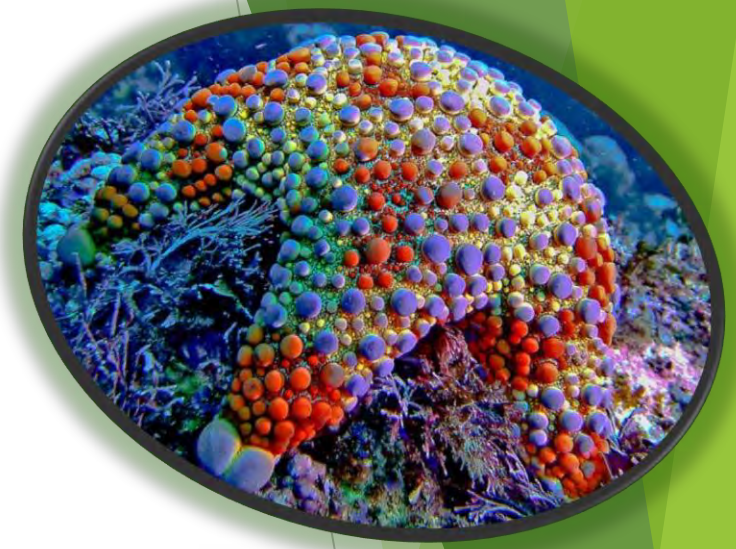


Social Medicine

IWEEE 2014

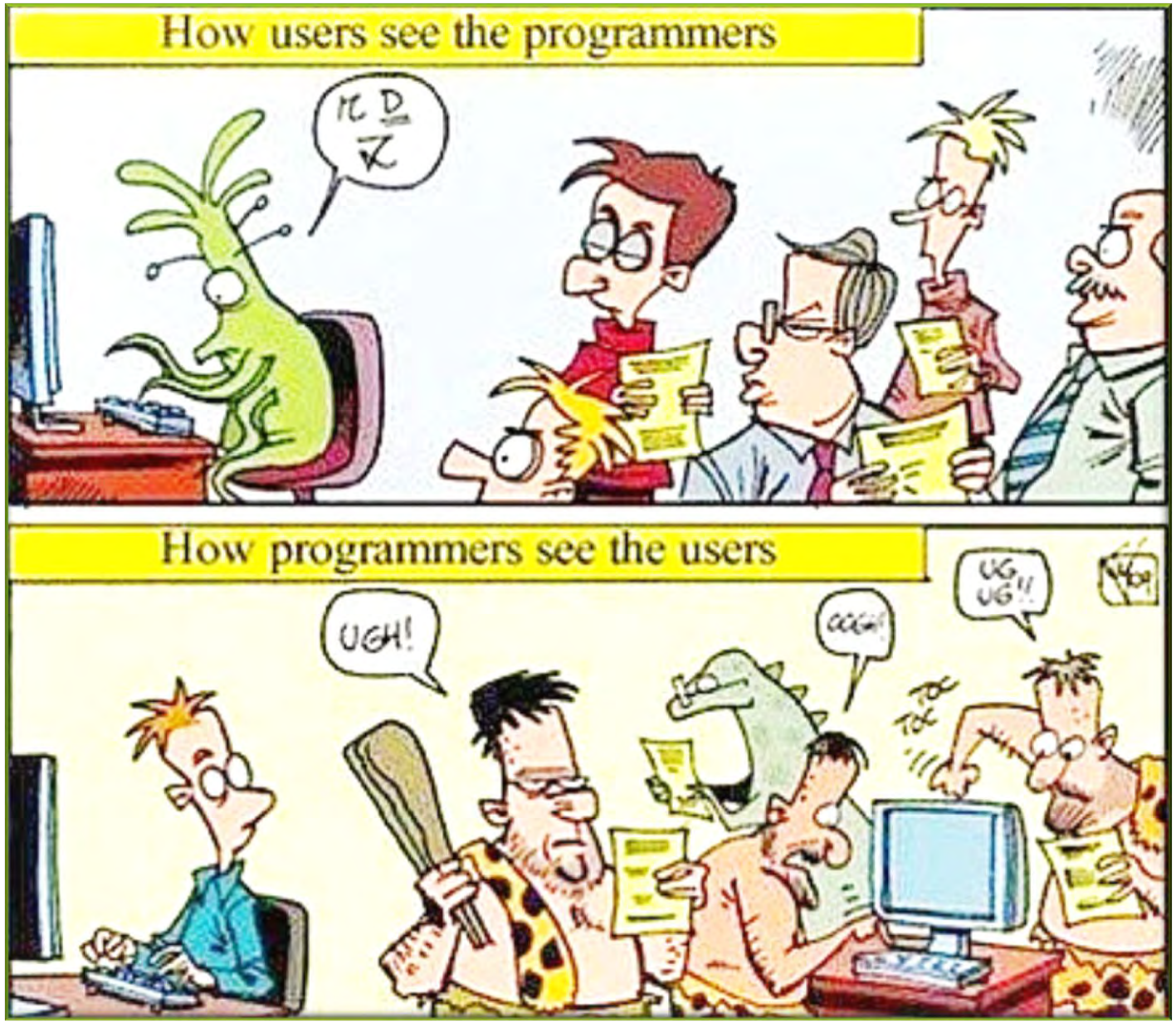
Medical Devices

OPEN & MODULAR FOR HEALTH- OM4H

HACK 4 HEALTH- H4H

Prof.Dr. O. Ferrer-Roca MD PhD.

How doctors & nurses see mHealth & Health 4.0



Literacy

How specialists in mHealth & Health 4.0 see doctors

The Device Divide consequence of the Digital divide and socio-economic constrains.
Multicultural Misalignment directly linked to the economic neoliberalism where minorities will not have access.

