Team Olympia

Preprocessing

How many drinks?

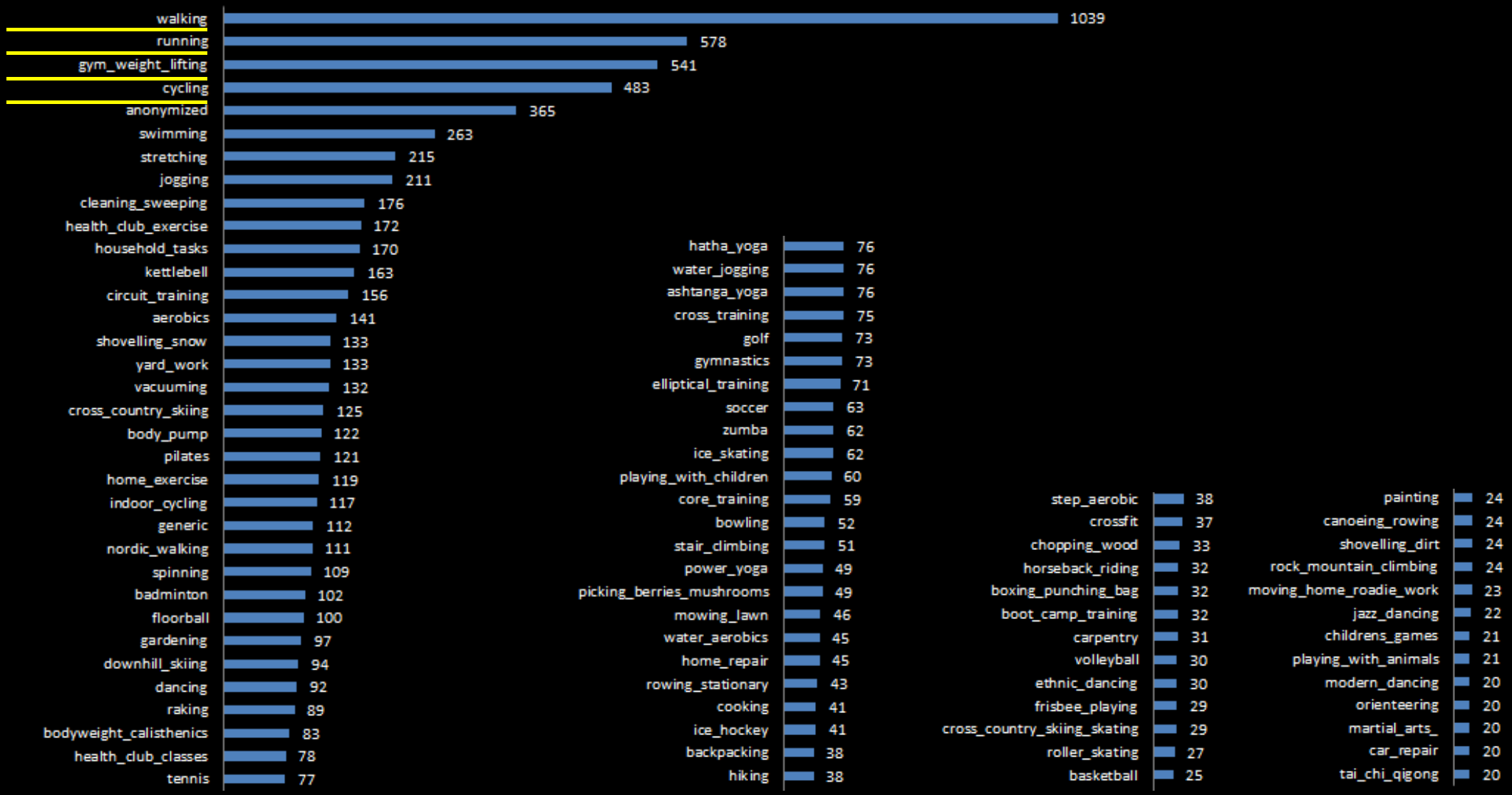
Roussimoff has been unofficially crowned "The Greatest Drunk on Earth" for once consuming **119** 12-US-fluid-ounce (350 ml) beers (over 41 litres) in 6 hours

How tall?

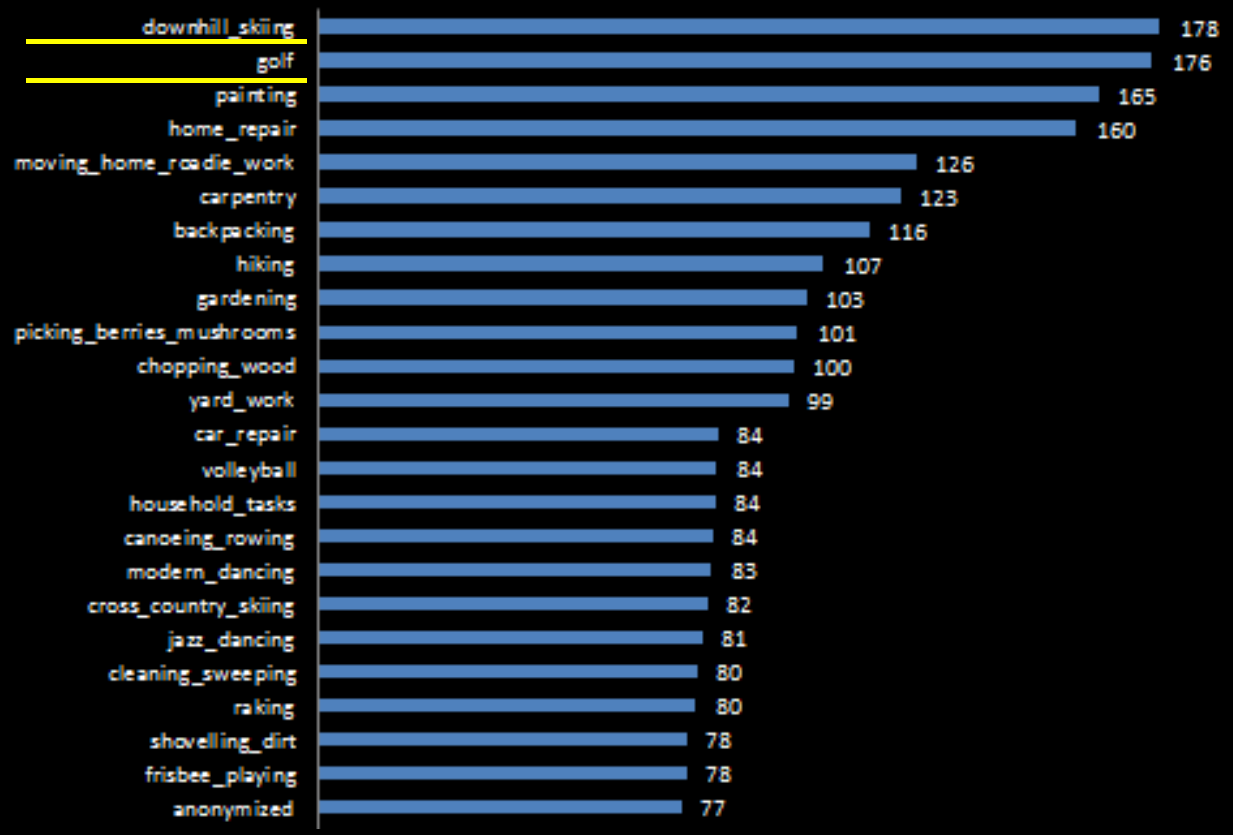
Wadlow reached 8 ft 11.1 in (**2.72 m**) in height and weighed 439 lb (199 kg) at his death at age 22

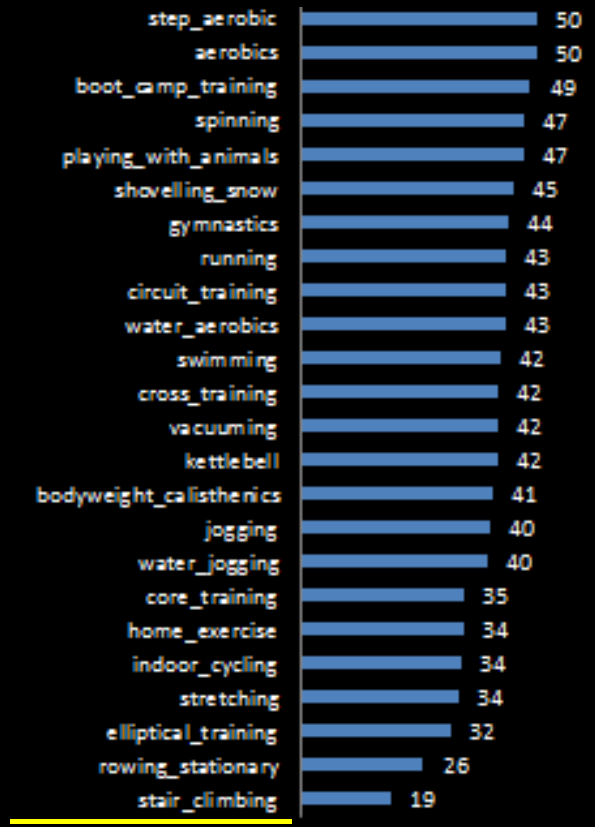
Data characteristics

People


walking 1039
running 578
gym_weight_lifting 541
cycling 483
anonymized 365
swimming 263
stretching 215
jogging 211
cleaning_sweeping 176
health_club_exercise 172
household_tasks 170
kettlebell 163
circuit_training 156
aerobics 141
shovelling_snow 133
yard_work 133
vacuuming 132
cross_country_skiing 125
body_pump 122
pilates 121
home_exercise 119
indoor_cycling 117
generic 112
nordic_walking 111
spinning 109
badminton 102
floorball 100
gardening 97
downhill_skiing 94
dancing 92
raking 89
bodyweight_calisthenics 83
health_club_classes 78
tennis 77
hatha_yoga 76
water_jogging 76
ashtanga_yoga 76
cross_training 75
golf 73
gymnastics 73
elliptical_training 71
soccer 63
zumba 62
ice_skating 62
playing_with_children 60
core_training 59
bowling 52
stair_climbing 51
power_yoga 49
picking_berries_mushrooms 49
mowing_lawn 46
water_aerobics 45
home_repair 45
rowing_stationary 43
cooking 41
ice_hockey 41
backpacking 38
hiking 38
step_aerobic 38
crossfit 37
chopping_wood 33
horseback_riding 32
boxing_punching_bag 32
boot_camp_training 32
carpentry 31
volleyball 30
ethnic_dancing 30
frisbee_playing 29
cross_country_skiing_skating 29
roller_skating 27
basketball 25
painting 24
canoeing_rowing 24
shovelling_dirt 24
rock_mountain_climbing 24
moving_home_roadie_work 23
jazz_dancing 22
childrens_games 21
playing_with_animals 21
modern_dancing 20
orienteering 20
martial_arts_ 20
car_repair 20
tai_chi_qigong 20

