Empathy & Insight in New Technology Thinking

Haiyan Zhang
Innovation Director & Technical Advisor
Microsoft Research, Cambridge
@haiyan

Engineer, Designer, Maker of Things

Microsoft Microsoft Research

Microsoft Research presence

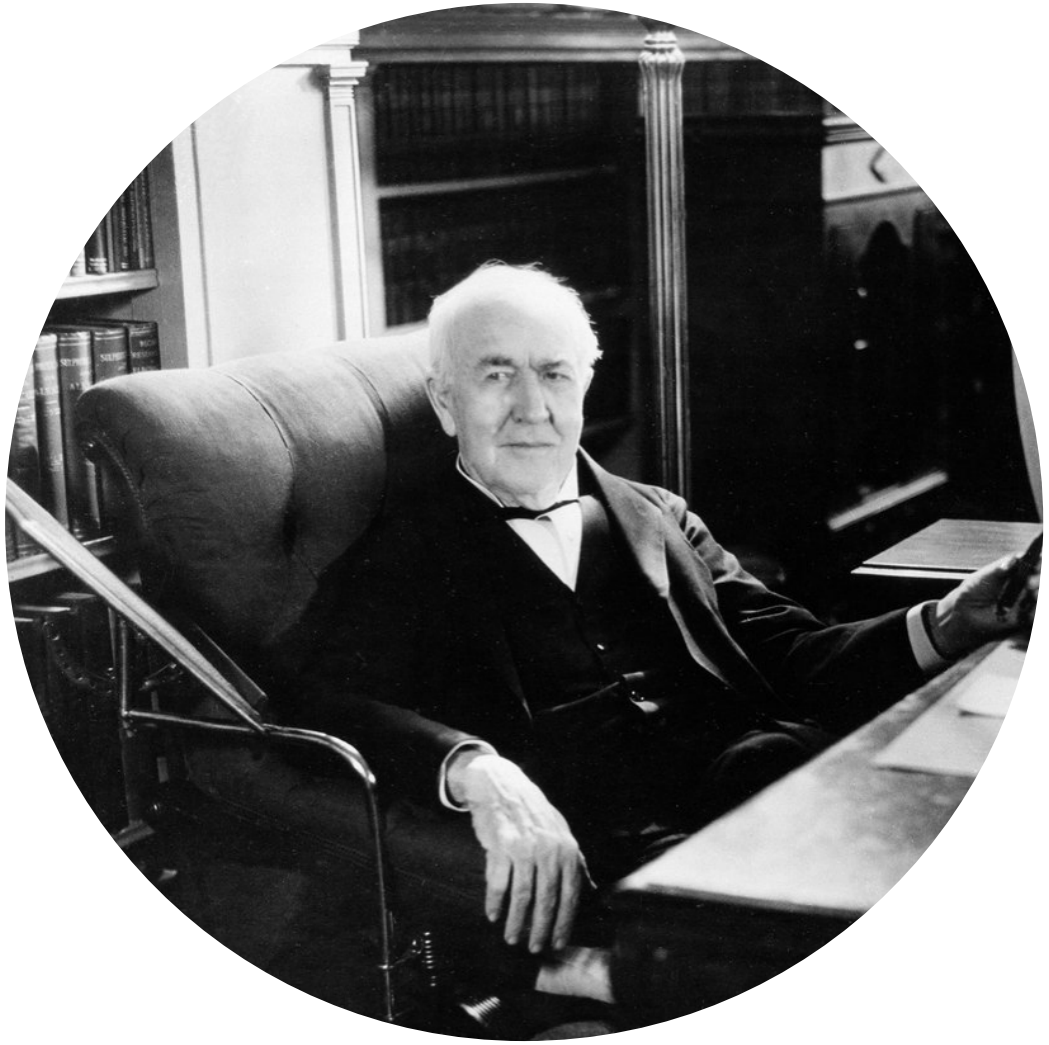
Transforming the world through deep, collaborative research