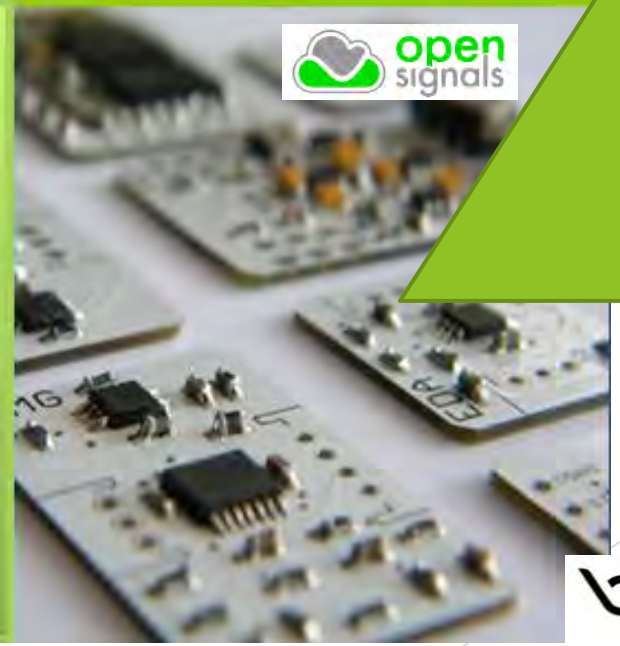
CareHacking to copy, implement and improve easy solution demostrated by others.
Virtual Counseling to get counceling at distance not only from doctors but from other ePatients.

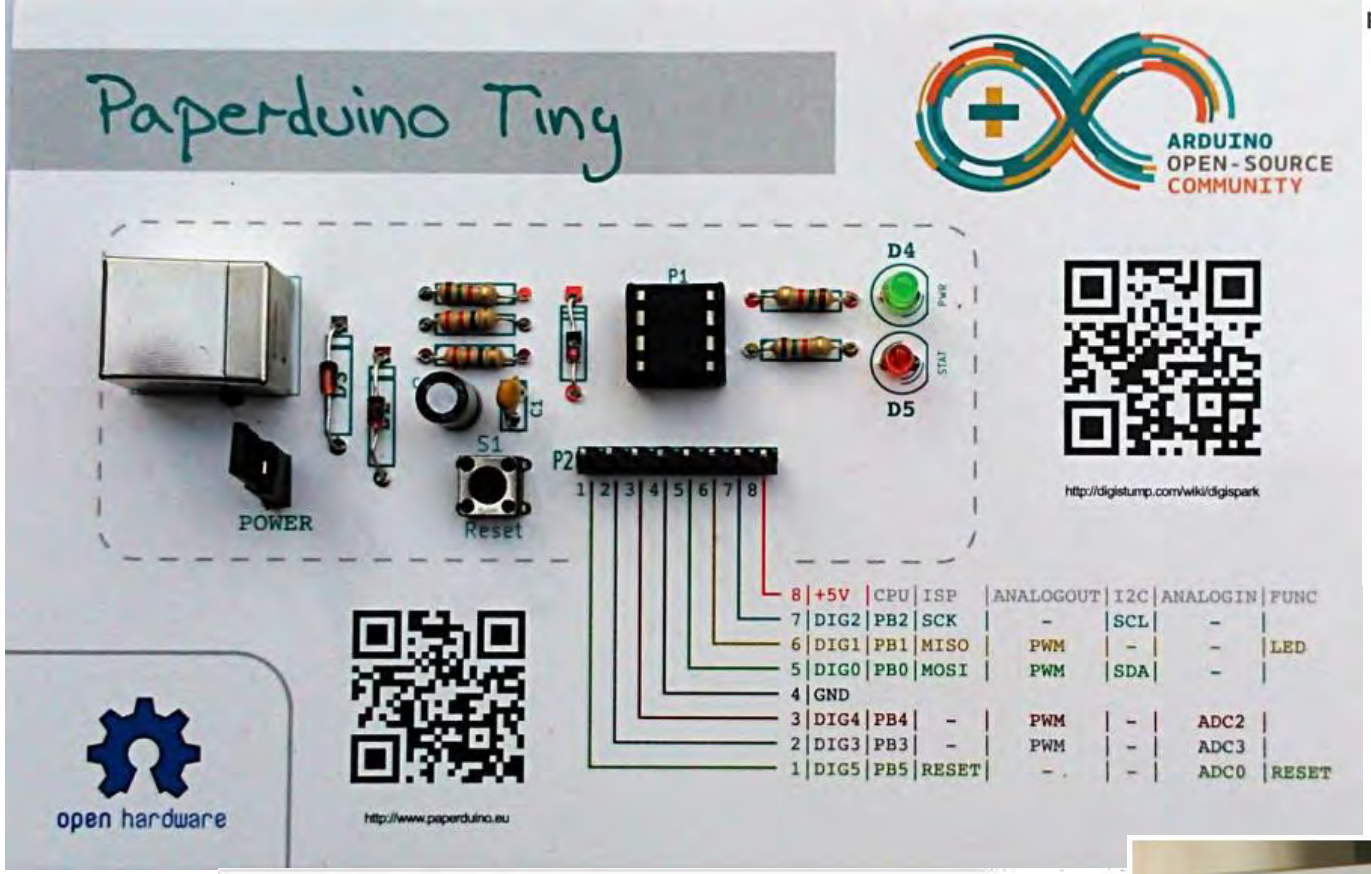
Patient driven

Renovation

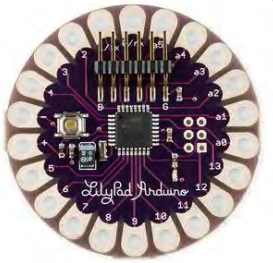
DIY
Do it yourself

I hack health





paperduino-cards.jpg



Open hardware

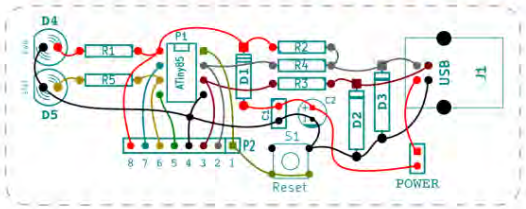
paperduinotiny-bottom.png

The following Arduino commands sthould be supported:

