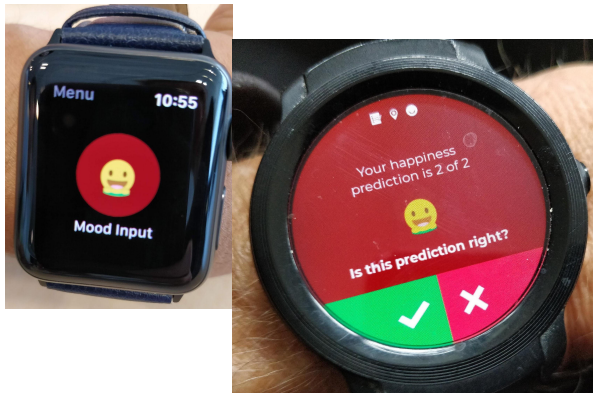
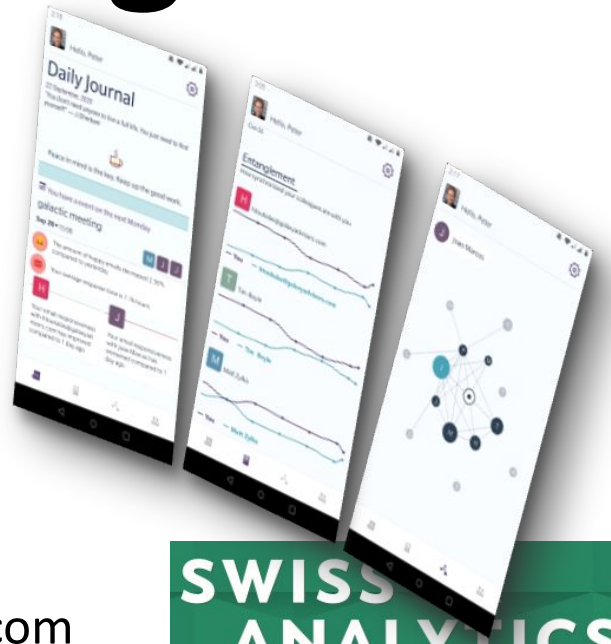
Automatische Messung von Mitarbeiterzufriedenheit durch Künstliche Intelligenz





Peter A. Gloor

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MIT Center for Collective Intelligence

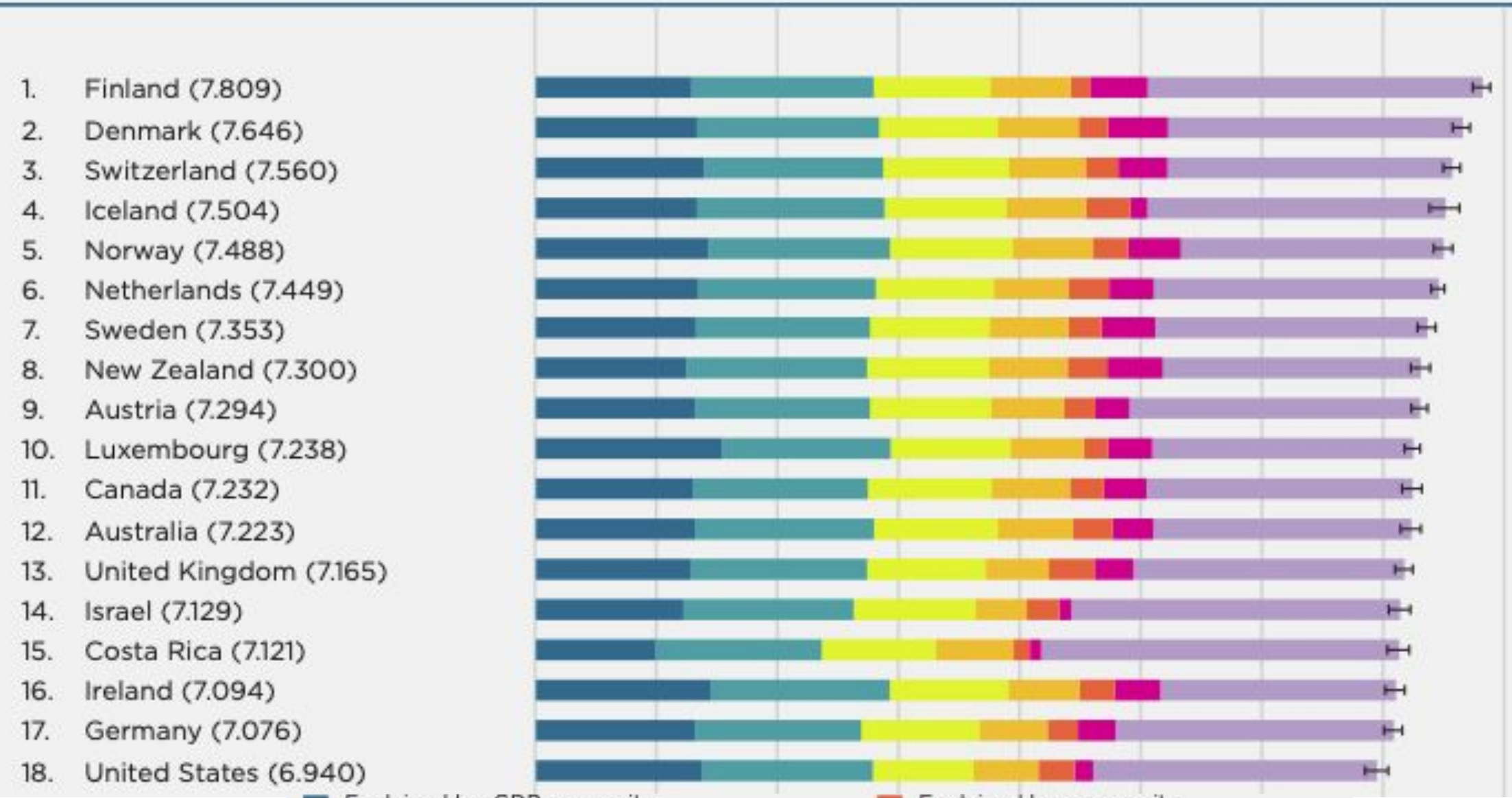
GALAXYADVISORS
DON'T BE A STAR, BE A GALAXY

SWISS ANALYTICS
BEST PRACTICE FOR EVERYONE
ONLINE-EVENT | 22/04/21 | 15–17

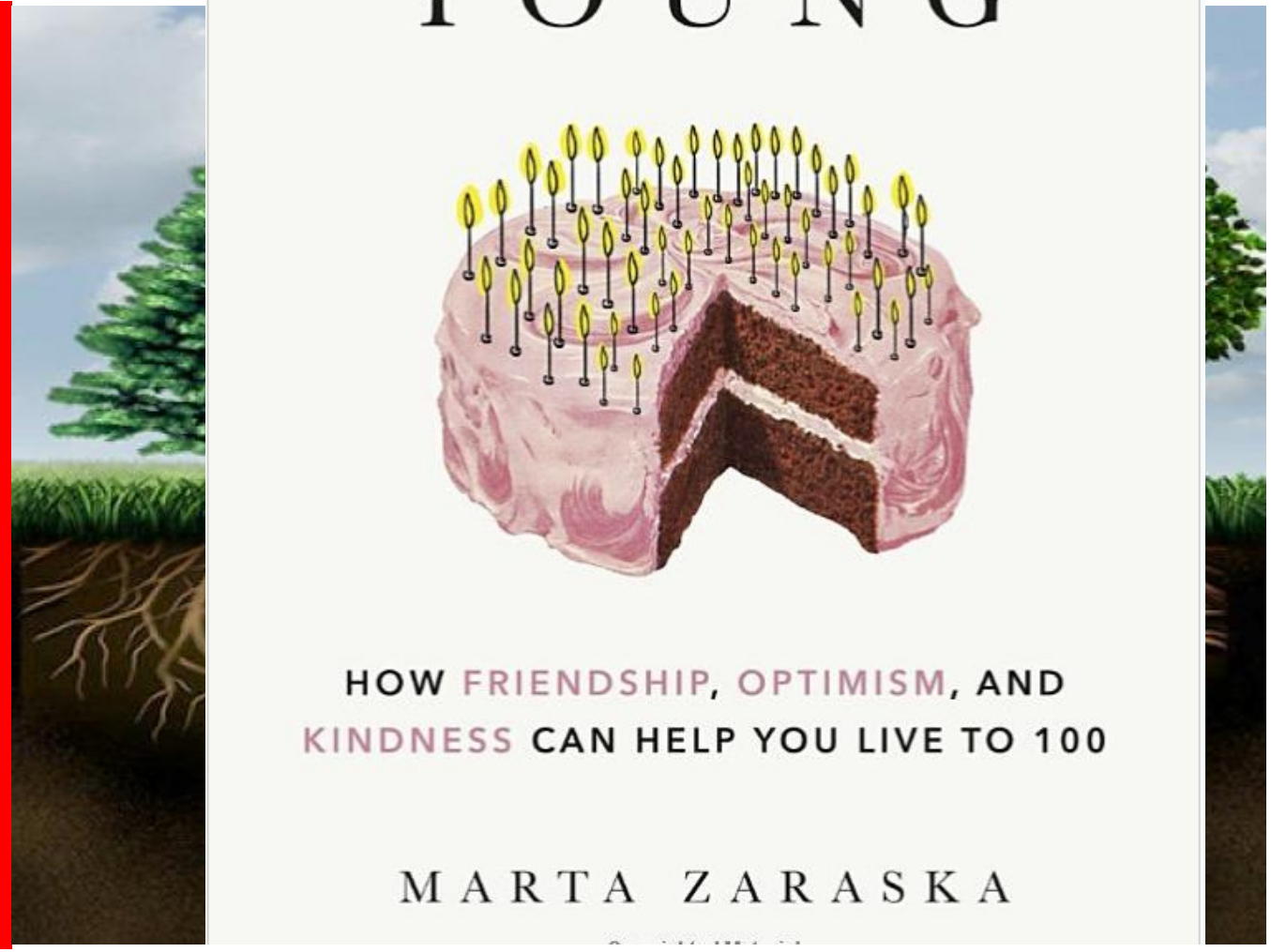
Measuring Happiness

- Survey of subjective life-satisfaction (Frey 2018, Kahnemann 2004)
- Assesses individual's overall subjective well being
- "Taken overall, how satisfied are you with the life you lead on a scale from 0 (totally dissatisfied) to 10 (totally satisfied)?"
- Predictors
  - Positive correlation income-happiness (up to a point: Easterlin-Paradox)
  - Self-control, length of commute, being with friends (Frey)
  - Institutional and social trust (World Happiness Report)
- Happiness increases productivity (Oswald, Proto, Sgroi)

Figure 2.1: Ranking of Happiness 2017–2019 (Part 1)



2 Levels of Happiness (Aristotle: Nicomachear



Measuring Happiness as an Emotion

6 Basic Emotions:

1. anger
2. disgust
3. fear
4. happiness
5. sadness
6. surprise

(Paul Ekman)

