



JUNE 2017

DIAGNED
*THE FUTURE OF
COMMUNICATION*



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Hi! I'm **Alexis**!
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Hi! I'm **Erwin**!
Managing Partner, Digital Strategist and
Technology Marketer

PLEASED TO MEET **YOU**

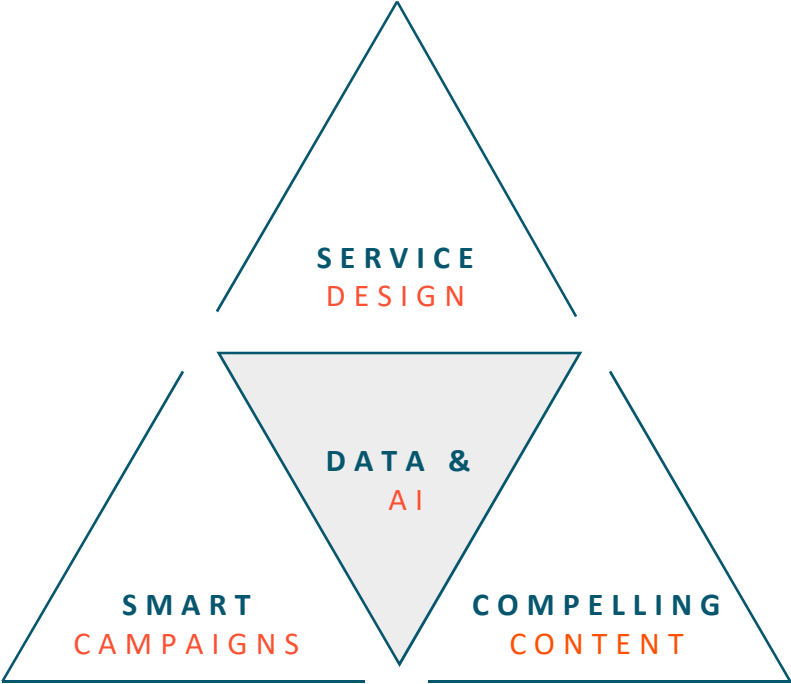


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2. TRENDS
3. A NEW PARADIGM
4. FOCUS ON CHATBOTS
5. CASES IN HEALTHCARE

1. ABOUT US

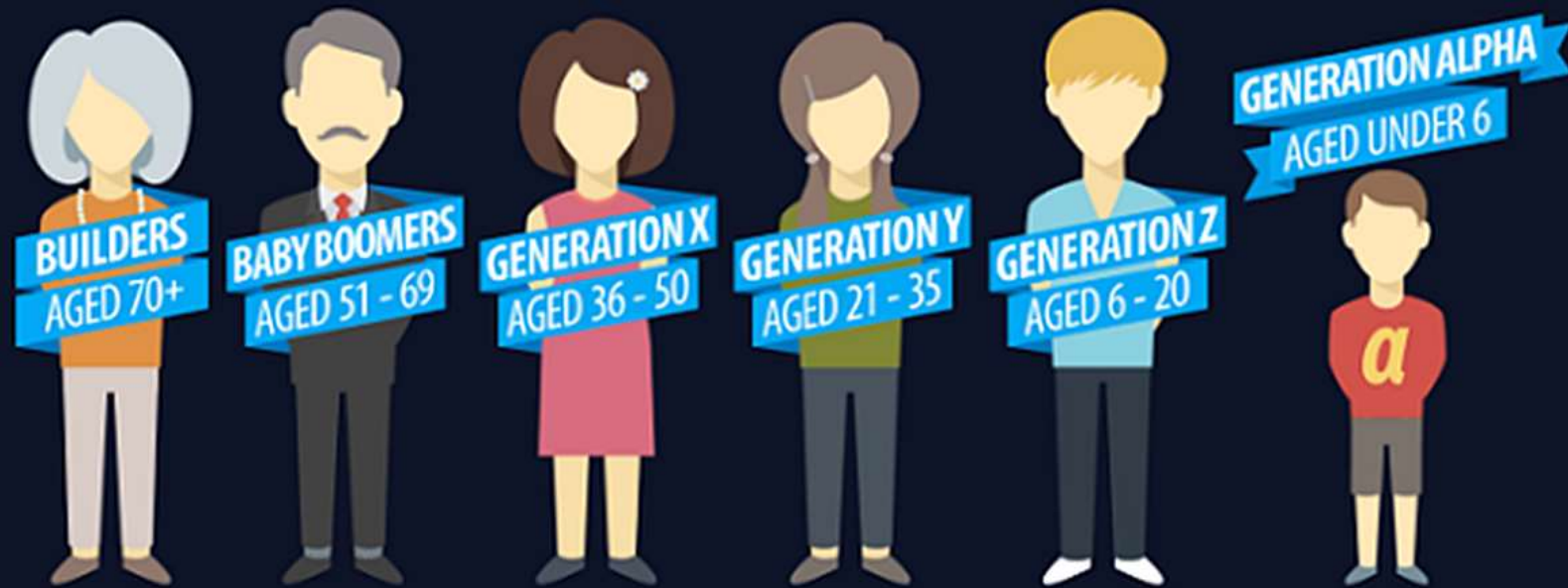
WHAT WE DO: OUR CORE EXPERTISE



An aerial photograph of a city, heavily blurred and overlaid with a dark blue tint. The text is centered in the middle of the image.

WE ARE
THE AGENCY FOR
THE α -REALITY

GENERATION ALPHA



ALPHAS WILL SPEND THE BULK OF THEIR FORMATIVE YEARS COMPLETELY IMMERSSED IN TECHNOLOGY

AGENCY FOR THE α -REALITY

INTERNA-TIONAL

PARIS – MECHELEN – A'DAM

CLIENTS

TEAM

NEW WAY OF
WORKING

DESIGN SPRINTS

CO-CREATION

LEAN

DISRUPTIVE
TECHNOLOGIES

AI/CHATBOTS

LIVE VIDEO/VR/AR

IOT / BLOCK CHAIN

PEOPLE

T-SHAPED

ATYPICAL

MILLENNIALS

2. TRENDS





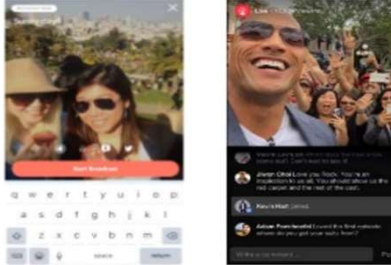
THE DIGITIZATION & RAPID ADOPTION IN HEALTHCARE / MEDICAL INDUSTRY

JUST A FEW EXAMPLES

	ECG	Hospital Monitoring	Blood Pressure	X-Ray
2000's (Analog)	 Paper-Based	 In Room	 Manual	 2D
2017 (Digital)	 Wearable	 Remote	 Automatic / Digital	 3D

