
phenomenon and provide a possible solu-
tion that may in certain extent, make the
experience more smooth and satisfactory.

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### Jogging

Jogging is one of the most common aerobic exercises for people with different goals. Some jog for training purposes, others aim to lose weight, while many others jog to be stay happy and confident. One reason that triggers people to hit to road is it independency of others. "A good pair of shoes and a motivation is all you need" explains it all.

However, without the right knowledge, constant practice and the right supporting tools, jogging can easily damage a person's body and decrease the satisfaction of such experience. The two sides of this sport is what makes the topic extremely interesting and challenging.

### Client – Biomet "One surgeon, one patient"

Biomet is a global leader in the orthopaedics market, who is passionate about innovation and developing new technology. They specialise in the design and manufacture of implants which replace hips, knees, shoulders, and elbows, biomaterials, bone cements and accessories and orthopaedic surgical instruments. Currently Biomet redirect its domain and emphasize increasingly more on patients' rehabilitation and injury prevention.

TUDelft   BIOMET®   Reinier de Graaf Groep

# Phase 1 IDEATE

In order to have a general idea about jogging injuries and the target group, I decided to approach shoe shops in Delft where many joggers visit and buy their shoes. The people their might have a better understanding of people's jogging habits and the common cause of injuries.

Location:
Runners World and Sport 2000

Findings:
1. Most injuries arise from overtraining.
2. Beginners should build up training over 8 weeks, slowly start training to make your body get used to it and to learn technique
3. Dynamic stretching before training is better than static stretching
4. Use intervals when training, this will help you improve your technique and speed more.
5. Training 2 or 3 times a week is best, you need resting days too to recover before the next run.
6. A pair of right shoe can absorb the body pressure, the better for the joints.
7. Over weight can easily damage the joints while running.

Interview 02
Sport and injuries in ergonomic perspective

In order to have a better understanding of how human
joints work, and how injuries usually occur, a interview with a ergonomic expert was conducted.

Expert: Johan Molenbroek, IO

Findings:

1. Importance of stretching
2. Not enough stretching may shorten your upper legs.
3. Different stretching suits people with different flexibility.
4. Different sport suits different sport people.

5. Awareness of knee
Being aware of possible knee injuries and prevent it as well as taking care of one's knee can be more interesting topics to look into.

6. Exo-L
Knees support three times your body weight when walking. Six times when climbing stairs and fifteen times when jumping.

7. People who contacts with "Shocks" on their legs, may more often have knee injuries.

8. Certain body conditions not fulfilled, should try other sports.

9. Current technology
Body parameters- Shirts that 4D display arrows that shows forces on body parts, to monitor and enable people to perform better.

Conclusions:

It was quite interesting to talk to a physical ergonomics expert who already done several projects related to sport injuries. He suggested several directions that we can discover. However, he mainly focuses on possible application of technologies which was more scientific. I find it not that useful when our research goal is not that clear, but it may be useful to consult him afterwards when we have a actual prototype.

He also suggested a four interesting directions I can look further into:

A. Digital coach for joggers
B. Capture data during running
C. Compare past jogging experience
D. Use one's own characteristics

### Interview 03
Stocking joggers

In order to know more about the joggers and his/her context, three interviews was conducted while jogger are getting ready to run or after their training.

Location: Delftse Haut

### A. 37 years old Italian couple who works at patent office

1. "I like to run to stay fit."
2. Jog with friends without training.
3. He had an injury a couple of years ago (hiking), consulted a therapist, but now forgets sometimes to obey the tips.
4. "When my knee hurts, I just try to slow down."
5. "I go for a run when I feel like it." (6 km in average)
6. "I don't really talk with people about my running."

### B. 25 years old Dutch student

1. "I don't really have a schedule, just try to aim

for 10 km every time I run, mostly I just get to the 5 km."
2. "I run because I've asthma, and running helps me."

### C. 39 years old Finish woman
1. "I run to clear my mind and I'm a sports freak, that's why I run."
2. "When I run, I'm still thinking about my job, and I try to let it go."
3. "Why should I run on 50%, when I go for a run I want to give everything."
4. "I go running when I feel like it."
5. "I like to be outside, also it makes it easier to let go the problems and topics I have in my mind."
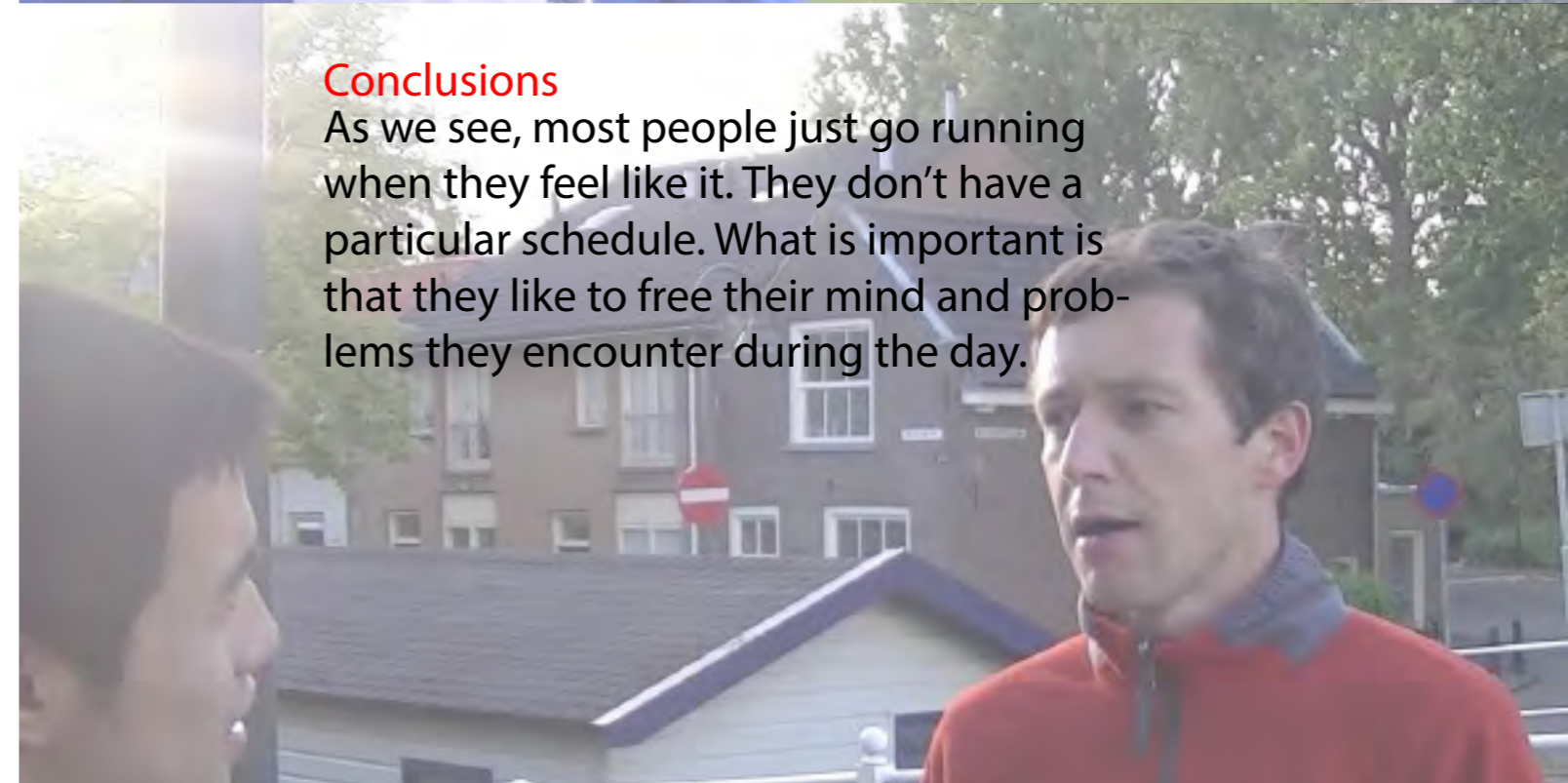


### Conclusions
As we see, most people just go running when they feel like it. They don't have a particular schedule. What is important is that they like to free their mind and problems they encounter during the day.

Interview 04
Physical therapist

After interviewing the scientific based expert (physical ergonomics), I realized that there is a need to talk to a practitioner who faces the real people and deals with the recovery of injuries, to gain insights and right knowledge. Therefore, I talked with John, a physical therapist.

Expert: John Pieter

Findings:
1. Jogging is good for you. Your knees are designed for the pressure.
2. Aging is the most common problem that causes knee injuries. Runners usually will only have muscle sour or slight pain instead of actual knee injuries. Contacting sports causes injuries more often.

3. Joggers who have knee injuries were usually caused by accidents.
4. Strengthen muscles can make the recovery faster.
5. Communication: Pieter would like a product that makes patients understand recovery takes time.

6. Recovery: It is hard to make people switch their goals.Motivate them to do other sports that they don't like or like less.

7. If knee pain occurs while jogging, it's just a signal. However, if it happens several times in several days it means something.