- pinMode()
- digitalWrite()
- digitalRead()
- analogRead()
- analogWrite()
- shiftOut()
- pulseIn()
- millis()
- micros()
- delay()
- delayMicroseconds()
- SoftwareSerial

hamshop.cz

ARDUINO OPEN-SOURCE COMMUNITY



Partlist

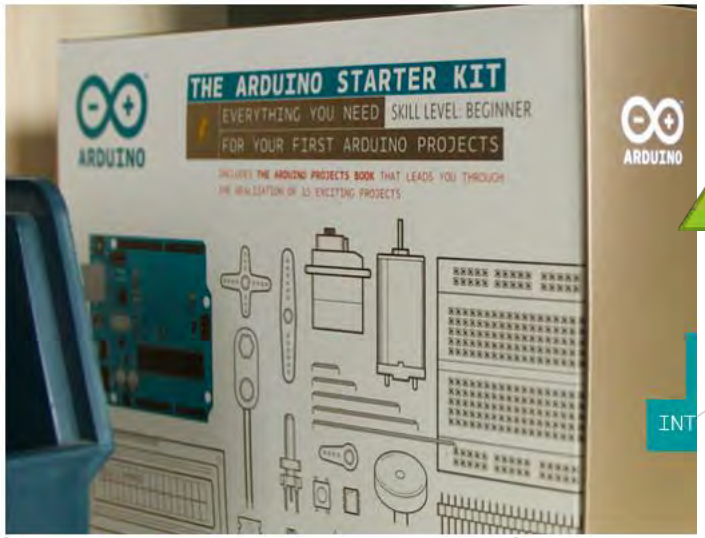
D1	1N4148	**C1**	100nF
D2	ZD 3V6	**C2**	10uF/16V
D3	ZD 3V6	**R1**	1k5
D4	LED	**R2**	1k5
D5	LED	**R3**	22R
P1	ATTINY85+socket	**R4**	22R
P2	8 PIN HEADER	**R5**	1k5
J1	USB B socket		
S1	TACT SW		

Burning bootloader to ATTINY85

It is very important to use the correct fuses bit when burning bootloader to ATTINY85, below list the fuses bit for burning bootloader:

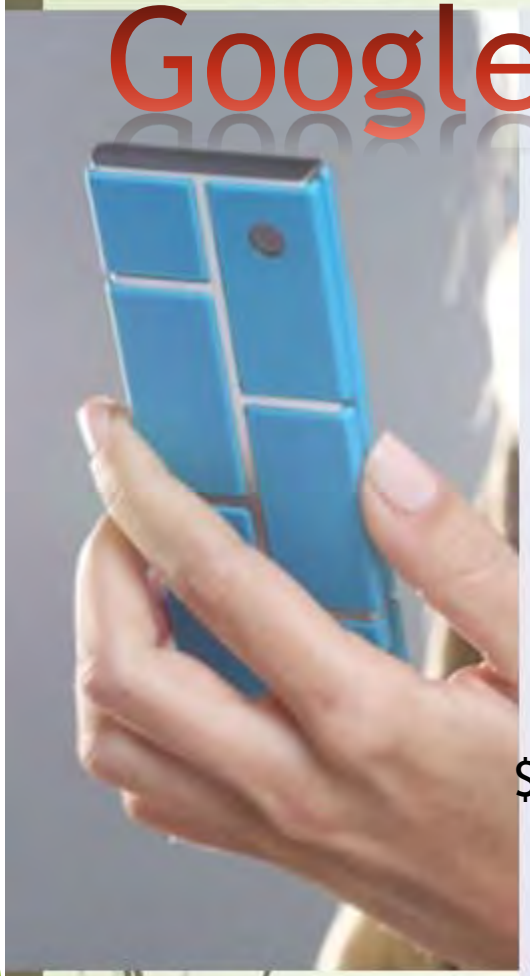
- Extended: 0xFE
- High: 0xDD
- Low: 0xE1

Please note that these fuses setting will not enable reset pin (ATTINY85 pin 1) as I/O, so you only have 5 I/O.
If you are experienced user you can set RSTDISBL to enable 6 I/O pins.