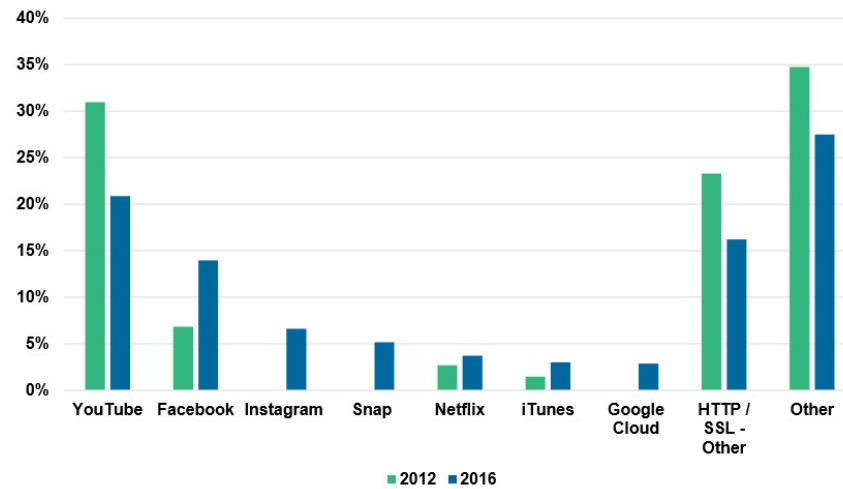
VIDEO

EVOLUTION OF VIDEO

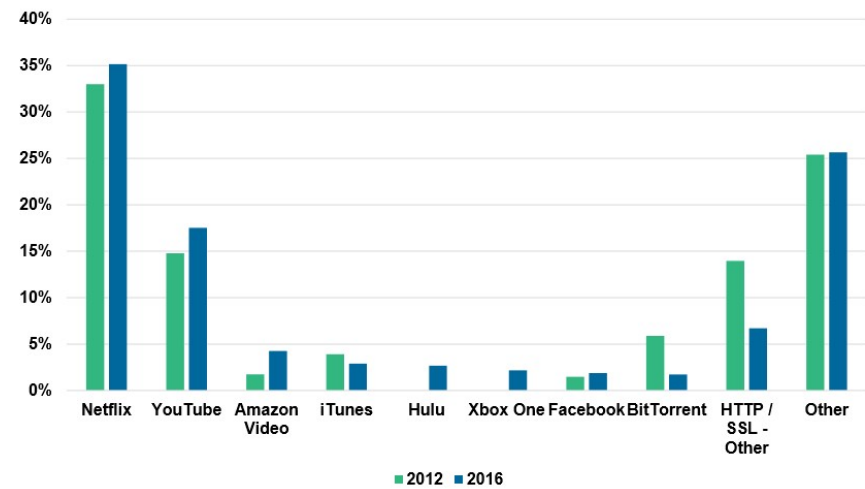
LIVE (LINEAR)	ON DEMAND	SEMI-LIVE	REAL-LIVE
<p>Traditional TV 1926</p> <p>Tune in or miss out</p> <p>Mass concurrent audience</p> <p>Real-time buzz</p> 	<p>DVR/Streaming 1999</p> <p>Watch on own terms</p> <p>Mass disparate audience</p> <p>Any time buzz</p>  	<p>Snapchat Stories 2013</p> <p>Tune in within 24h Or miss out</p> <p>Mostly personal audience</p> <p>Any time buzz</p> 	<p>Facebook Live 2017</p> <p>Tune in/Watch on own terms</p> <p>Mass audience, yet personal</p> <p>Real time + Any time buzz</p> 

SHARE OF VIDEO TRAFFIC (%)

MOBILE VIDEO GAINERS = FB + INSTA + SNAP



NON-MOBILE VIDEO GAINERS = NETFLIX + YT + AMAZON



AUGMENTED & VIRTUAL REALITY

AR / VR

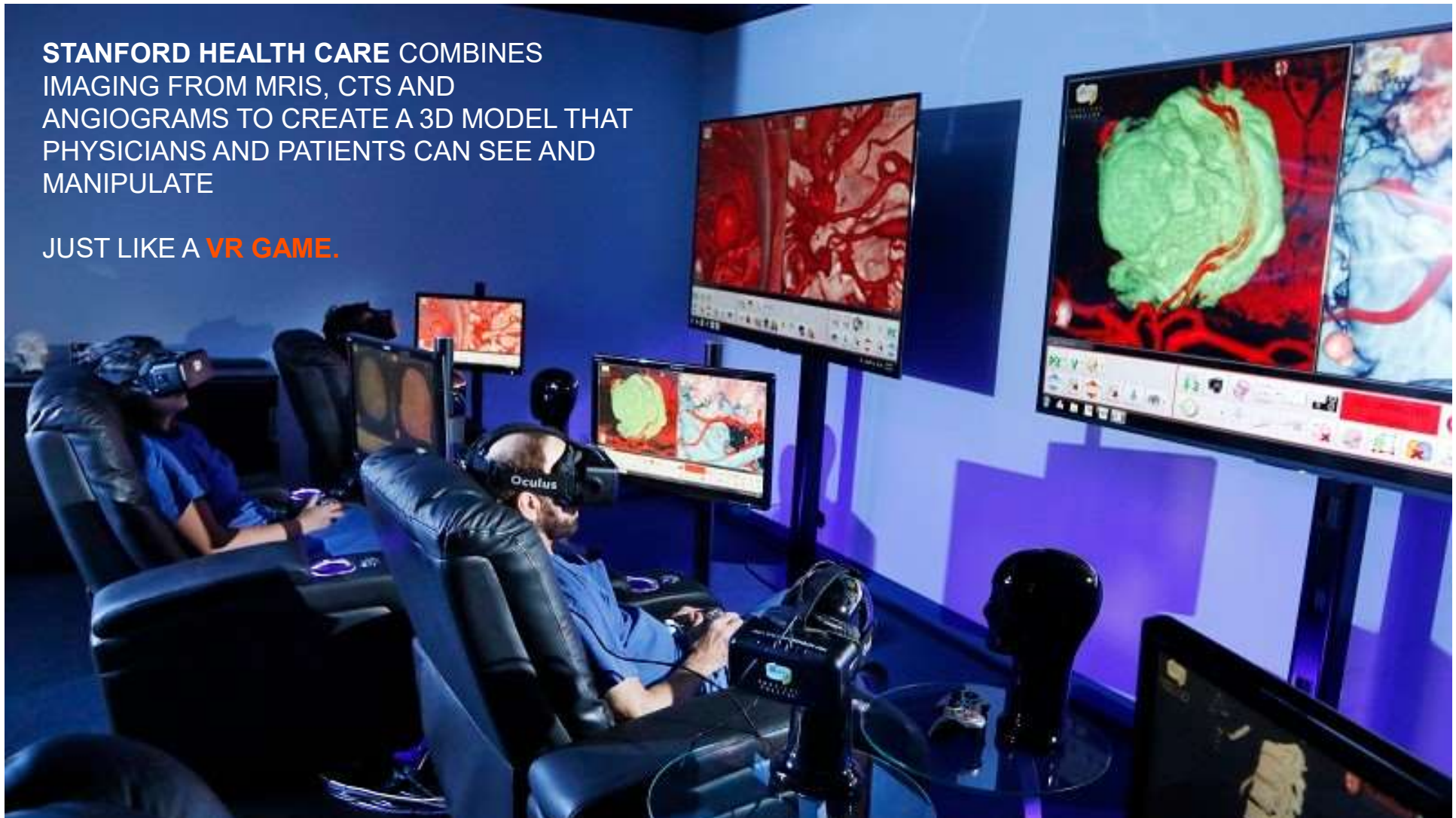
TOP HEALTHCARE INTEGRATIONS

1. **Medical education**
2. **Hands-free access** to EHR & clinic systems
3. **Remote medical consults** during treatments and surgery
4. **Virtual healthcare services**
5. **Pain management & chronic treatment**



STANFORD HEALTH CARE COMBINES
IMAGING FROM MRIS, CTs AND
ANGIOGRAMS TO CREATE A 3D MODEL THAT
PHYSICIANS AND PATIENTS CAN SEE AND
MANIPULATE

JUST LIKE A **VR GAME**.



ROBOTS & ARTIFICIAL INTELLIGENCE

ROBOTS & AI



JACK MA
is warning for decades of 'pain' from A.I.

Convenience &
Ease of use



BILL GATES
"robots that nick humans' jobs should be charged tax"

Time effectiveness



STEPHEN HAWKING
"..and they're making society more unequal"

Error reduction

More than 10 million workers in the UK are at high risk of losing their jobs to robots and artificial intelligence (AI) systems over the next 15 years.

- 56%** Transportation & Storage
- 46%** Manufacturing
- 44%** Wholesale & Retail trade

Education, health & social work are estimated to face the lowest risks of automation given the relatively high proportion of tasks that are hard to automate.