8. Monitoring: Patients are able to monitor themselves and compare to their past history. (It should be easily done, by oneself, reliable, monitor directly, motivate)

9. Doing and keep on doing is the hardest part in patients' recovery period.

## Internet research of over-training

One of the most important aspects of overtraining is didn't get enough rest after a training. Muscles itself is damaged during the sport. While aiming to make the muscles stronger, leaving time for rest and recovery after sport is very important. If there's something wrong The best is to act fast, as you are sooner aware of the problem, it's easier to recover.

Certain symptoms of overtraining are:
• Lower performance
• More injuries
• Worse sleep
• Headaches
• Lower immunity
• Bad mood

"But unless you're a lab rat whose physiological markers are being monitored on an ongoing basis, you may not recognize that you've gone too far until you're hit with a stress fracture or muscle tear. Which is why experts like Jack Raglin, Ph.D., a researcher on sports psychology and professor in the kinesiology department at Indiana University in Bloomington, recommend runners pay close attention to their moods." - http://www.runnersworld.com/

So, the important thing is to be aware of having enough rest, getting enough sleep and keep track on your mood.
Running should be fun and not only exhausting.

## Overrun

Since over running is the main cause of knee injuries, I started to look into why people overrun:

Problem identifying
Most jogger has an idea of how often he/she runs per week, or at least knew how much they plan to run before they leave their house. However, a great part of them choose not to follow their plan completely.
Overrun the limit they should are the common result of such decision. According to the interviews I completed, the reasons for overrun are listed as below:

Context: Companions, straight road, no time limit, flexible plan
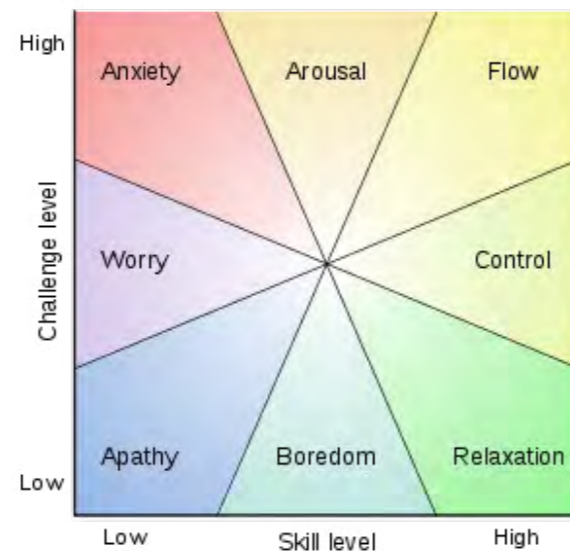Psychological:  Motivated, feel safe and relax
Physical:  Not tired yet, into flow

What is flow?
According to Csikszentmihalyi (1975), flow is a deeply rewarding and optimal experience characterized by intense focus on a specific activity to the point of becoming totally absorbed, and excluded all other thoughts and emotions. This experience is harmonious for the individual and involves a sense of everything coming together, or clicking into place, even in challenging situations.

TED talk on flow
Being in a flow kind of state during an activity makes you like it and being happy. It comes effortless and spontaneous. It comes from the heart and there are a couple of words connected to it:

• Involved
• Ecstasy kind of feeling
• Clarity
• Knowing something is doable
• Serenity
• Timelessness

Surfaces
According a jogging expert, changing running surfaces can easily cause a person to use another part of their muscle and therefore lead to muscle pain. For example, when a road jogger switch from road to grass or sand jogging, they tend to use more of the upper leg muscle. Without the right posture, it can easily cause injuries.

Warm up
The jogging expert suggest before every run there should be  a warm up (small jog and stretching), after the jog there should be another stretch which is even more important for the body.

Running pattern
A running pattern is a schedule that joggers follow, it is consists of jogging day and resting day. Having a stable running pattern is said to be an important factor that decides the effectiveness of the workout.

Jogging Conditions
Jogging conditions should maintain as the body used to. Sudden change in time, surface, weather, mood can all influence the performance of the jog distance wise or intensity wise.

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## Design Goal

Designing a product/service for young runner who is trying to get fit, to be aware of their body condition and make the right decision in running to prevent injuries and reach satisfaction.

Focus interactions: Natural interactions & phenomenon of people (sweating and reading to road mark)

Role of products – Buddy
The interaction between the user and the product should be like two close friends. Trainer gives too much attention on one progress (distance and time), but neglect their state of mind, while mothers stress too much about ones happiness, but concern less about ones progress in challenges.

## Interaction Vision

You gradually awaken by your smart phone's morning alarm. It reminds you about an important date you are expecting. You felt confident, motivated and jump out of the bed.

Interaction qualities: Aware, Unobtrusive and Motivate

Make the user aware of their body condition and running pattern in an unobtrusive way. Moreover, motivate him to make the decision that is best for him. The interaction has to be as natural as jogging itself is.

## Target group

From several literatures, it has been clear that having a bad running pattern and not having enough rest between jogging are the main factors that cause knee injuries. However, I found out that actually most jogger has his/her own schedule or plan for jogging. The problem occurs when carrying out the plan. Therefore, I started to look into who are the people and what was their main reason of neglecting their plan and how is their mindset in jogging. I call the group of people who "run when they feel like it" the spontaneous jogger. They are my current target group.

Spontaneous Joggers:
No plans, jog when they feel like it, stop when they feel like it.
Age between 18 and 30, mostly students.
Frequency: 1-2 time a month.

## Joining the running group

Experience Jogging training- exploring runner journey
In order to gain insights in the kind of attention that should be kept in mind during jogging, I start to follow the training twice a week from sport centre TU Delft. I get to ask questions related to jogging posture, coordination and training schedule to the coach. It is handy to have someone experienced aside to answer my questions related to sport injuries.

Students age between 20 and 30

When notice that mid-age joggers are not the spontaneous joggers that I'm concerned about, younger age group directly attracted my attention. Due to their flexible lifestyle and lack experience, they may have a bigger chance of overrun and injure themselves. Therefore, again I talked to a group of young master students, trying to confirm my speculation. Finally, many interesting insights came out during our talk.

Luke (27) "Jogging helps me relax and build up my confidence, rather than actual losing weight as I expected""Following the same route at night, just you and yourself""If I know how much muscles did I build on through jogging, that would be really good"

Marco (26)"Jog whenever I feel like it, go further in the Saturdays""I leave in the early morning, when nobody is there, I don't like people""Music can keep me motivated and companied"

Seungi (24)"I enjoy the feeling of falling into a flow, when time pass by, goal easily reached" "Sweat indicates my workout, I need to run more without sweating"
After the interviews few conclusions can be made:

1. For spontaneous joggers, jogging doesn't help them lose weight, but making them a happier person.
2. Enjoy and experience the process is more important than reaching the aimed destination.
3. They tend to jog till they felt tired, the route varies in times.
4. They didn't jog because of a fixed plan, but because they suddenly feel like it.
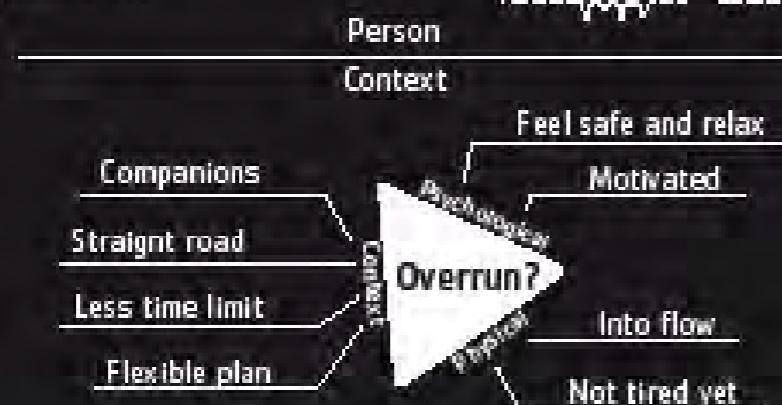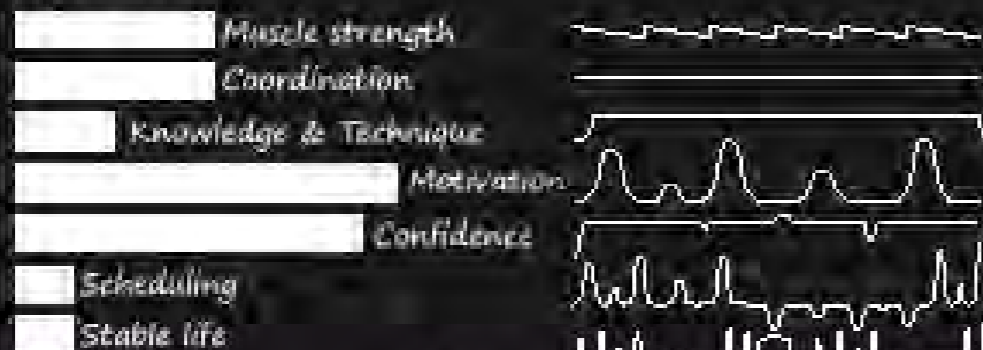
# Spontaneous Runner

weather  companion  health  priorities

*I jog when I feel like it!*

- I feel like running today!
- Perhaps around the lake?
- Jogging warms me up!
- I still have a long way to go!
- Just me and myself!
- I not itred yet! Maybe I can go further?
- This road looks nice...
- It feels good and sweaty!
- I just got back from a jog...