open source hardware

Google phone



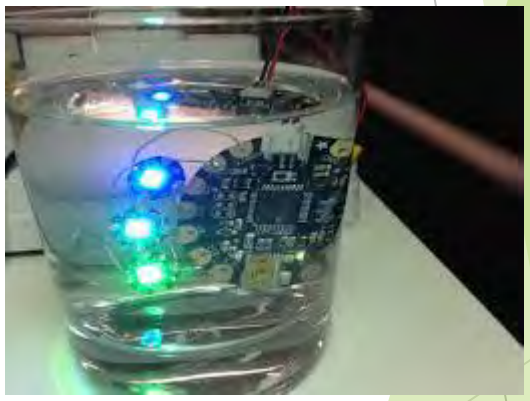
$50 the lower facility

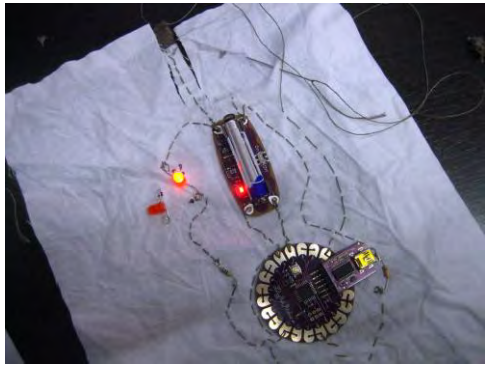
Ara Project

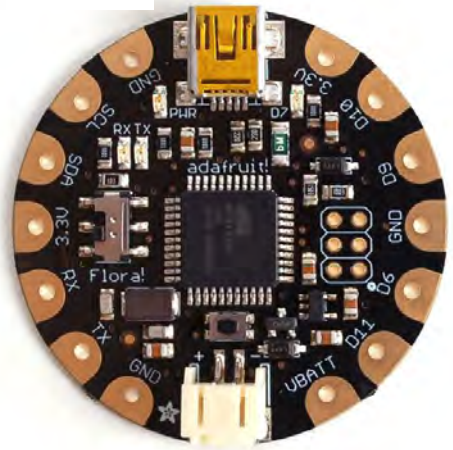
€ 19


A2
11
A3
TX RX
10
CHG
A4
9
ON
A5
LilyPad
3
2


LilyPad Arduino






adafruit
Flora


LIBERTY
QUARTER DOLLAR

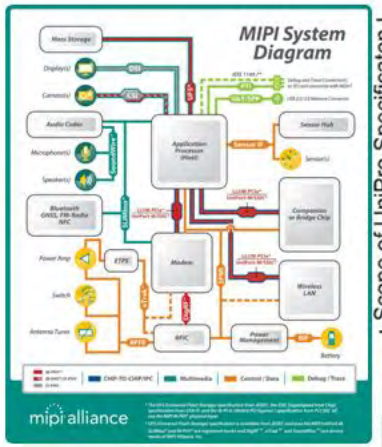
$ 24,95

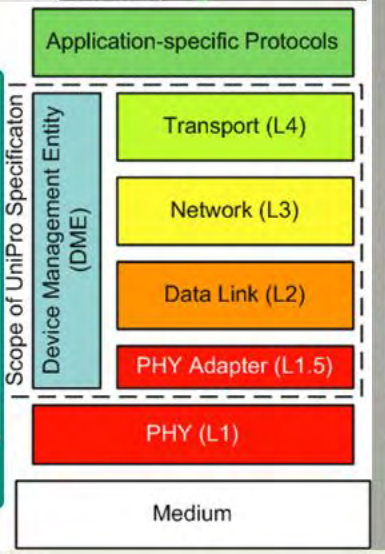
Modular Hardware

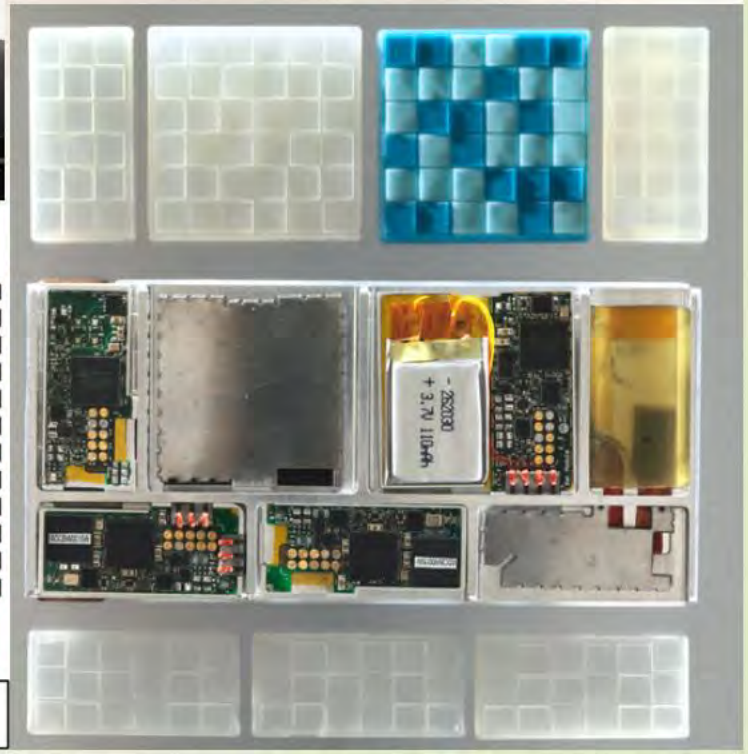
- ALERTS
- CODED MESSAGES
- PROXIMITY
- INDIVIDUALITY
- COLLECTING
- GAMING
- TRACKING
- SHARING

- USB Charge
- Haptic Feedback and vibration motor
- Bluetooth 4.0 low energy
- Rechargeable lithium polymer battery
- Apple iOS and Android compatible

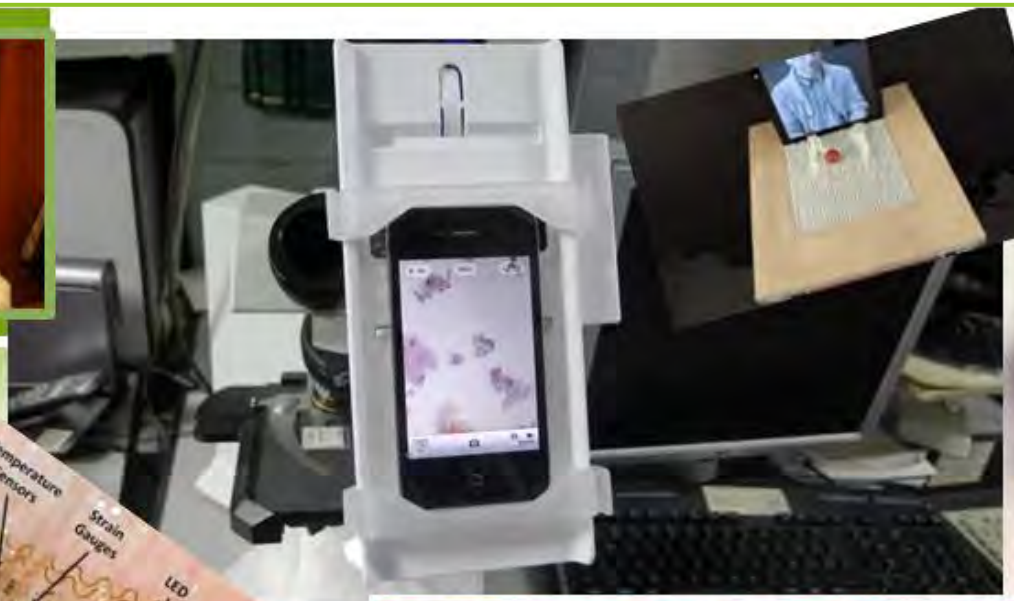
- API and SDK available for third party developers
- Smoked lens with multi-colored LED
- Custom laced mod bases in materials ranging from chrome to gold
- Easy snap on and off
- Power Cycle