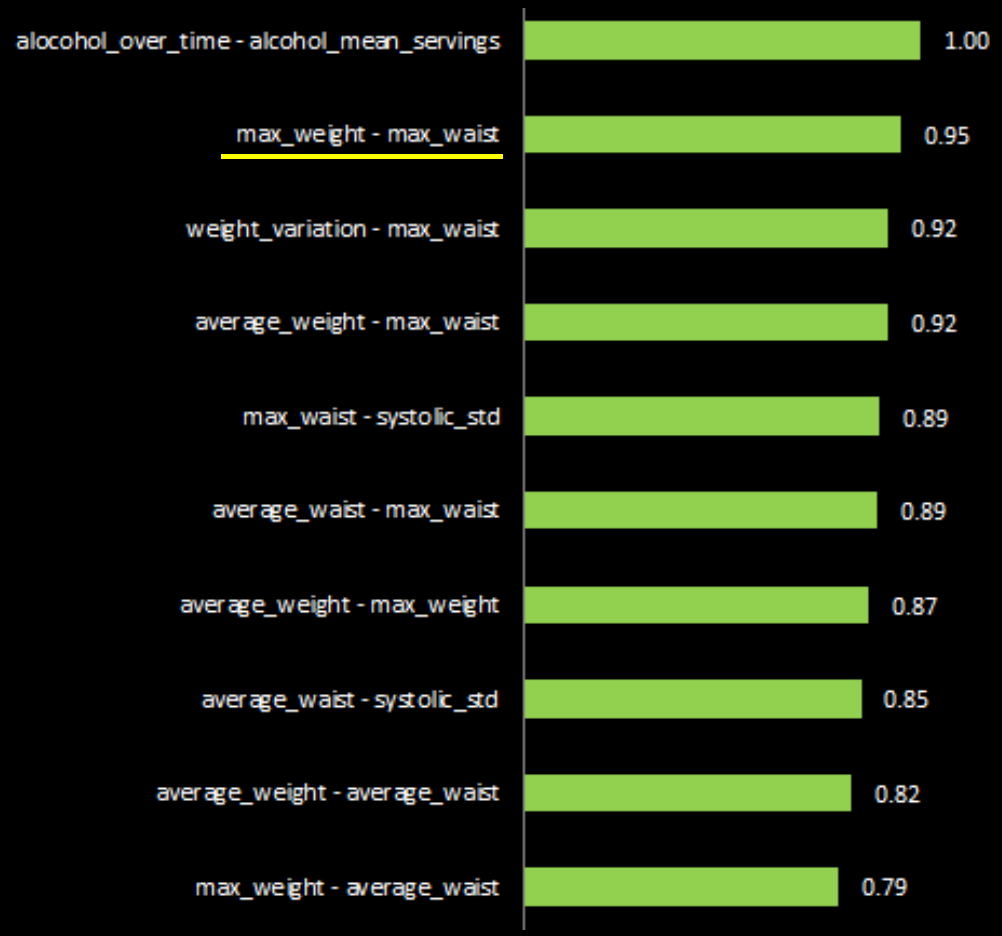
Average duration

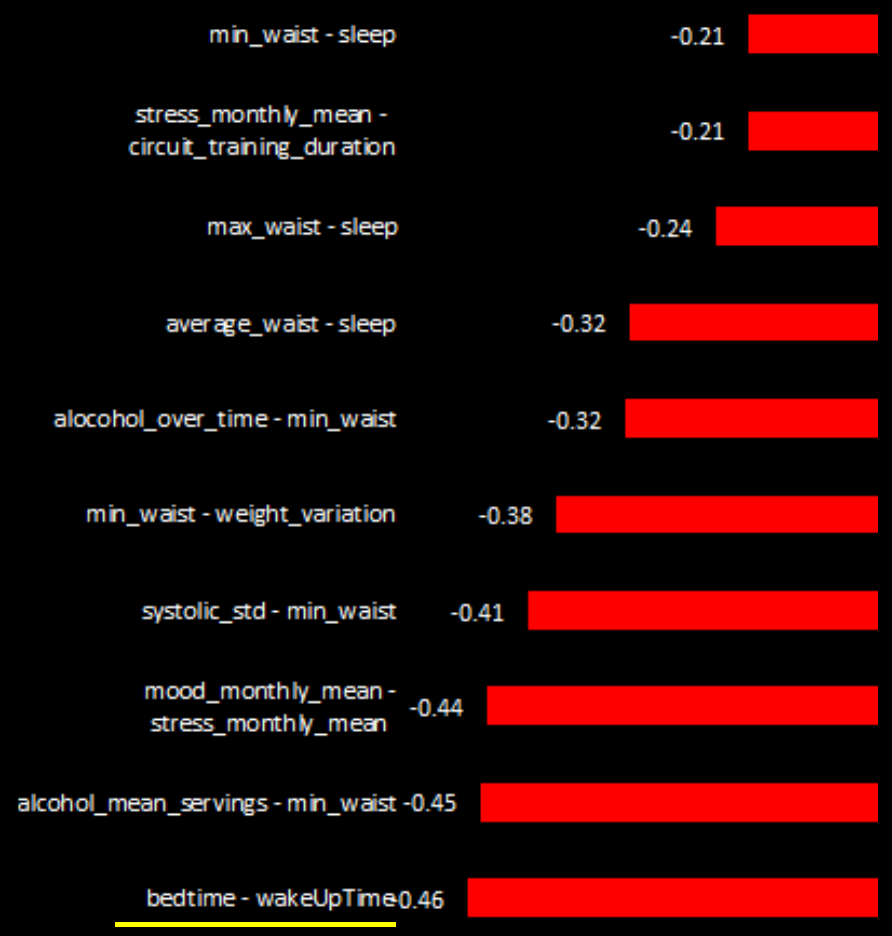




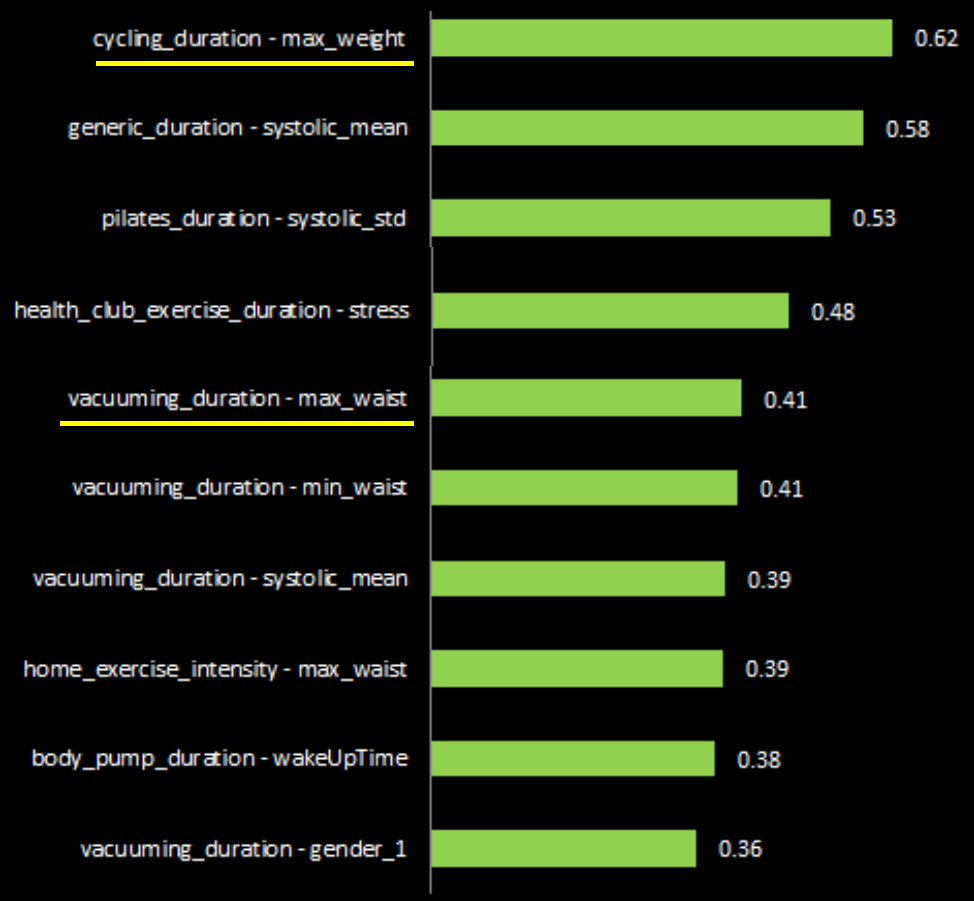
(Spurious?) correlations - SPORTS

(Spurious?) correlations – HABITS & STATS





(Spurious?) correlations – SPORTS VS HABITS & STATS



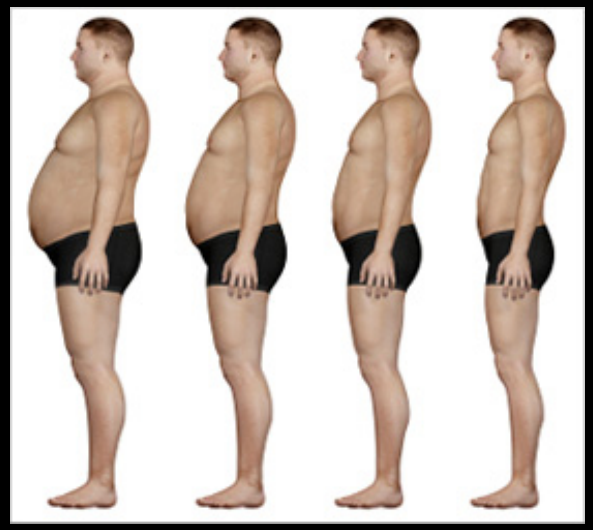
Predictions

Predictions for next month

```
# Preprocess data
➢ Aggregate data to monthly values
➢ Find previous months values

# Predictions
➢ Decide classes
➢ Classify for direction
➢ Optimize for classifier and hyperparameters
    ➢ Good results with SVM, ExtremelyRandomizedTrees
```