Home

Flow

Max

Overrun

Home

warm up

work out

cool down

## A conscious reminder for spontaneous runner.

*Make spontaneous jogging safe and fulfilling.*

Age 20-30

- Muscle strength
- Coordination
- Knowledge & Technique
- Motivation
- Confidence
- Scheduling
- Stable life

Person

Context

Overrun?

- Companions
- Straight road
- Less time limit
- Flexible plan
- Feel safe and relax
- Motivated
- Into flow
- Not tired yet

Psychological  Context  Physical

## Design Goal

Designing a product/service for young runners who is trying to get fit, to be aware of their body condition and make the right decision in running to prevent injuries and reach satisfaction.

Monitor    Independant    Remind

## Interaction Vision

You gradually awaken by your smart phone's morning alarm. It reminds you about an important date you are expecting. You felt confident, motivated and jump out of the bed.

Unobtrusive    Motivated    Aware

Buddy

BIOMET  TUDelft
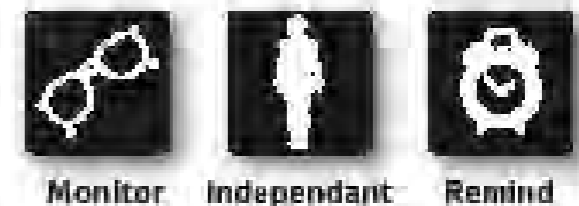
# Phase 2 ITERATE

## Expanding ideas – Obverse thinking

There were many reasons that may cause people to overrun themselves. As mentioned earlier, it was divided into three categories: context, psychological and physical reasons. By reversing all the possible overrun causes, many interesting ideas are generated. However, most of them are quite obtrusive but are good inspirations for later design.

Context: Companions, straight road, no time limit, flexible plan
Psychological: Motivated, feel safe and relax
Physical: Not tired yet, into flow

**Spontaneous Jogger Overrun**

- **Feel safe & relax** —— Make them feel unsafe, unrelaxed.
- **Into flow** —— Make them awake from flow.
- **Not tired yet** —— Make them tired.
- **Too motivated** —— Demotivate them.
- **Less time limit** —— Give them a time limit.
- **Flexible plan** —— Give them a routine schedule.
- **Straight road** —— Make them feel unable to reach end goal.
- **High intensity** —— Make them unable to run fast.
- **No warm up** —— Make them warm up before jog.

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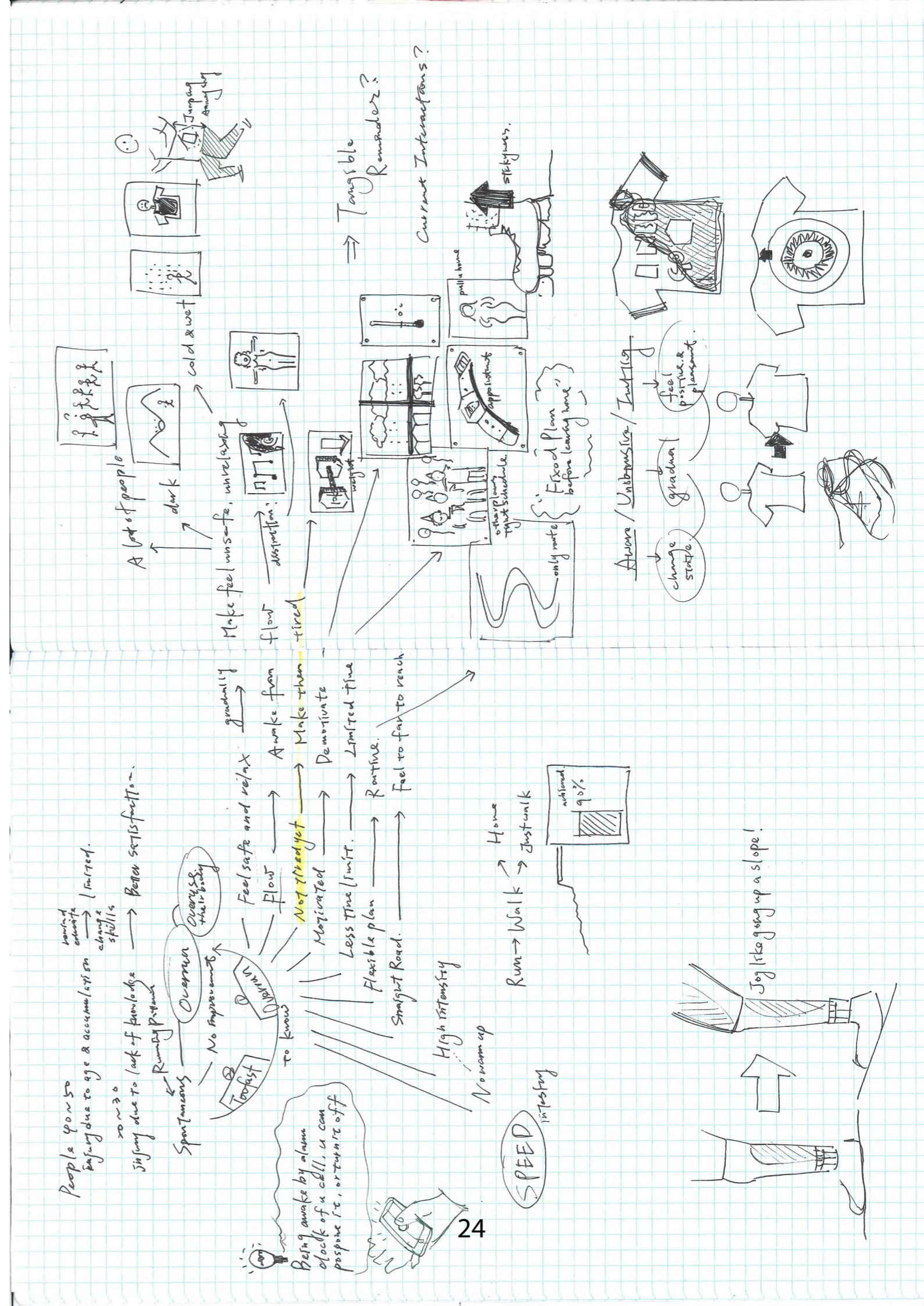
### Overrun cause: Distance & Intensity

Long distance and high intensity are the two most common factors that causes overrun injuries. Experienced joggers are aware of the possibility that this may occur and know that they should prevent it. There are also many device that measures distance and heart rate. However, joggers still overruns themselves, because of their strong motivation, confidence and passion in jogging.

### From jog to walk

For many beginning joggers, walk after a small jog is a way to rest themselves and preventing the damage that overrun brings. They have less motivation to jog continuously, and by this, more security to their body compared to the intermediate joggers. For my later design, I would like to invite the motivated joggers to stop jogging and start walking in certain period of the jog, to prevent their injury.