Entanglement

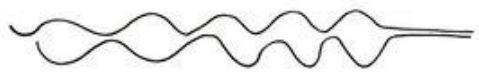
Best Friend - Childhood

Friend With Benefits

Best Friend - College

Someone You Meet at the Wrong Time,
Then Re-Meet at the Right One

Sibling



One Night Stand

Parent

Therapist

First Love

Dog

"Closeness Lines Over Time"
de Recat Jan. 2019

Individual

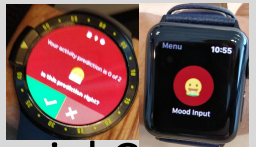
Plants

Smartwatches

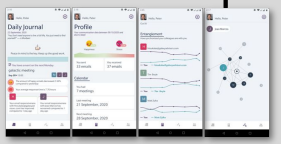
Smartphones

Webcams

Happimeter



Social Compass

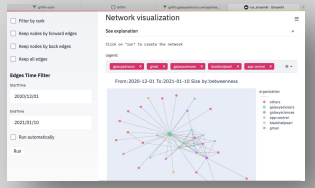


Organization

E-mail

Chat

Griffin E-Mail



World

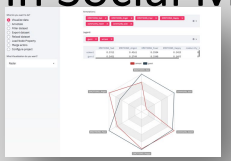
Social media

Twitter

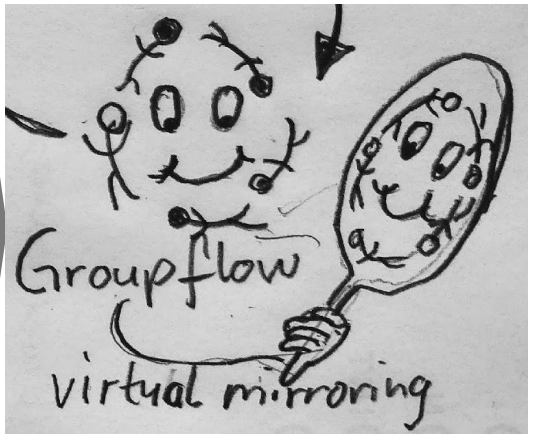
Reddit

YouTube

Griffin Social Media



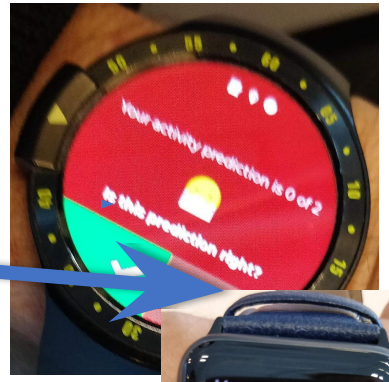
GalaxyScope

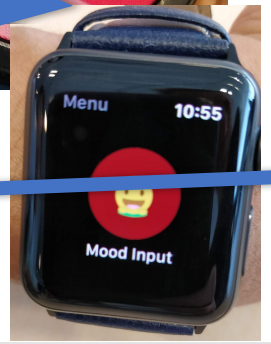


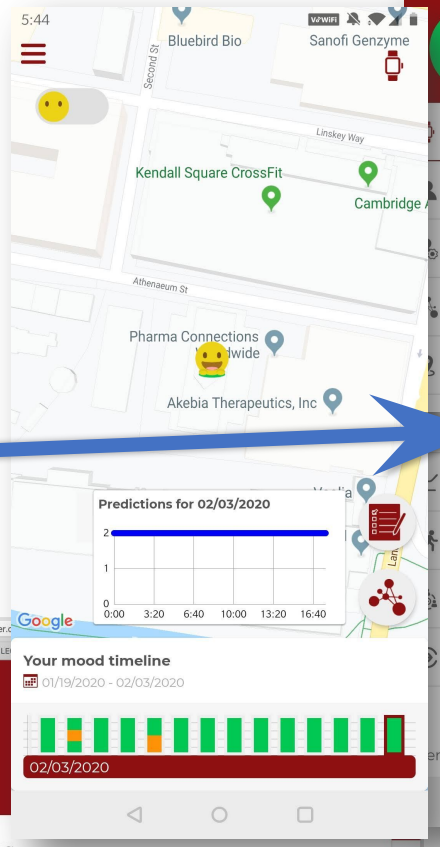
Happimeter tracks emotions

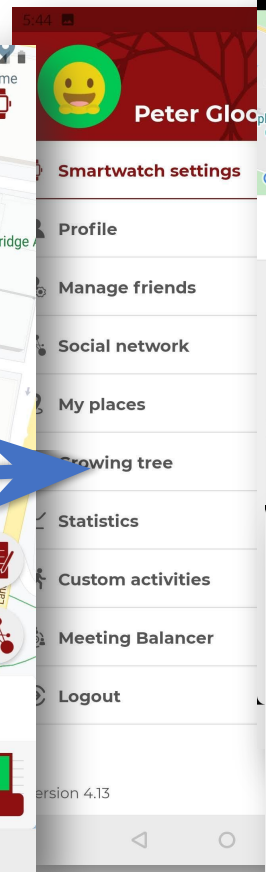
Happimeter consists of four components:

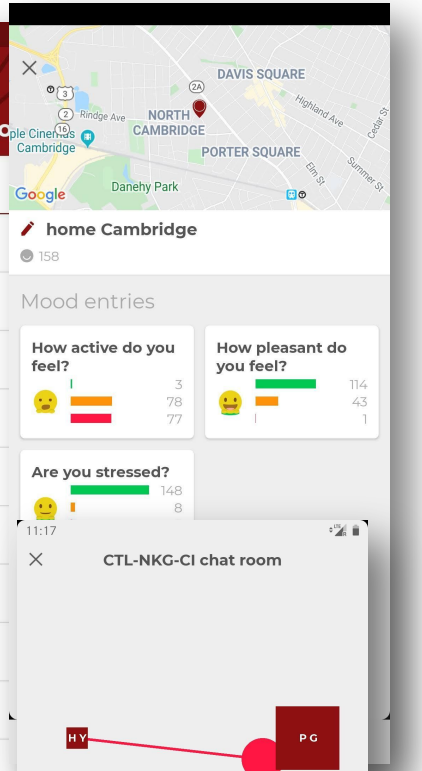
1. An Android Wear / Apple smartwatch that tracks acceleration, heart rate, voice, and location
2. An Android/iPhone app that transmits data to the server, and visualizes (shared) happiness
3. A machine learning backend in the AWS cloud, predicting pleasance (88%), activation (79%), stress (74% accuracy)
4. A Website that visualizes results and allows users to create/manage groups of friends and teams