Predictions for next month



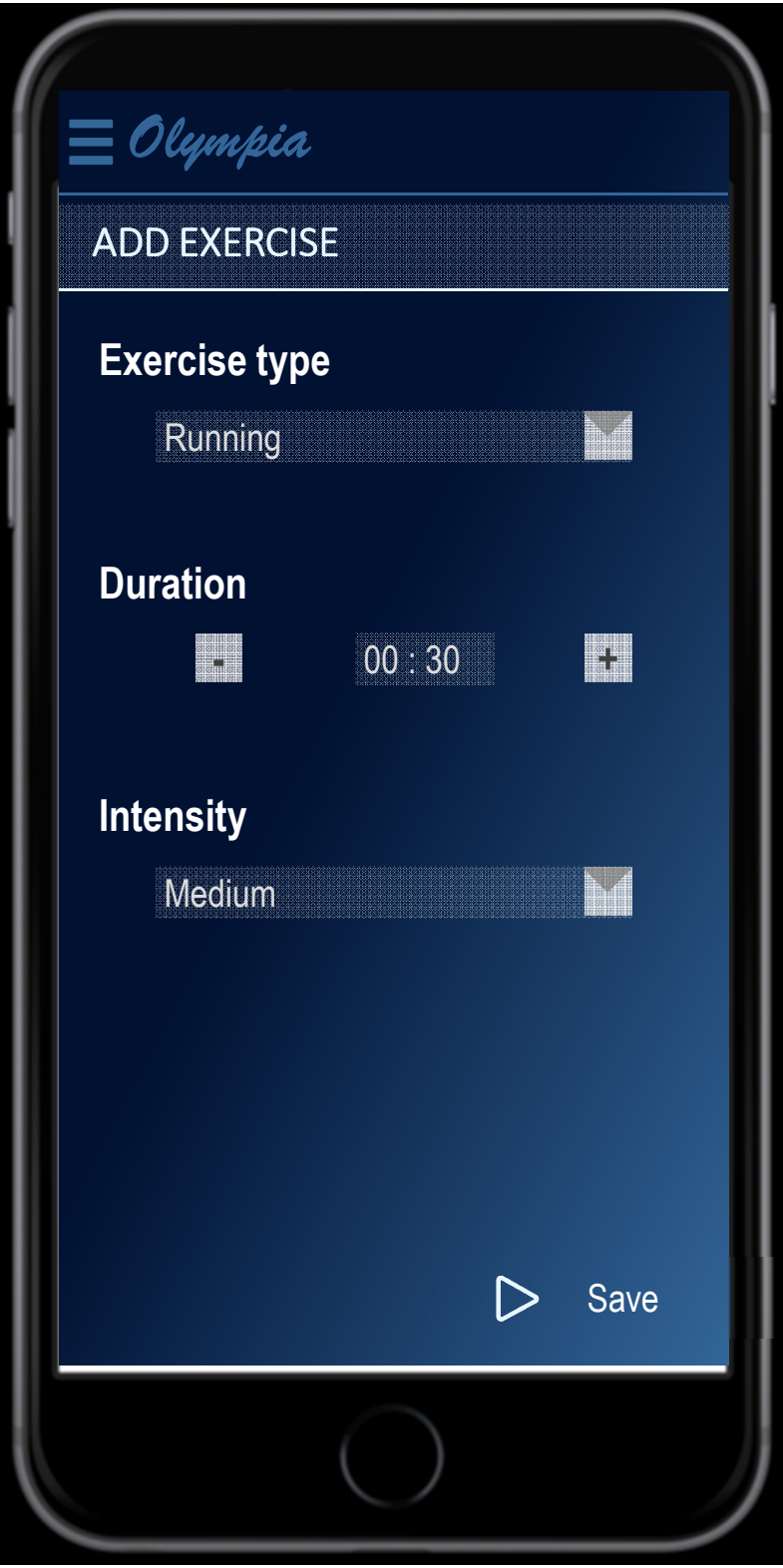
Weight change direction

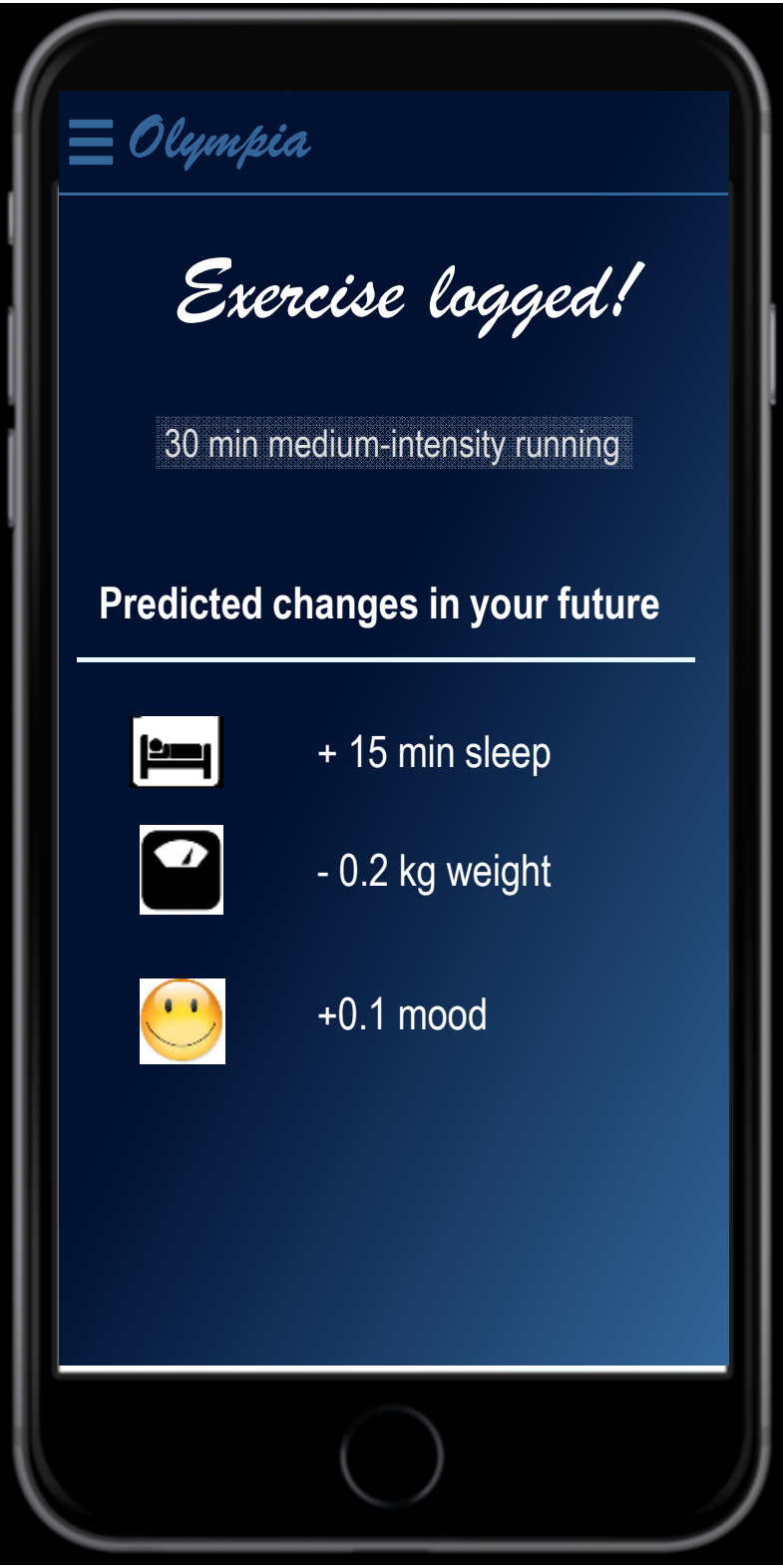
46% accuracy

Mood change direction

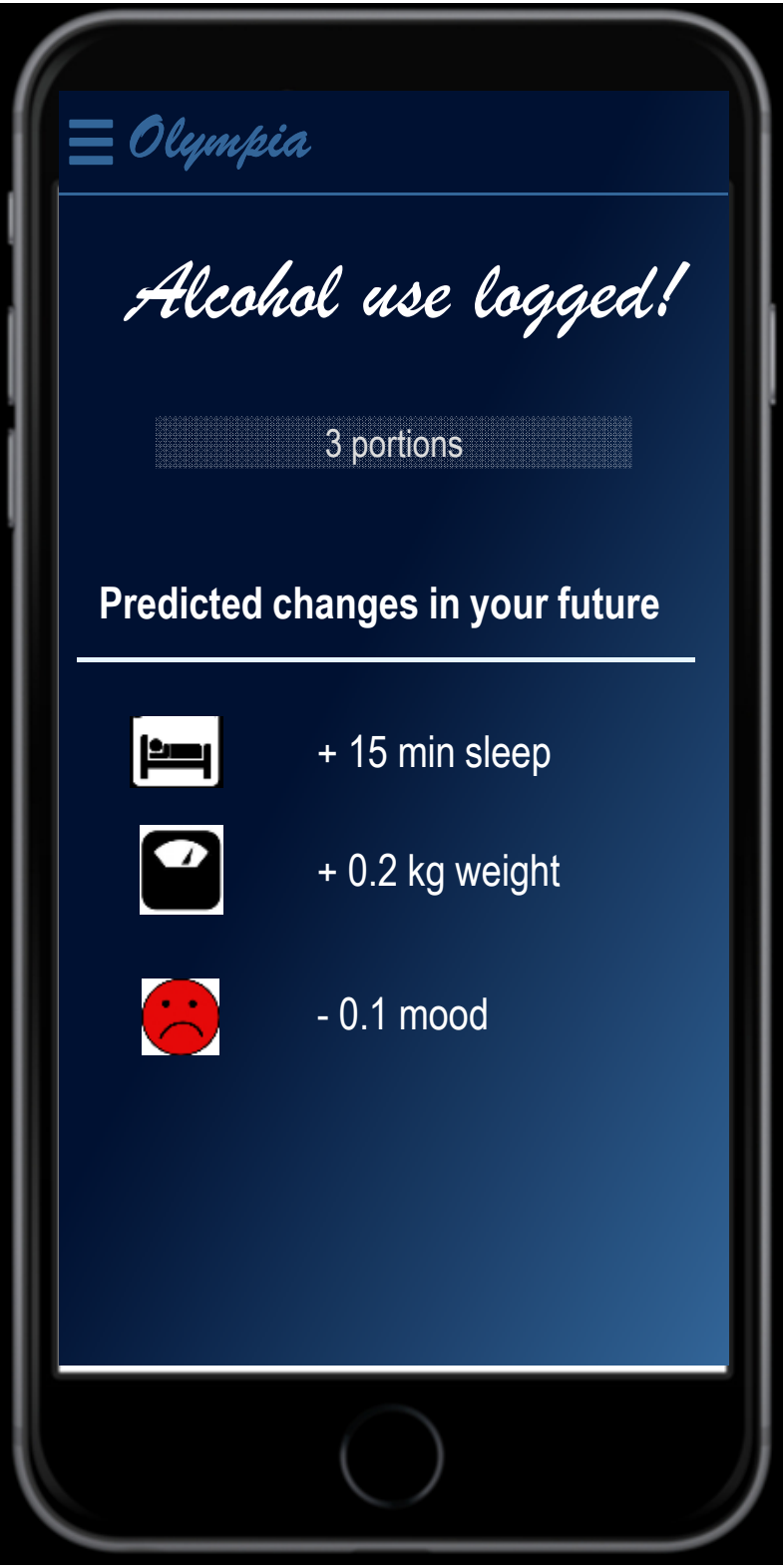
63% accuracy

Application 1


Olympia
ADD EXERCISE
Exercise type
Running
Duration
00 : 30
Intensity
Medium
Save

