Online and digital health solutions now and in the future

Svein Øverland

Clinical psychologist/co-owner

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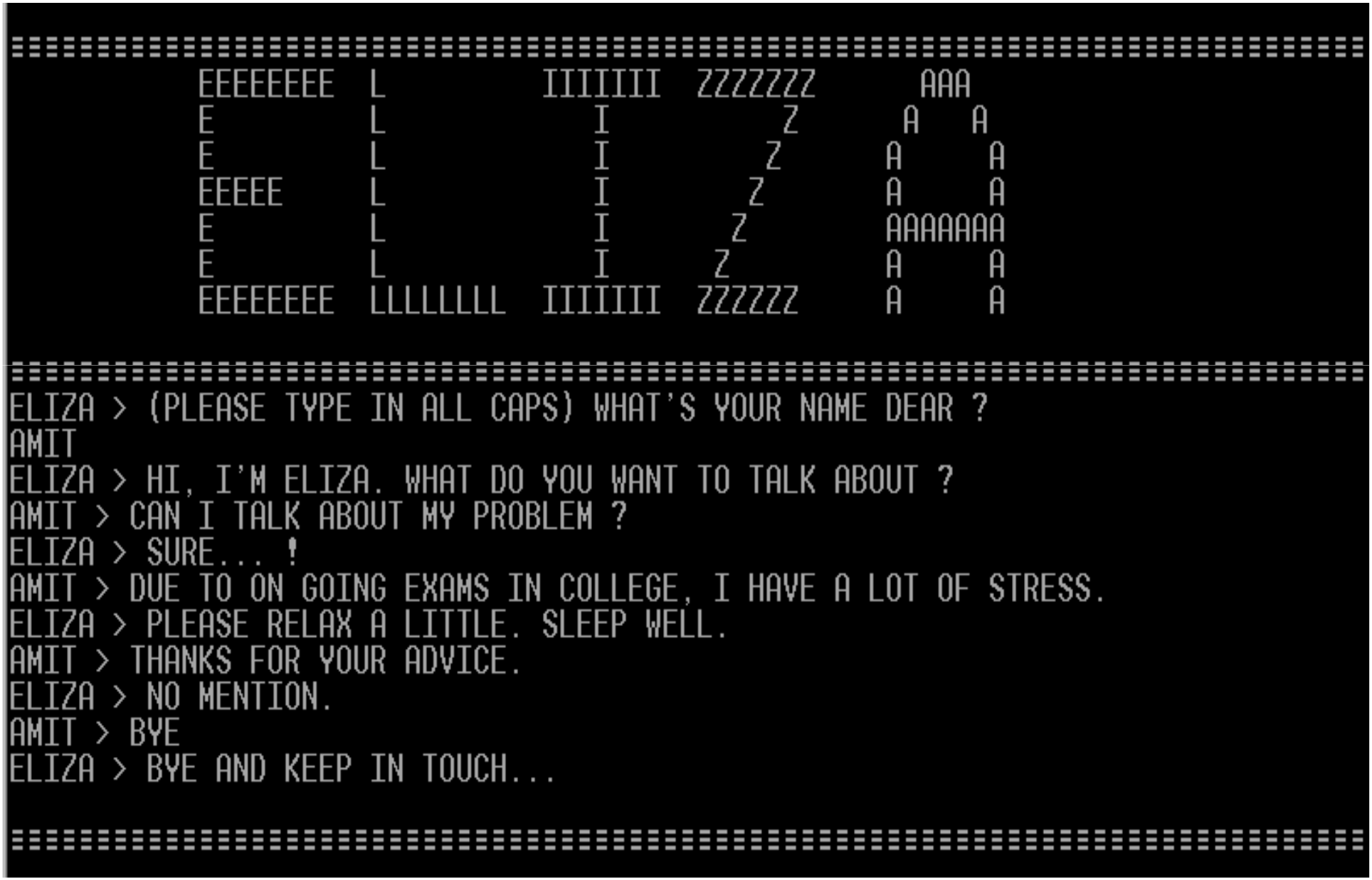
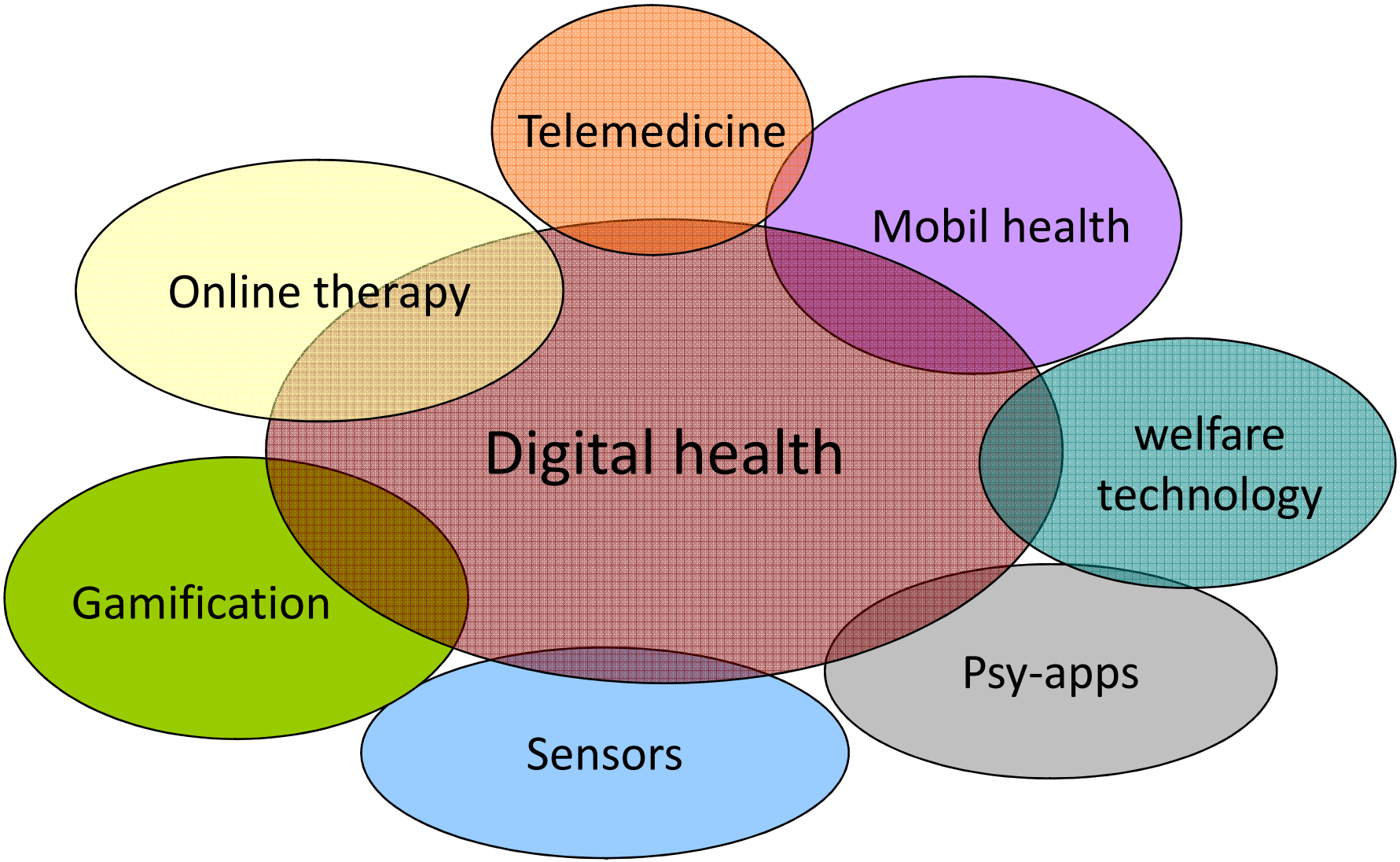
The first computer therapist (1964)