### Need for physical indication
Change of shape, weight, state) make the experience different.

Today, most of jogging products people use, usually remind people by beeping. However, in my design I would like to focus on other ways of feedback that can remind people of their current running status or situations. The feedback can be keep between one's body and mind, such as deforming of shape, increase of weight or state change of objects. By trying out different kind of indication, more interesting interaction can be tested.
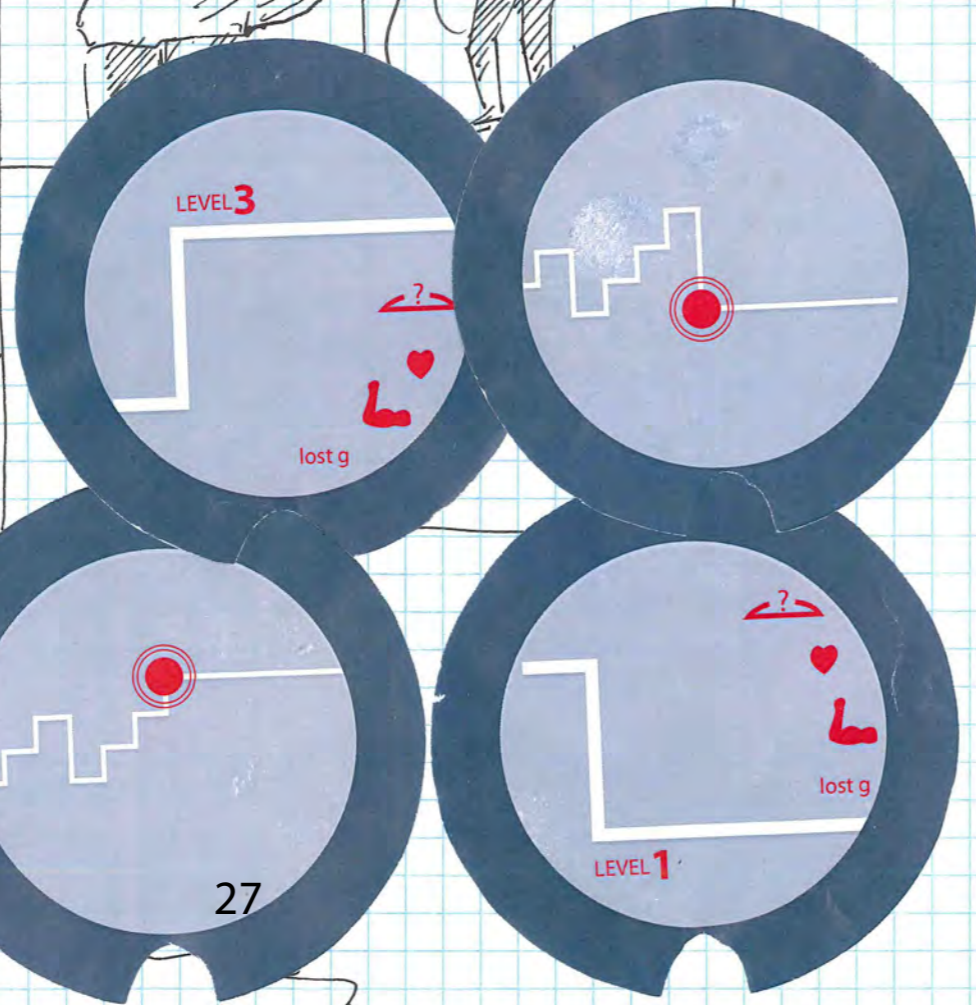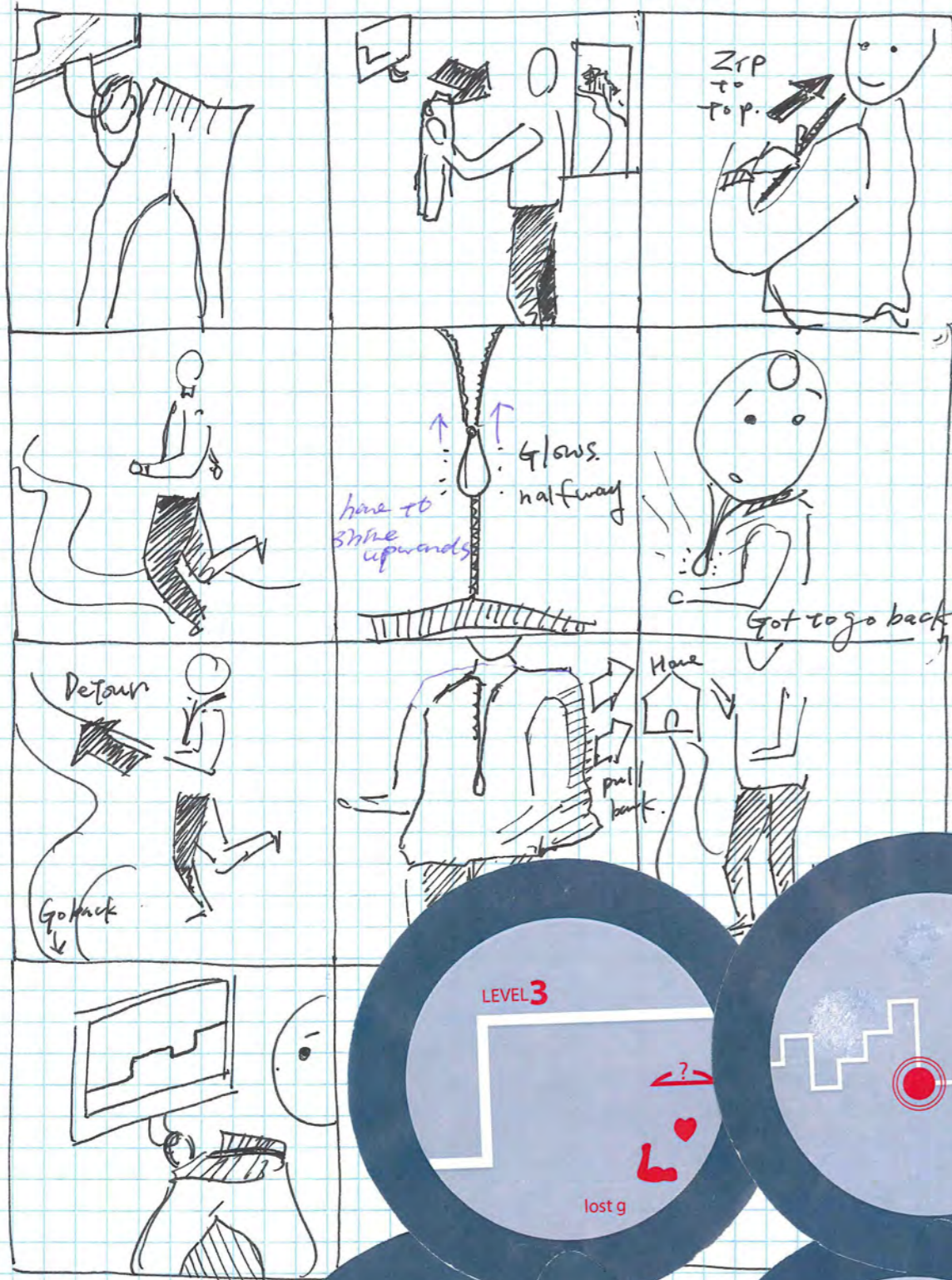
## User test 1 + Questionnaire

The first user test was conducted in a group of five people. Participant was asked to fill out a questionnaire before experimenting with the prototype. The question is indicated below.

The goal of this user test was to see how joggers percept the effect of increasing weight and the unbalancing of weight as a reminder. In the test, participants were asked to carry different weight of water in different parts of their body and reflect on how they feel.

Name _____     Gender _____     Age _____

1. How often do you jog in average?_____

☐   1 / week        ☐   2 / week
☐   1 / month       ☐   2 / month

2. The length of time between two jogs?

Longest _____ days     Shortest _____ days

3. Intensity _____ % of your full strength.

4. Does flow occur during your jog, how does it feel?
_____
_____

5. How often does flow occur? _____

6. Did you overrun your plan, due to the flow? What was the situation? _____
_____

7. What stoped you from your flow? _____

8. Which of the following ways of disturbing your flow is less obtrusive to you?

☐ Increase of weight ☐ Unbalance ☐ Sound & Vibration

Result:
The participants like the feeling of having cold water in hand after a long and sweaty jog. However, holding the water bottle is quite annoying, especially when the water weight is unbalanced.
Having an object that is loose but connected to jogger's body is quite annoying. Although it can be a suitable reminder, it fails to generate positive feeling in reminding, instead people felt annoyed.

Due to the less structure nature of the first user test, the test ended up with a discussion. Through the discussion, a new metaphor was proposed and the redefinition of the interaction quality was also generated.

Through the discussion, a metaphor was generated:
Gemini Cricket – Which symbolizes one's self consciousness appears in necessary situations.

Redefine design qualities:
Motivate, Unobtrusive, Consciousness

Motivate: Spontaneous people also want to have instant feedback of improvement.
Unobtrusive: Be able to jog like they used to do, without changing the way of jogging.
Consciousness: Conscious when necessary.

A. Nocoline

"I just need a good pair of shoes, nothing else."
The heart rate and achieving the distance as planned are not important information for spontaneous joggers. They jog according to their state of mind during running (feeling). If a rest makes them comfortable in a jog, they will not force themselves to achieve their goal. "I run to make myself happy, instead of tired"
Lin also explained that she know some spontaneous joggers like to feel their tight muscles or lost calories after a jog, however, she jogs because it makes her happy.

B. Zoey:

"Spontaneous runners are not the one who over runs."
Spontaneous runners need motivation to continue the planned run, instead of preventing from overrunning.
"I usually run for five minutes and walk for another five minutes" "I know I need to keep running, but don't feel like it". They don't get hurt easily, because they don't have that much expectation to themselves. She suggested that phonetic people who is doing self training, may be higher possibility to injure themselves, due to high expectation and confidence.