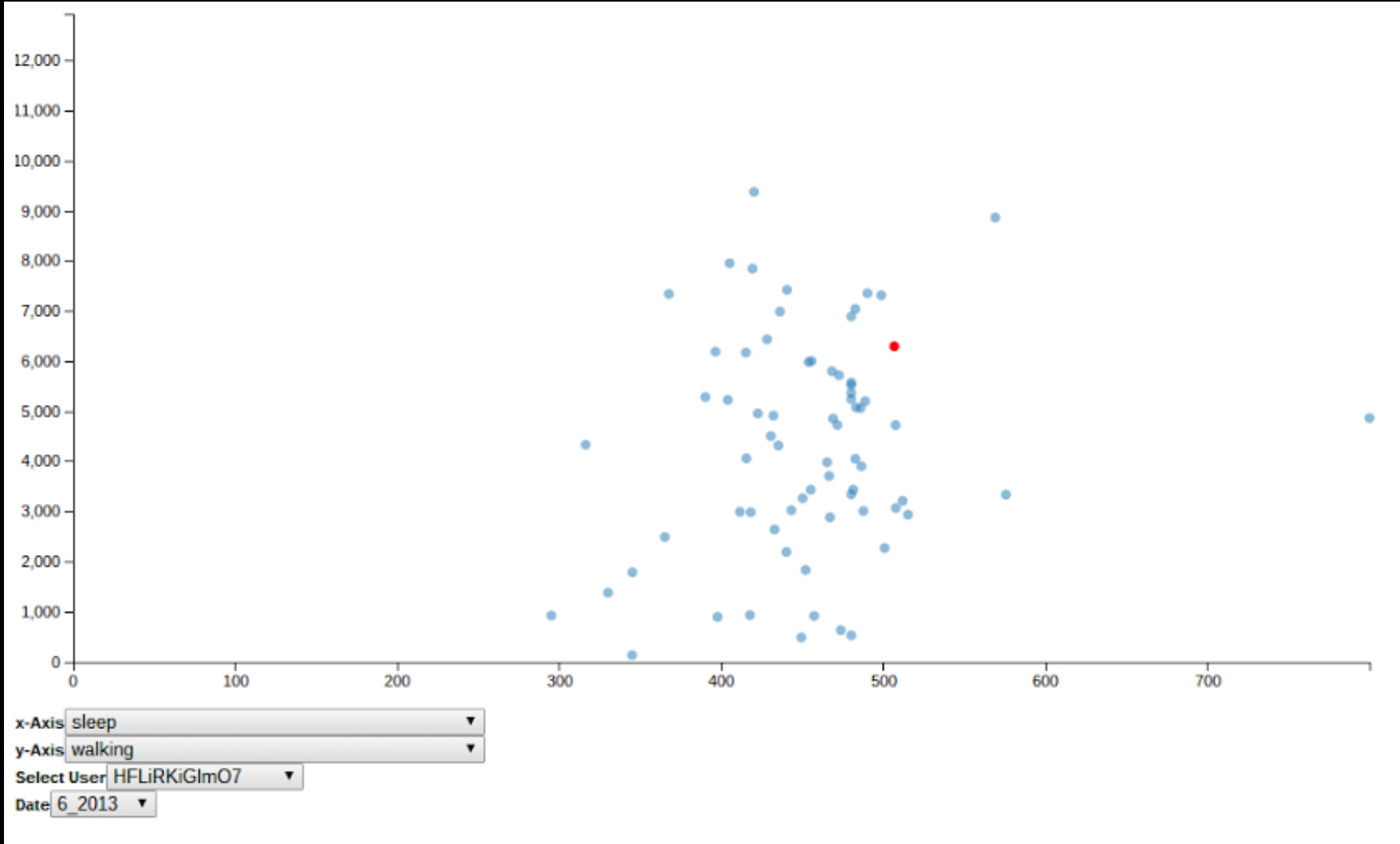

Olympia
Exercise logged!
30 min medium-intensity running
Predicted changes in your future
+ 15 min sleep
- 0.2 kg weight
+0.1 mood

Olympia
ADD ALCOHOL USE
Portions
-
3
+
Save

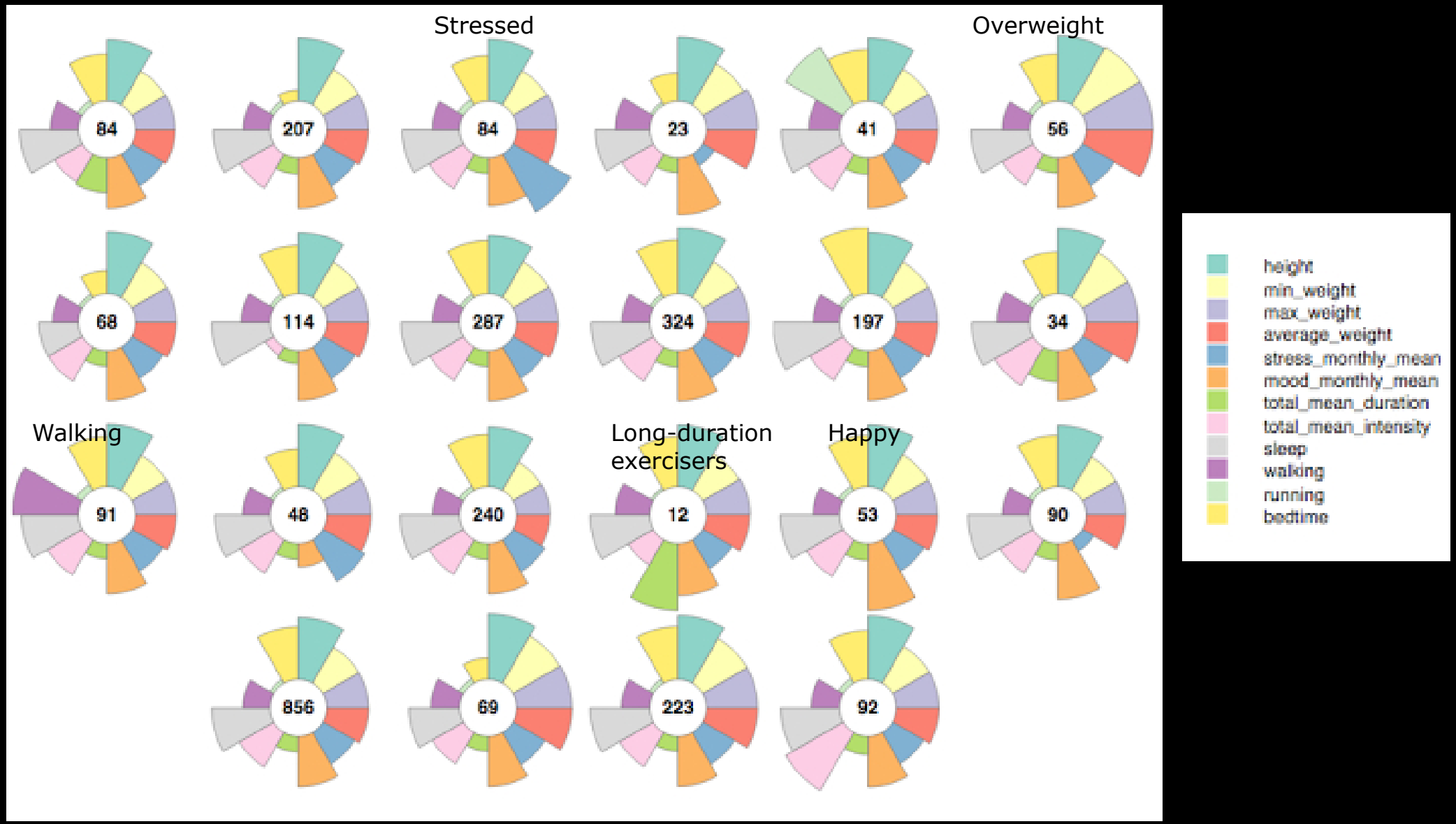

Olympia
Alcohol use logged!
3 portions
Predicted changes in your future
+ 15 min sleep
+ 0.2 kg weight
- 0.1 mood

Clustering

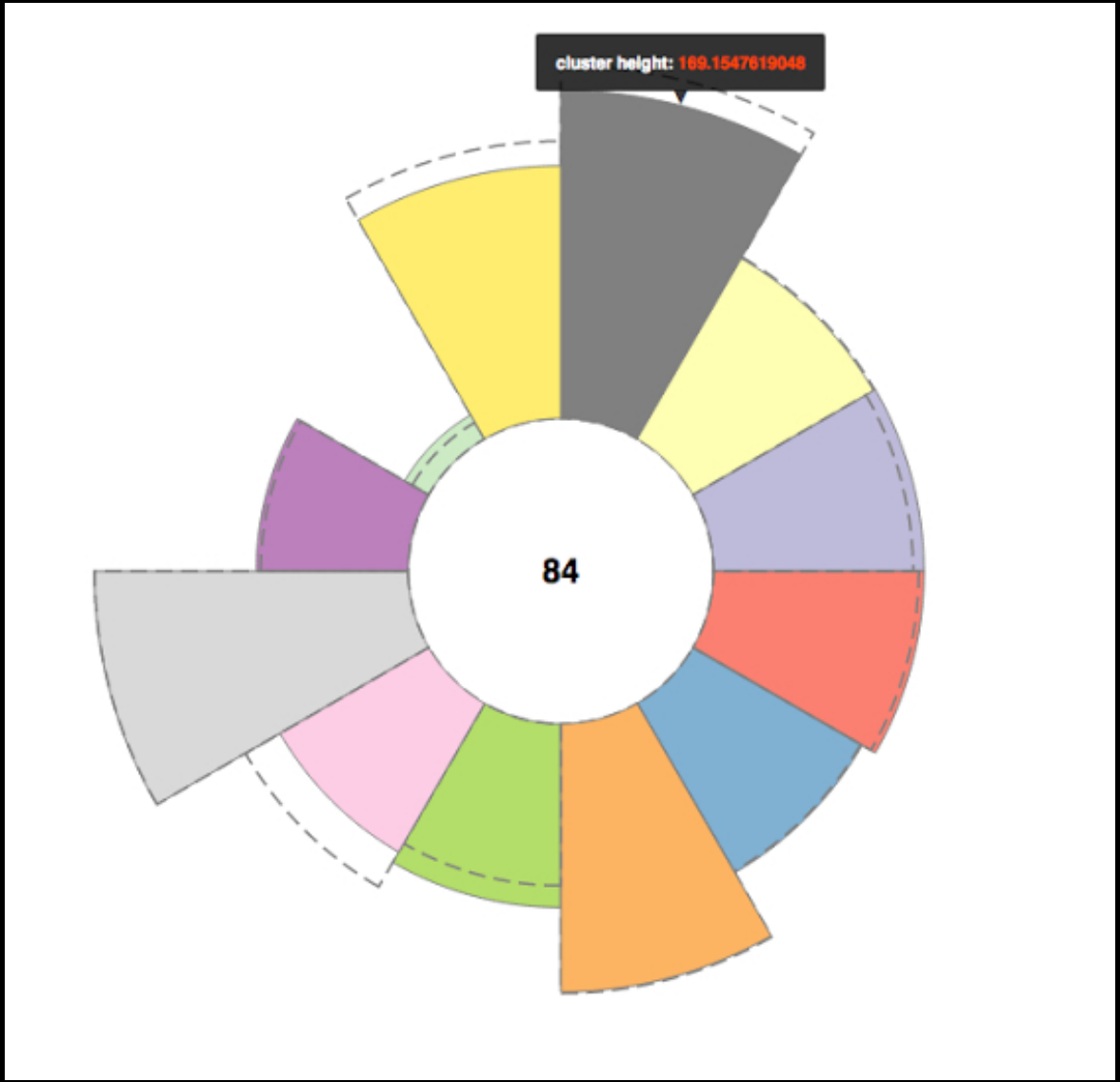
Demo 1


12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
0
100
200
300
400
500
600
700
x-Axis sleep
y-Axis walking
Select User HFLiRKiGImO7
Date 6_2013