High cost

No emotions or moral values

Good vs. Bad AI

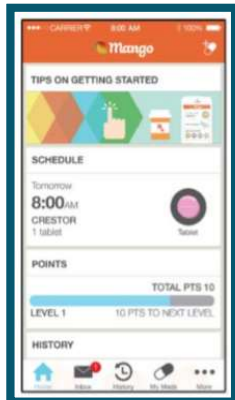
GAMIFICATION

GAMIFICATION

PROFESSIONAL SERVICES INFLUENCE
CONSUMERS AND PROVIDERS ALIKE

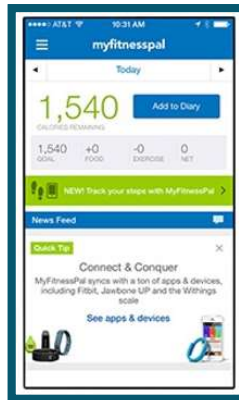
Personal Health

MANGO HEALTH



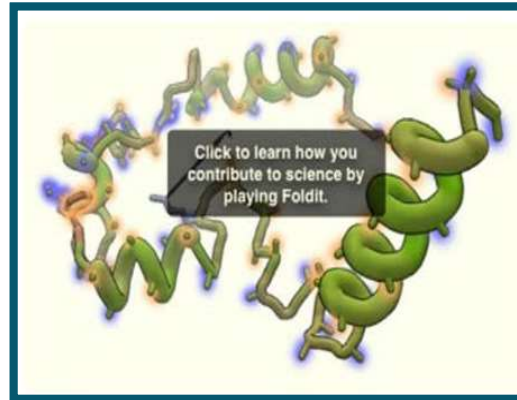
Exercise

MYFITNESSPAL



Healthcare Research

FOLDIT

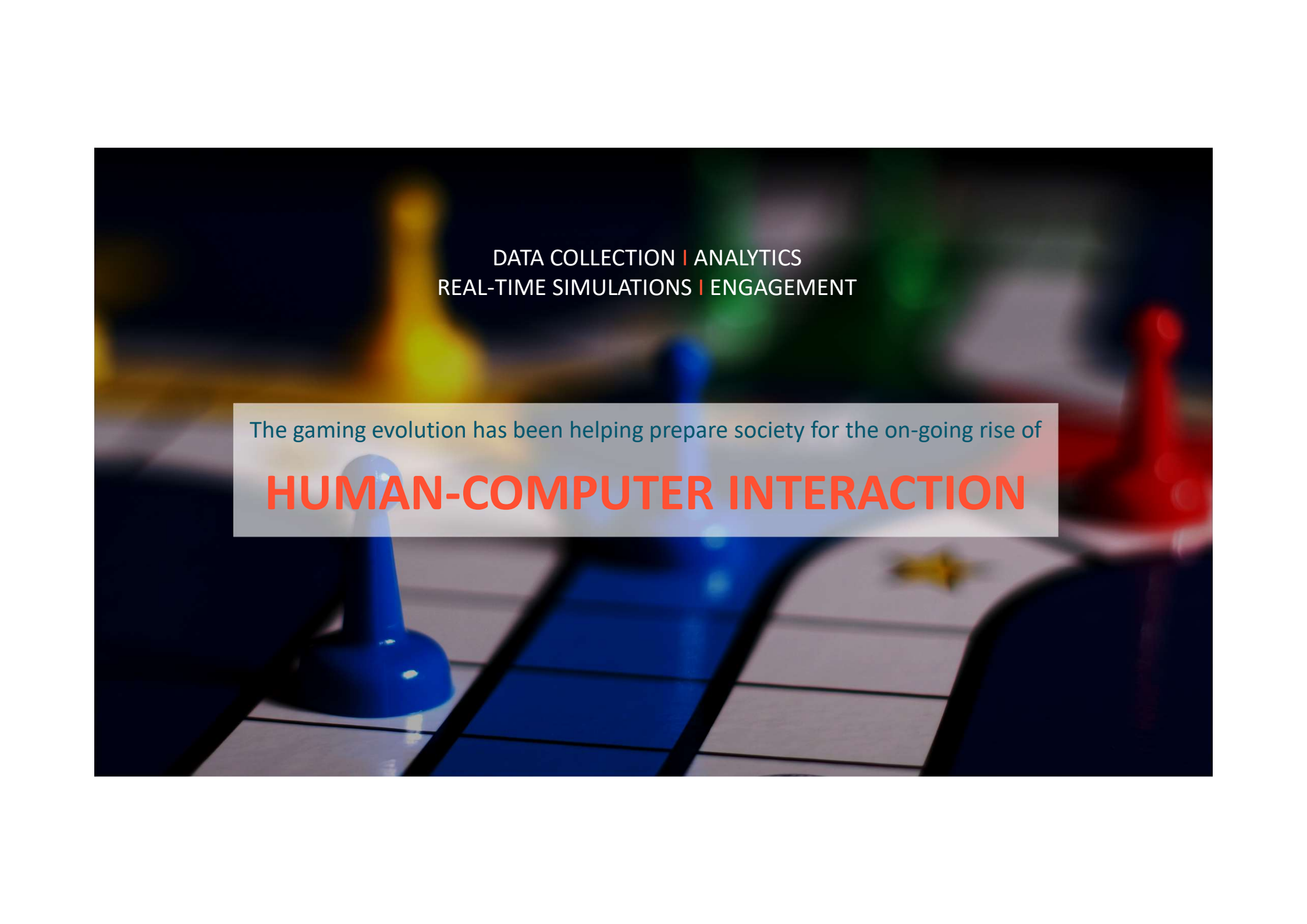


Healthcare Training

SIMULATED SURGERY



GAMING AS TOOL IS IMPROVING PERFORMANCE ACROSS DISCIPLINES



DATA COLLECTION | ANALYTICS
REAL-TIME SIMULATIONS | ENGAGEMENT

The gaming evolution has been helping prepare society for the on-going rise of

HUMAN-COMPUTER INTERACTION

I O T
-
I O P

IOT | NOT JUST A BUZZ WORD

TECHNOLOGY INSIDE OUR DAY TO DAY OBJECTS / TOOLS AND CLOTHES IS ALREADY THERE.
Connect offline to online world – making data more relevant with context of day to day life!

IT IS MAINSTREAM & HERE TO STAY



INTERNET OF PEOPLE

DIGITALISATION OF HUMAN RELATIONSHIPS & PERSONAL DATA COLLECTION

New ecosystems

Always-on sensors

Connectivity 24/7

Network-based business models

It forms a network of collective intelligence and stimulates interactive communication through digital devices, the internet and sharing of data.

In healthcare, this connectivity and sharing enables improved and more **Personalized, Predictive, Participatory** and **Preventive** care.