Change target group to self training sportive people.
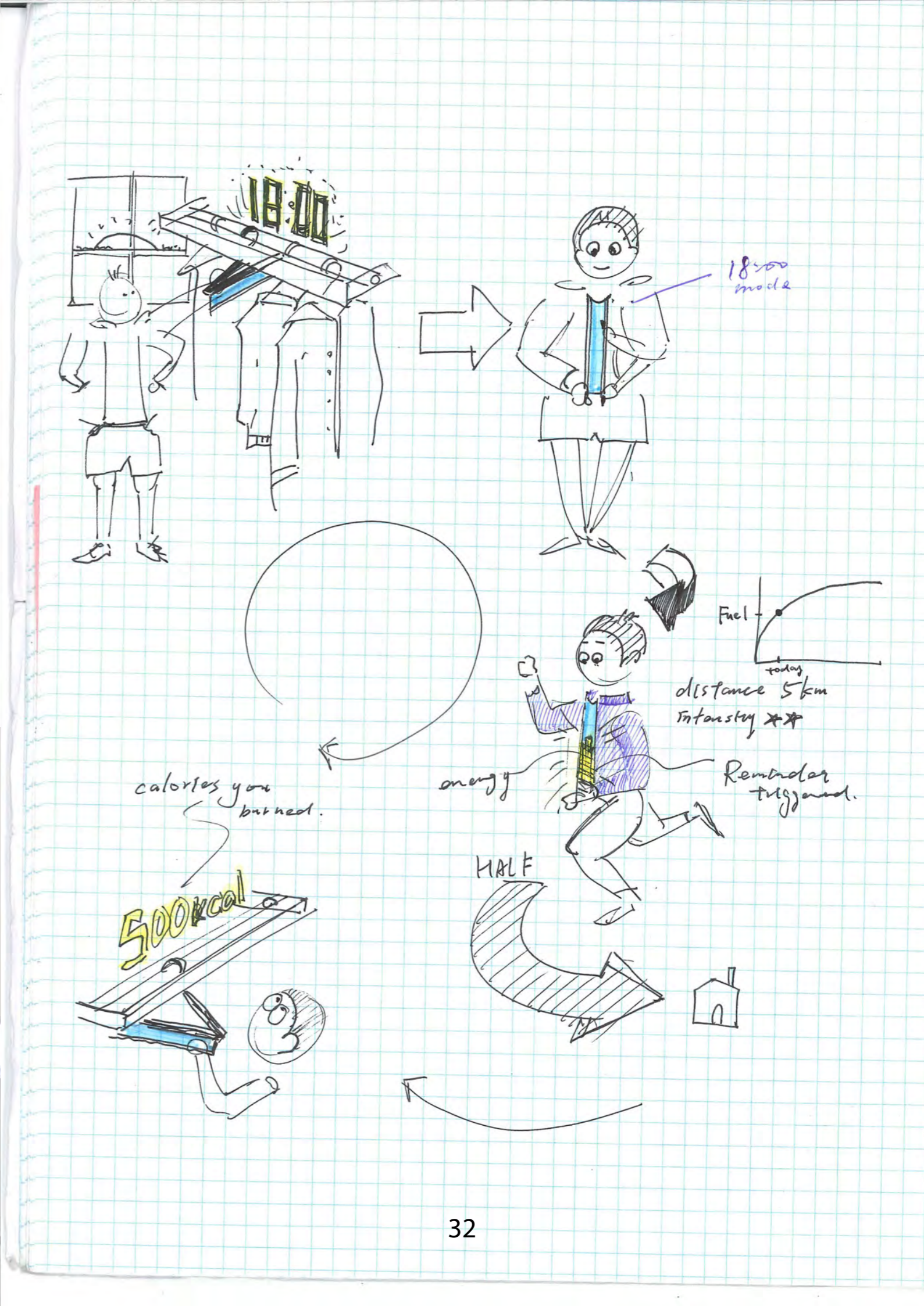
During the jogging training, I talked to all members of the team. The questions I asked are more general, but aimed to understand the joggers mind set and their jogging habits to make sure they fit into my target group.

After the training, I ask all team members to stay and try out my product and provide me some feedback according to how they feel and see.

The general questions are:
1. Does your performance differ from different time of the jog? When do you need the most effort to achieve the same goal, and when do you need the least?

2. What is the best reward for your jogging? (jogging goal)
3. What is the most important information in a self training for you?
4. What kind of feedback would you like and in which location?

## Redefine of Design goal and interactive vision

Design goal:

Designing a product/service for long distance runners to be aware of their body conditions and make to right decision in self training, to prevent injuries and reach satisfaction.

Interaction vision:

A mirror that reflects you and your context, and makes you conscious about your decisions. (The mirror knows more about you than you know yourself)

Qualities: Steady, Aware, Honest

Results:

Coach: "I prefer monitor my status on my arm instead of my chest, because on the chest you have to always look down which is not safe" He said while he runs, his arms always swing upwards, so it is quite smooth to monitor then.

"As long as the device doesn't slip around my arm, I don't mind wearing another thing on my arm" He suggest locating the device on his wrist or his arm. He thinks it is more natural and reasonable.

Heart rate (intensity) and pace (min/km) are the two factors that they see important form them during a jog. Knowing ones heart rate, it is able to identify whether if the load is too much for him. It is extremely important for beginners to make sure they are using to right speed to train them self. Improvement of pace is a proof of self accomplish, it keeps the runners motivated and focused.

When people used to jog in a certain time of the day, they have higher performance during that particular time, because they are used to it. If you chose to jog in another time, your performance may be less satisfactory,  because you are mentally and physically unprepared.

There are many examples of injuries caused by wrong expectation in oneself in different running context.

People usually jog in the same time of a day. There is less chance of suddenly go out for a jog. Temperature of the jog may also cause disorder of strength. For example, people get easily tired when jogging in the winter.

Most of the people who joined the jogging group have a clear goal that they would like to reach in a certain period of time, such as preparing for a half marathon, losing 5 kilograms, breaking own records.

# Clever run, run clev

## Stay conscious, run

"I feel weak in the mo
still finish my jog

"The cold tires me

PREPARE

Designing a product/ service for distance runners to be aware of their body condition and make to right decision in self training, to prevent injuries and reach satisfaction.

+Feedback
earn extra 9.5 days

TREAT

Train you      Make
Steadyly, Aw

"Don't tell me what to do, I know my body"

...rning jog, but I ...on time"

...e off easily"

MONITOR

A mirror that reflects you and your context, and makes you conscious about your decisions.

"I swing my arm, to see my progress"
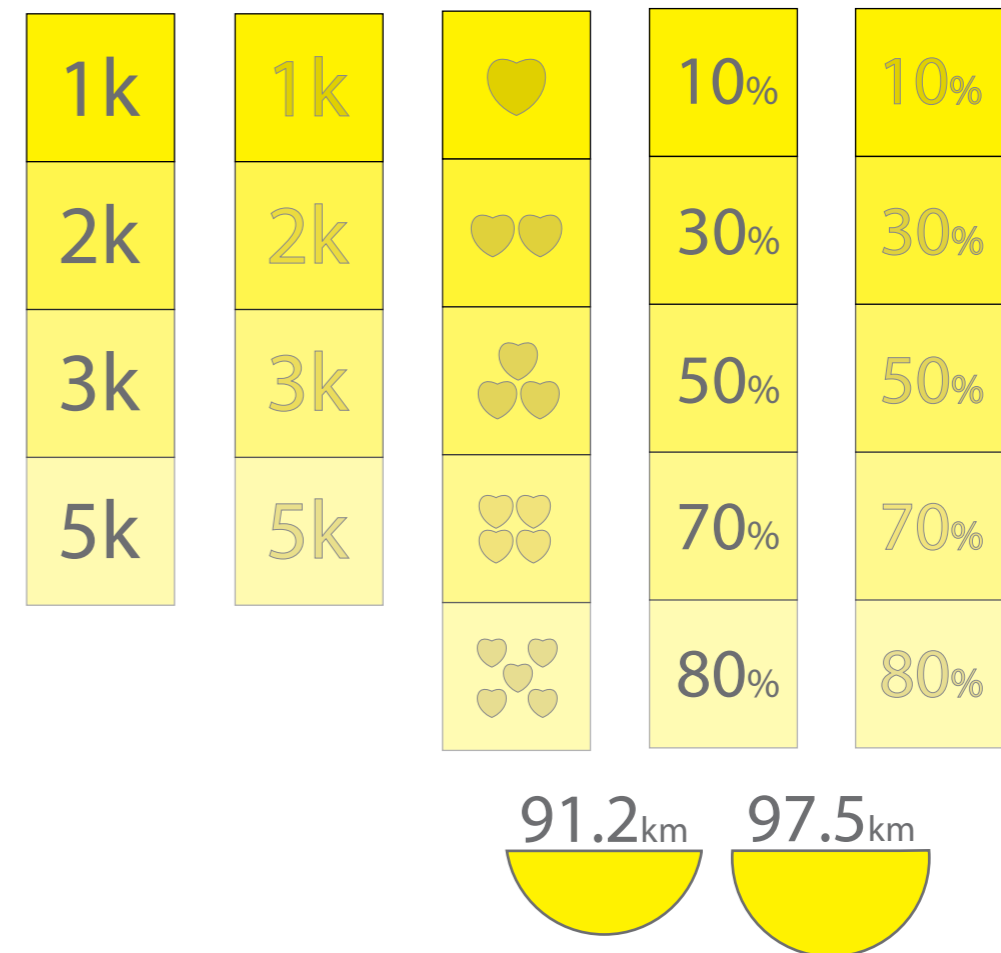
9.2km

"I keep my progress to myself"

REMIND

...you    Present you

...are, Honestly

BOXET   TUDelft

Fuel

Time

Phase 3 DEMONSTRATE

Prototype test 01

| | | | | |
|---|---|---|---|---|
| 1k | 1k | ♥ | 10% | 10% |
| 2k | 2k | ♥♥ | 30% | 30% |
| 3k | 3k | ♣ | 50% | 50% |
| 5k | 5k | ♣♣ | 70% | 70% |
| | | ♣♣♣ | 80% | 80% |

91.2km    97.5km

## Interaction qualities

The qualities of this device is make the user committed to oneself, honestly visualize ones condition, appropriate reminder and provide sense of achievement.

## NIKE Product family research

Other than fulfilling design qualities, a short research had been conducted to find out simular product in NIKE family. The purpose of this is to fit the design into the series of NIKE product, as one of it's new lifestyle product.
A braclet on the wrist that doesn't resemble a wrist watch is one of the most popular style currently. My design will be based on this characteristic.