Telemedicine
Mobil health
Online therapy
Digital health
welfare technology
Gamification
Psy-apps
Sensors

Cyber doctors

Robot pets

Robot sex dolls

”Psy apps”


SUPEREGO
StopAnxiety
Loading SuperEgo
SUPEREGO
StopBulimia
Loading SuperEgo
SUPEREGO
StopSelfHarm
Loading SuperEgo

Definitions

- “Online therapy is the use of computers as tools to enable and/or enhance the provision of therapeutic services”. (Abraham Wolf, 2003)

- Digital health solutions are the use of digital tools (e.g web, mobile, sensors and computers) for enhancing existing services or developing new ways of helping people (Svein Øverland, 2014)

Digital health solutions are tools

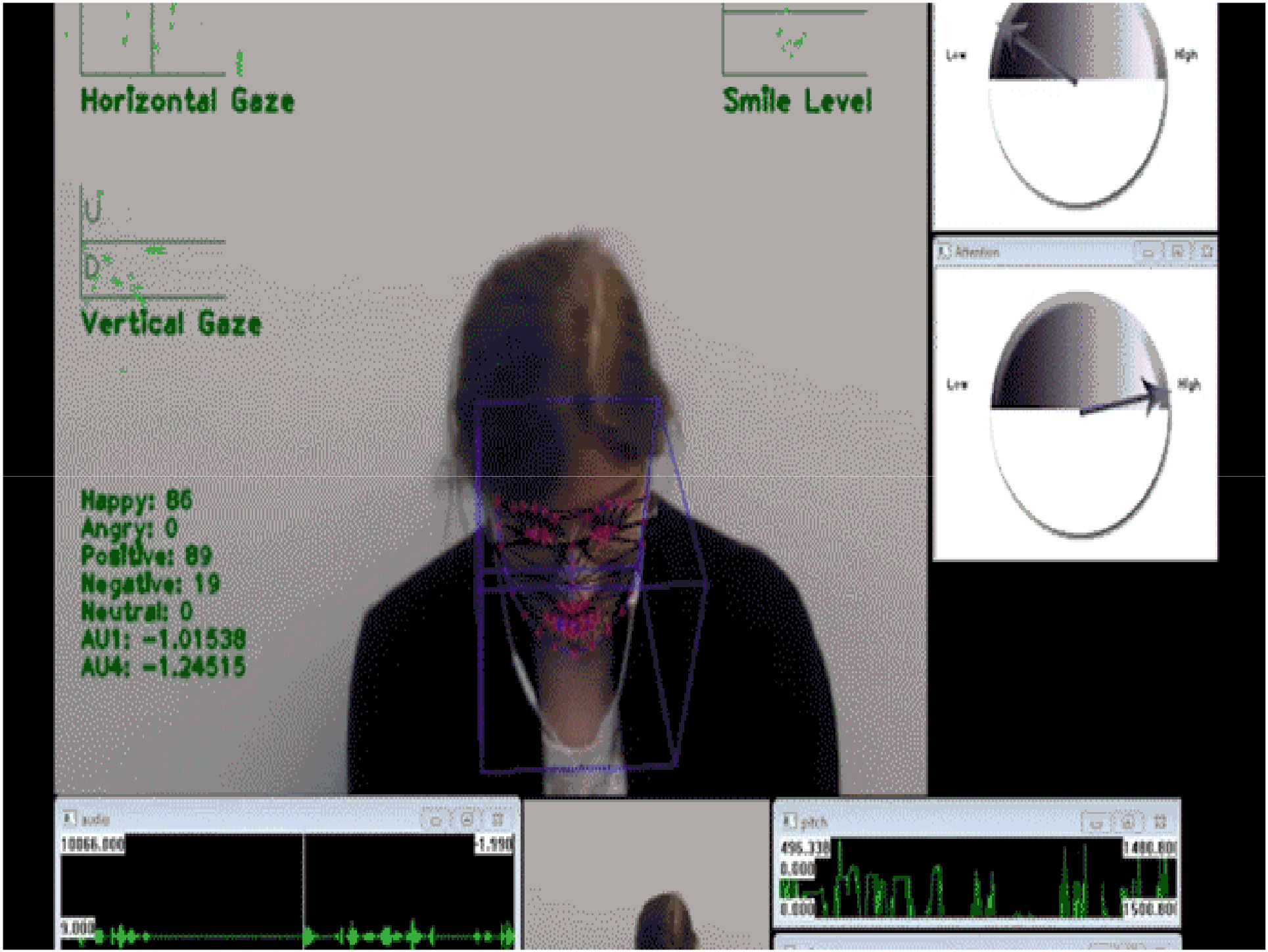
- The aim is not to replace standard person to person interaction and therapy, but rather to:

✓ help patients or persons in risk of developing health problems that we otherwise have difficult to reach (due to distance, special needs or shame)

✓ use and experiment with existing digital solutions (e.g Habbo , InWorld, SPECTER)

✓ develop new ways in prevention, information sharing and treatment (e.g simulation, gamification)

SimSensei nods at appropriate points in the dialogue.