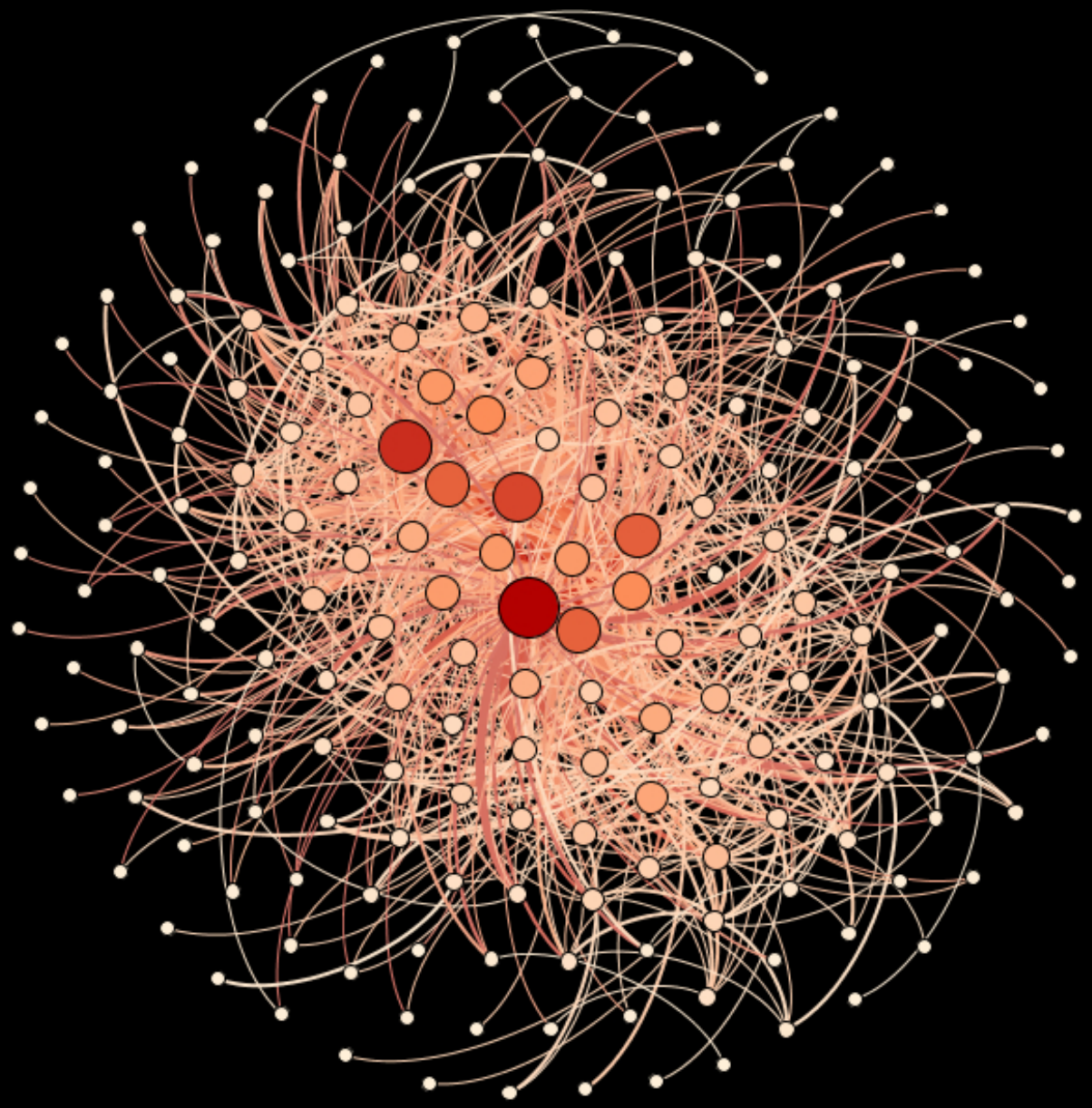
Demo 2


Stressed
Overweight
84
207
84
23
41
56
68
114
287
324
197
34
Walking
Long-duration exercisers
Happy
91
48
240
12
53
90
856
69
223
92
height
min_weight
max_weight
average_weight
stress_monthly_mean
mood_monthly_mean
total_mean_duration
total_mean_intensity
sleep
walking
running
bedtime

Demo 2

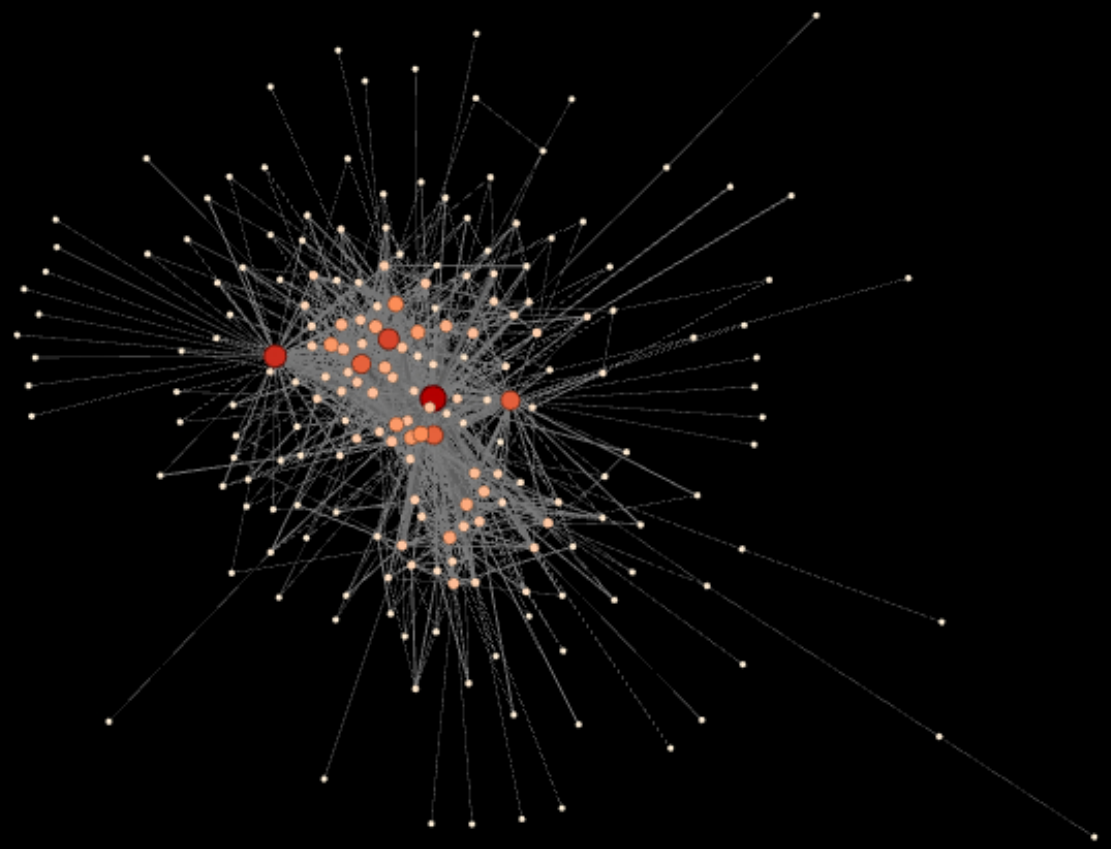


Friends network



206 nodes
1103 edges
Average degree 11
Network diameter 6

Friends network



206 nodes
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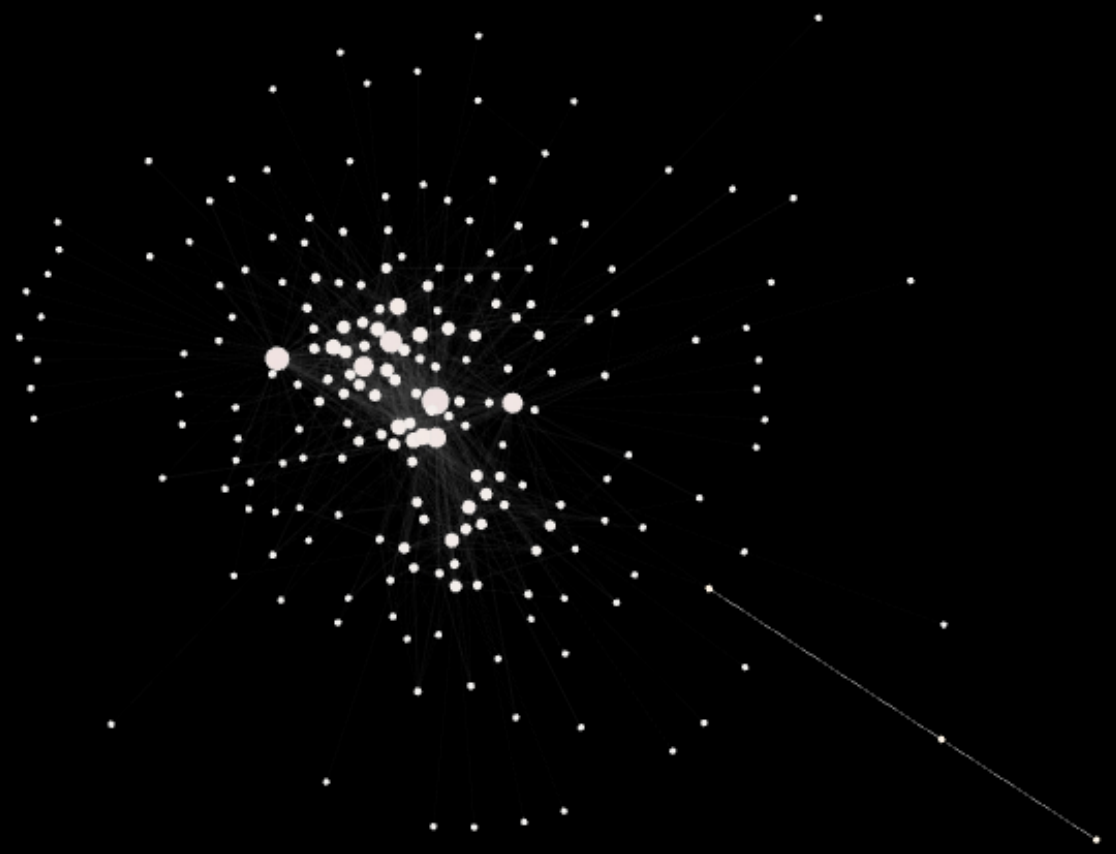
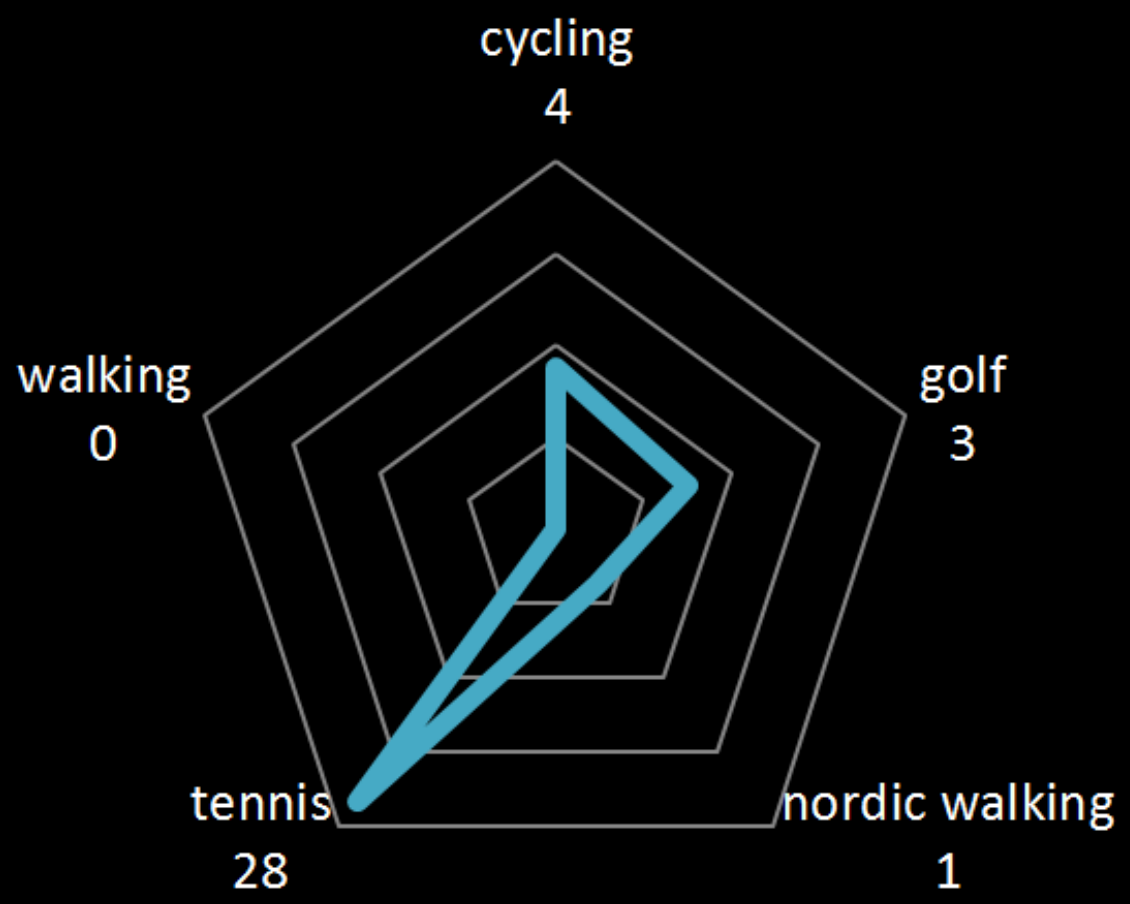
Friends network