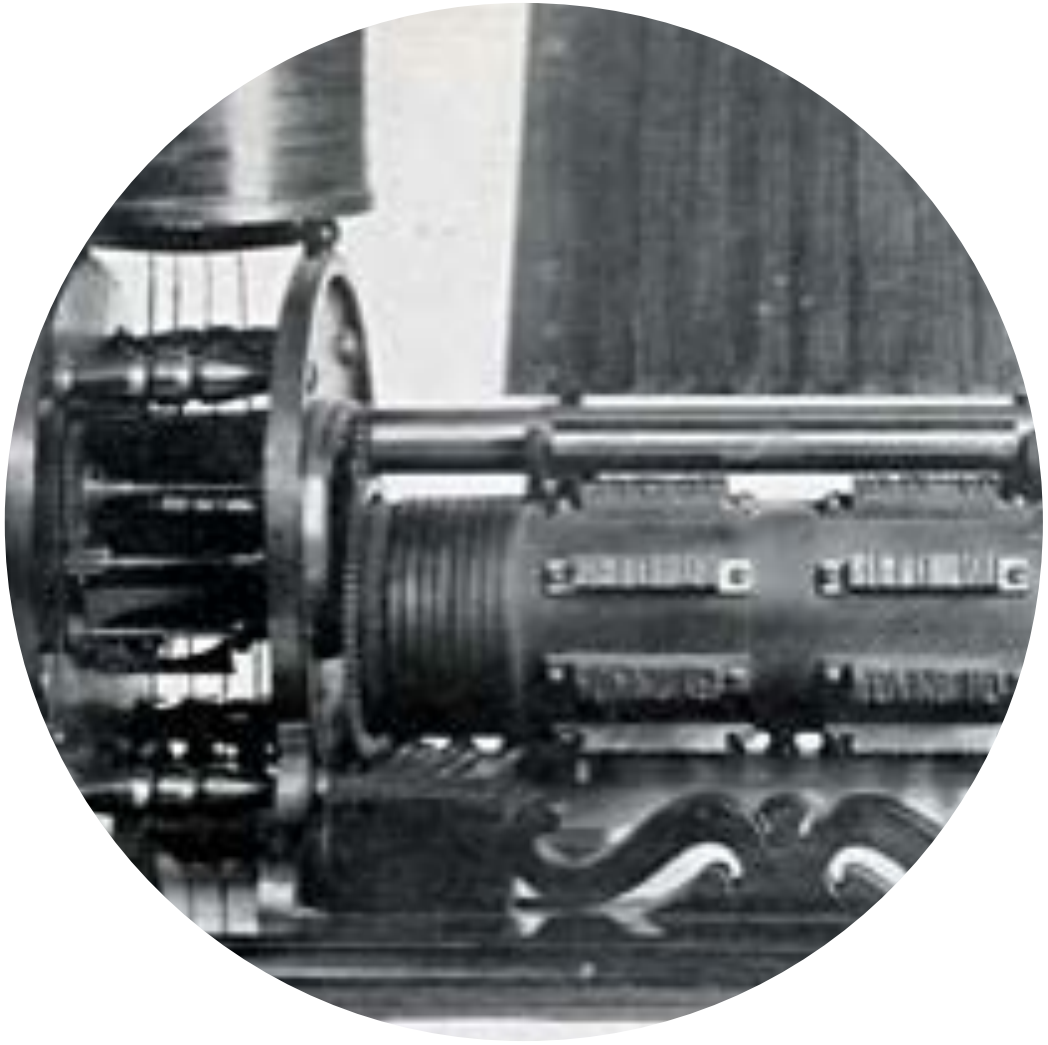
MACHINE LEARNING	DESIGN	SYSTEMS
COMPUTER VISION	HUMAN COMPUTER INTERACTION	VERIFICATION
NATURAL LANGUAGE PROCESSING	SOCIAL SCIENCE	SECURITY
BIOLOGICAL COMPUTATION	NETWORKS	PROGRAMMING LANGUAGES

Insight

The capacity to gain an accurate and deep understanding of someone or something.

An elusive, encapsulated wisdom.

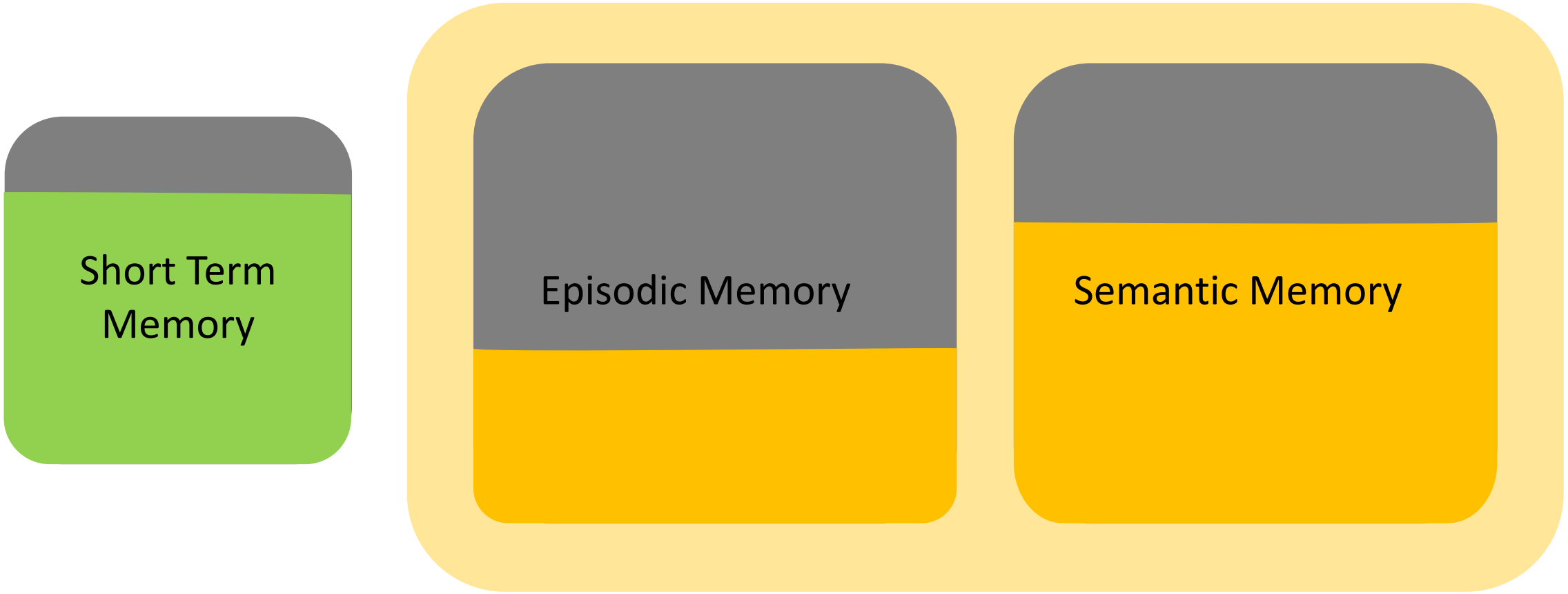




Insight is key in creating novel, impactful technologies.

PHILIPS
Project
Aman

AMAN’S MEMORY LOSS



HOW MIGHT WE SUPPORT AMAN IN HER TRANSITION TO A YOUNG ADULT?