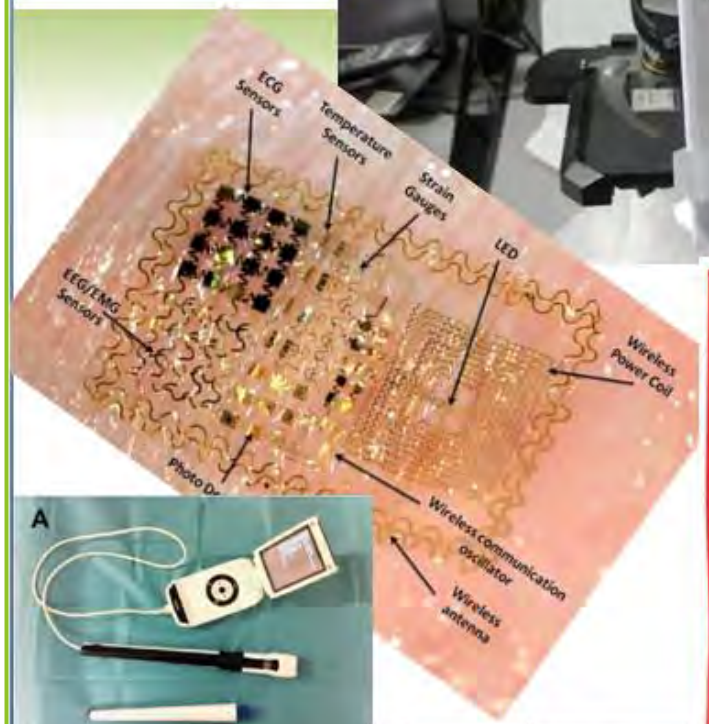


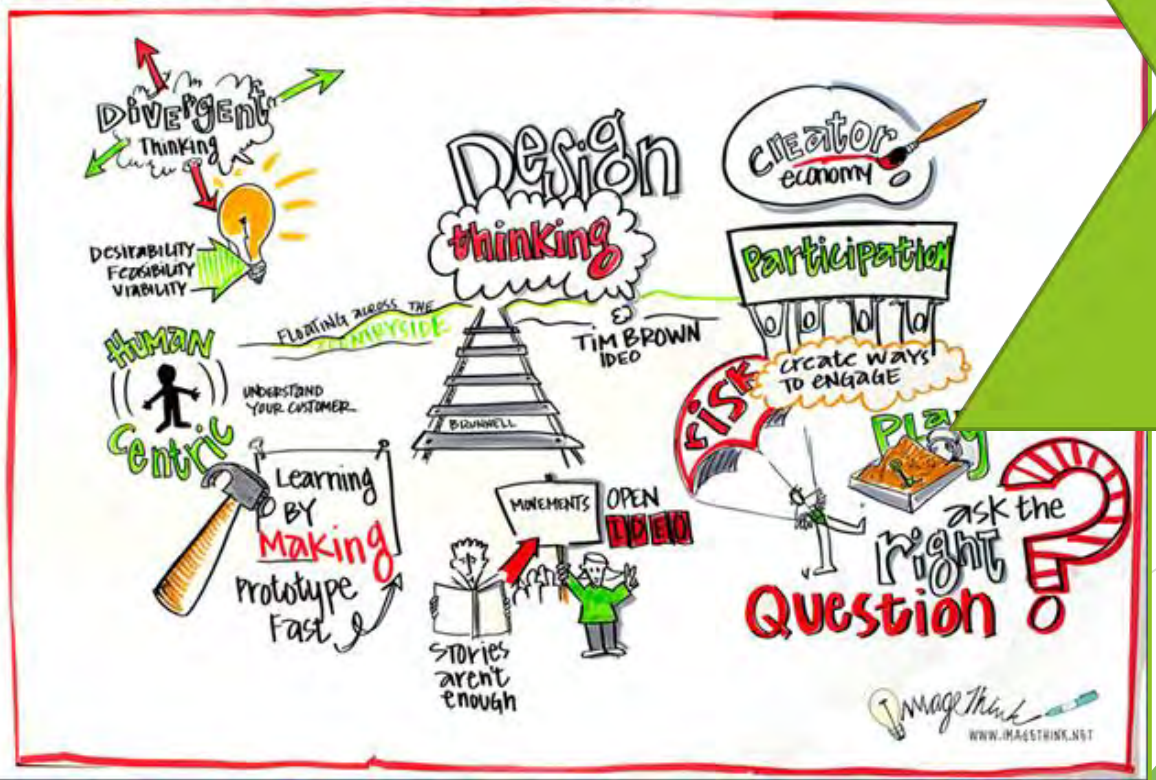


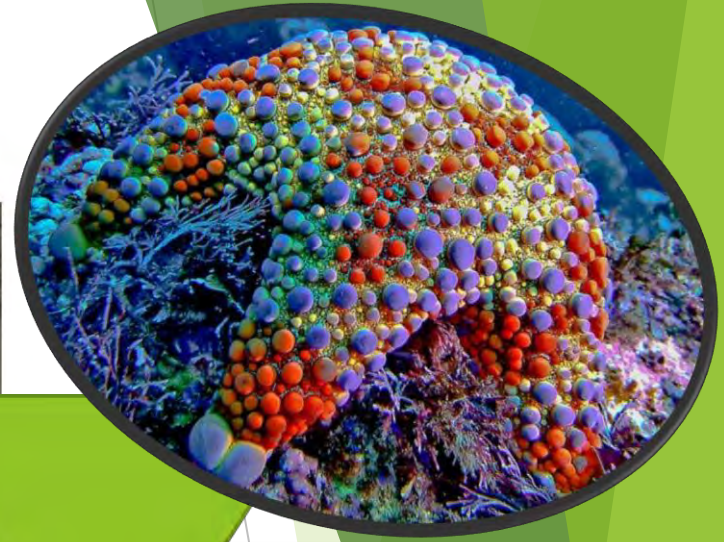


Design thinking

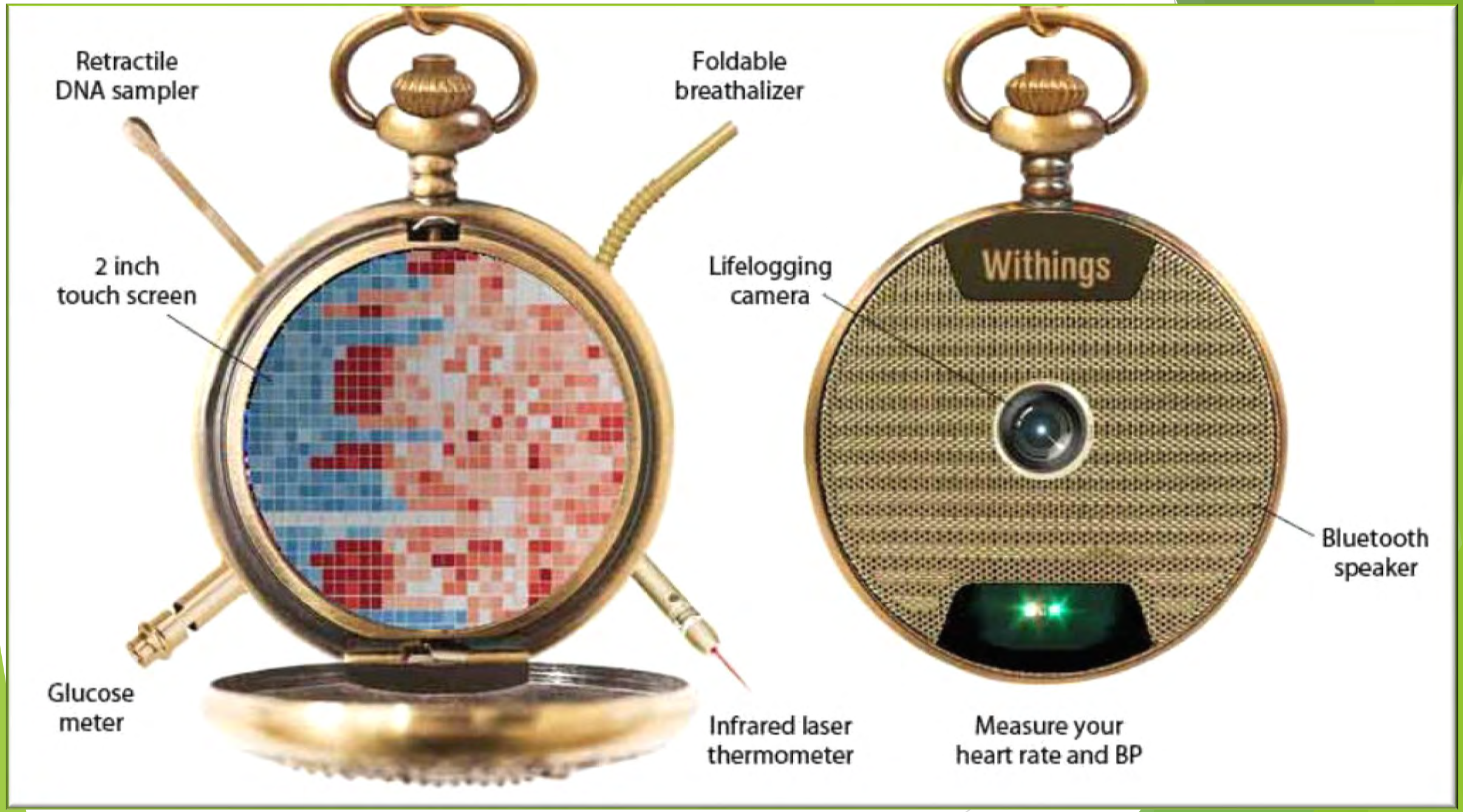


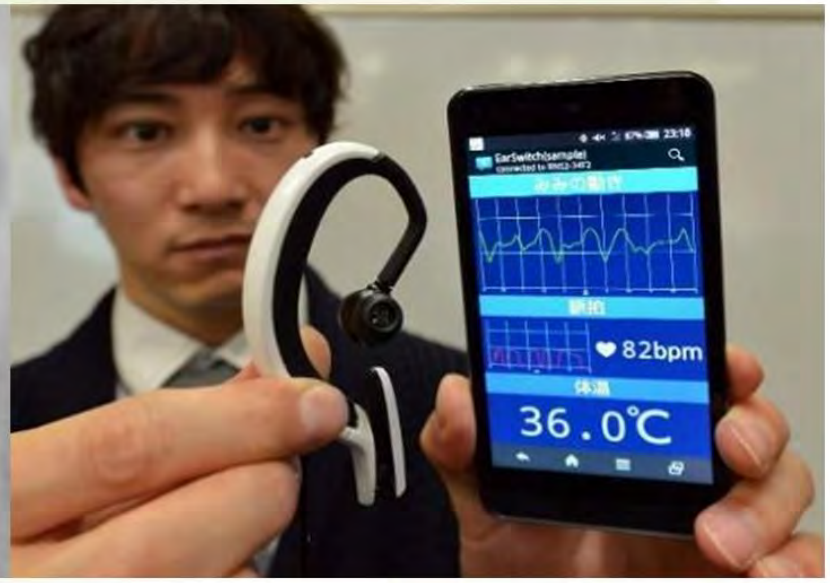


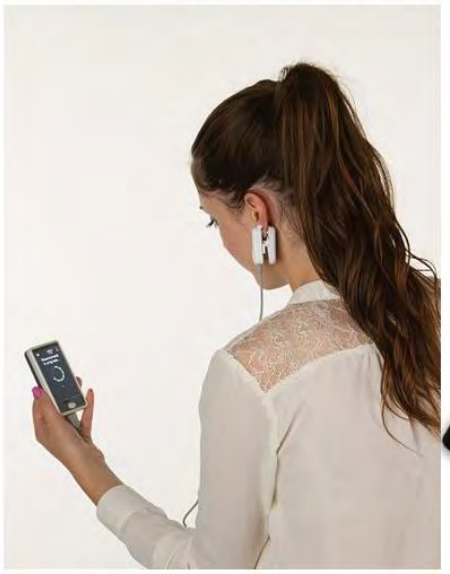




Integrate poeple


Retractile
DNA sampler
Foldable
breathalizer
2 inch
touch screen
Lifelogging
camera
Withings
Bluetooth
speaker
Glucose
meter
Infrared laser
thermometer
Measure your
heart rate and BP