Self-service

Automation

Digital trust

Blurring segment boundaries

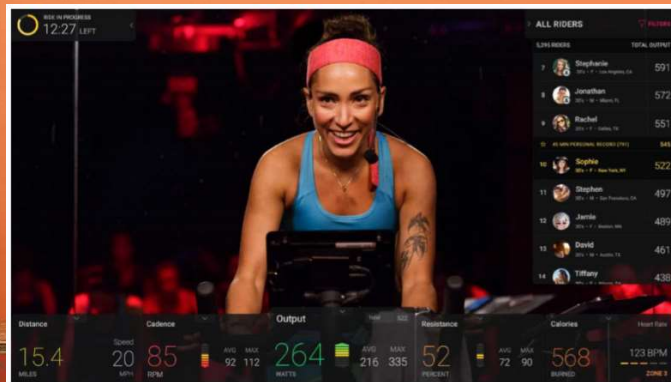
PELOTON

LIVE VIDEO + IOT + IOP + MACHINE LEARNING

2 workouts
per Week
per Subscriber

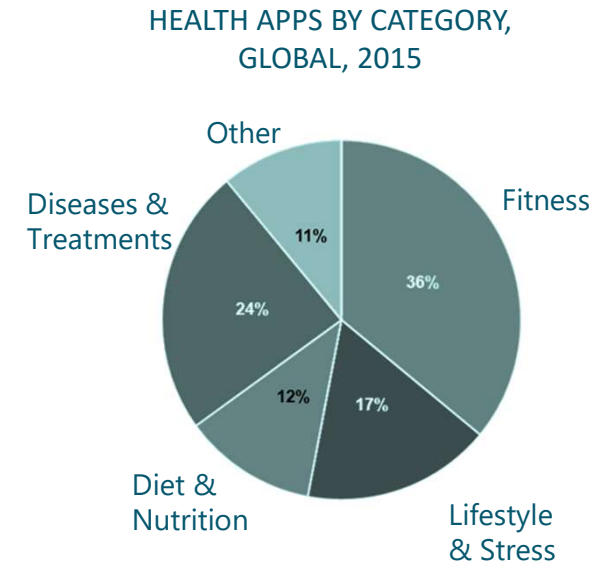
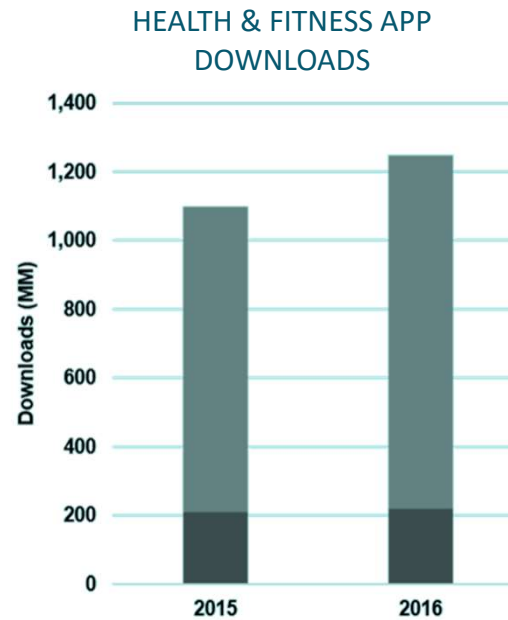
100K+ Bike Subscribers
95% Retention After 1 Year
400K+ Home Riders
1MM+ Home Workouts Streamed
in March 2017

Physically Interactive Media (PIM)
& Real-Time Activity Analytics
boost Intensity, Focus, Performance
and FUN!



WEARABLES

THE RAPID RISE OF CONSUMER HEALTH AND WELLNESS DATA CAPTURE

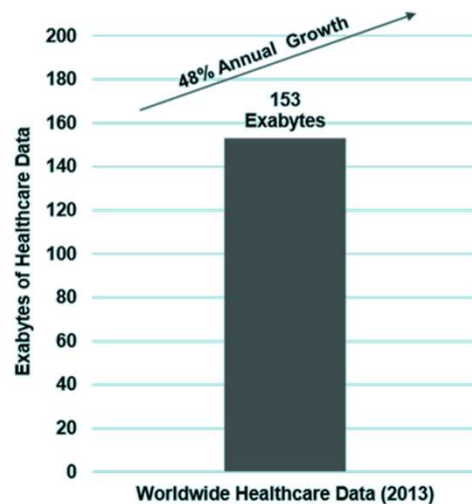


WRIST WEARABLES IN PARTICULAR ARE GROWING FASTEST

Common sensors: Accelerometer, Barometer, Thermometer, Microphone, Compass, Gyroscope, GPS and Heart Rate meter

IOT IN CONTEXT

48% YEARLY GROWTH IN HEALTHCARE DATA



Data Drivers of Typical 500 Bed Hospital:

- 500 Beds
- 8,000 Employees
- 400 Applications
- 500 Databases
- 1,000 Interfaces
- 10,000 Desktops
- 500 Owned/Controlled Tablets
- 2,000 Owned/Controlled Mobile Devices

= a whopping **50 Petabytes** of Data per Hospital

LEVERAGING IOT BIG DATA IN HEALTHCARE TO SAVE LIVES, REDUCE COSTS BUT ALSO TO CREATE GREAT PATIENT EXPERIENCES

1 Exabyte = 1B Gigabytes
1 Petabyte = 1M Gigabytes

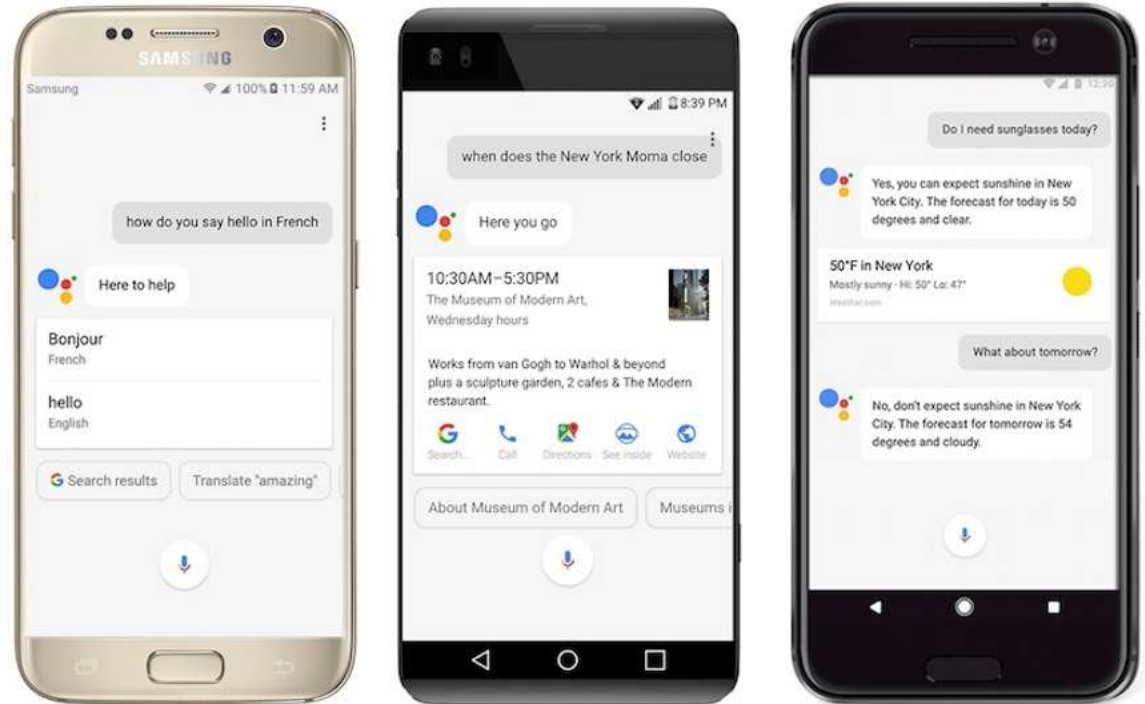
VOICE SEARCH

EVOLUTION OF VOICE SEARCH

≈70%
Google Assistant requests
are conversational
language.

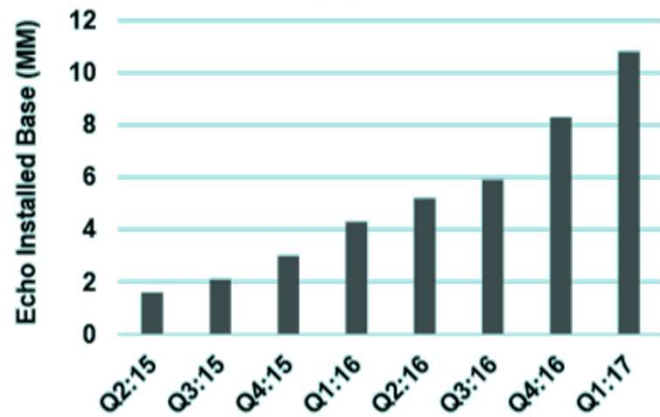
20%
Mobile queries are made
via voice.