Family Routine

Getting up
Going to School
Dinner
Bedtime

School

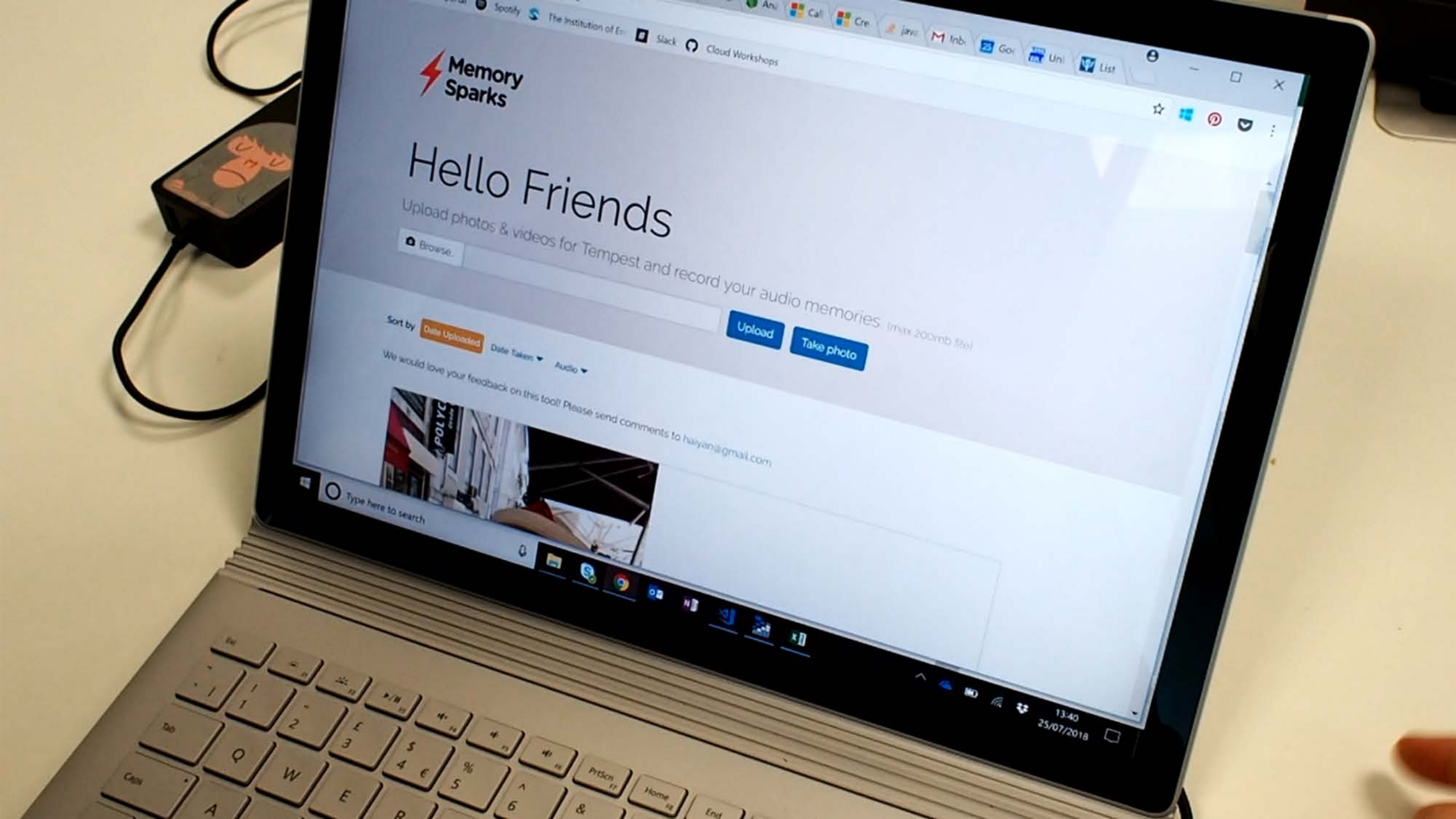
Classes
Gym
Play Time

Family Leisure

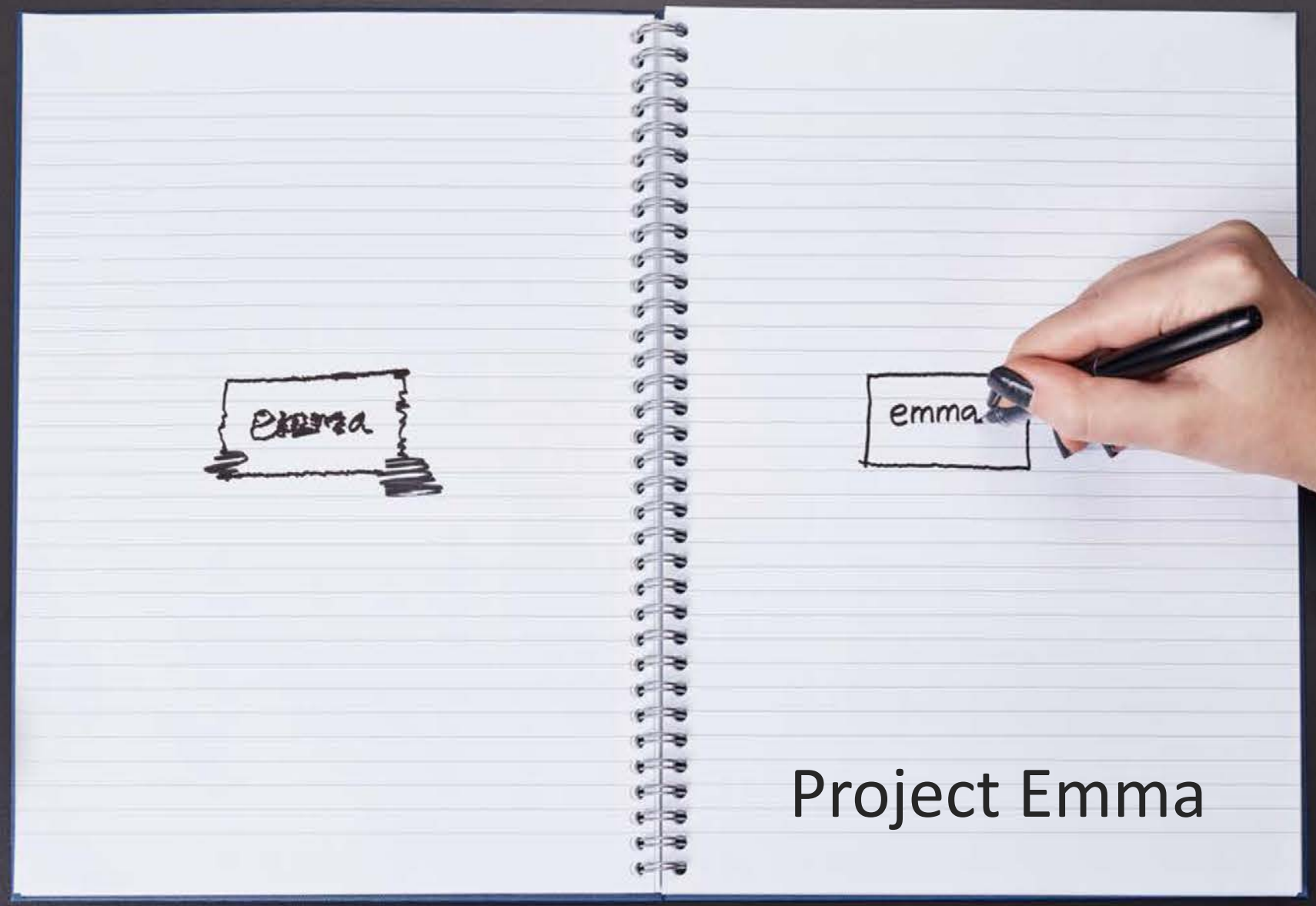
Weekends
Holidays
Relatives Visiting
Family Outings

Help build Aman's semantic knowledge to complete school

Help Aman relive emotional moments with her family


Memory Sparks
Hello Friends