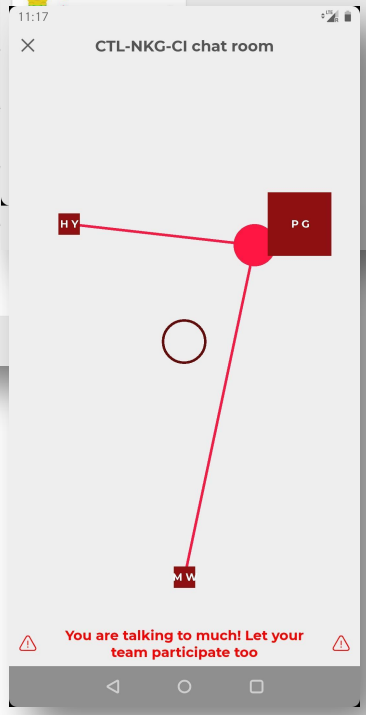


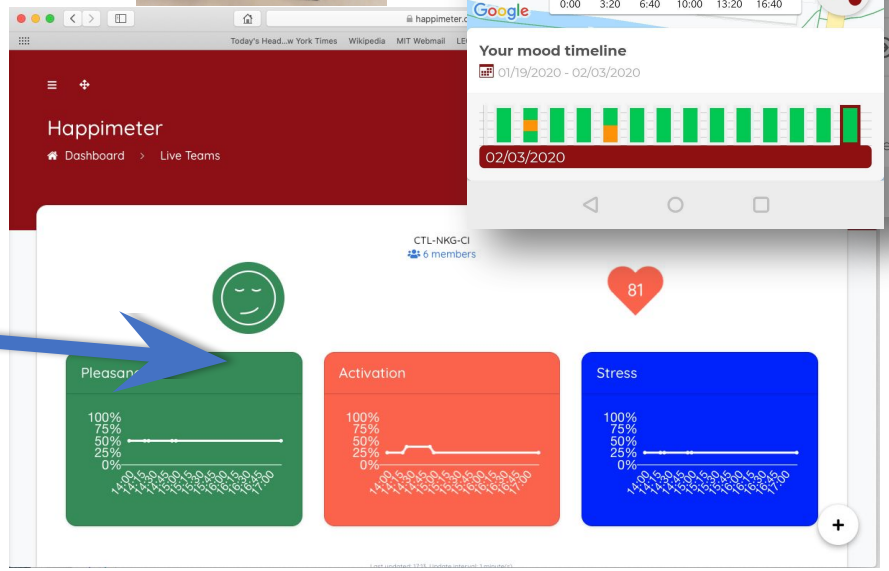




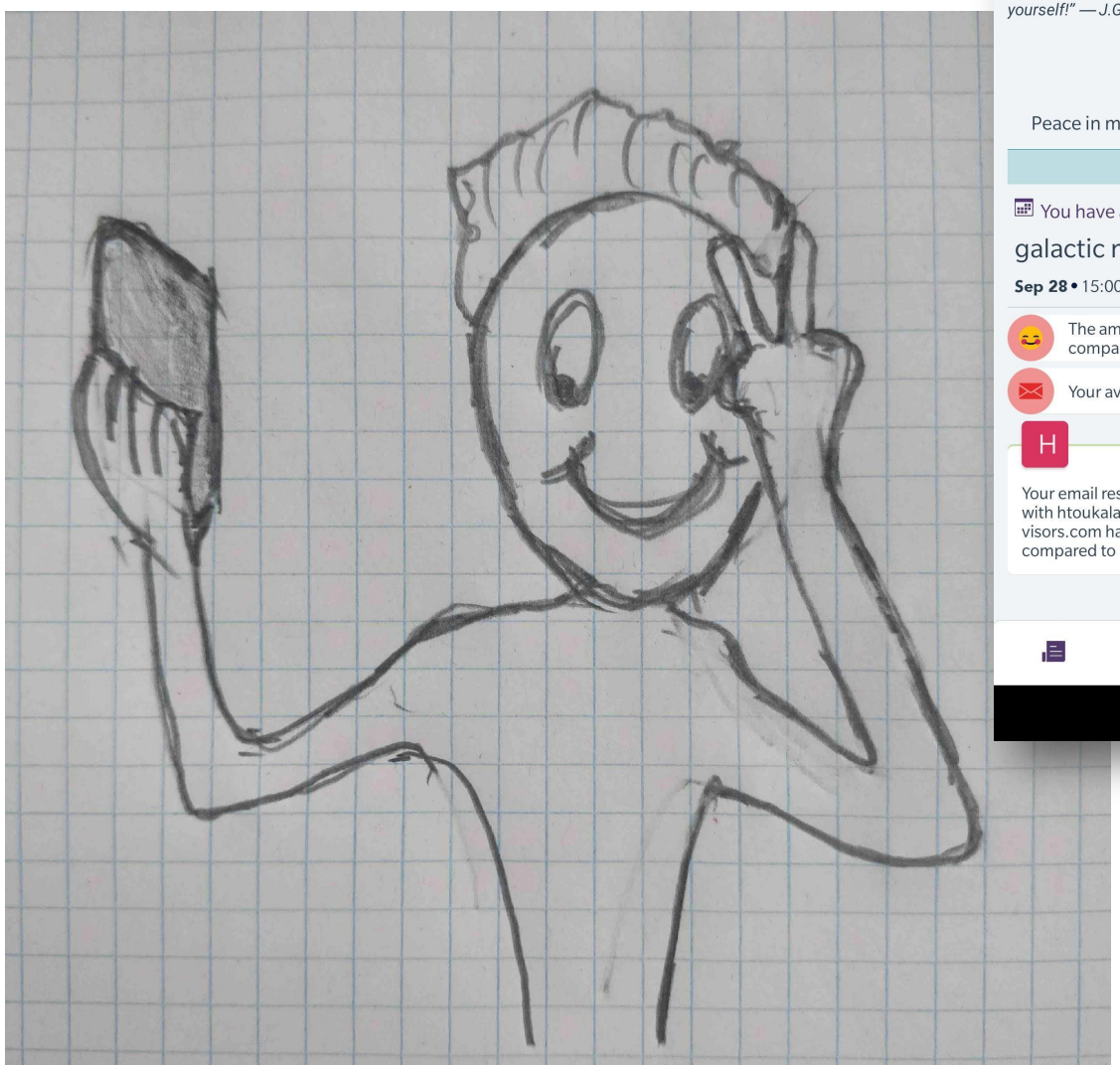




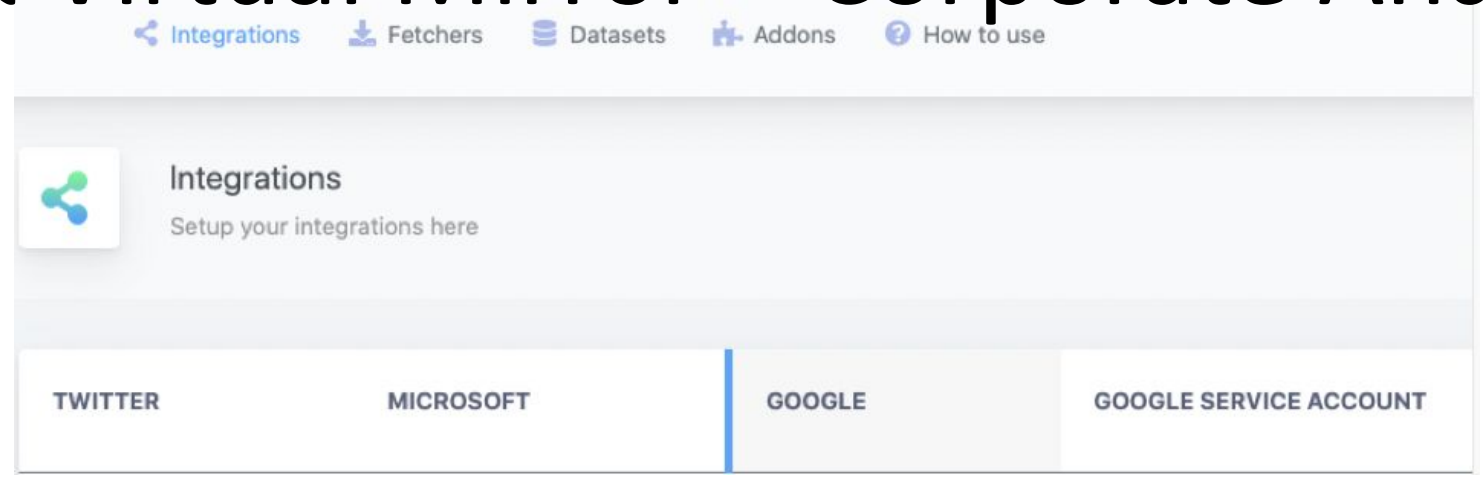


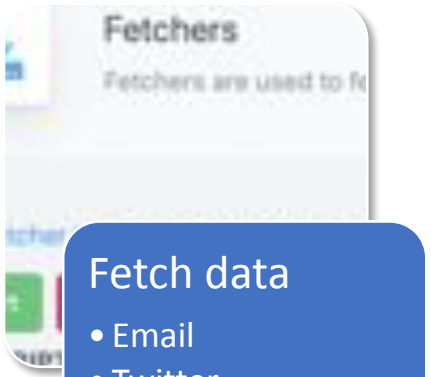


Social Compass – take your social selfie

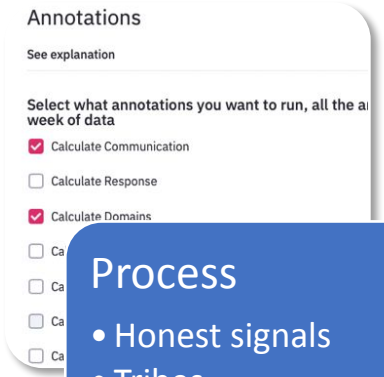


Griffin & Virtual Mirror – Corporate Analysis

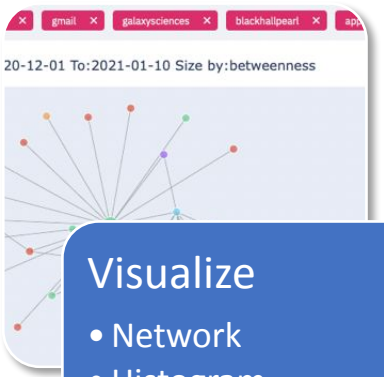




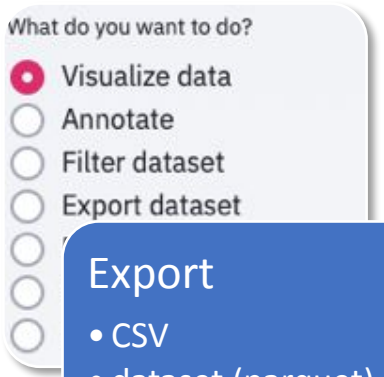
Fetch data
- Email
- Twitter
- (Wikipedia)
- Reddit
- YouTube



Process
- Honest signals
- Tribes
- Time series
- entanglement



Visualize
- Network
- Histogram
- Communication
- Radar
- …

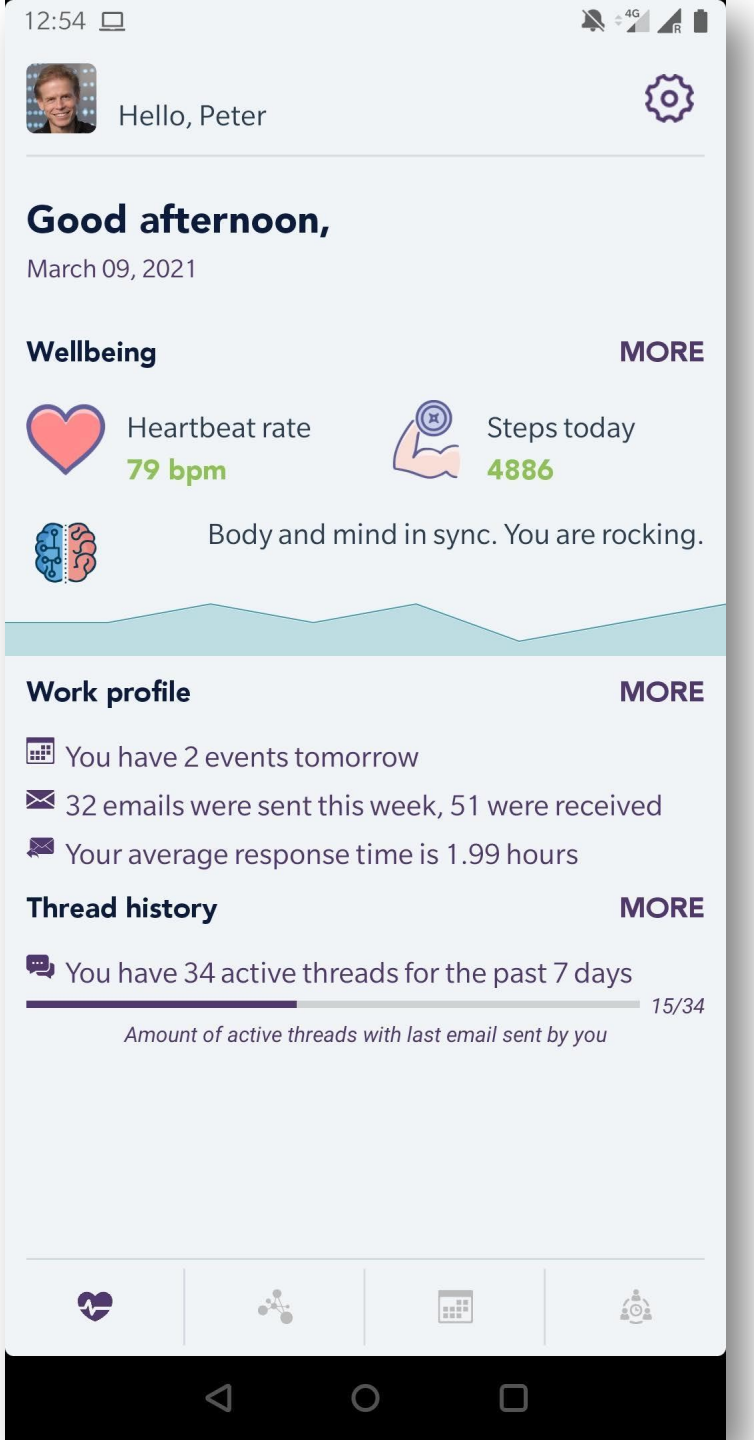


Export
- CSV
- dataset (parquet)

Daily Journal

On Daily journal you will find updated insights about your communication and mood, based on the last emails you sent and received, and calendar events

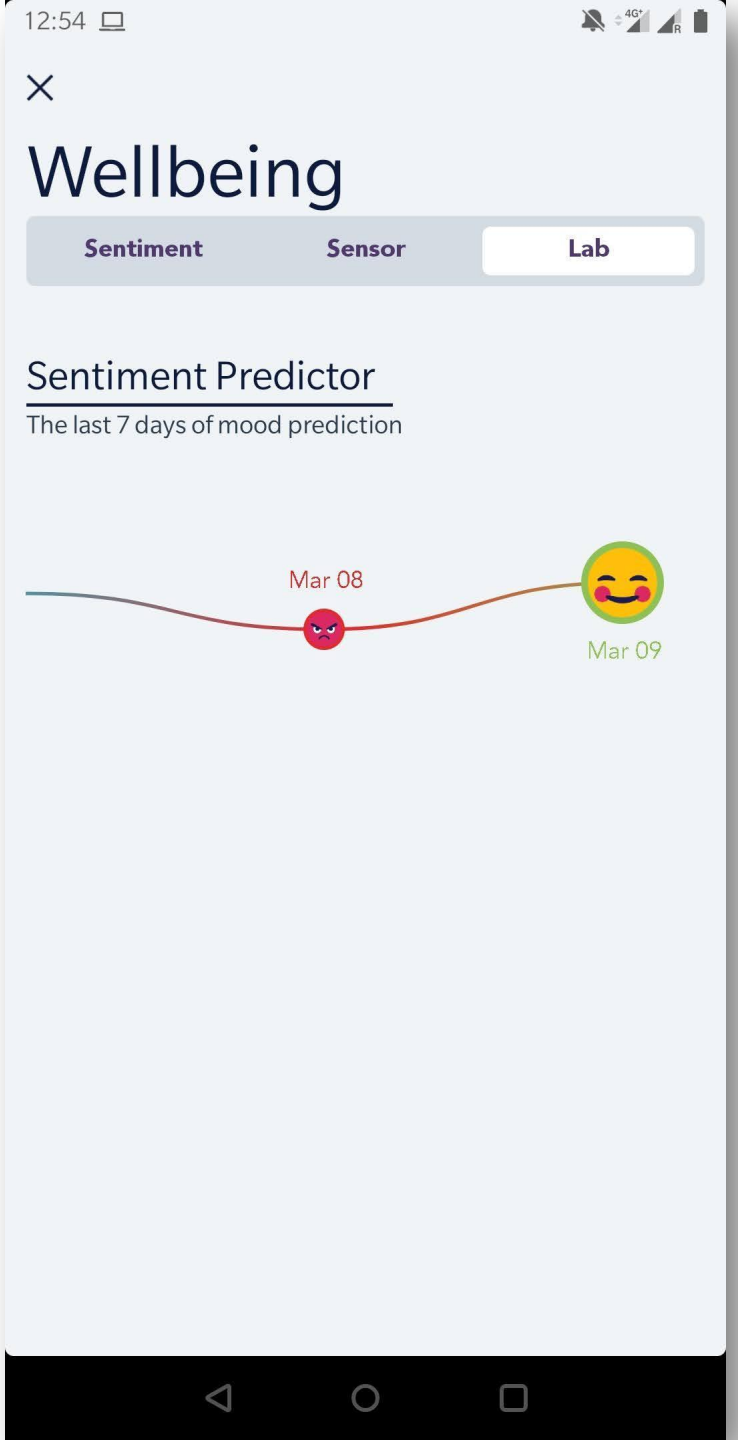
- Average email response time
- Engagement
- Upcoming events
- Responsiveness alerts: are you keeping your response time? Did you increase or decrease your response time with a specific colleague?
- Mood changes alerts: according to your emails, are you more or less happy than yesterday? Or stressed?