Ex: Google Home /
Amazon Echo

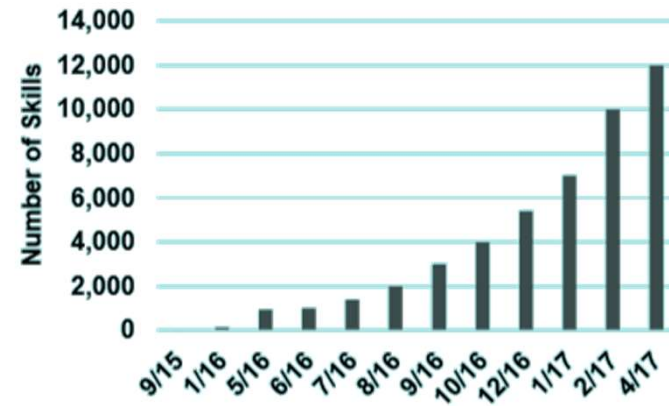


GROWTH IN VOICE-BASED IN-HOME PLATFORM FRONT-ENDS

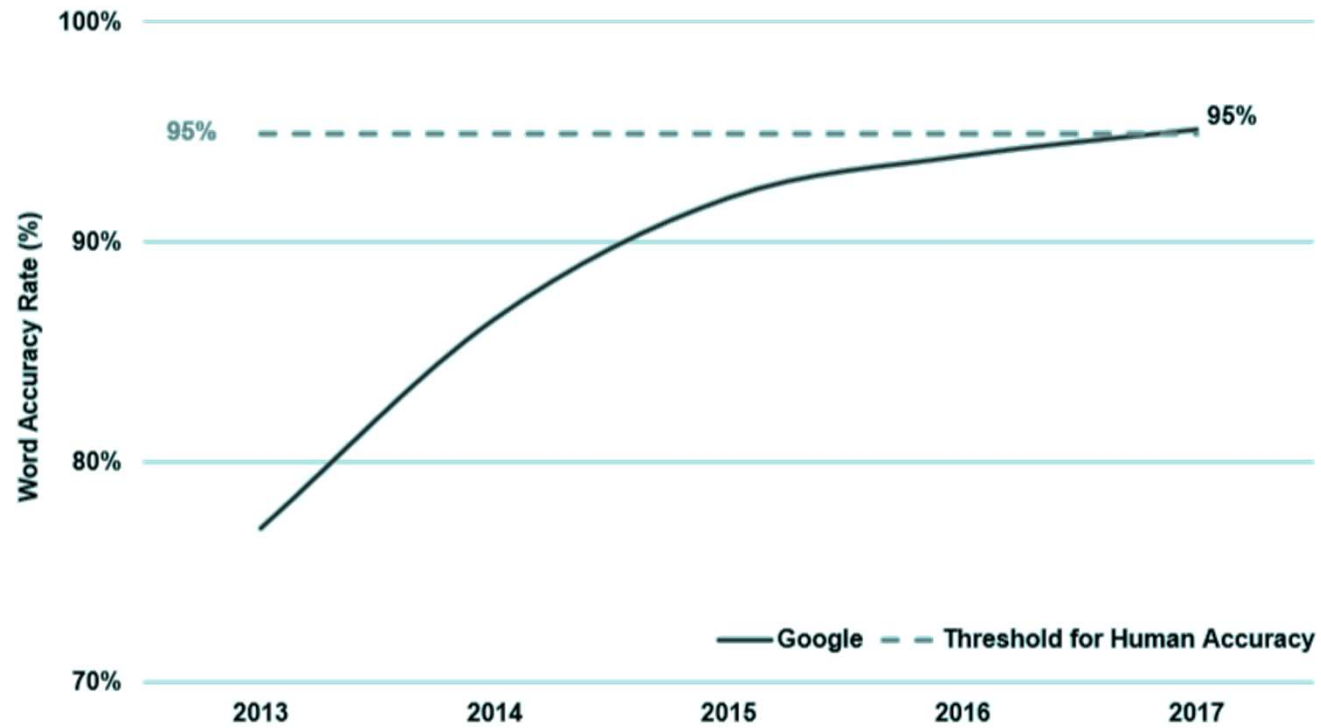
Amazon Echo Device Installed Base, USA



Amazon Echo Skills Broadening Use Cases



VOICE RECOGNITION ACCURACY CONTINUES TO IMPROVE





VOICE CAN
REPLACE TEXT
INTERFACES

ON MOBILE
IN-HOME
IN-HOSPITAL

M E S S A G I N G

INSTANT MESSAGING PLATFORMS

TURNING A PHONE INTO A PERSONAL ASSISTANT WITH MACHINE LEARNING

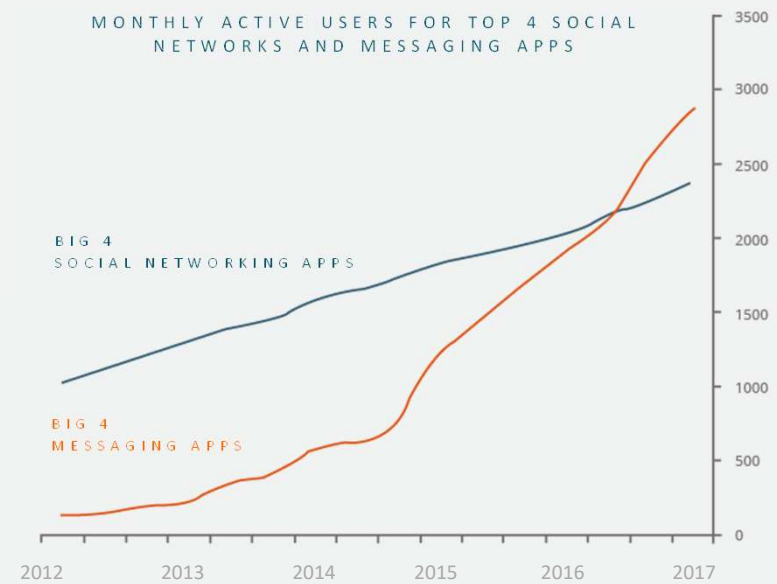
From grocery shopping, to making dentist appointment to ordering a taxi and much more.

In Asia, **Messaging apps** are already packed with additional features.

The app becomes an ecosystem where all of your online activities take place both personal and business activities.



MESSAGING APPS
HAVE ALREADY
SURPASSED MAJOR
SOCIAL NETWORKS



THE RISE OF MESSAGING AND DEATH OF APPS

SUCCESSFUL ENGAGEMENT & IMPROVED SERVICE, CARE AND MARKETING OPPORTUNITIES

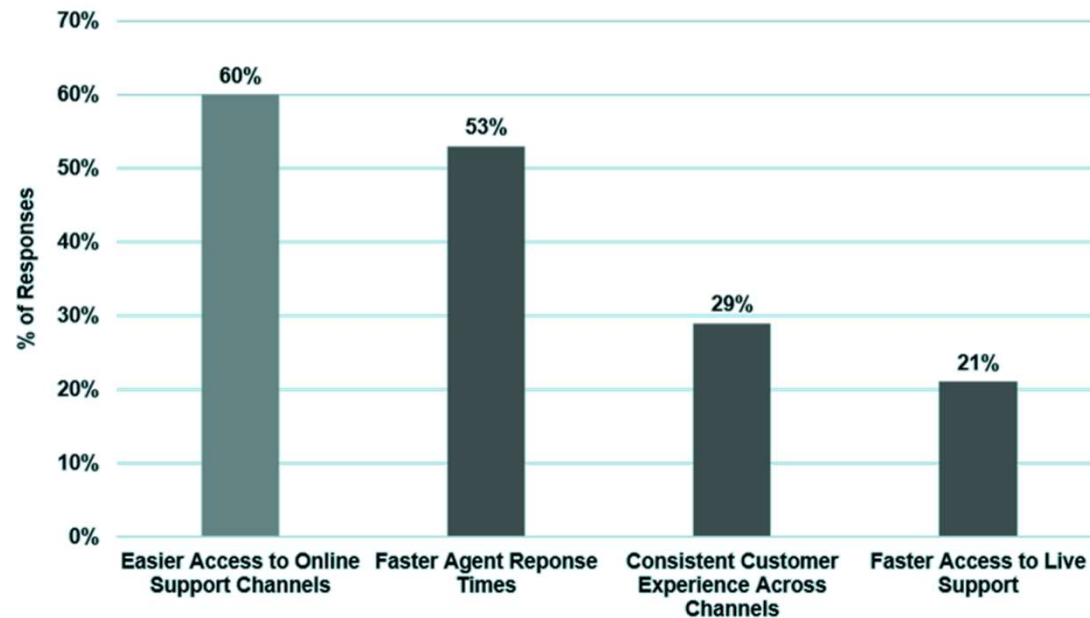
“Choose two things to improve customer service in this organization?”