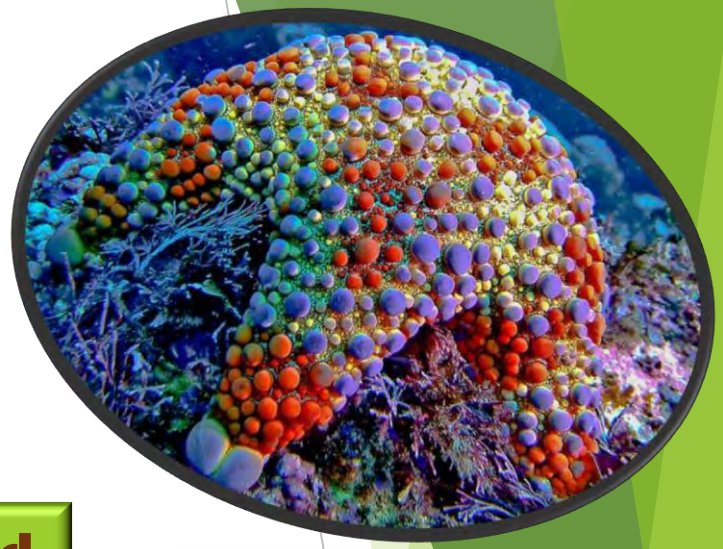




Integration home

Health 4.0

IoE



la belleza de un diseño no va en contra de su funcionalidad

Functionality is NEVER against beautiful design

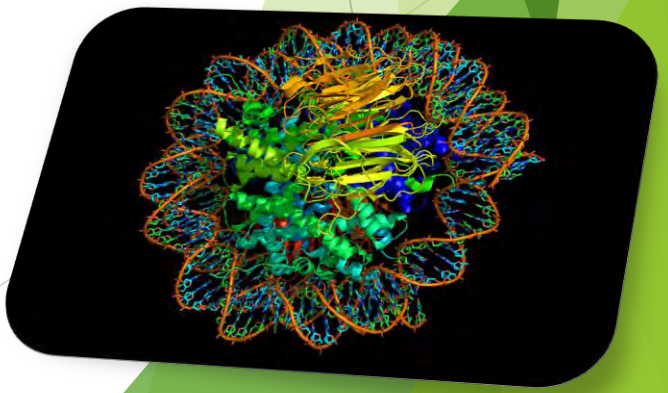
United Nations Educational, Scientific and Cultural Organization