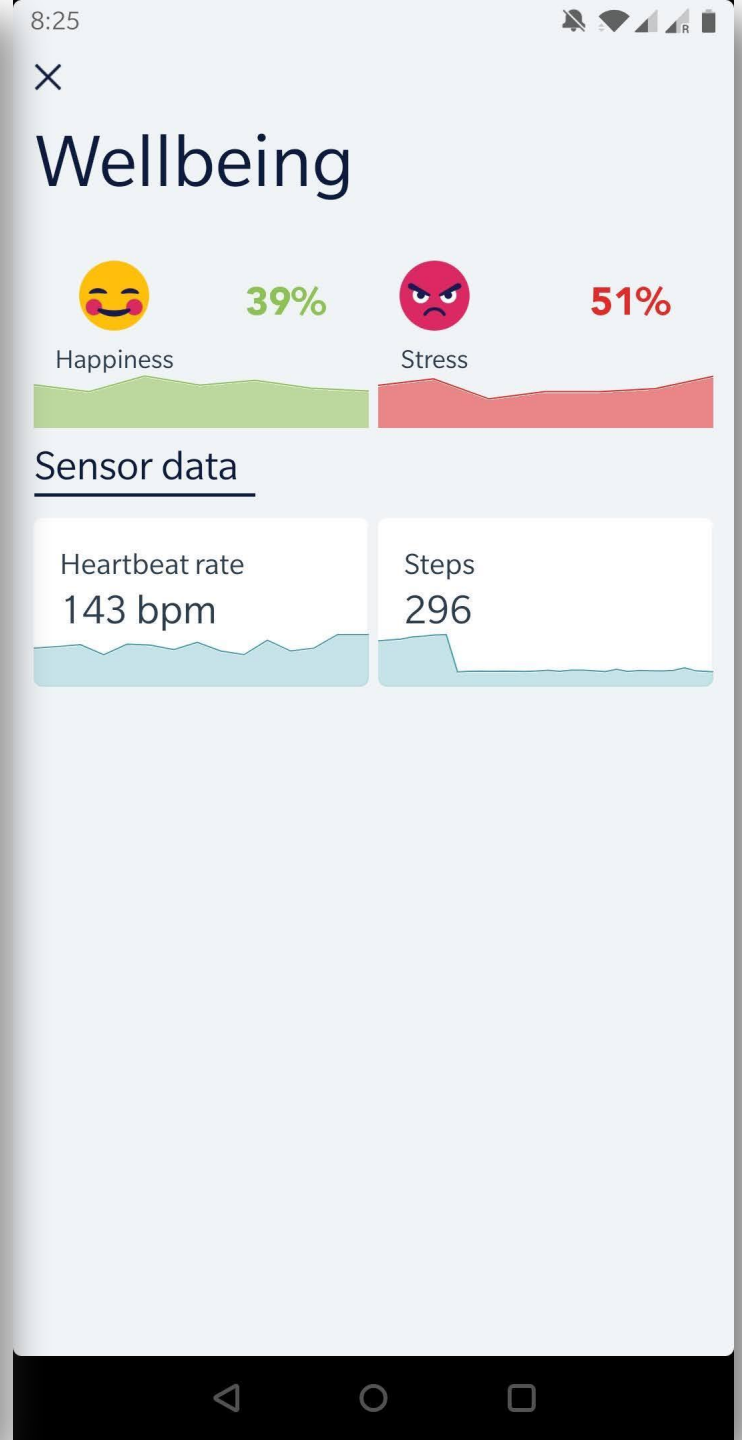


Wellbeing

Profile shows health/emotional information about you

- Mood analysis from e-mail sentiment
- Sensor data from smartwatch (Apple w… Android Wear)

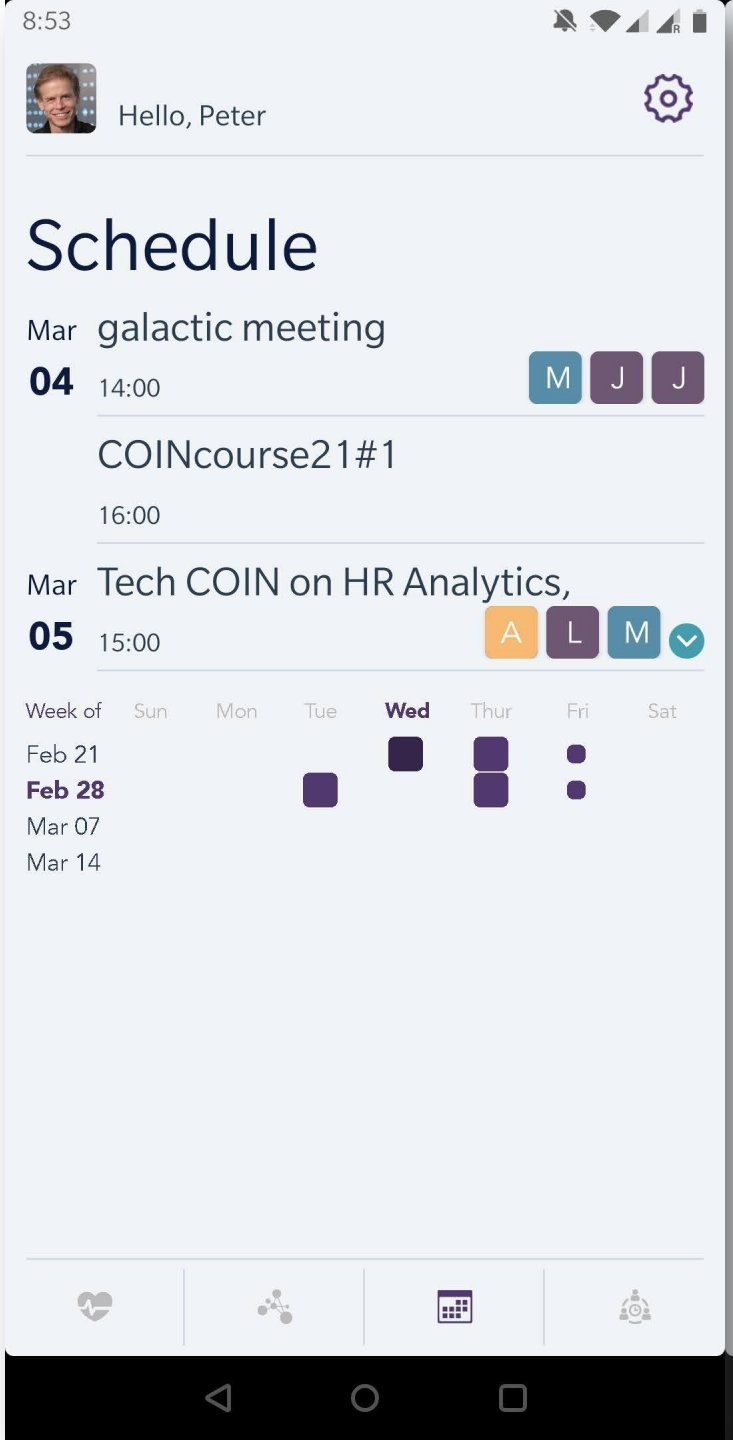


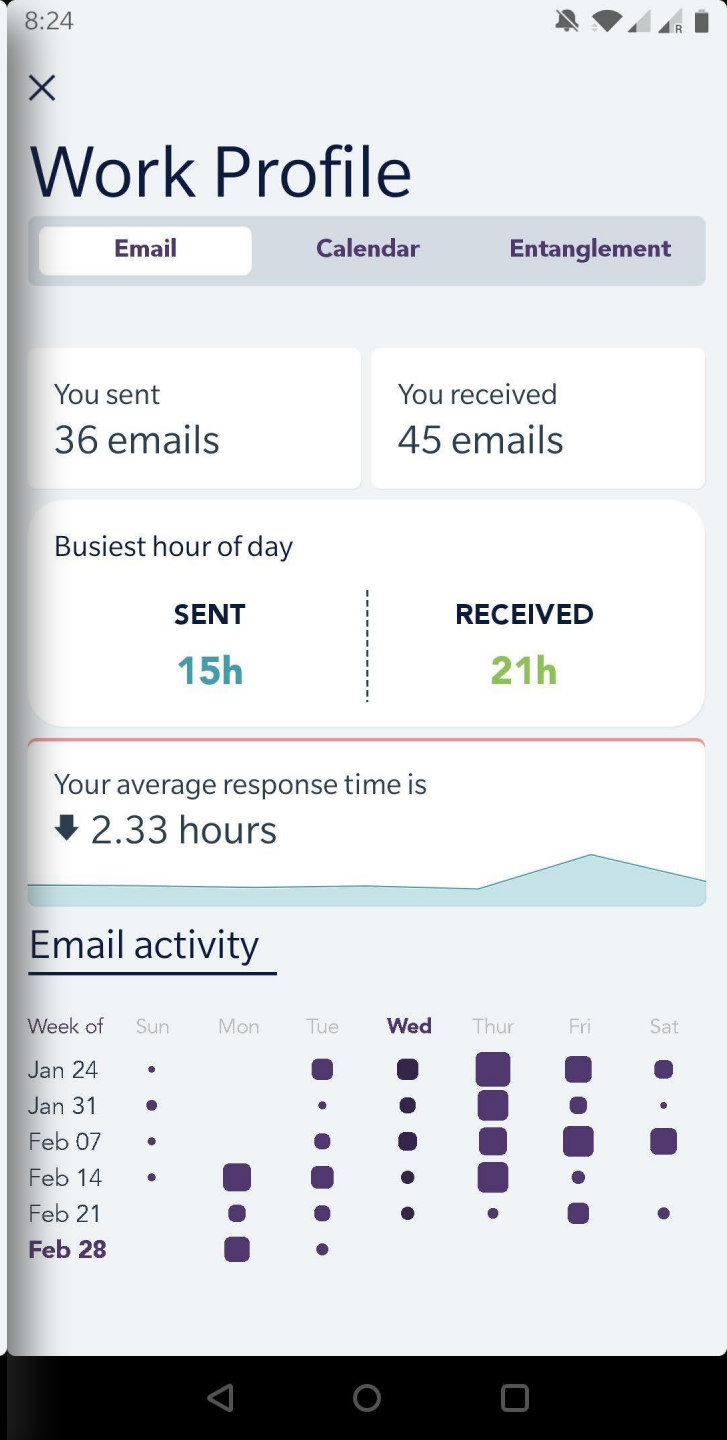


Work Profile

Profile shows aggregated information about you

- Number of sent and received emails
- Your busiest e-mail hours of the day
- E-mail responsiveness
- Email activity calendar: how many emails you sent on a specific day? Compared with past weeks