Horizontal Gaze
Smile Level
Vertical Gaze
Happy: 86
Angry: 0
Positive: 89
Negative: 19
Neutral: 0
AU1: -1.01538
AU4: -1.24515
Low
High
Attention
Low
High
audio
pitch

From Artificial Intelligence (AI) to Artificial Psychology (APsy)

option type	**count**	**example**
nonverbal behaviors	23	head nod to indicate agreement
interview questions	87	*what are you like when you don't get enough sleep?*
neutral backchannels	24	*uh huh*
positive empathy	11	*that's great*
negative empathy	14	*i'm sorry*
surprise responses	5	*wow!*
continuation prompts	26	*could you tell me more about that?*
miscellaneous	24	*i don't know; thank you*

People prefer simulated psychologists

6.3 Discussion

The results of this first evaluation are promising. In terms of subjective experience, participants reported willingness to disclose, willingness to recommend and general satisfaction with both the WoZ and AI versions of the system. In terms of rapport, participants reported feelings comparable to a face-to-face interview. Unexpectedly, participants felt more rapport when interacting with the WoZ system than they did in face-to-face interviews. One possible explanation for this effect is that people are more comfortable revealing sensitive information to computers than face-to-face interviewers (e.g., see [37]), though this will require further study.

Changes and challenges

- Online therapy challenges both our way of thinking about behavioral change and psychotherapy, and how we do it

- Digital health solutions consist of both technical solution (e.g sensors) and how we think about them (e.g gamification, implementation, and encryption)

- Digital health solutions will soon be a part of the existing health and welfare services, which will need leaders and administrators to know and do more

Interactive self help resources

snakketoyet.no — SNAKKETØYET

SNAKKETØYET

Dra ikonet inn i snakke-boblen eller klikk på ikonene for å komme inn i "Snakketøyet"

Powered by BARNSBESTE

Online encrypted self help/treatment

SØK

Navn | By | Specialer | Bruk

- Hvilken som helst -

ANTJE DANIELA GROSS-BENBERG
Psykologspesialist
Trondheim
LES MER

CHRISTIN WANGEN
Gjettum
LES MER

HÅKON SØRENSEN
Oslo
LES MER

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JAN SJØBERG
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JØRGEN FLOR
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LES MER

Effect and therapeutic alliance

- Is online therapy as effective as standard therapy?
- Does online therapy foster the same strenght in the therapeutic alliance as standard therapy?

Some research from Norway

- The effect of online therapy has been shown to be in effective in at least three studies concerning anxiety, depression and OCD (Vogel, P. A. et. al, 2012 J. of Anxiety Disorders)

- There are two studies under way studying the effect of apps as supportive to standard therapy

The therapeutic alliance

Jasper m.fl 2014

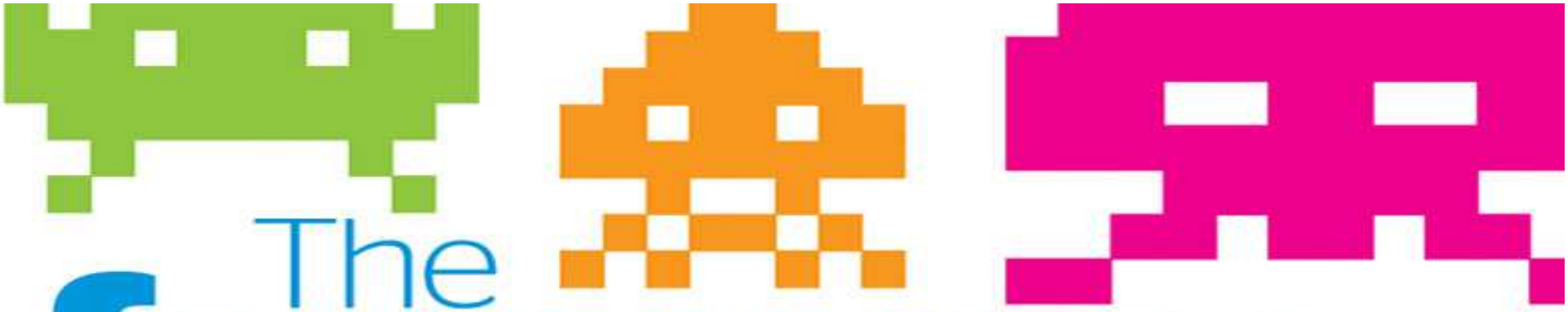
- Comparison of therapeutic alliance in online versus group based treatment of tinnitus measured with Working Alliance Inventory and the Tinnitus Handicap Inventory
- Participants in both groups experienced a good therapeutic alliance
- The partipants in the online group needed a little more time to get a good alliance