Upload photos & videos for Tempest and record your audio memories (max 200mb file)
Browse...
Upload
Take photo
Sort by
Date Uploaded
Date Taken
Audio
We would love your feedback on this tool! Please send comments to haiyan@gmail.com
Type here to search
13:40
25/07/2018

Export to Home Movies



Project Emma

[illegible]

[illegible]

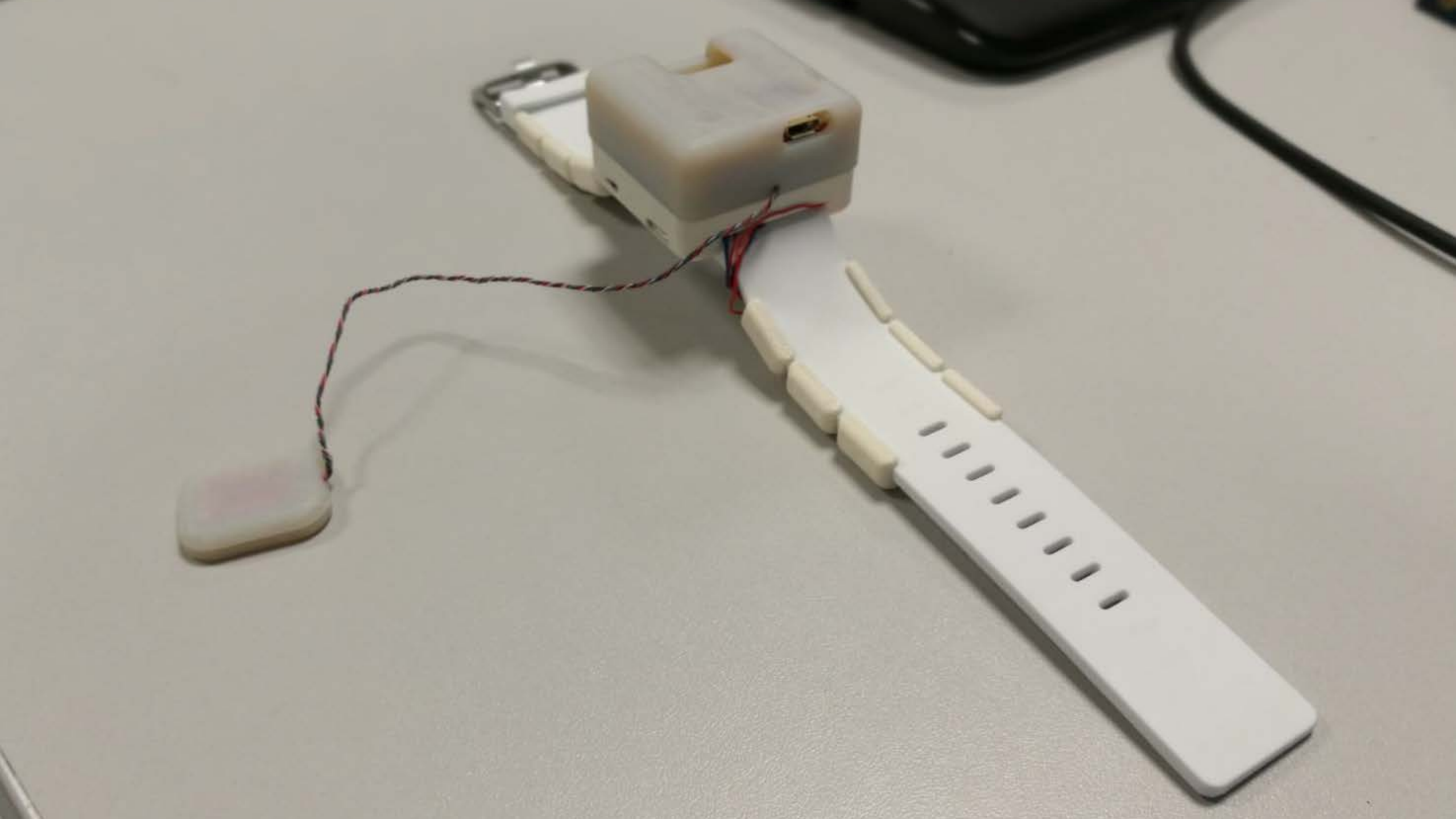
[illegible]