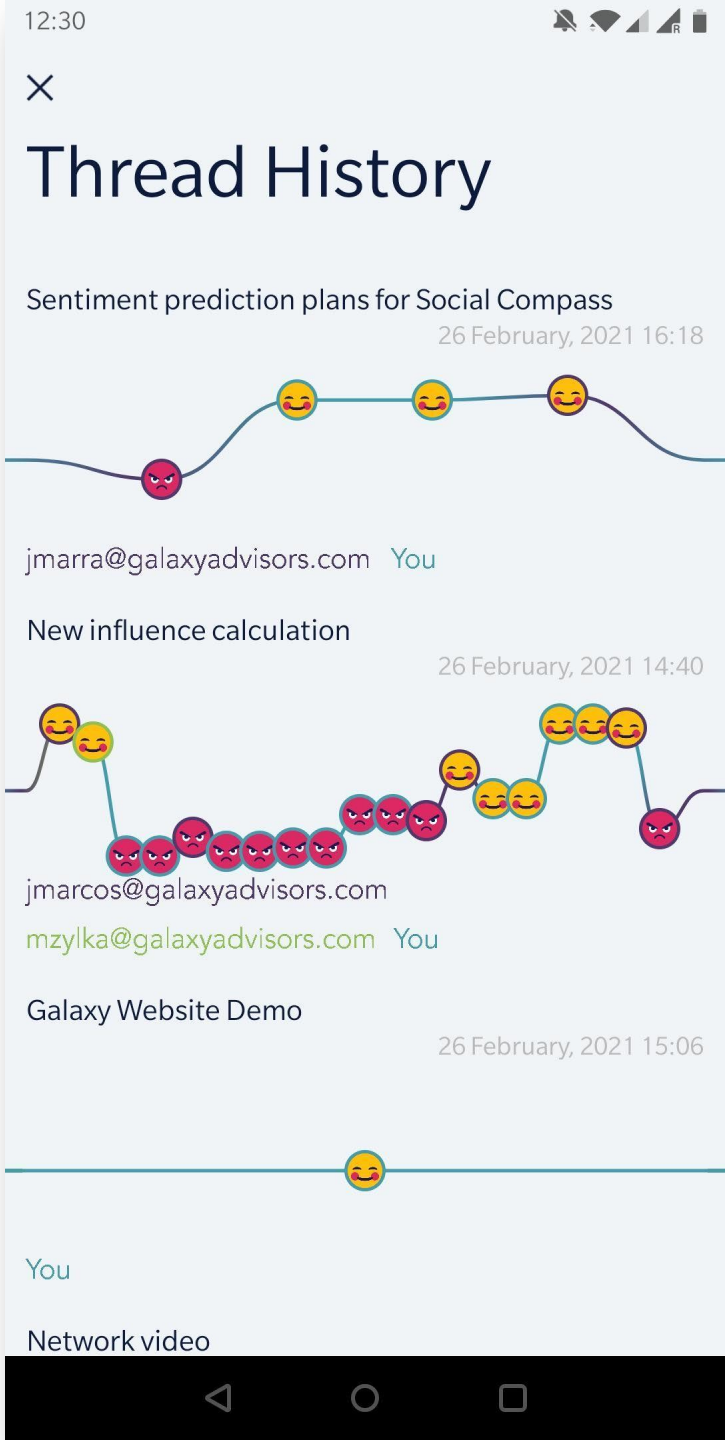




Profile: Thread History Sentiment

Social Compass uses powerful machine learning technologies to analyse the content of your emails and extract sentiments from it

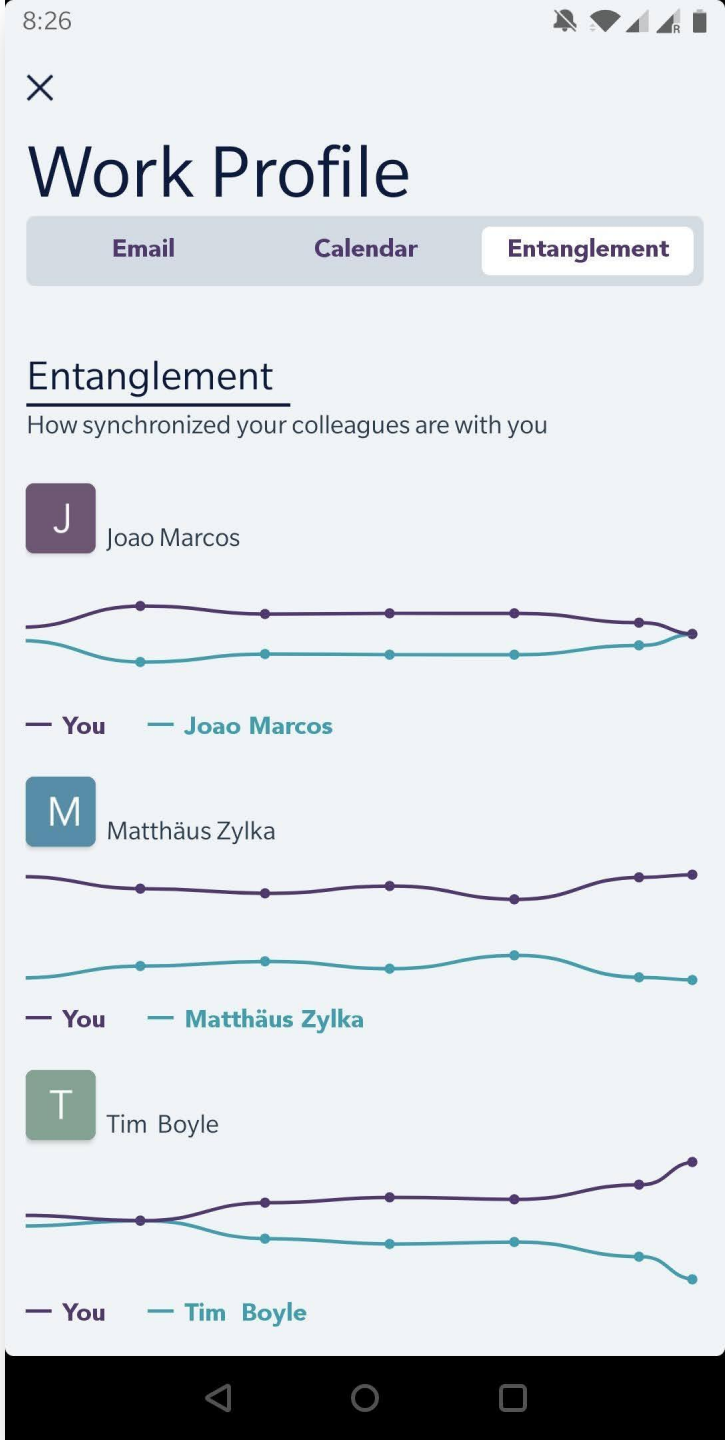
- See the percentage of happy emails you sent
- And the stressed ones



Profile: Entanglement

Find out who among your colleagues is most in synch with you.

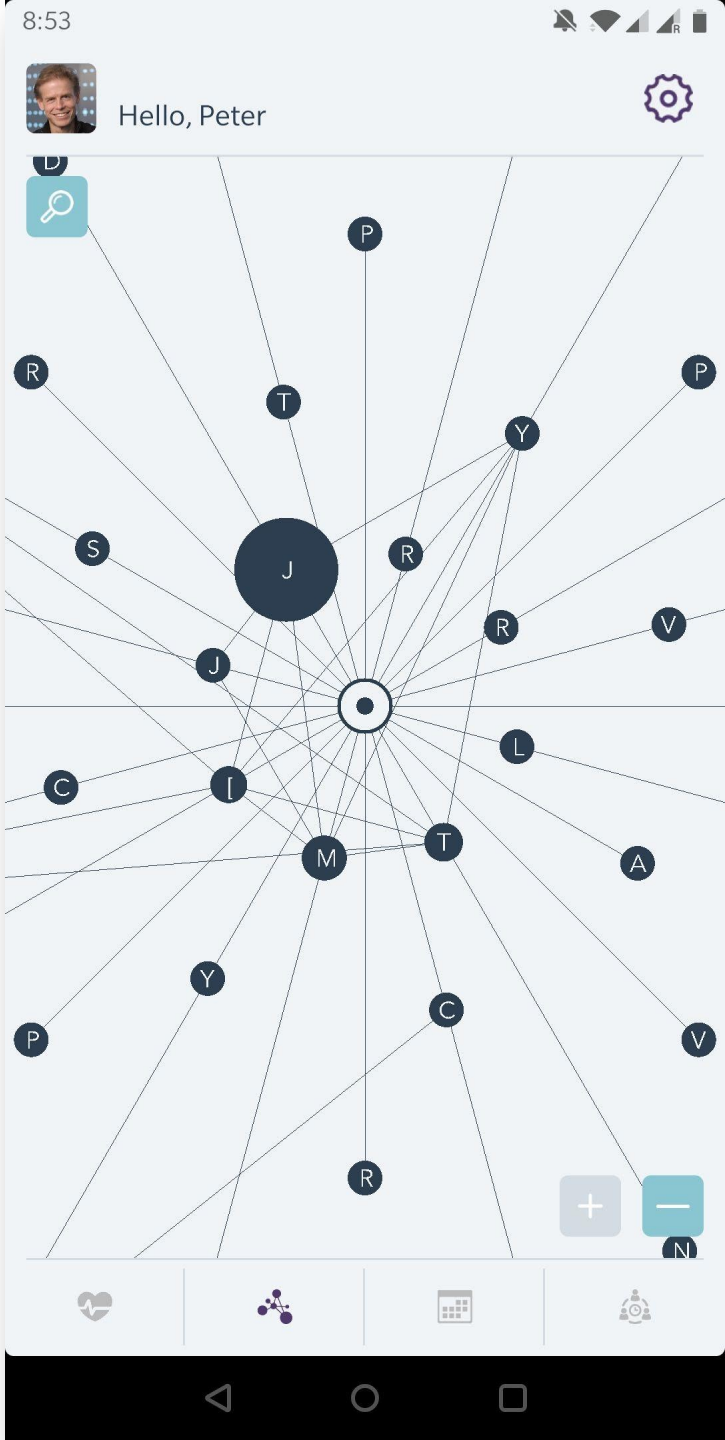
When your lines meet is the time when you were most entangled.



Connections

See how your colleague network connects

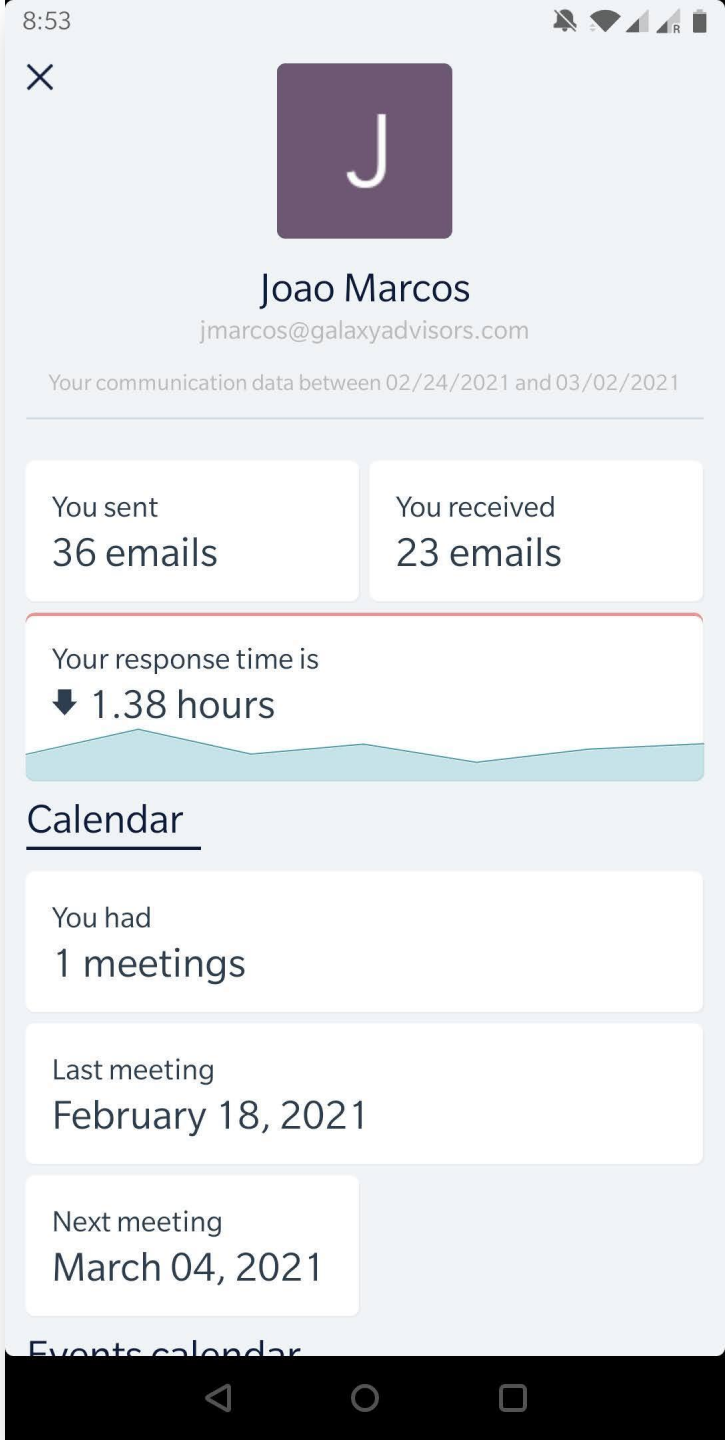
- Explore your communication network: See who in your network connects with whom
- The node size is based on your entanglement with that colleague
- You can select a node to drill-down on your interaction with that colleague