206 nodes
1103 edges
Average degree 11
Network diameter 6

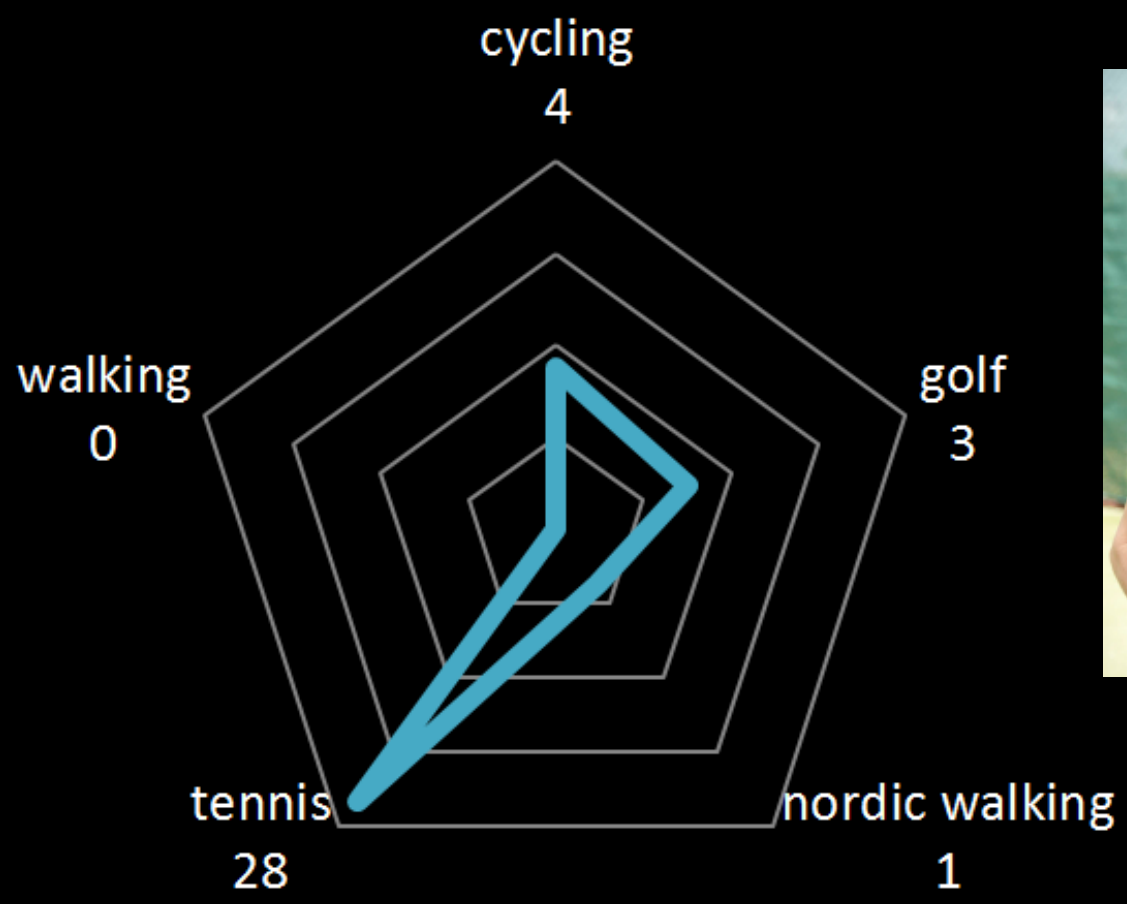
You could find a new sports team or company for a jog...

Friends = same activity at same time



(Shown: common activities of users with at least 5 common activity-time pairs)
Users:
JcP4AZ1n2CYN (188cm, unknown sex)
3QPZgZp9sFfD (176cm, female)

Friends = same activity at same time

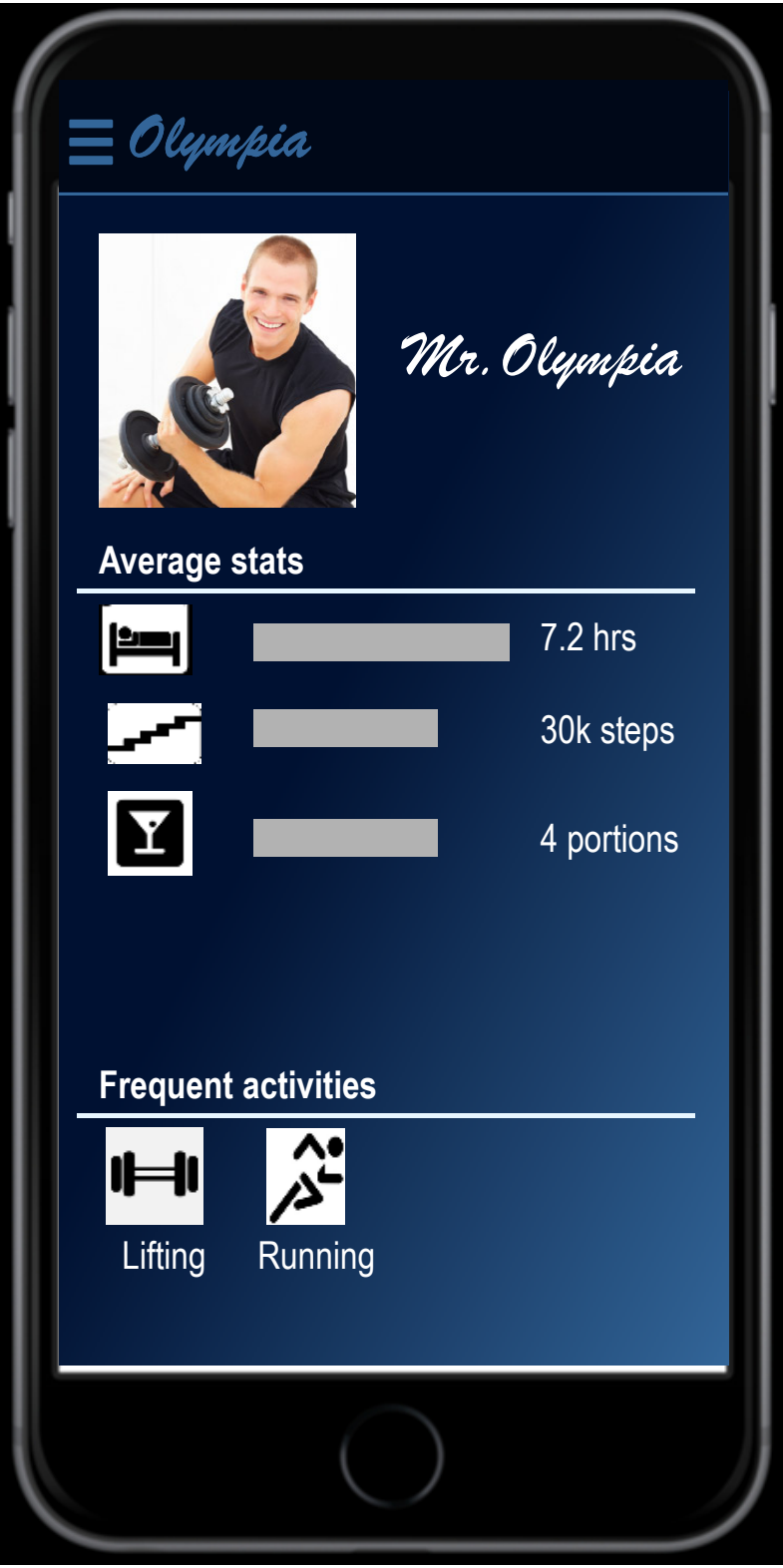


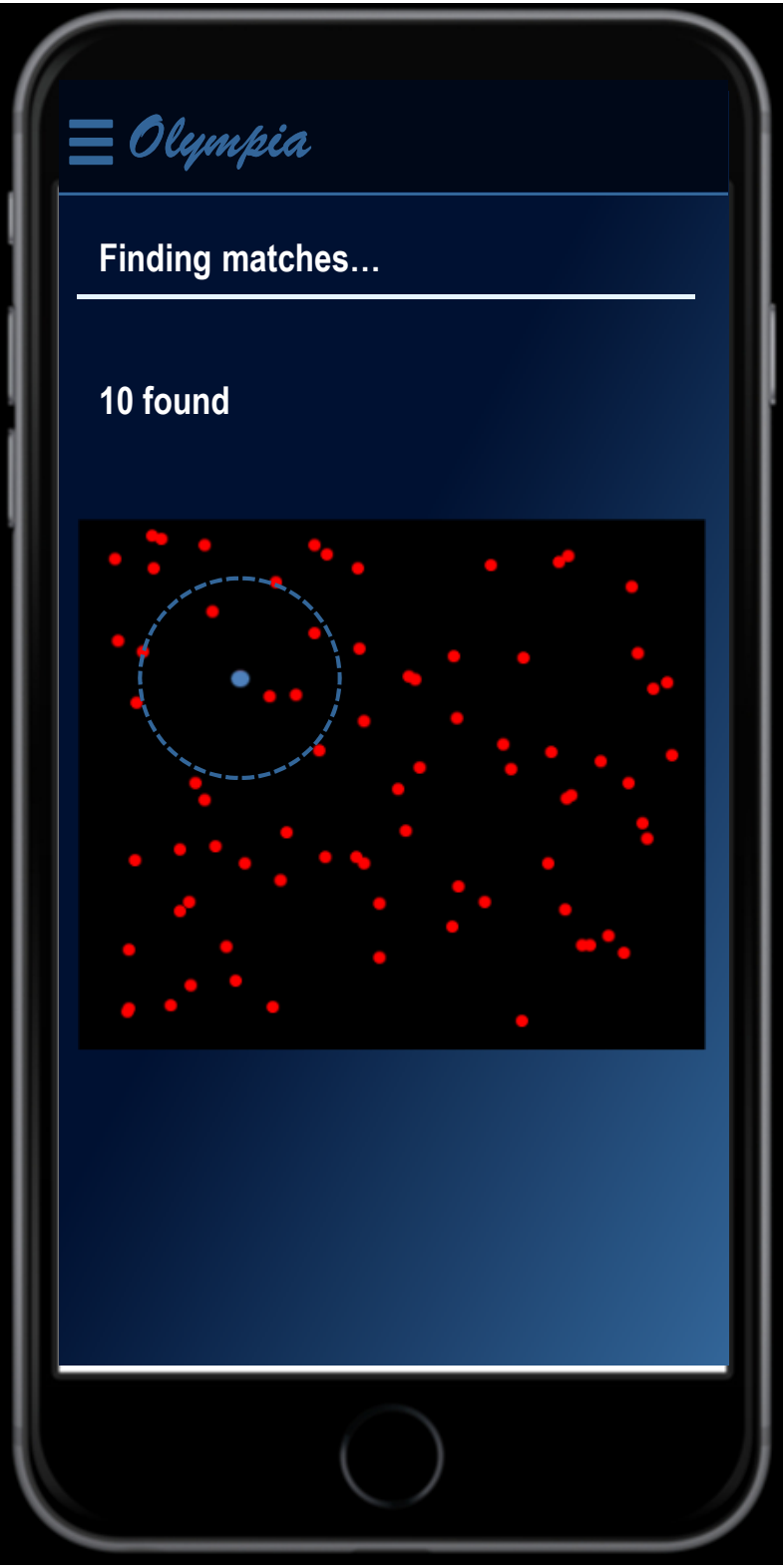
(Shown: common activities of users with at least 5 common activity-time pairs)
Users:
JcP4AZ1n2CYN (188cm, unknown sex)
3QPZgZp9sFfD (176cm, female)