## Prototype test 01

After the second phase, my design is still iterating, but in the way of prototyping, testing and refining. However, the context and the basic concept behind is fixed. Many prototypes was made to test centain parts of the interaction,

The graph above was aimed to test the ease of understanding for the distance and intensity indicated on the clicks. For distance, the result was instead of the k behind the number use km. For intensity, instead of using percentage, use levels from one to five will be easier to understand.
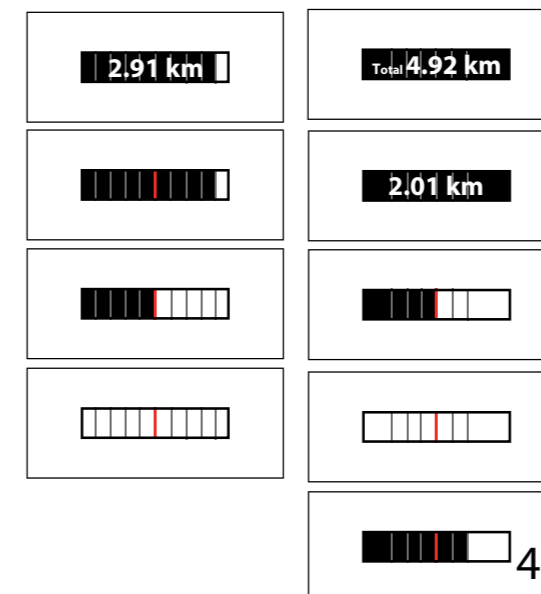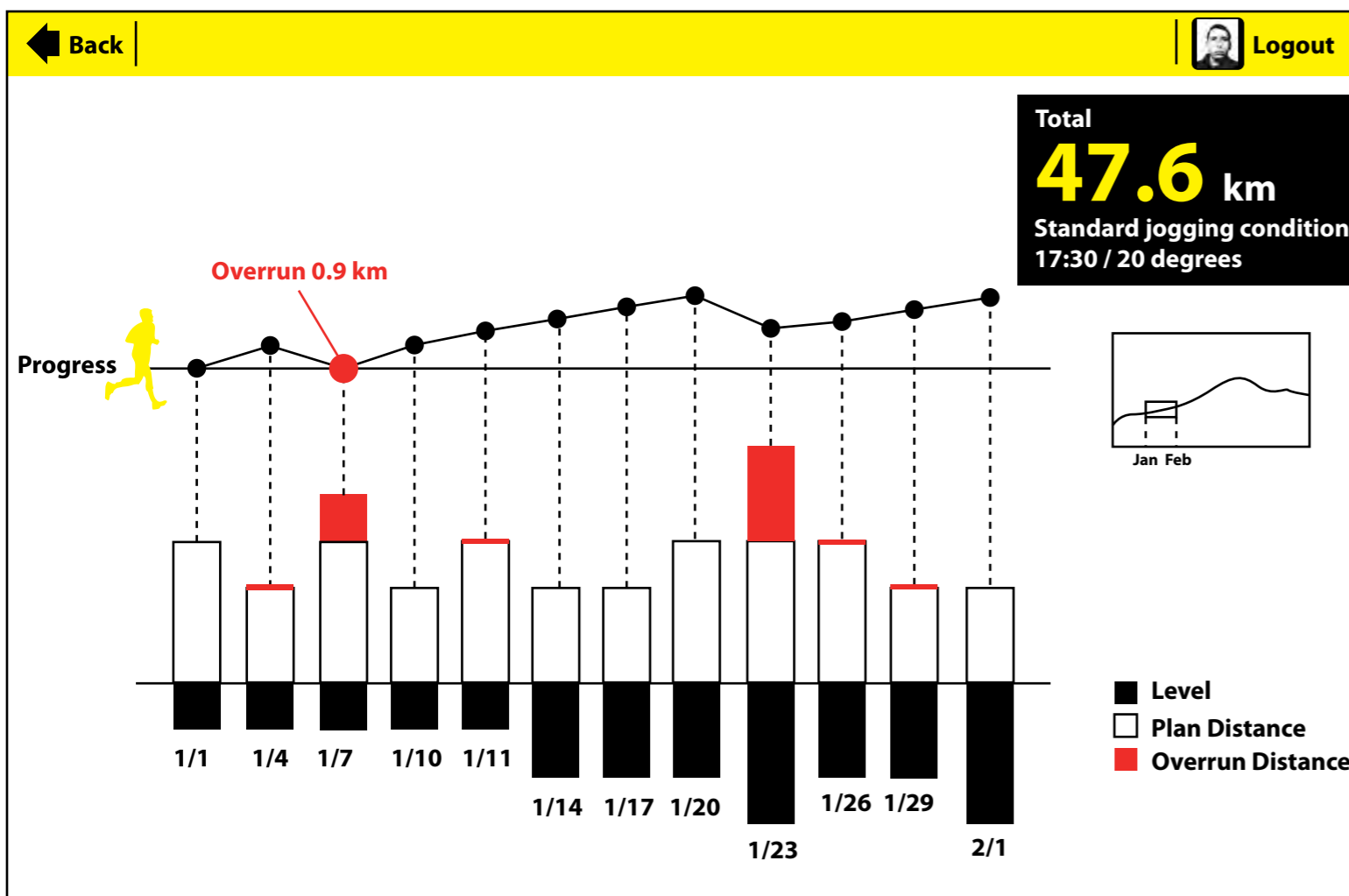
**Prototype**
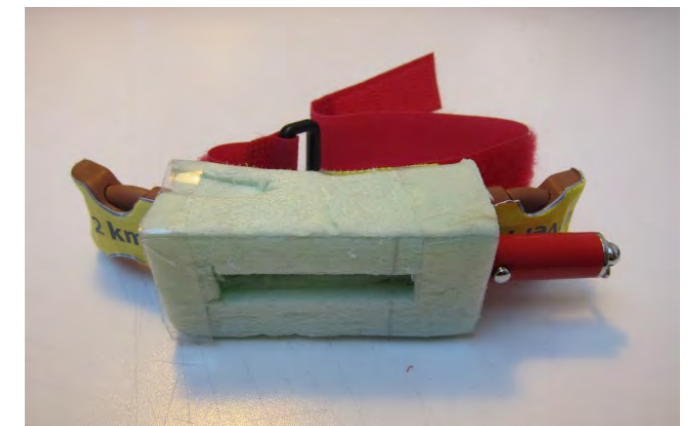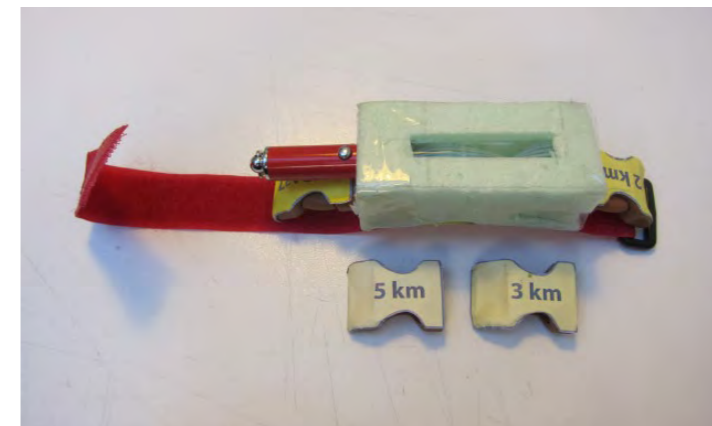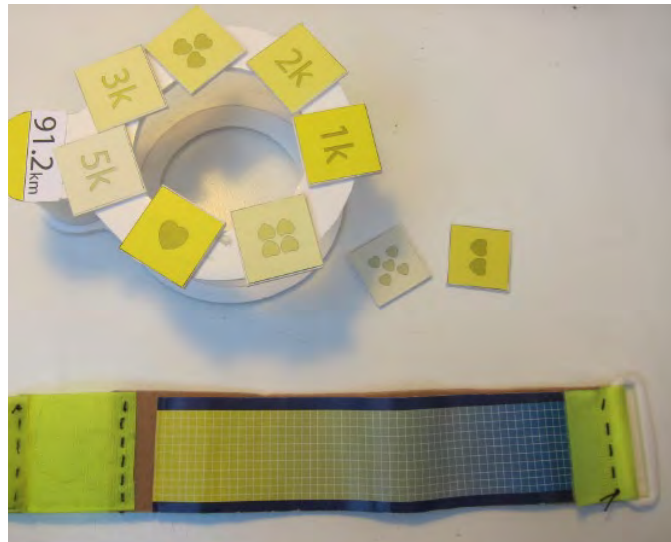
This prototype consists of a stand and a braclet. The stand hangs on the the door knob and sets as a holder for the braclet before and after use. Becasue the door was the last gate before leaving the house.

User complained that the door knob makes the braclet hard to access and is difficult for the user to notice it before leaving the house. Users suggested it can be more linked to the jogging shoes or just leave it on the desk like other accessories.

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## Prototype test 02



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### Prototype test 02

In the second prototype, other than including the suggestions form the first test, an additional interface of the website was also designed.

This prototype was used to test the whole process of the product usage. Therefore, the user was asked to wear it during the jog. The interface was made in paper prototyping. The user was given a sticker which indicates the change of remaining energy along their run.

They all agreed that on clicking on the plugs, makes them aware that the decision they made. While there was a confusion when relating the indication of the energy block to the weather condition and the time. Because, they thought that the energy block that was light up is more related to their body than the current context. They suggested of making a seperated monitor to indicate the context condition (time of the day, weather etc).