[illegible]

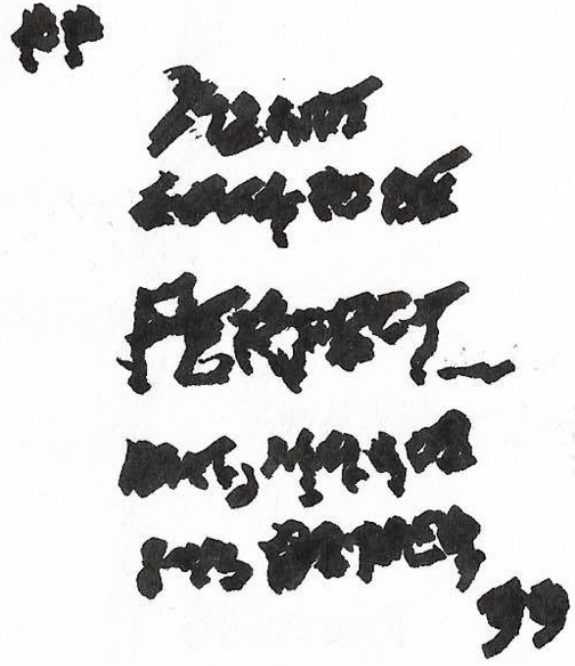
[illegible]

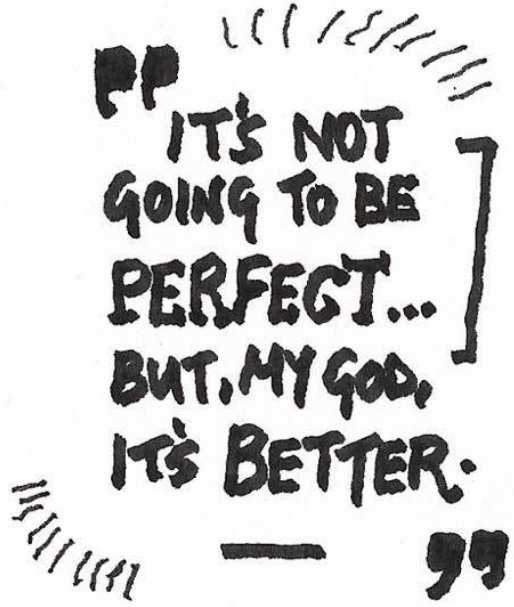
[illegible]