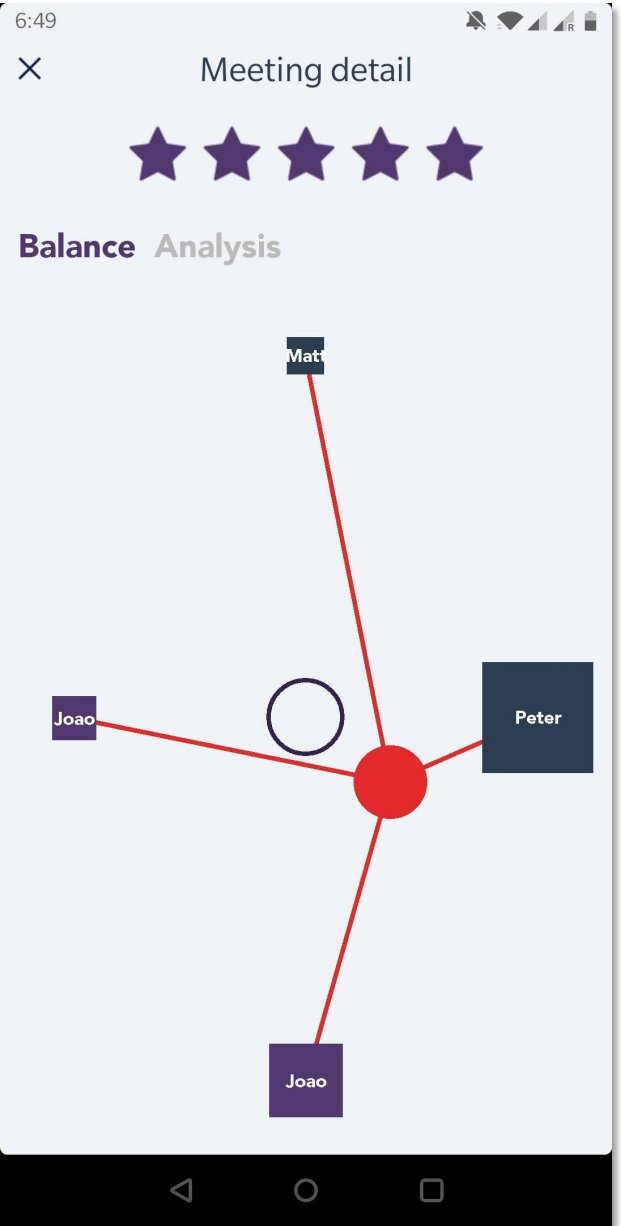
Drill-down on interaction

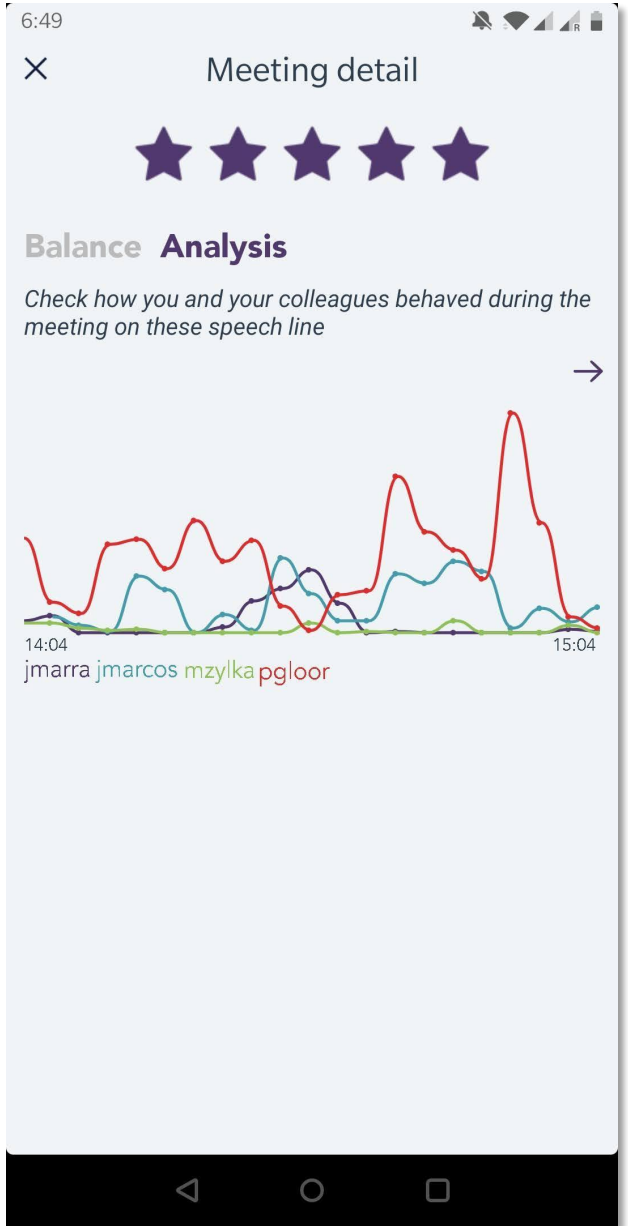
See how to better interact with your co-workers

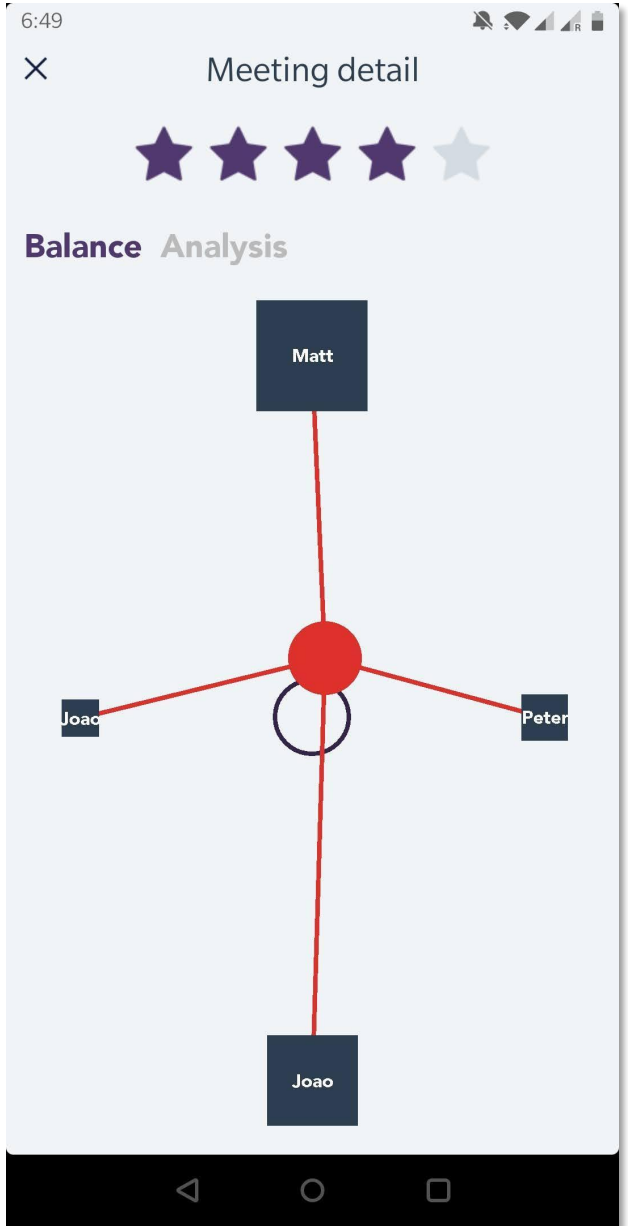
- List of colleagues you interacted with in the last week
- Colleagues that you interacted with in the past
- Select a colleague to see your communication data with her/him

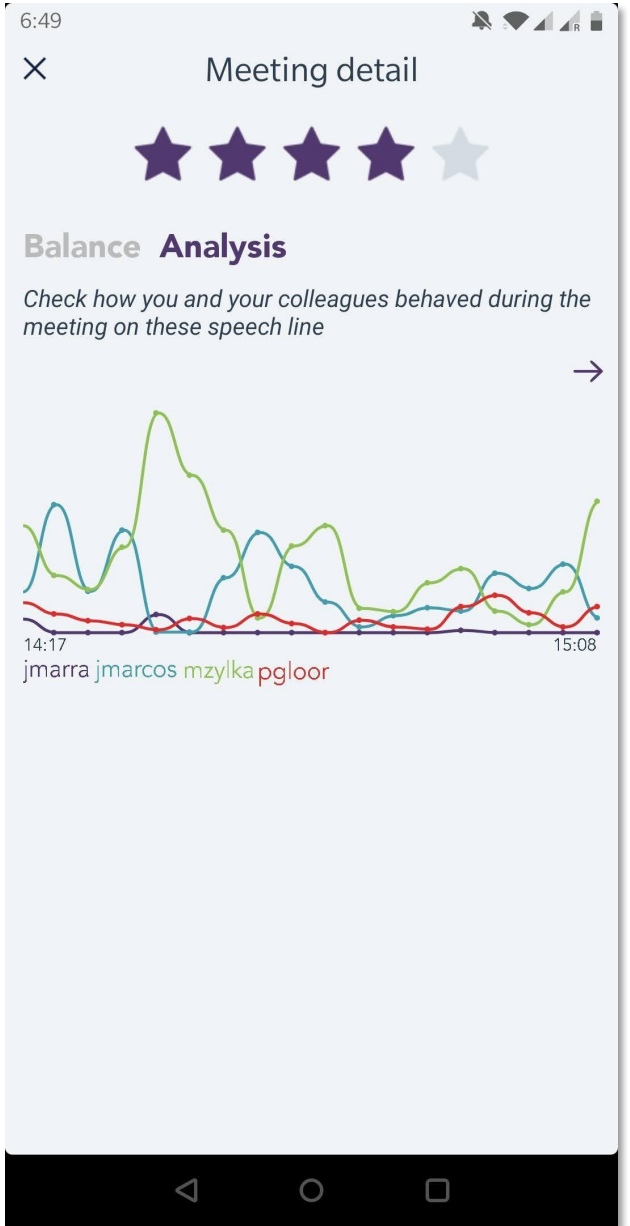


Social Compass – Meeting Balancer









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GALAXY SOCIALCOMPASS

Know more about your communication

giving you control over your digital self, your relationships and emotions

Download **Galaxy Social Compass** now on your phone app store

GET IT ON Google Play

Download on the App Store

About

What do we even know about ourselves? Things we are proud of and things we prefer to keep secret.

But there are **blind spots** and **unknowns** where we do not know ourselves.