Easy Access to Online Support

Fast Response Times

Consistent Experiences

Fast Access to Live support



CONSUMERS
INCREASINGLY
EXPECT DIGITAL
HEALTH SERVICES

ESPECIALLY MILLENNIALS

3 . A N E W P A R A D I G M

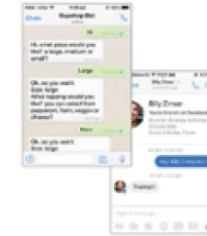
IS IT TIME FOR SOMETHING FRESH?

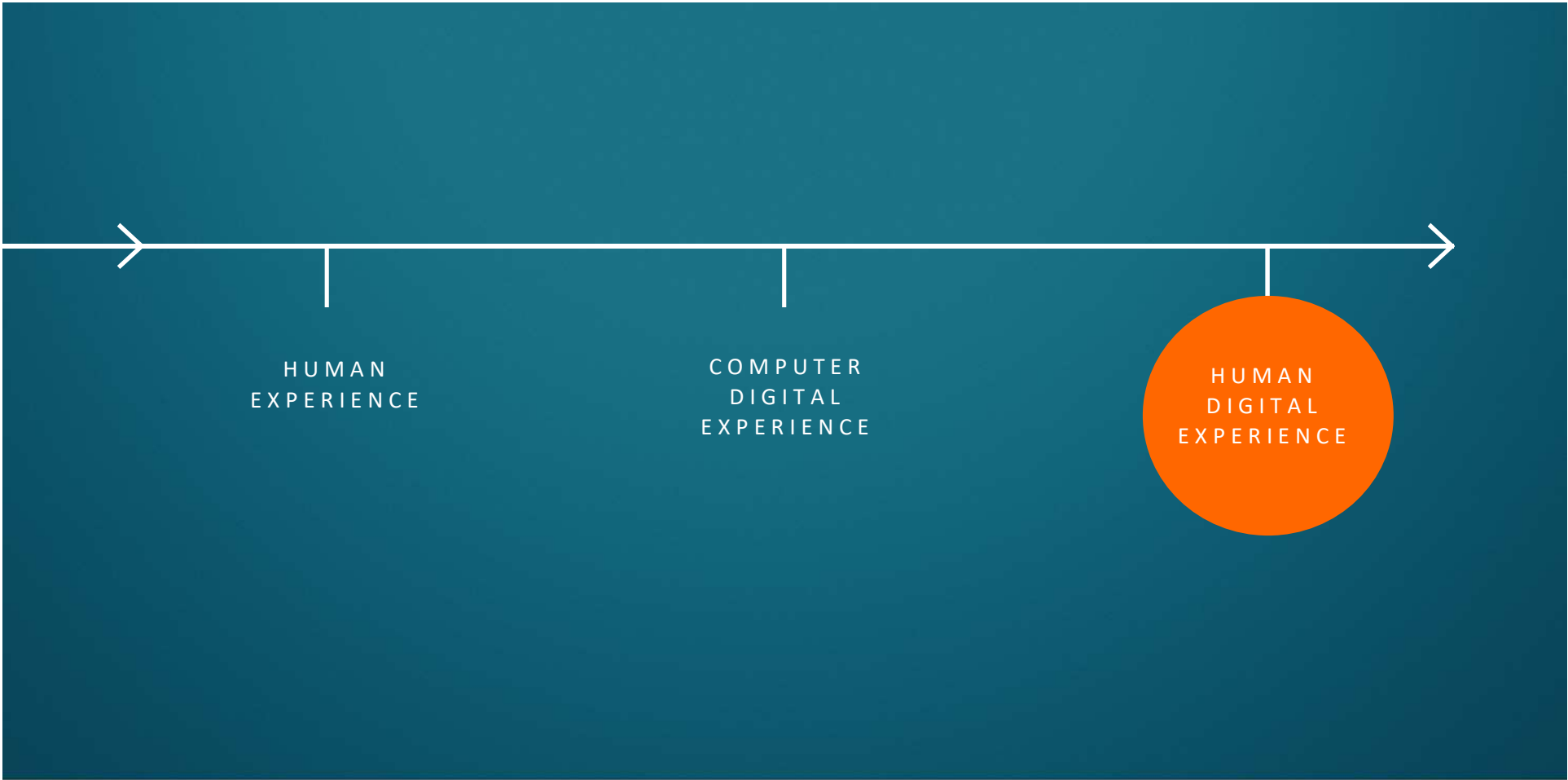


THIS WAS ALMOST 10 YEARS AGO.

PARADIGM SHIFT

Paradigm	mid - 80s PC	mid - 90s Web	mid - 00s Smartphone	mid - 10s Messaging
Platform	Desktop	Browser	Mobile OS	Messaging Apps
Examples	DOS, Windows, Mac OS	Mosaic, Explorer, Chrome	iOS, Android	WhatsApp, Messenger, Slack
Applications	Clients	Website	Apps	Bots
Examples	Excel, PPT, Lotus	Yahoo, Amazon	Angry Birds, Instagram	Weather, Travel
UI/UX	Native Screens	Web Pages	Native Mobile Screens	Message
S/w Dev	Client-side	Server-side	Client-side	Server-side





HUMAN
EXPERIENCE

COMPUTER
DIGITAL
EXPERIENCE

HUMAN
DIGITAL
EXPERIENCE

THE HUMANISED DIGITAL EXPERIENCE

is about utilising chat, messaging and other natural communication interfaces (such as voice) to interact with people, brands, services or bots.

HUMAN DIGITAL EXPERIENCE

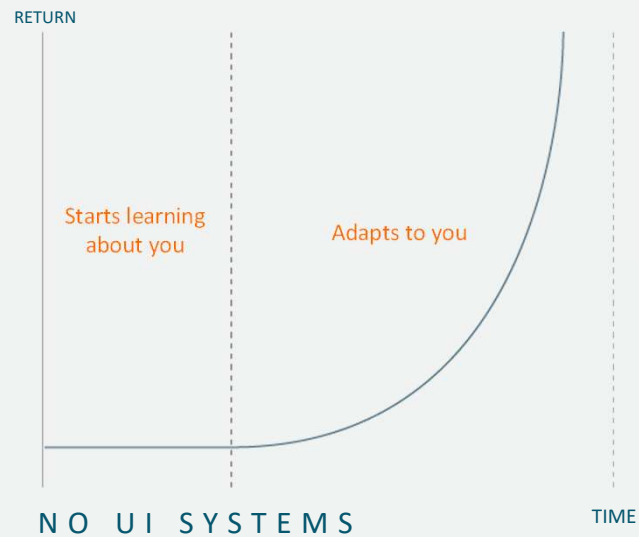
THE INVISIBLE EXPERIENCE.

The interactions of tomorrow will understand the user's intent without requiring additional effort from the user.

The UX of the future will be so good, that it'll be **virtually invisible**.

These invisible interfaces will use **language and humanisation** to make technology so easy to navigate, that it **will truly become second nature**.

THE BEST INTERFACE IS NO INTERFACE



PRINCIPLE 1 : Eliminate interfaces that embrace natural processes.

PRINCIPLE 2 : Create a system that adapts to people.

PRINCIPLE 3 : Leverage computers instead of catering to them.

INSTEAD OF US ADAPTING TO COMPUTERS, THE UI SHOULD ADAPT TO US.

4. FOCUS ON AI AND CHATBOTS

WHAT IS A CHATBOT ?

Can I book a room tonight?

Hi Alexis, we have a room available for tonight from rate €179+tax.



**Sheraton
Brussels Hotel**

"A chatbot is a computer programme designed to simulate an intelligent conversation with one or more human users using natural language via auditory or textual methods."



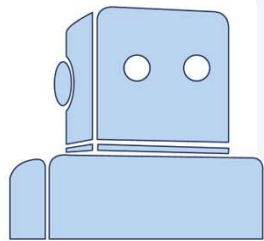
WHY CHATBOTS?