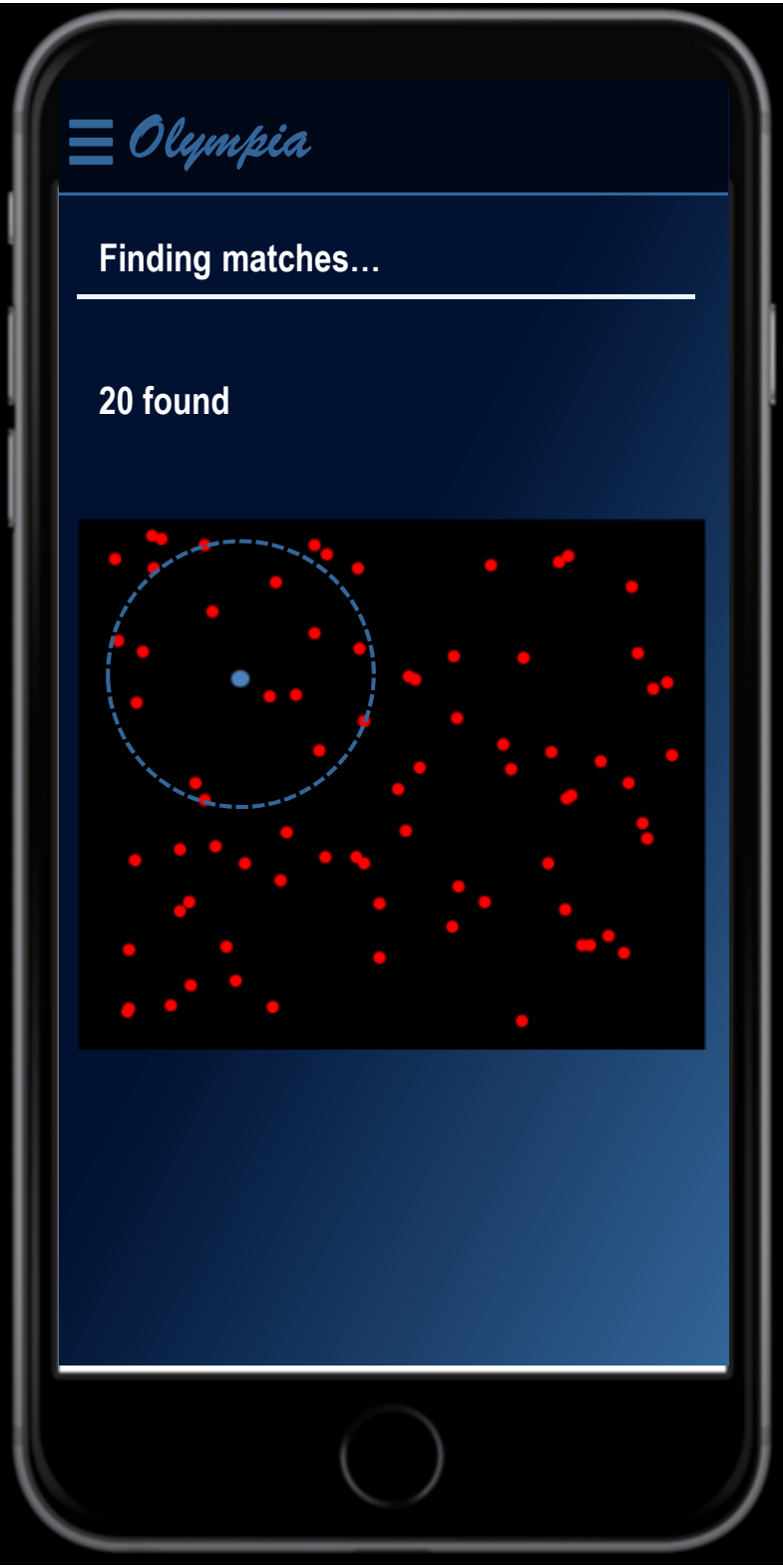
Application 2

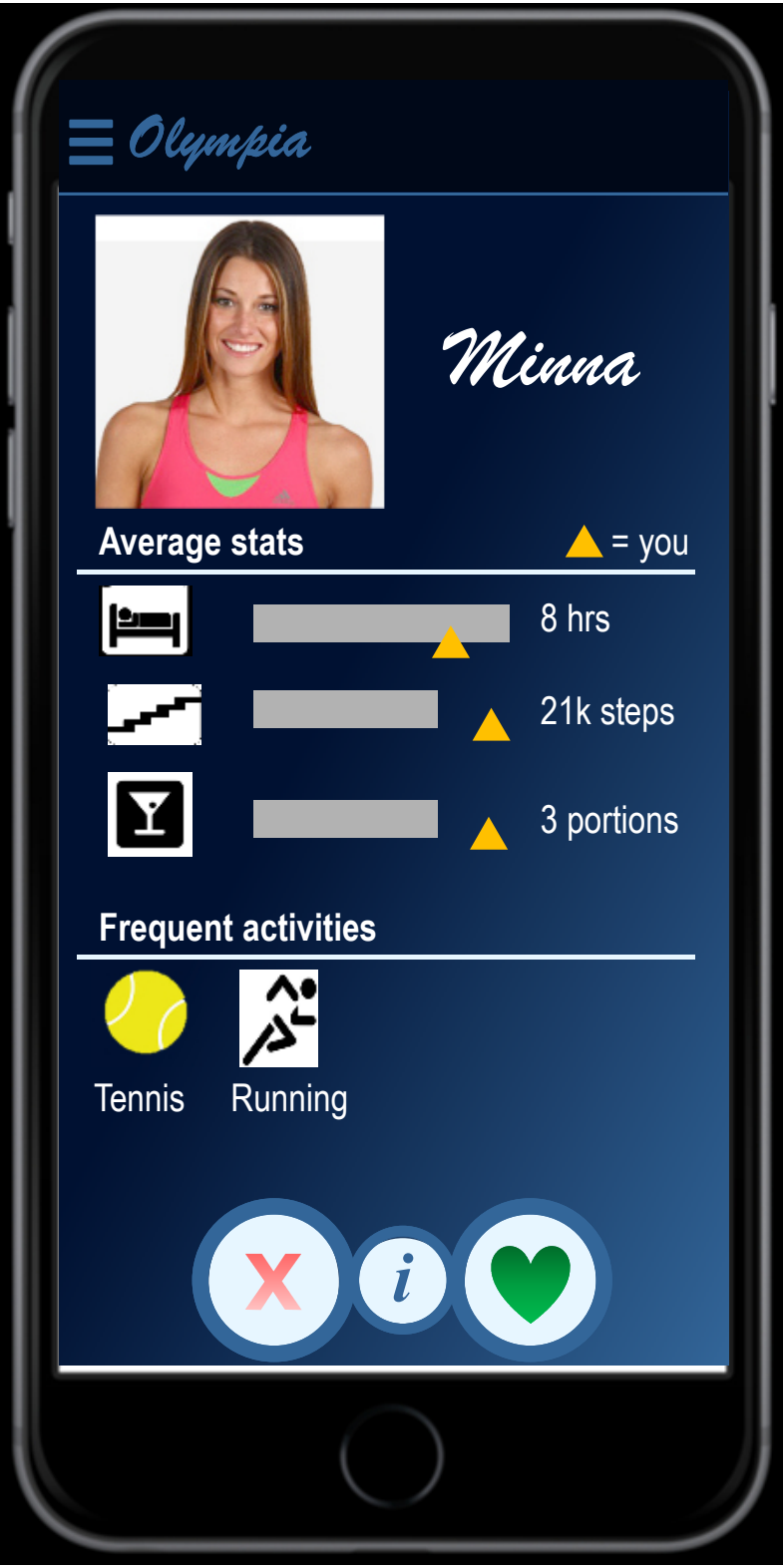
You could find a new sports team or company for a jog...