The therapeutic alliance

Preschl, Maercker og Wagner, 2011

- A comparison of 8 weeks online and Real Life CBT for depression
- The results measured by Becks depression inventory and Working alliance Inventory showed no difference

Gamification



The fun way to engage

Gamification is a process of using game thinking and mechanics to engage users. This concept can be applied to both customer facing applications and employee facing applications in the company's business model. Enterprise architects must be ready to manage a variety of "player types" (achievers, socializers, explorers and killers) and deployment scenarios.

Games in education and treatment

The Proteus effect

Testing for Chlamydia

From Darwin to Gaming


500 million apps downloaded.
And counting.
smule
Tap Tap Revenge
urbanspoon
ORACLE
amazon
ebay
TETRIS
32
yelp
There are more than 15,000 apps on the App Store, and so far iPhone users have downloaded an incredible 500 million, in every category from games to business.

App developers per category

	Establ. Health Players	App Specia-lists	Helpers	Medical Specia-lists	Fitness Specia-lists	Con-necters
Percentage of total	3,4%	14,3%	32,3%	20,2%	10,2%	18,0%
Goal of apps	Brand awareness	Revenue	Help people	Help people	Revenue	Revenue
Goals achieved	mainly not	partly	mainly yes	partly	mainly yes	mainly yes
# of mHealth apps (ø)	13.5	7.4	7.5	10.7	11.3	11.3
Downloads (<5k/ >1m)	43.3% / 6.7%	60.1% / 6.4%	61.2% / 5.8%	58.6% / 6.3%	44.6% / 7.4%	53.1% / 7.7%
Revenues (0/ >1m)	67%/ 3.2%	25.7%/ 7.8%	51.4%/ 5.1%	42.7%/ 9.1%	39.4%/ 7.4%	39.0%/ 8.9%
APIs usage	low	average	average	average	high	all
Tool usage	low	high	average	average	high	Very heavy
Medical ex-pert in team (ø)	57,6%	40,1%	47,5%	100%	43,7%	49,7%
Typical company size	5,000+	3-10	3-10	3-10	11-100	11-100