### Prototype test 03

After the second prototype, a third prototype was built according to the actual size and weight of the product.
The purpose of this is to give the user an actual feeling of the product considering the five sense. The texture which the skin touches was also chosen to be a confortable perspiration material. While the texture of the braclet was silicone but was prototyped in paper.
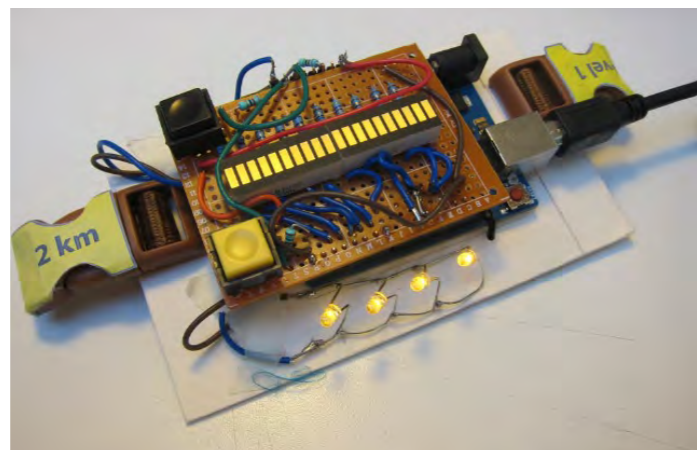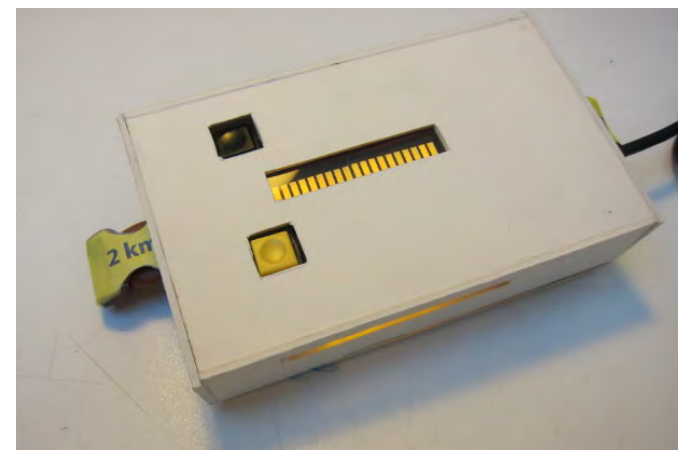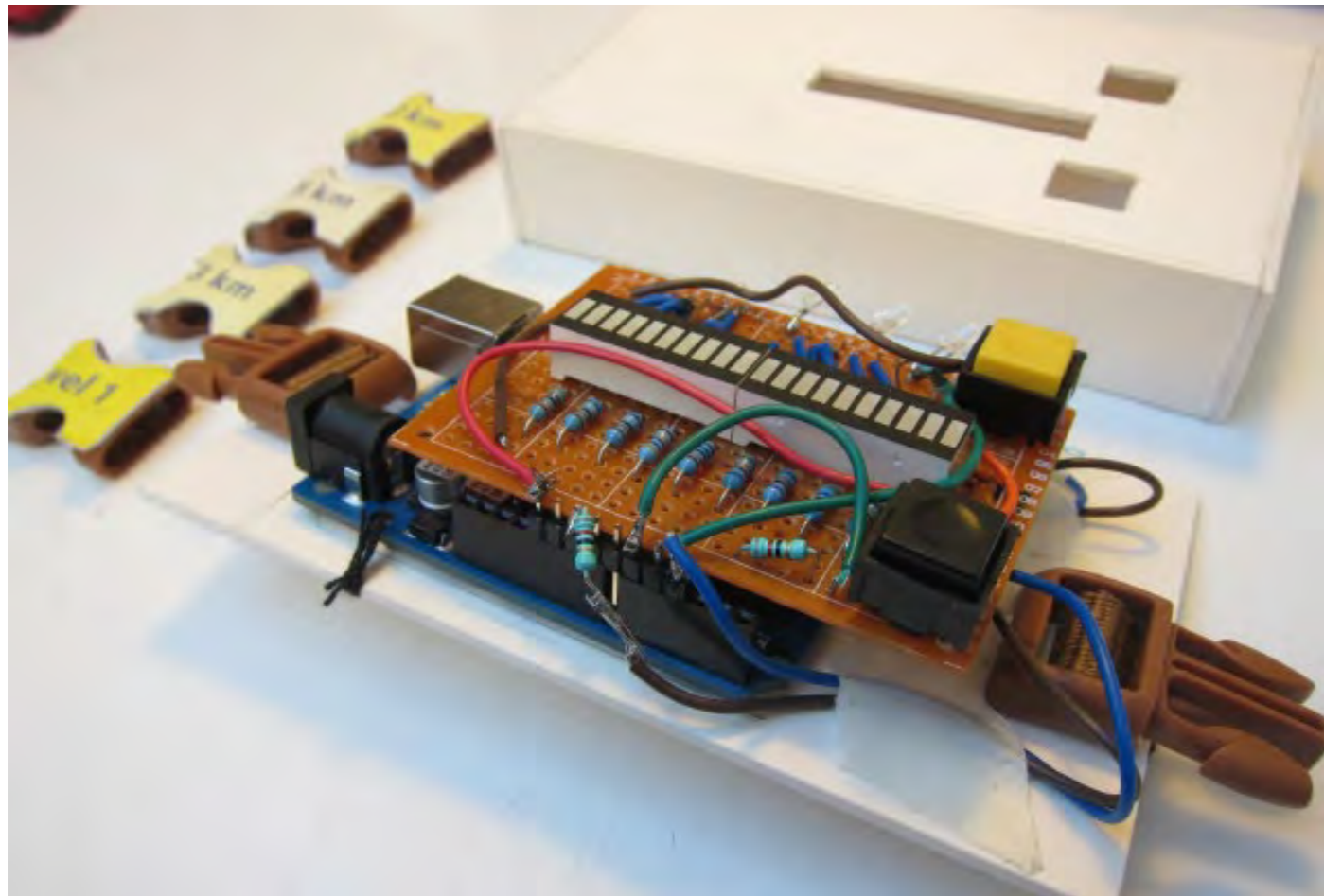
The other part of the prototype are the electronics which was attatched in an external box. The purpose of this is to give the user a more percise of how the monitor is. So that they can imagine wearing it while their run.

In order to have a better knowledge of how joggers experience the process from adjusting jogging plan, go out jogging to finally finish jogging and come back home, after testing with the prototype, the participants was asked to fill out a questionnaire to express if the designed process fulfills the intended interaction and qualities. The design goal and interaction vision will be firstly explained. The questions are catagorized in four stages of the process. Every section starts with a scenerio which aims to refresh the participant's expreience of certain situation of the test.

Scenerio 1. Starting run in your normal jogging time and condition
You firstly plug in Level 1, then you plug in 3 km which is your normal jogging plan. By going for this first run, the device sets this run as a starting point for your training (distance & intensity).
*the device beeps when the you get home, indicating that today's running data is uploaded.

Questions
1-1 How easy is it to understand how to operate the device?
1-2 How good does the number on plugs communicate?
1-3 How reasonable is the process of setting a starting point?

Answers
The device need to provide a additional describtion of how to use the product, because the physical process of deciding distance and intensity by clicking on the plugs in order to fill the lighting blocks of the device is a new way of interaction. SInce the current prototype is still different form the real product, it is still quite hard for user to imagine having the device on their wrist. The users also feel that it is hard to link the light indication of the watch to the outside weather condition.

Scenerio 2. Second run
Before going out for the run, you wear on the device. You notice the energy indicator block was not full, you then notice that it's 2 hours earlier than your first jogging time, and the weather condition is not as same as last run.
You plug in 2 km instead of 3 km, and the energy indicator fills up (full). It suggested that you go for the run of 2 km is optimum. Having this in mind, you went out for the run.

Questions
2-1 The device fully communicates "Commitment to oneself"?
2-2 Is it easy to relate "energy block not full" to "different time or condition as normal jogging condition"?
2-3 How intuitive is the process of adding less challenge to full the energy indicator block?
2-4 The interaction of clicking on the plug is suitable.
2-5 The device is easy to use.

Answers
The interacton fulfills the feeling of commitment when clicking on the plug. However, it is not that intuitive in the interaction of adding less distance and intensity to fill in the lighting blocks. The goal fo doing this needed to be more clear to the user. While there were only two plugs to click on and off, the users think that they will not find it hard to use.

Scenerio 3. During second run
Along your run, the energy indicator block decreases. It reminds you with a beeping sound that you should turn back when you reach half of the plan (1 km). You are advice to turn back. Otherwise the energy block will reach empty state before you got home. You turned back and head on home.
*the continuous beeping sound stop when you tap the button.

Questions
3-1 The device fully communicates "Honestly visualize ones condition"?
3-2 The beeping sound is an appropriate reminder?
3-3 I will look at the energy indicator block often during my run.
3-4 I will turn back as soon as I hear the beeping reminder of half way.
3-5 I am certain that I can maintain the same level (intensity) as my standard run.

Answers
Since the lighting blocks changes along the run according to the speed and distance the runner, is communicates the quality of honesty. The reminder "beep" should be redesigned so that the user will feel less disturbing and pleasant during the run. With a braclet on their wrist, users think that they will peek at it once in a while, and it fully satisfy their need of self monitoring. But they believe that it is almost imposible to always maintain the same speed in a run, therefore, the lighting block may be already gone before they arrive home.