MA-1
METRONOME
KORG
TEMPO
120
BEAT/RHYTHM
TEMPO/TAP
START/STOP



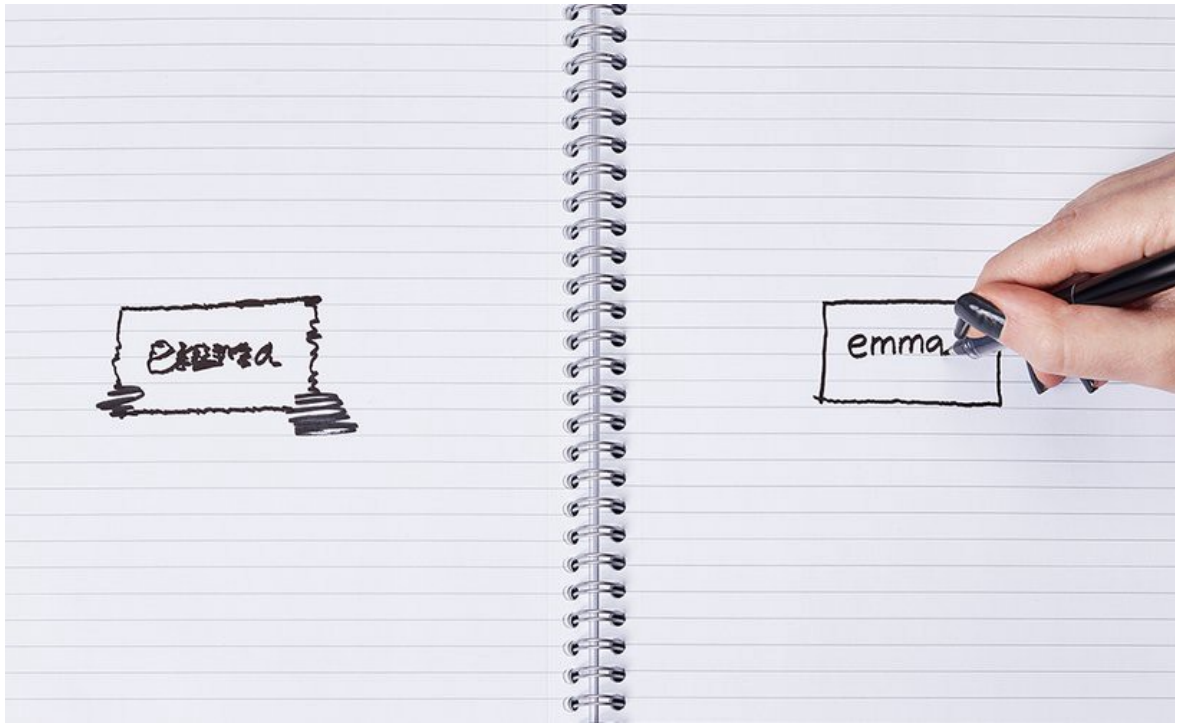
BBC




IT'S NOT
GOING TO BE
PERFECT...
BUT, MY GOD,
IT'S BETTER.