GALAXY LENS

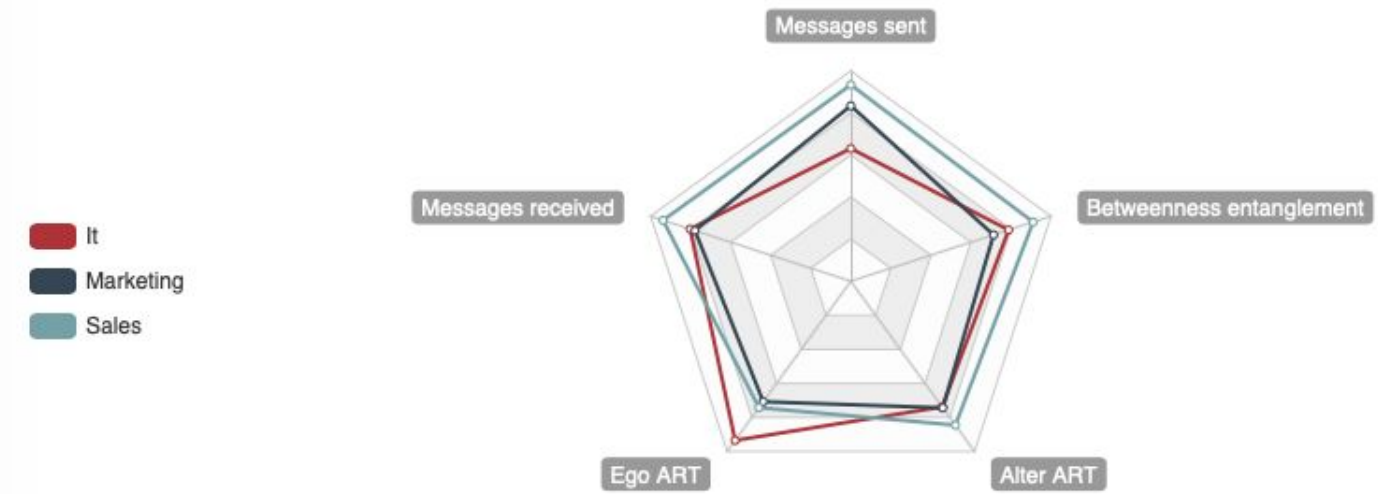
Explo

Department

Time series | Domain communication | Internal communication

Look how the groups behave over time

DEPARTMENT COMMUNICATION



Messages sent

It Marketing Sales

Messages received

It Marketing Sales

GALAXY LENS

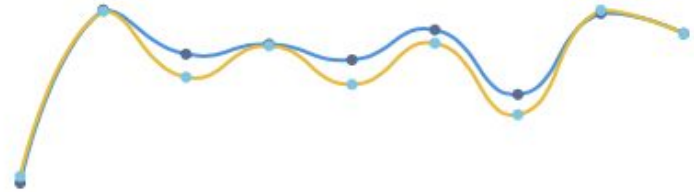
Mind State

PEACE IN MIND IS THE KEY.
KEEP UP THE GOOD WORK.

39.55 % Burnout level

-5% decreased

Mood State



55%
Happiness

55%
Stress

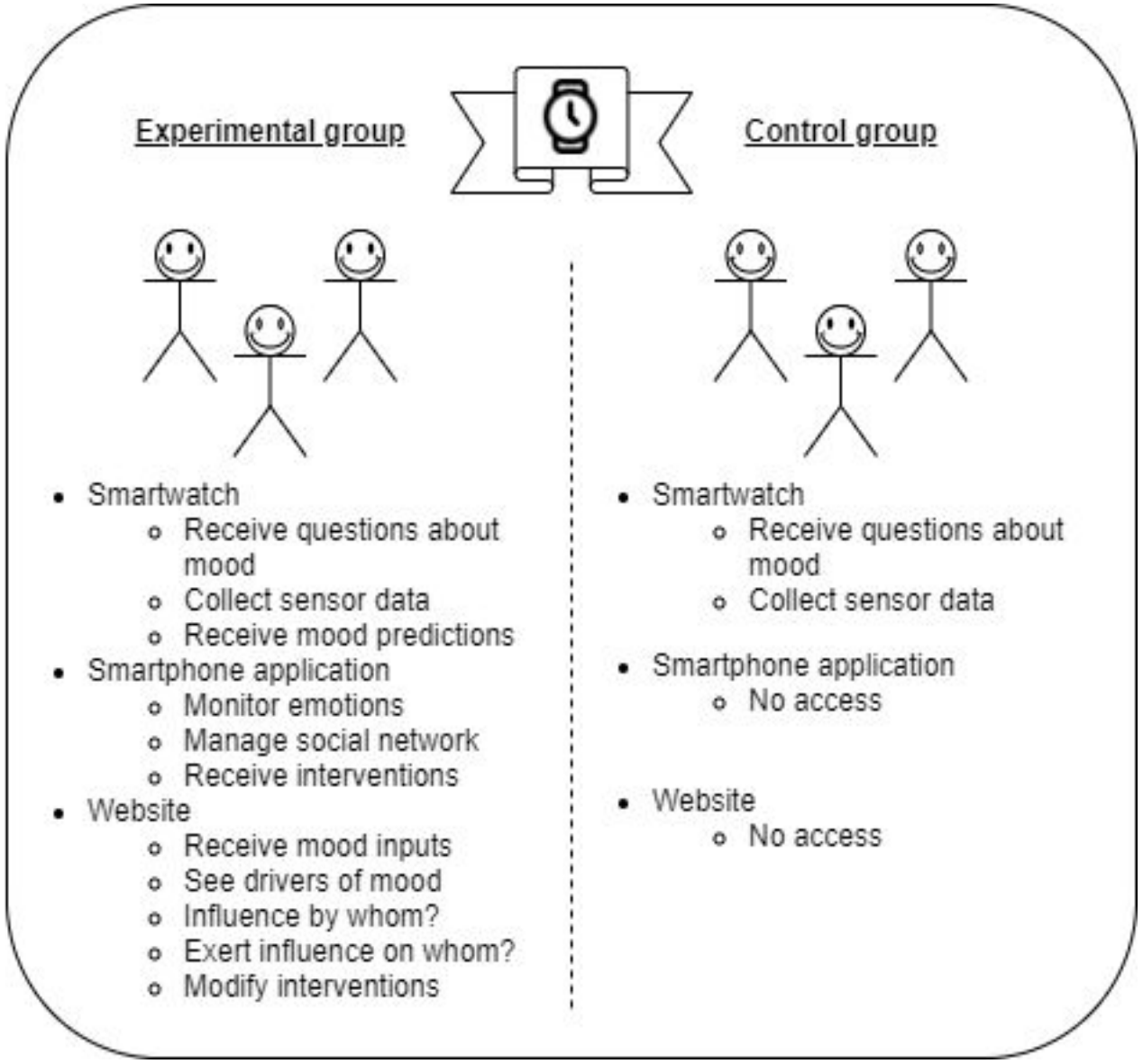
Responsiveness

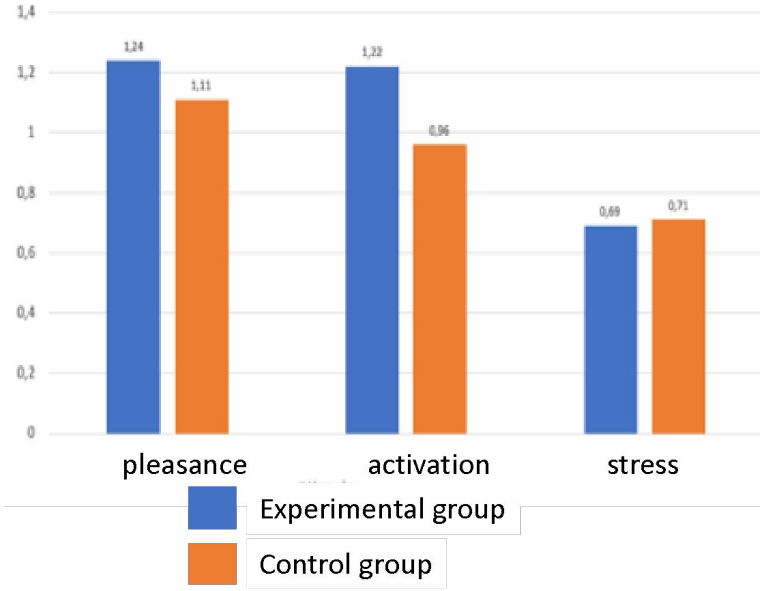
YOUR AVG. RESPONSE TIME IS

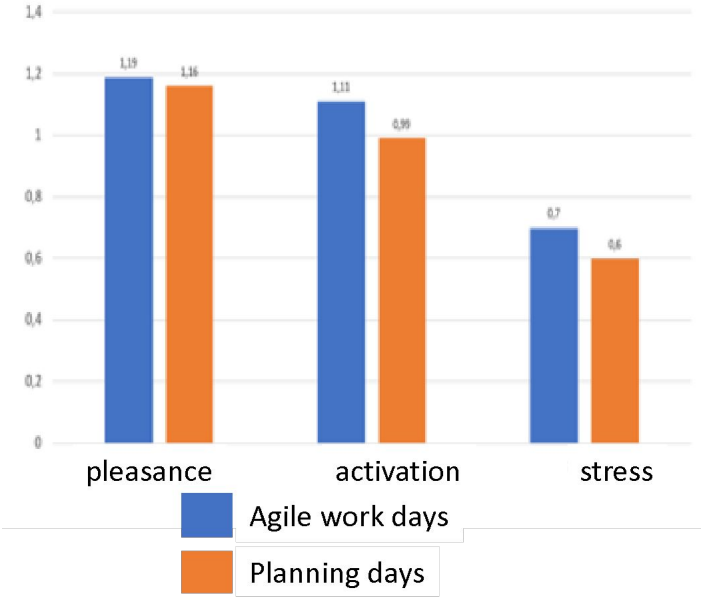
15.1 hours

-2% decreased

Virtual Mirroring 3 Months, German Bank (14% more happiness)







Happy employees create happy customers, happy customers create more revenue

IdeaWatch

New Research and Emerging Insights

IN THEORY

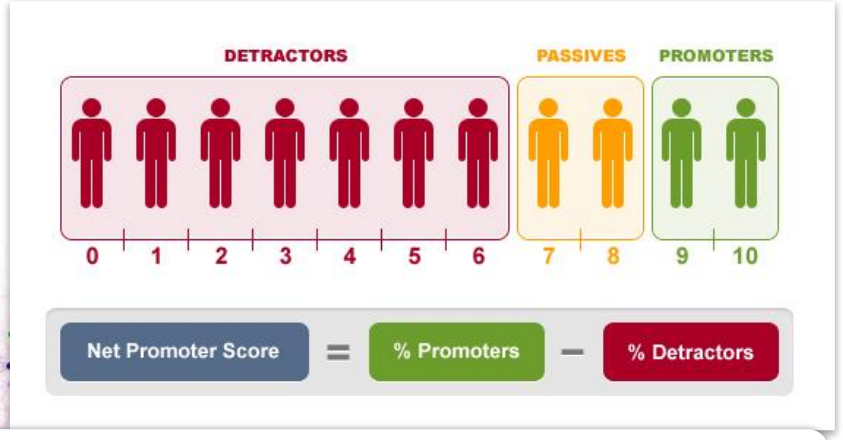
A NOVEL WAY TO BOOST CLIENT SATISFACTION