Scenerio 4. Reach home
It beeps when you got home, with a treat of indicating the total distance you accumulated on your wrist. (It only indicates when you obeyed the reminder and turn back half the way)
You took off the device and checked out your accomplishment in your account online.

Question
4-1 The device provides a sense of achievement by showing the accumulated distance.
4-2 I will feel disappointed when today's workout didn't add up.

Answer
The accumulation of distance is really an important motivator for people who is just start jogging. They will feel quite disturbing when the work out didn't add up, therefore, most of the users say that if they have this product, they will try to run according to their plan.

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**precare**

**Product rendering**

After completing the full design, I decided to 3D model the product, so that it can give a better describtion of the design astheticly. Both considering the texture of each segments and the proportion.

**Product name**
The product was given a name called "precare". It focus on "preparing" the jogger before leaving their door, preparing their mind and making sure that they have a healthy and satisfactory run.

**Product concept**
The concept of this product is to make people aware of their running pattern by a physical movement. Encourage them to adapt their plan when necessary and have a sense of commitment to themselves. Instead of breaking ones record in speed or distance, this device encourages user to build up a healthy and steady running pattern, improving one's skills as responsible runner.

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a. The lighting blocks are not full, indicates that the jogger body condition is not at the best condition, due to the intense training recently.



b. Plugging the clicks one at a time, the lighting blocks increases, stop untill it fills up.
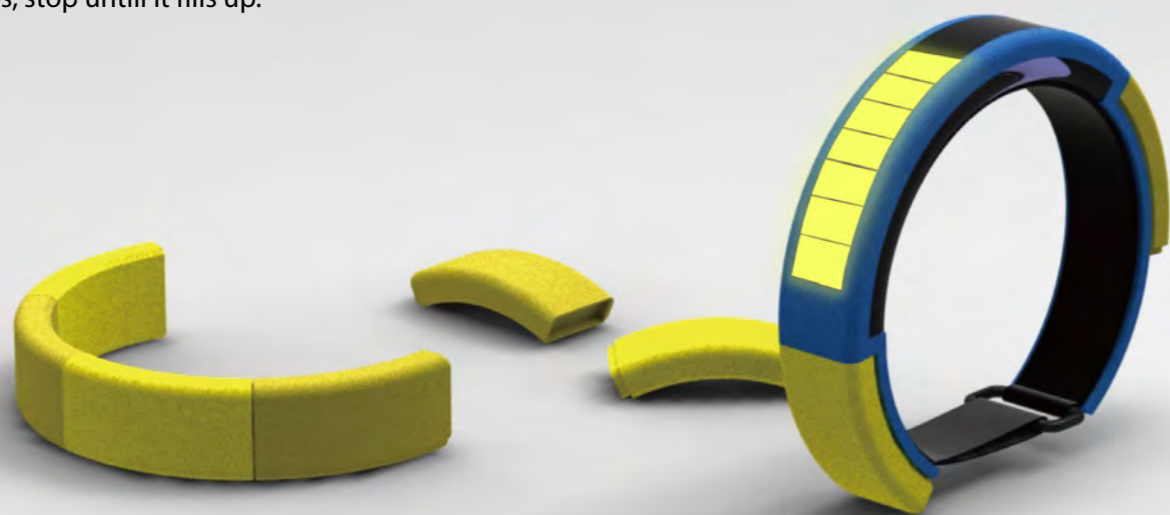


c. Plugging in the right amount of distance and intensity, the lighting blocks light up, and is ready for use.
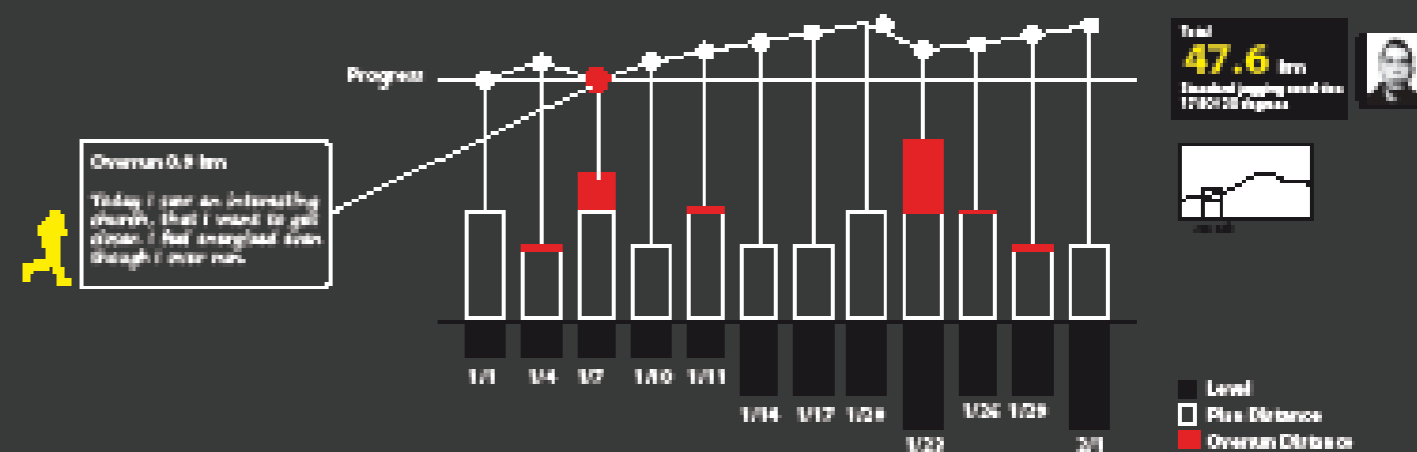
# precare *Stay conscious, run free*
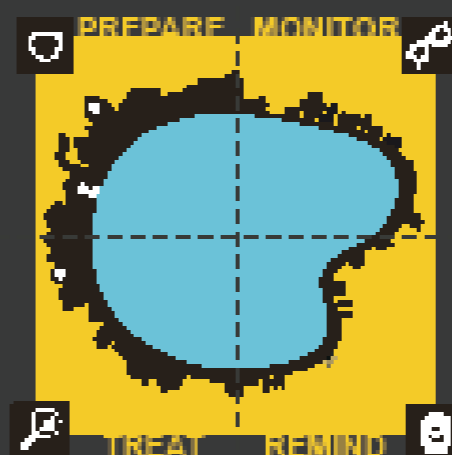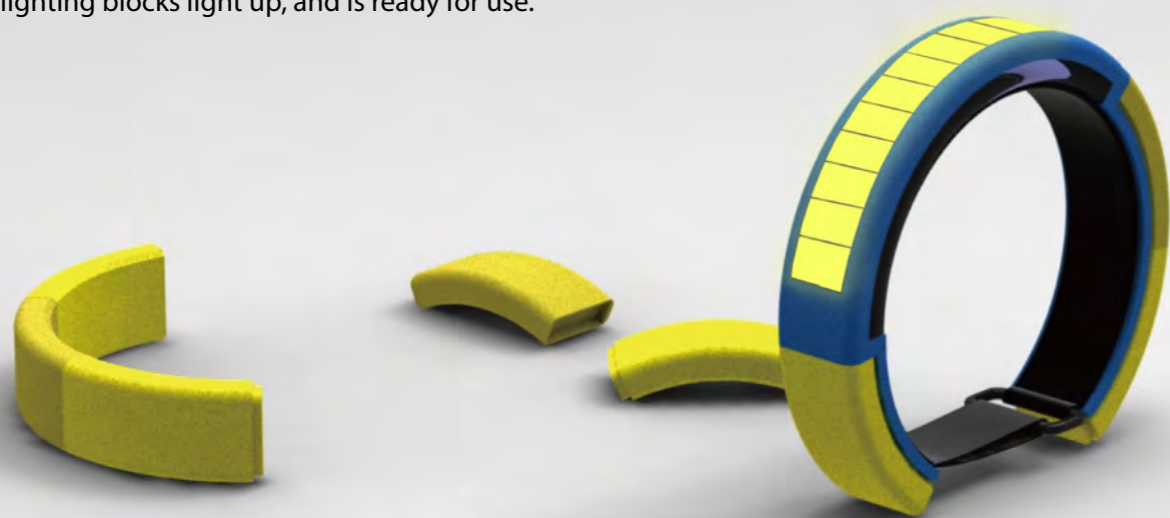


## Design goal

Designing a product to make runners aware of their body condition and make to right decision in self training, to prevent injuries and reach satisfaction.

PREPARE    MONITOR

TREAT    REMIND



## Interaction vision

| Trains you | Makes you | Prevent you | Makes you |
|---|---|---|---|
| Steadyly, | Aware, | Honestly, | Commited |



Progress

Overrun 0.9 km

Total
47.6 km

Level
Plus Distance
Overrun Distance

1/1  1/4  1/7  1/10  1/11   1/14  1/17  1/20   1/23   1/26  1/29   2/1

BIOMET  TU Delft

### Poster for final presentation

The poster on the left was made to communicate the design in a short and clear way in the final presentation and exhibition. Besides showing the product renderings, it also explains the product functions in the four stages of the run. The bottom graph indicates the website which the user can login after the jog, to have a closer look the the jog performed.

### Video clip for final presentation

The video clip fully communicates the use of the product in the whole process of jogging. It was aimed to give others the impression of the lifestyle of the device. It also documents the process of my exploration.
Please see the attached CD.