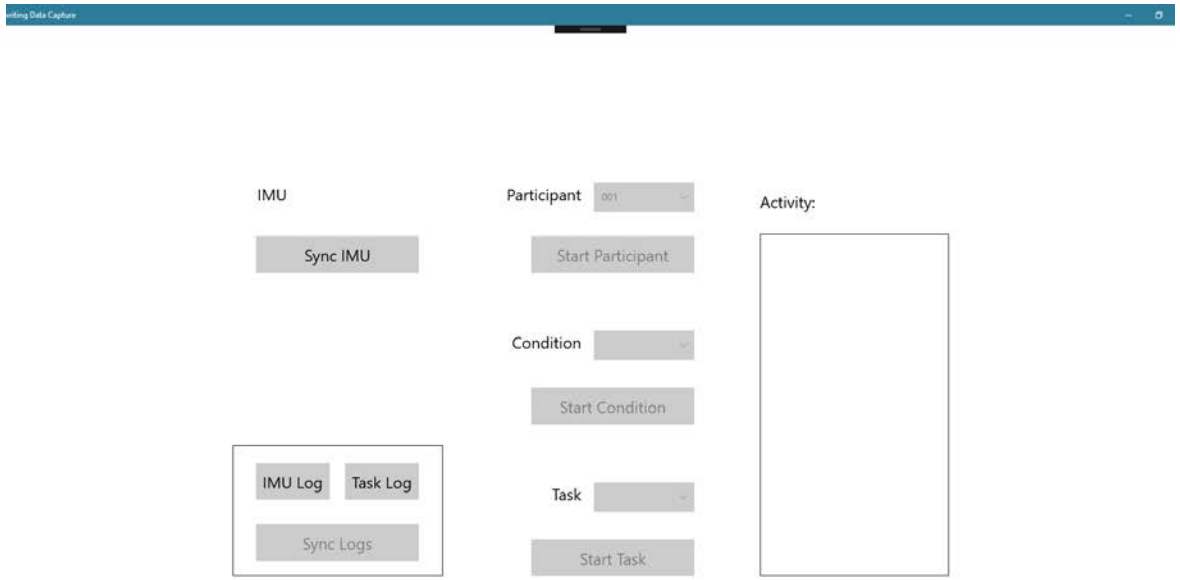
Emma

Final prototype

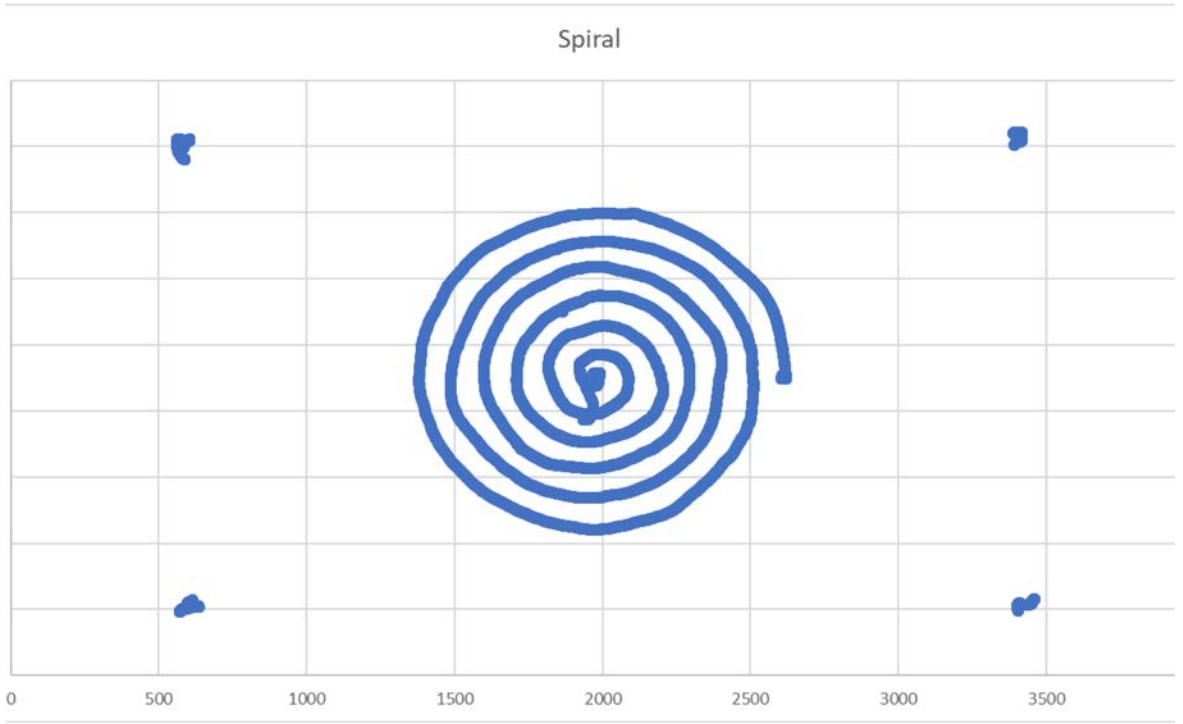


Writing samples

Software

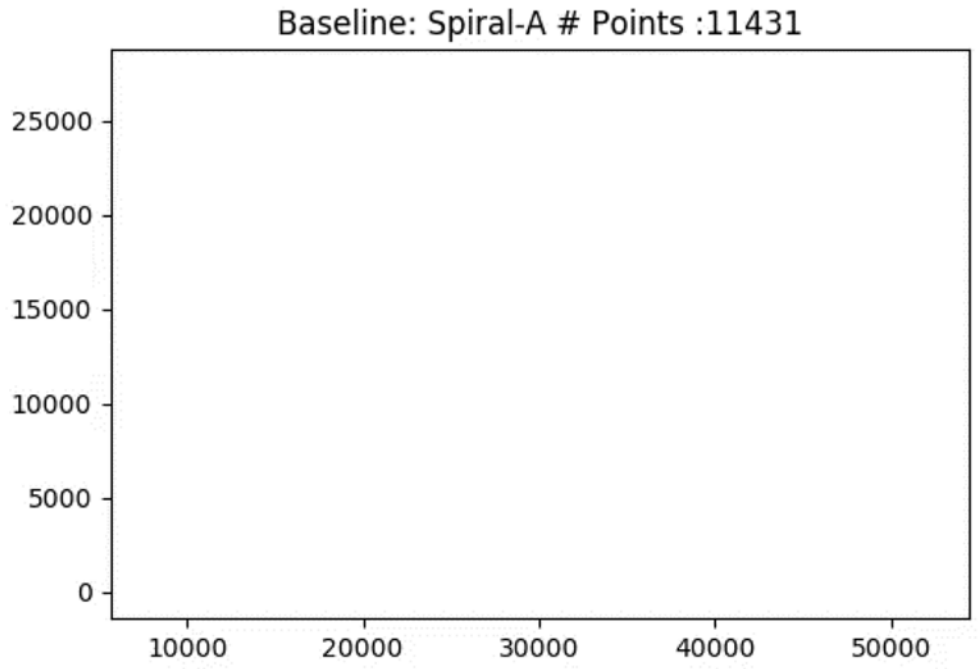


Capture assessment session

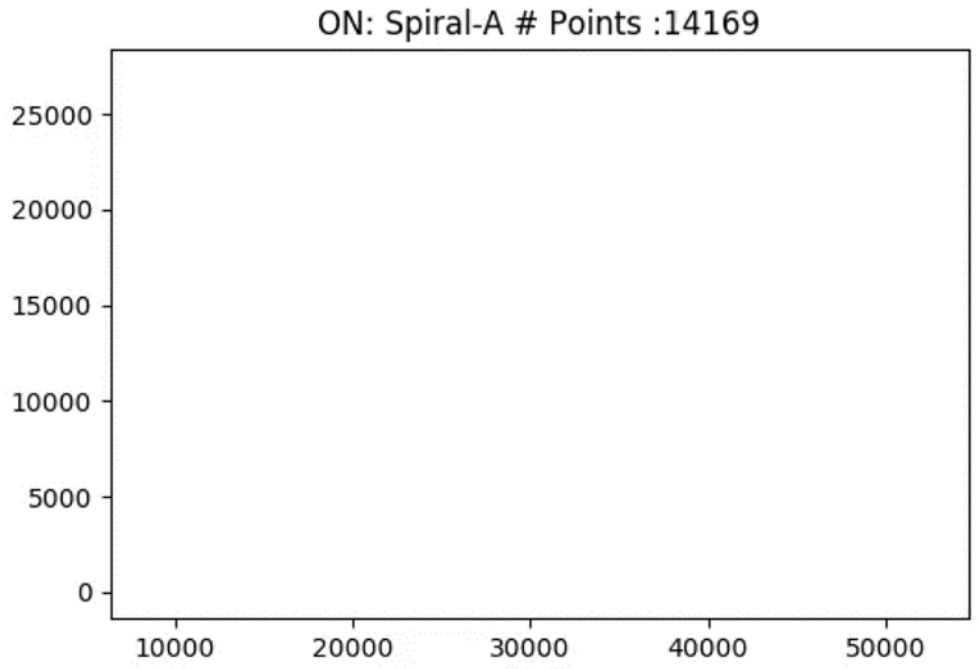


Capture Wacom data

Emma



Without watch



With watch

BBC

BBC
#InventingTheImpossible
Oh he's seizing.

Auto

Cystic Fibrosis is a life limiting illness and affects on average 1 out of every 2,500 babies. 100,000 people globally are living with CF.