WHY CHATBOTS?

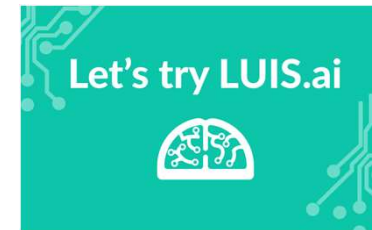
Siri



WHY CHATBOTS?

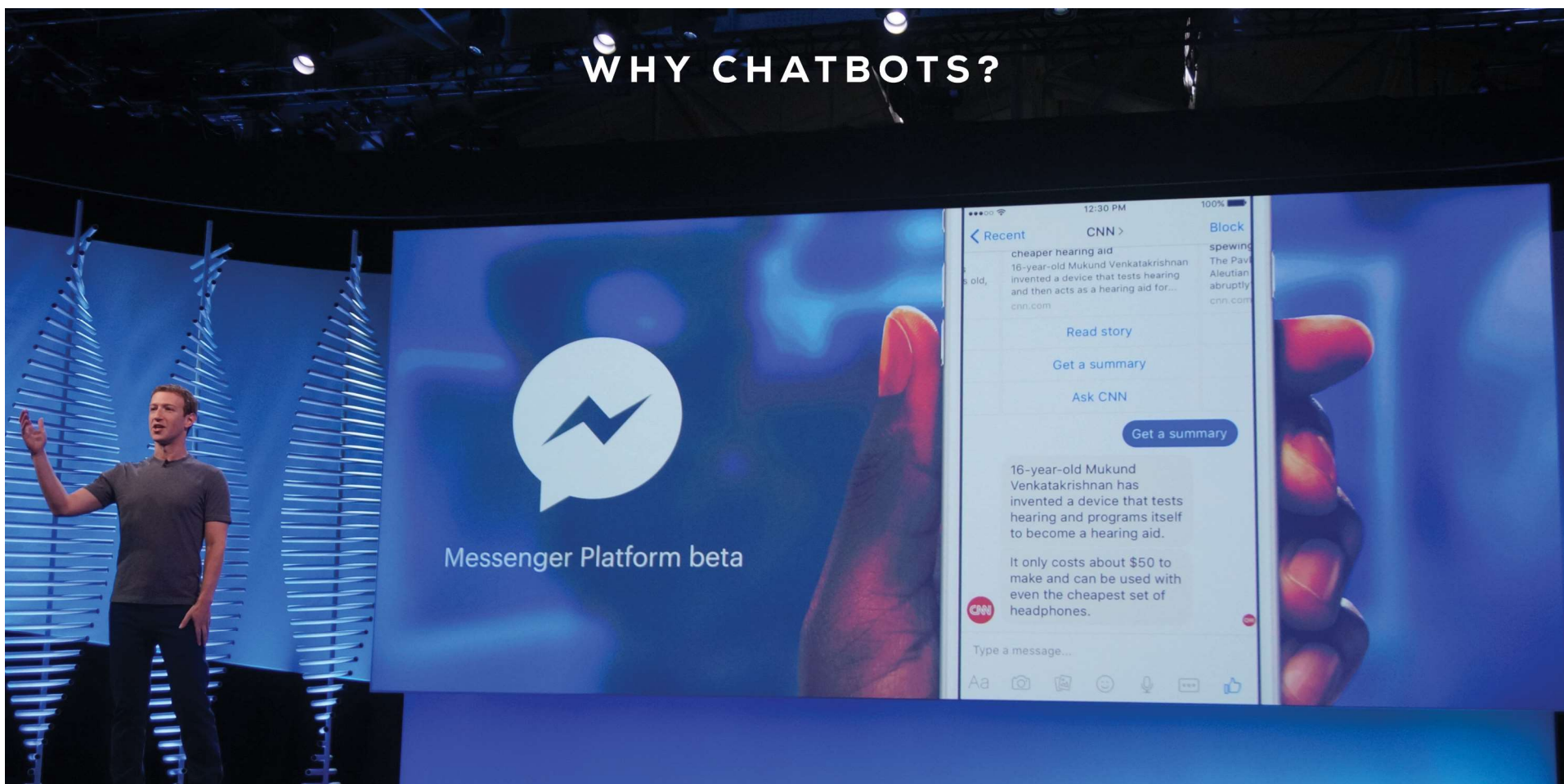


Wit.AI



Chatfuel

WHY CHATBOTS?



Now

WHY CHATBOTS?



WHY CHATBOTS?

All your devices.
One Assistant.

From your smartphone to your smart home.
Your one Assistant will extend to help you
across contexts. Meet your Assistant today
on Google Home, Google Allo, or Pixel, a
phone by Google.

[LEARN MORE >](#)



On your watch



On your phone



At home



In your car

5 . AI CASES - HEALTHCARE

ASSIST DOCTORS
WITH ARTIFICIAL
INTELLIGENCE



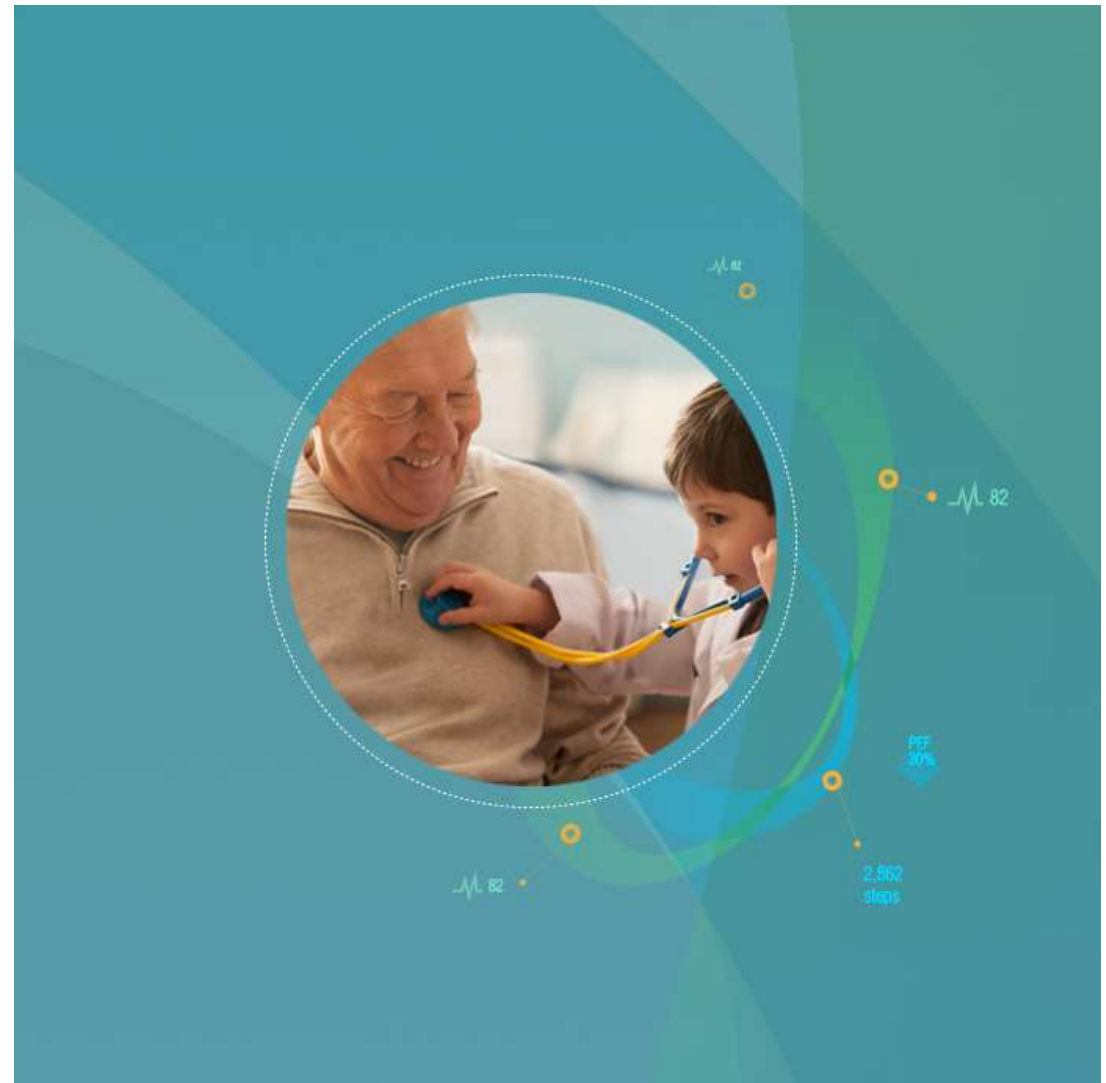
DeepMind Health



ADVANTAGES

- Increased speed of care
- Improved equality of access to care
- Combined knowledge on deceases
- Continual learning and improvement