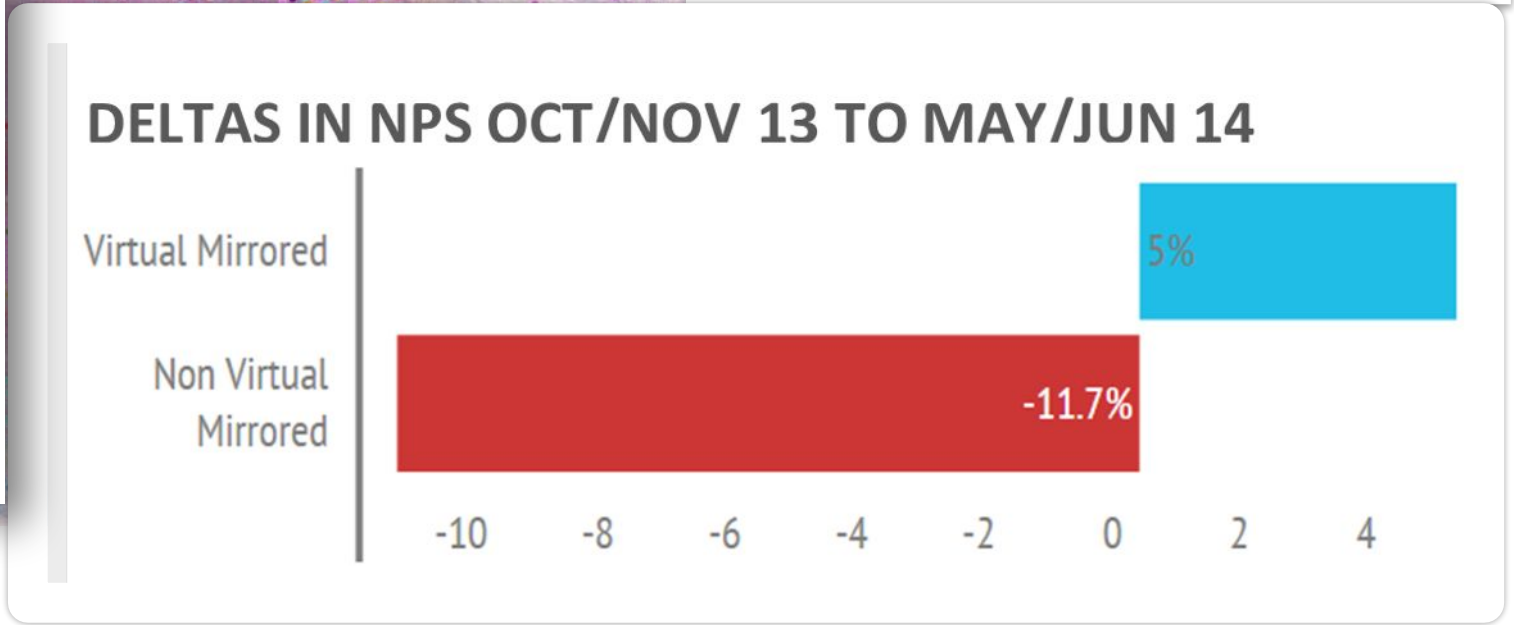
Analyze e-mail behaviors and share best practices.

WHEN ATHLETES WANT to improve, they typically spend hours reviewing video of their performance. In the white-collar workplace, it's hard to get such vivid feedback. But in recent years researchers have learned to mine a unique set of data that serves as a slow-motion replay of how an organization and its people function: the company's e-mail, which shows

Illustrations by KAGAN MCLEOD

Harvard Business Review March–April 2014 17





How to create a happy company?

How to create a happy company?

1. Understand what happiness ***really*** is

How to create a happy company?

1. Understand what it is

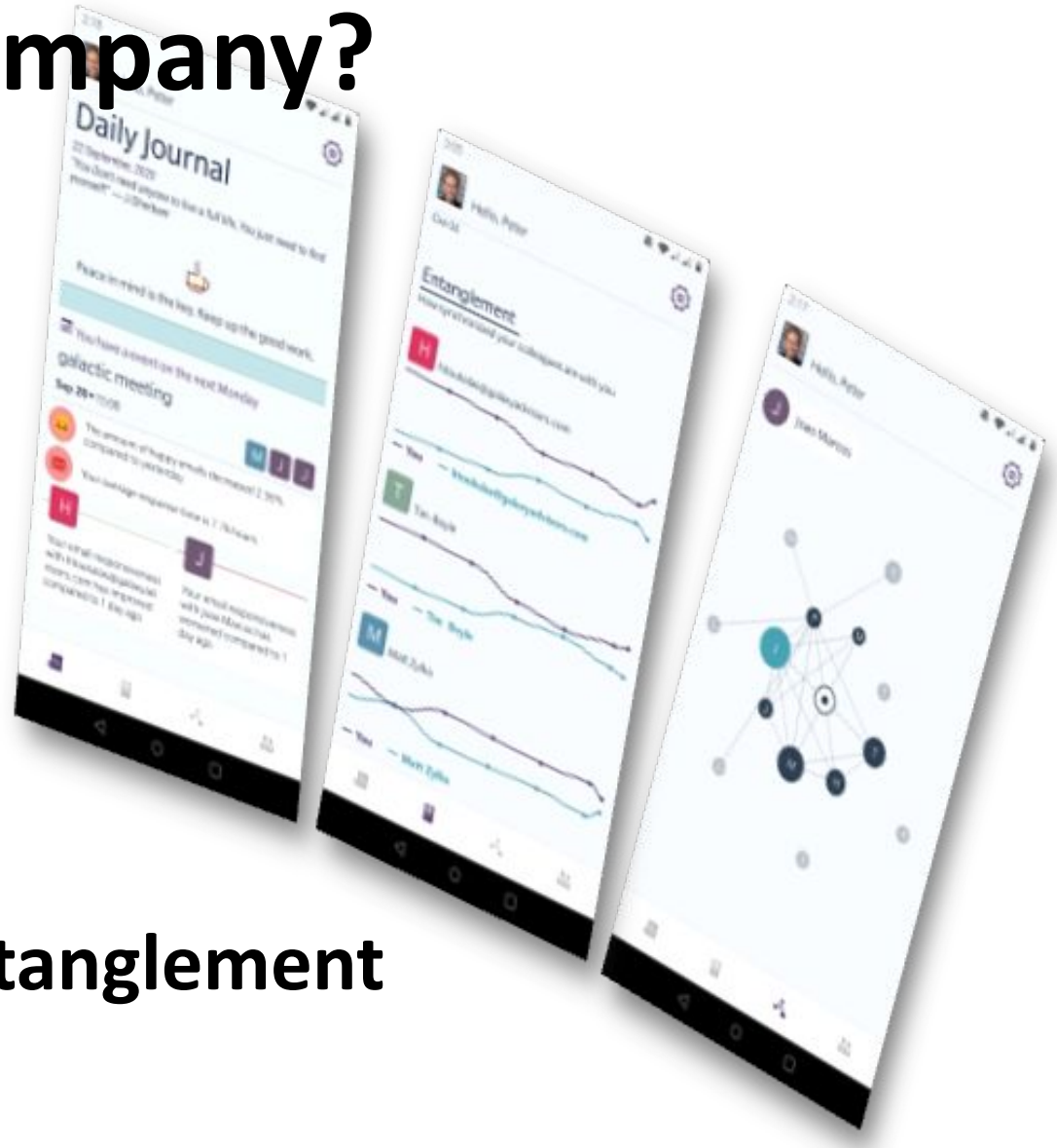
2. **Measure it**

How to create a happy company?

1. Understand what it is

2. Measure it

3. **Show a virtual mirror, create entanglement**



Thank You

Tom Allen
David Aloini
Keith Arano
Adam Almozlino
Robin Athey
Linda Bäbler
Matias Barahona
Melina Becker
Hans Brechbuhl
Lucas Broennimann
Pascal Budner
John D. Collins
Scott Cooper
Marius Cramer
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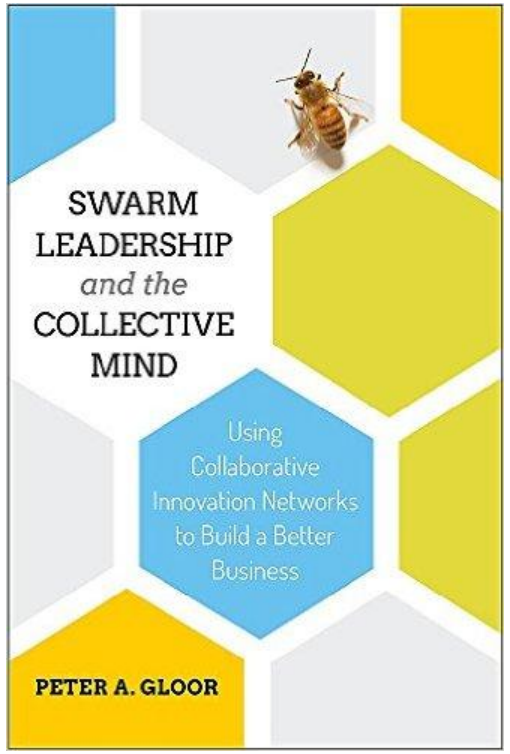
Xue Zhang
Kang Zhang
Yan Zhao
Antonio Zilli
Yuhong Zhou
Kevin Zogg
Matthaeus Zylka



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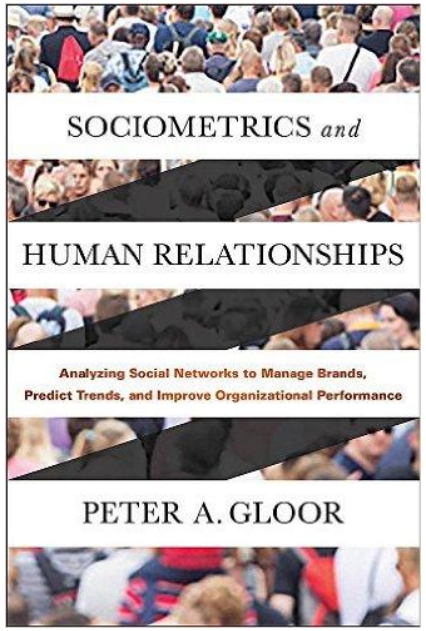

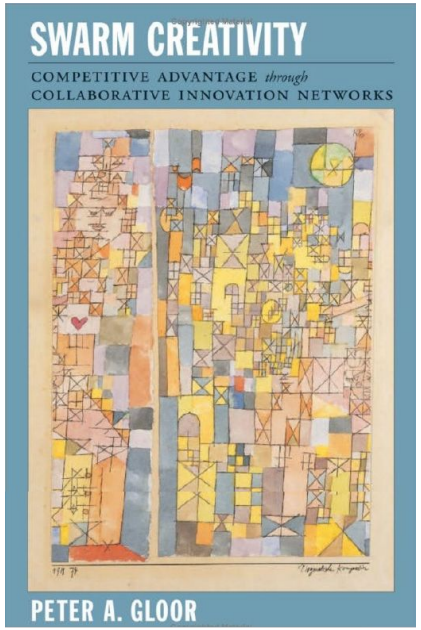

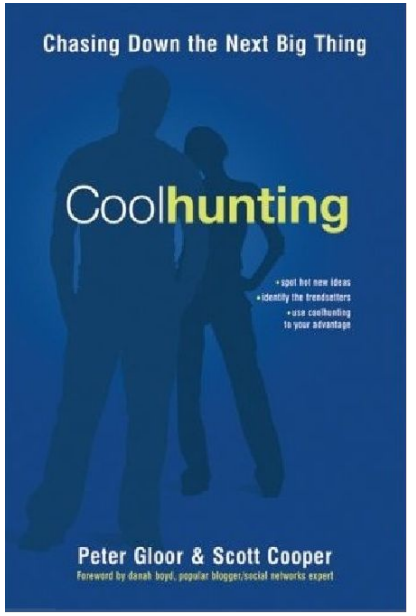

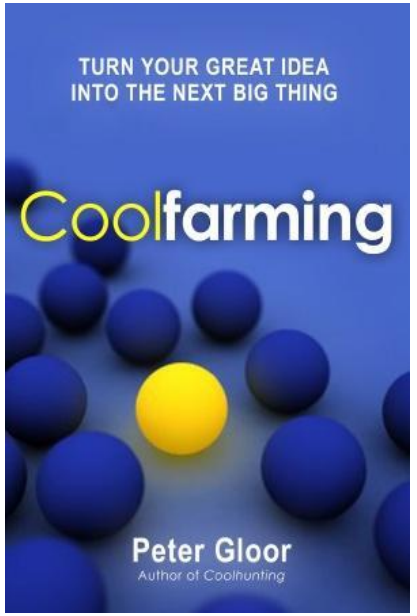

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