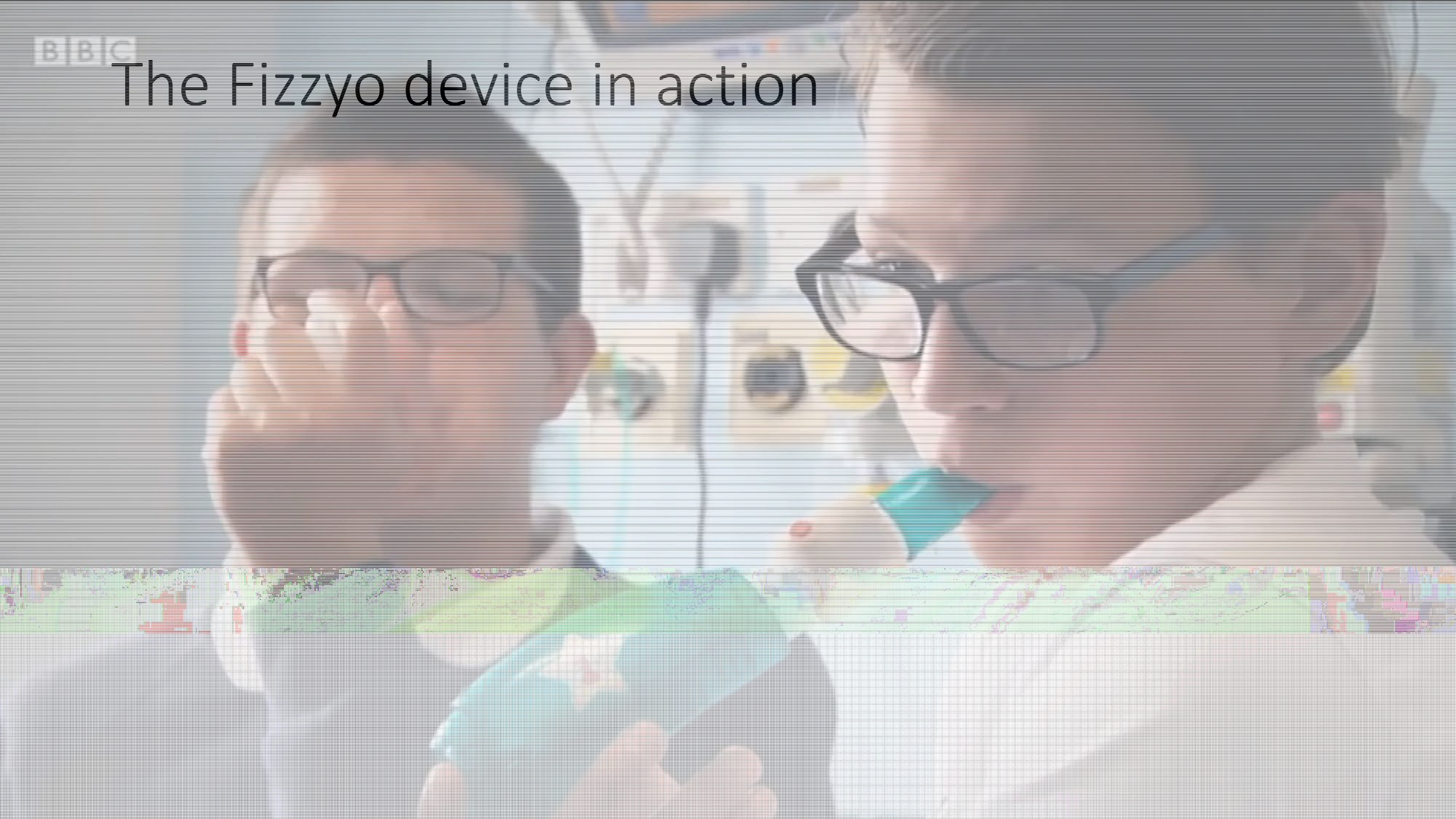
The average predicted life expectancy is 41 years of age.

BBC

The Fizzyo device is a wireless sensor that connects to existing CF Physiotherapy equipment, turning breaths into controls for video games.

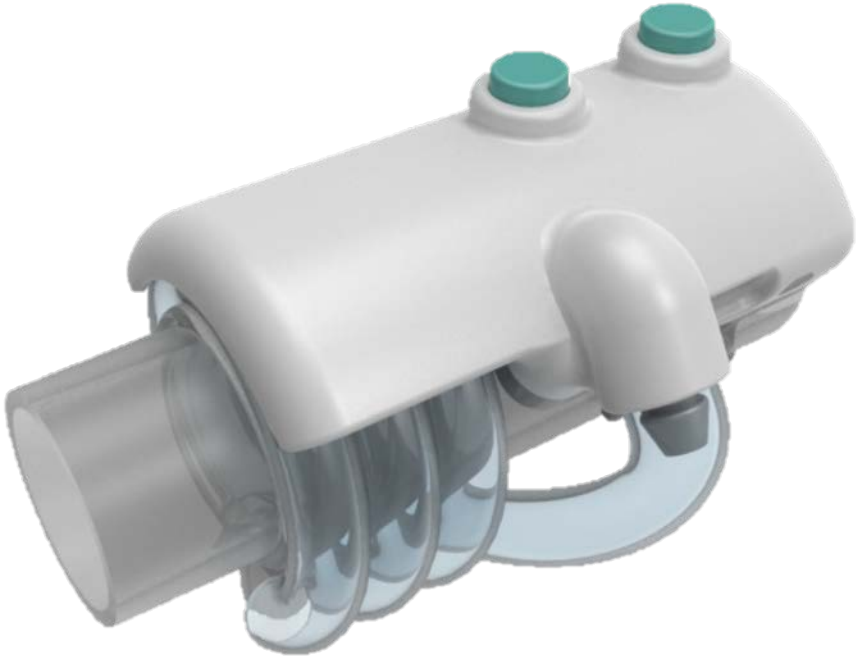
BBC

BBC



The Fizzyo device in action

Scaling Up Through Key Partnerships



HACK
ATTACK
GAMES
FOR LONG HEALTH

GAME
DEV DNA
QUAVERS

“Technology such as this is not currently available and we believe has the potential to really change the way these children are cared for in the NHS.”

Professor Eleanor Main
University College London, Physiotherapy

Empathy & Insight in New Technology Thinking

Haiyan Zhang
Innovation Director & Technical Advisor
Microsoft Research, Cambridge
@haiyan