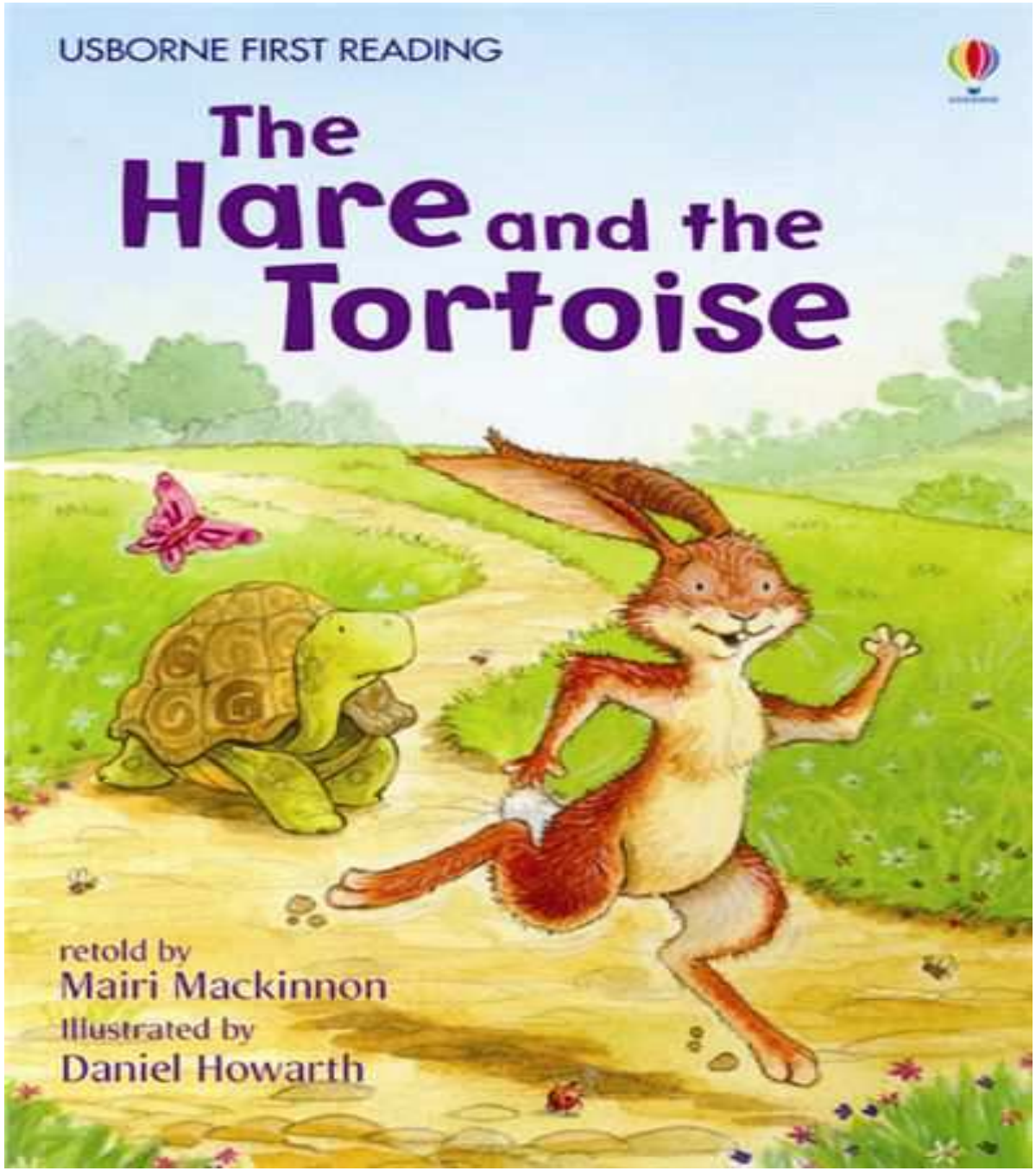
Low cost Hi-Tech

New technology, new challenges

- The problem with the new technology is not the technical challenges in its selves,
- but getting health professionals to use it
- and implementing it in the existing services
- When implementing new technology, the technical changes only equals to 20 percent of the total implementation. Most of the work consist of re-organization and new administrative routines (Dorthe Kusk, 2011)

Old and new ICT

	”Heavy ICT”	”Light ICT”
Type	Journal- and lab systems, copyrighted	Apps, sensors and sky services, open source
Purpose	Documentation, diagnosis, information sharing	Documentation, screening, information sharing
Owner	Hospitals, big corporations	Developers, small businesses
Focus	Big data, security	Innovation, increased effect
Challenges	Increasingly complex to manage, expensive, low flexibility	Low security, lack of a common platform


USBORNE FIRST READING
The Hare and the Tortoise
retold by
Mairi Mackinnon
Illustrated by
Daniel Howarth

Playful psychology

- Clinical psychology has always been experimenting with new ways of helping people
- When Freud first wrote about his ”talking cure”, he met a lot of opposition
- When Melanie Klein and Anne Freud started child- and play therapy (around 1919) it was considered farfetched and unnecessary
- We need to keep being innovative!

Our responibility

- ”The future of online health services is happening right now. As psychologists we have a responsibility to participate and be proactive in this development, both in terms of clinical and ethical considerations"

  Tor Levin Hofgaard, President in the Norwegian Association of clinical psychologists

www.superego.as

www.psykologivirkeligheten.blogspot.no