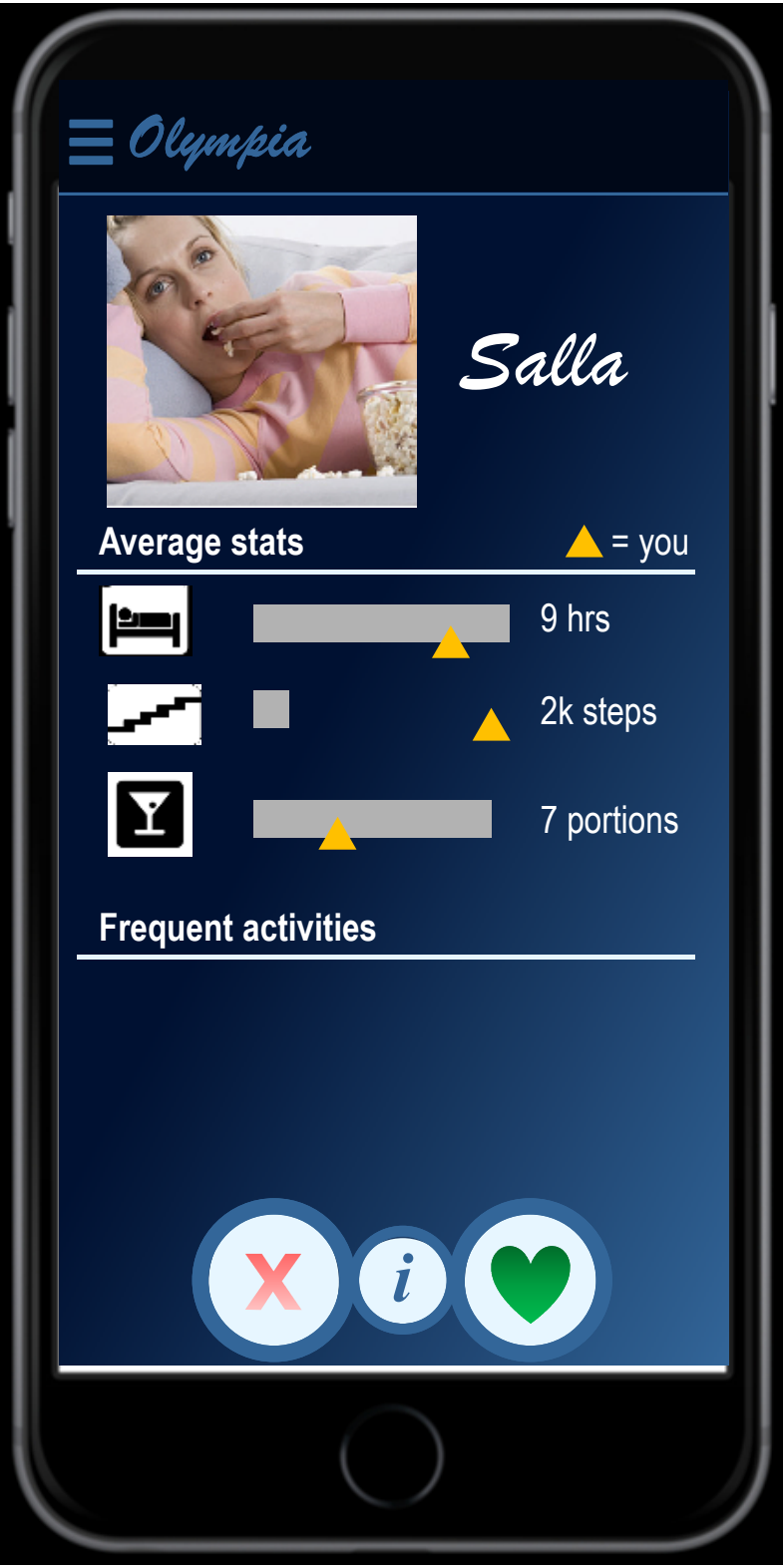
... or ...

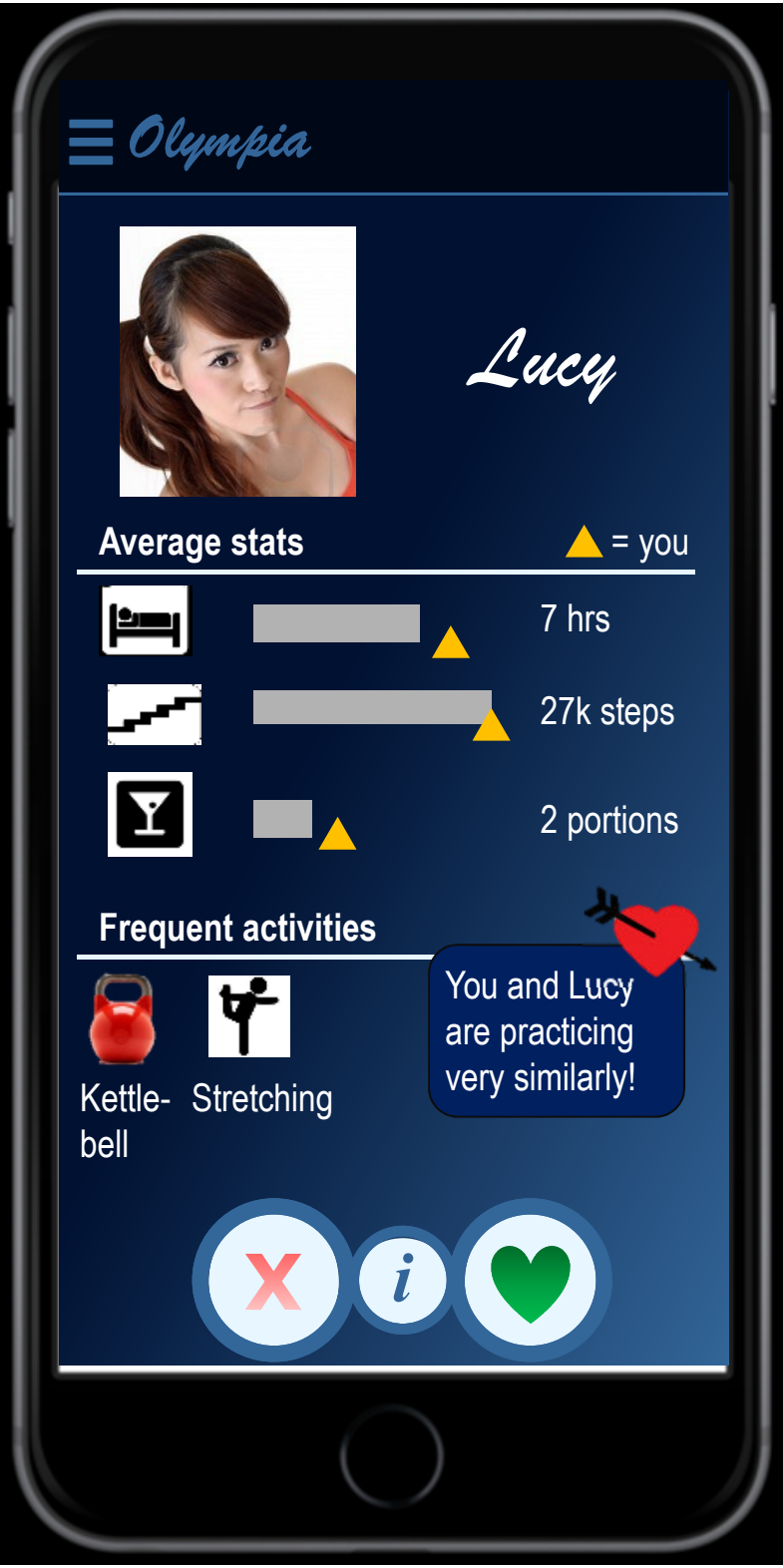

Olympia
Mr. Olympia
Average stats
7.2 hrs
30k steps
4 portions
Frequent activities
Lifting
Running


Olympia
Finding matches...
10 found


Olympia
Finding matches...
20 found


Olympia
Minna
Average stats
= you
8 hrs
21k steps
3 portions
Frequent activities
Tennis
Running

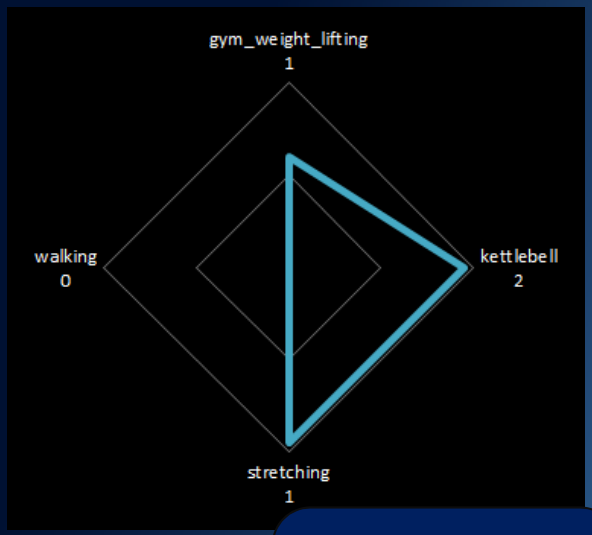

Olympia
Salla
Average stats
= you
9 hrs
2k steps
7 portions
Frequent activities


Olympia
Lucy
Average stats
= you
7 hrs
27k steps
2 portions
Frequent activities
Kettle-bell
Stretching
You and Lucy are practicing very similarly!

Olympia

Lucy

Matching activities



You have been practicing at the same time, for the same duration!

Why us

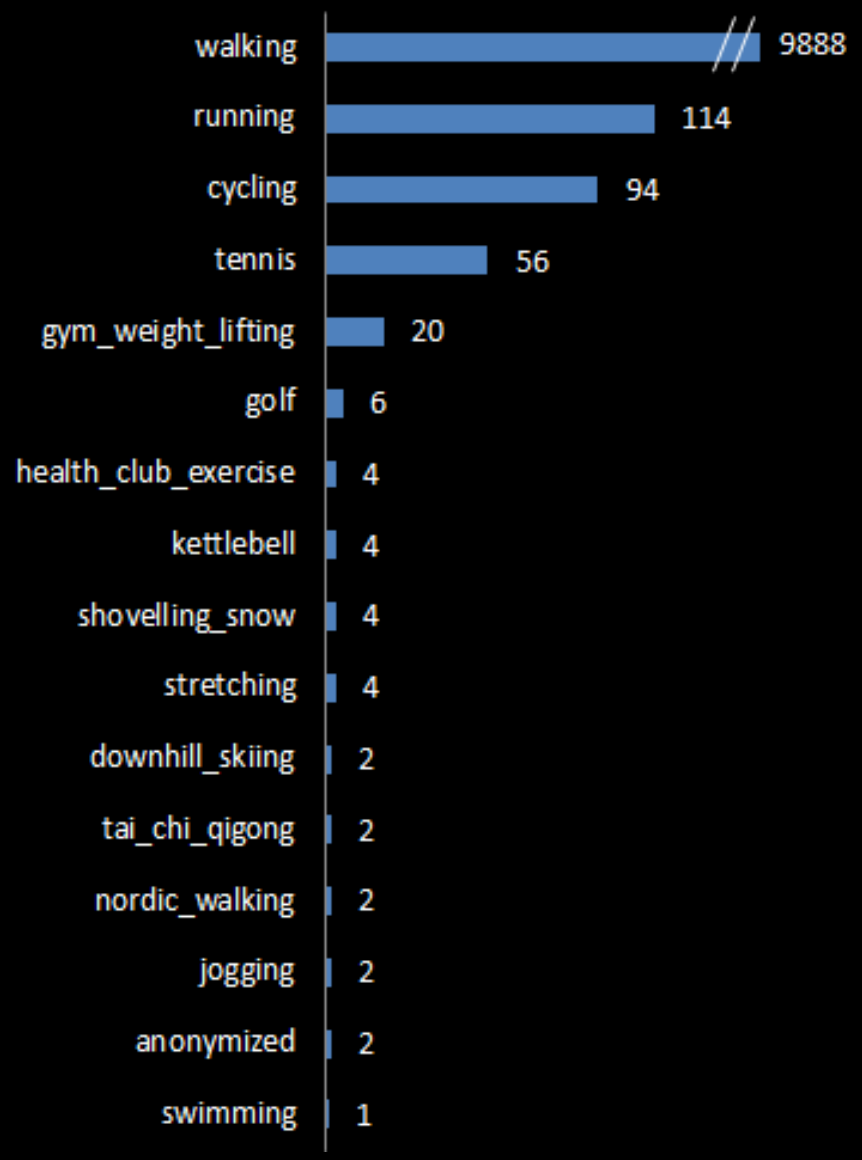
Predict user actions
Cluster to help habit changes
Match users

Algorithm for finding implied social network
Advanced classifiers making accurate predictions
Clear interpretations following optimized clustering

User stickiness from user matching and personal plans
Targeted marketing at users in certain groups (and changing groups)
Freemium date-matching model

Out

Friends = same activity at same time



(Shown: common activities of users with at least 5 common activity-time pairs)