PREDICT HEALTH
ISSUES WITH DATA
AND AI



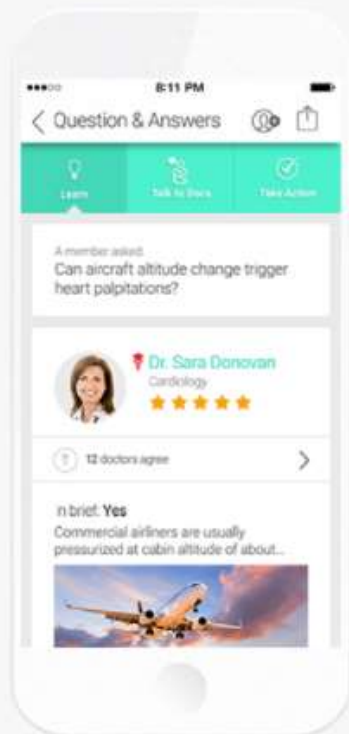


ADVANTAGES

- Learn from big quantity of data (connected objects – IoT)
- Remote follow-up of the patient
- Personalised follow-up of the patient
- Reduce and optimise costs

SUPPORT DOCTOR-
PATIENT
RELATIONSHIP WITH
BOTS

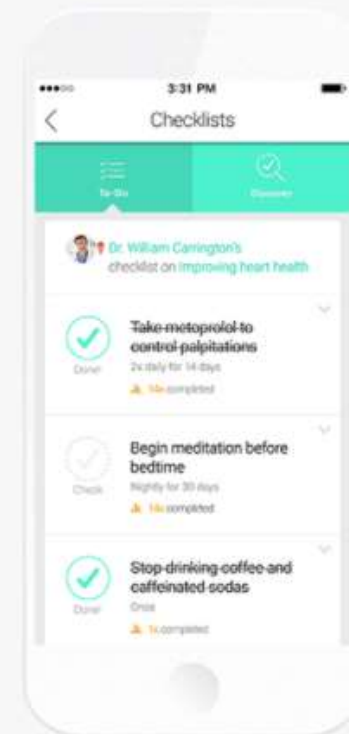
HealthTap



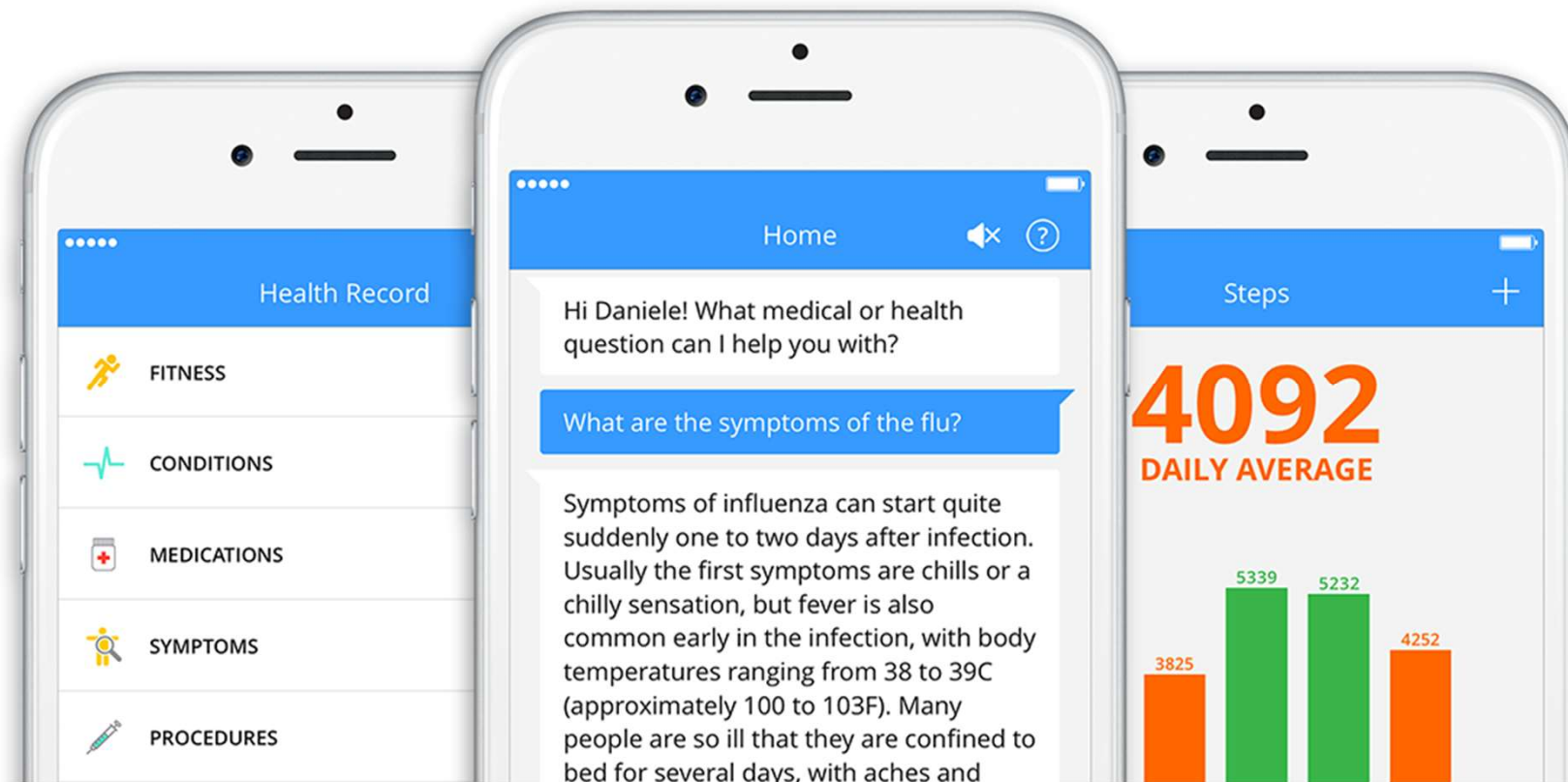
Learn more



Get help



Take action



Melody



Baidu's AI Medical Assistant provides medical diagnostic services. Please describe the patient's symptoms.

My baby was born prematurely. His skin looks yellowish and so are his eyes. What is happening?

How old is the patient?

2

ADVANTAGES

- Facilitate relationship (match-making)
- Increase accessibility of medical information
- Support doctors with more data (contextual information)
- Can focus on very specific health topics

IS ARTIFICIAL
INTELLIGENCE GOING
TO REPLACE HUMANS
?

IN 1995



IN 2014





Rather than half-horse, half-human, a centaur chess player is one who plays the game by marrying human intuition, creativity and empathy with a computer's brute-force ability to remember and calculate a staggering number of chess moves, countermoves and outcomes.



“ To say that empirical evidence shows that doctors' work doesn't require the use of reason and judgment demeans the profession. ”

BRIAN AHIER,
Director of Standards and Government
Affairs, Medicity



AT THE END OF THE DAY
WE ARE ALL HUMAN.

WE ALL BREATHE, WE ALL CRY,
WE ALL LAUGH, WE ALL LOVE.