UNESCO Chair on Telemedicine Tenerife, Canary Island, Spain

uniTwin

ULL Universidad de La Laguna

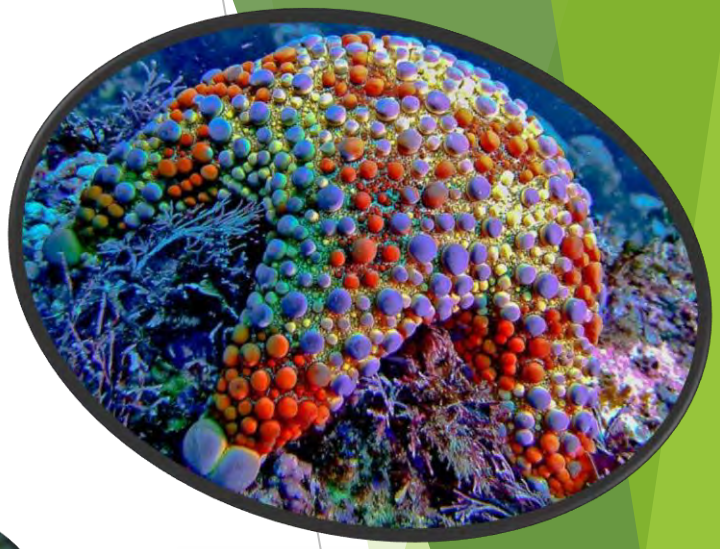
CANARY ISLAND - CATAI - SPAIN



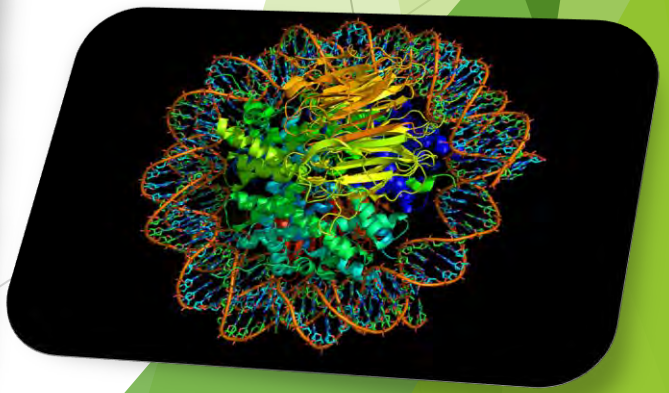
http://www.scoop.it/t/health-4-0

2-Gammify

Do it 4 fun



1-Design



Design

Gammify

3-Simplify

4- Keep it functional

5-Organize

- Coherence

Sense making

- Cognitive participation

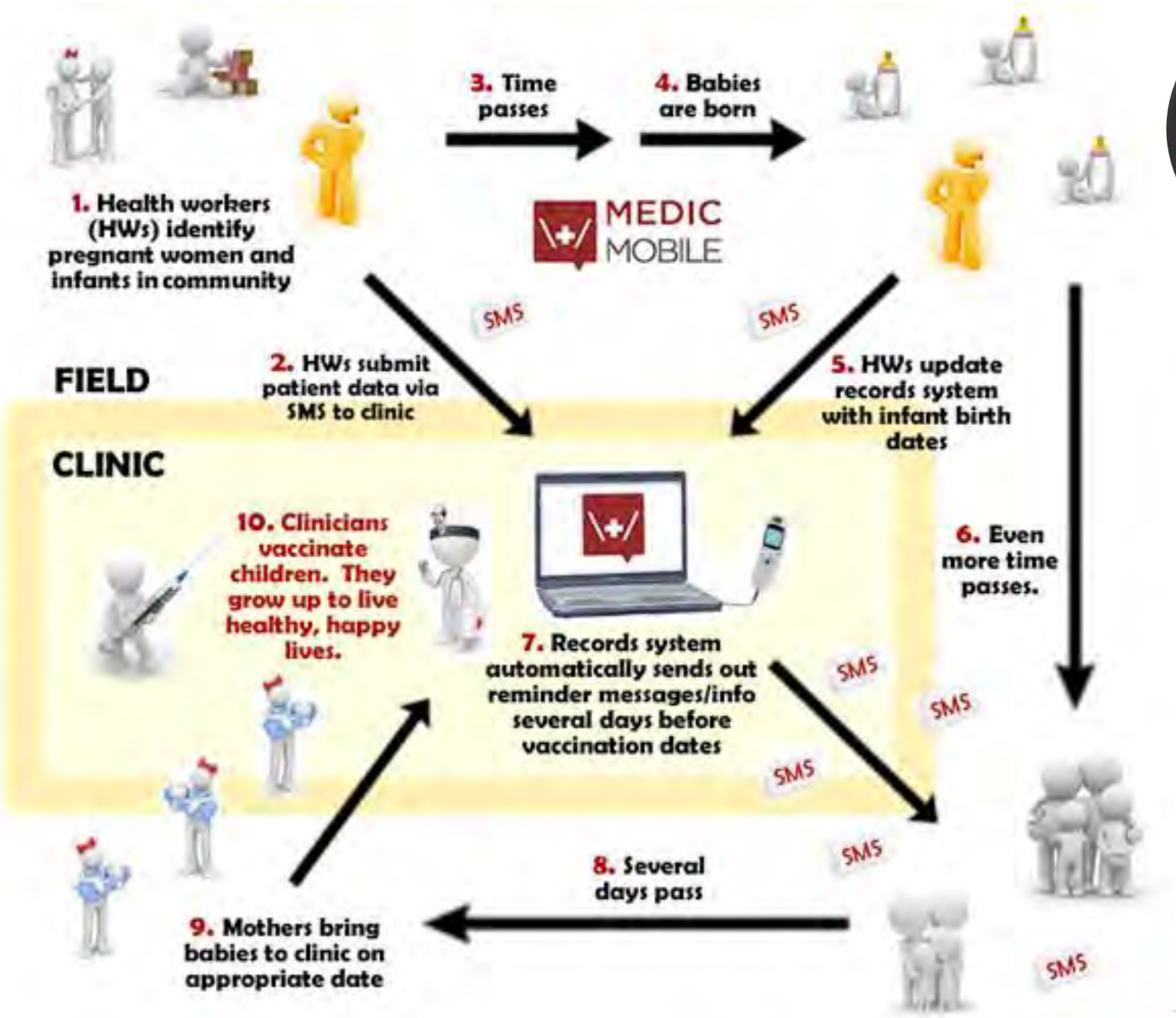
Relationships

Enacting work

- Collective action

Appraisal work

- Reflexive monitoring



Africa, Honduras Nepal, Colombia

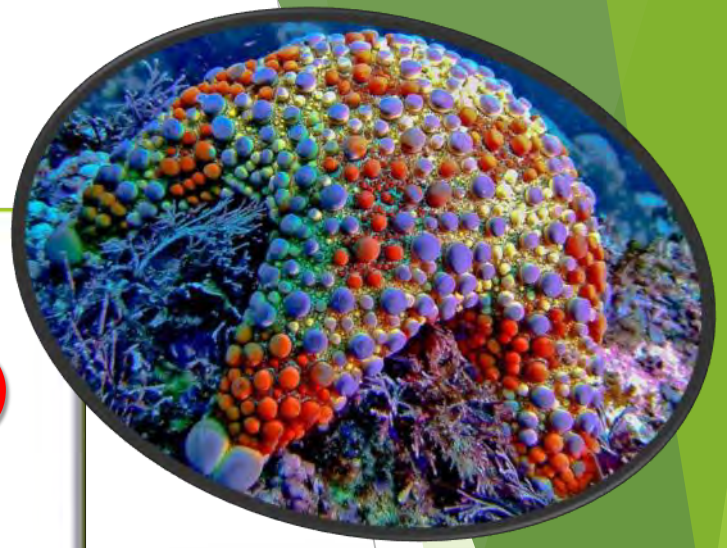

OpenMRS
ATLAS
Types
Mapa
Satélite
Legend
Research
Clinical
Development
Evaluation
Other
Términos de uso
North Pacific Ocean
North Atlantic Ocean
South Pacific Ocean
South Atlantic Ocean
Indian Ocean
Southern Ocean
Canada
United States
México (Mexico)
Venezuela
Colombia
Brasil (Brazil)
Perú (Peru)
Bolivia
Argentina
Kalaallit Nunaat (Greenland)
Ísland (Iceland)
Suomi (Finland)
Sverige (Sweden)
Norge (Norway)
Россия (Russia)
Polska (Poland)
Україна (Ukraine)
France
España (Spain)
Italia (Italy)
Казақстан (Kazakhstan)
Монгол Улс (Mongolia)
中国 (China)
日本 (Japan)
대한민국 (South Korea)
India
Pakistan
Iran
Iraq
Saudi Arabia
Egypt
Libya
Algeria
Sudan
Tchad (Chad)
DR Congo
Angola
Namibia
South Africa
Madagasikara (Madagascar)
Indonesia
Papua New Guinea
Australia
New Zealand

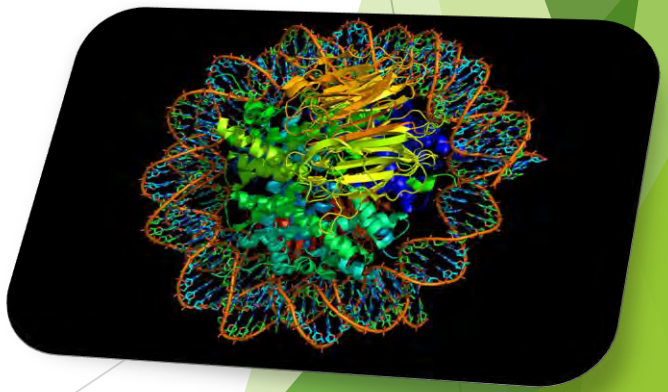
Mobile Phones for Better Health

Hope Phones lets individuals, organizations, and companies give their old phones a new life on the frontlines of global health. If we can recycle just 1% of disposed phones each year, we can outfit 1 million health workers, improving the lives of 50 million people.

HEALTH 4.0 - IoE

- 1.- DESIGN (Take your time)
- 2.- GAMMIFY (Do it for fun) (Use it with fun)
- 3.- SIMPLIFY (Hack, reuse)
- 4.- KEEP IT FUNCTIONALLY STUPID
- 5.- ORGANIZE SUPPORT





THANKS