Co-creating health

Learnings from 20 game jams for health and the European hackathon against covid

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former project manager civil society, EUvsVirus

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Quiz
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Breathing Games
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EUvsVirus
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Health commons
4′

Quiz

Icon by Vectors Market on Flaticon.

Quiz

In scuba diving, tanks are filled with oxygen.

– True

– False

Unfolded, our lungs have a surface of

– 0.2 times the skin.
– 3.5 times the skin.
– 12 times the skin.
– 50 times the skin.

Main risk factors for respiratory diseases are

– allergens
– inadequate nutrition
– air pollution
– irritants
– exposure to smoke
– lack of physical activity

The two most common chronic respiratory diseases are

– cystic fibrosis
– chronic obstr. pulmo. disease
– tuberculosis
– asthma
– lung cancer
– sleep apnea

The technique that uses the breathe to scan the body

– Pranayama
– Vipassanā
– Abdominal breathing
– Pilates

Adapted from doi.org/10.5281/zenodo.3737898

Quiz

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– True

– **False, they are filled with air**

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– tuberculosis
– **asthma**
– lung cancer
– sleep apnea

The technique that uses the breathe to scan the body

– Pranayama
– **Vipassanā is about observing the incoming and outgoing breath without controling it**
– Abdominal breathing
– Pilates

Adapted from doi.org/10.5281/zenodo.3737898

Breathing Games · from 2014

Icon by Vectors Market on Flaticon.

2014 · Physiotherapy for cystic fibrosis

First hackathon at Sainte-Justine hospital

Pilot study

Critical public health

Holistic approach

Coping with illness

Self-management

From 2015 · Education in asthma

Game jams at Concordia University
Interdisciplinary assessment at HES-SO

Critical public health

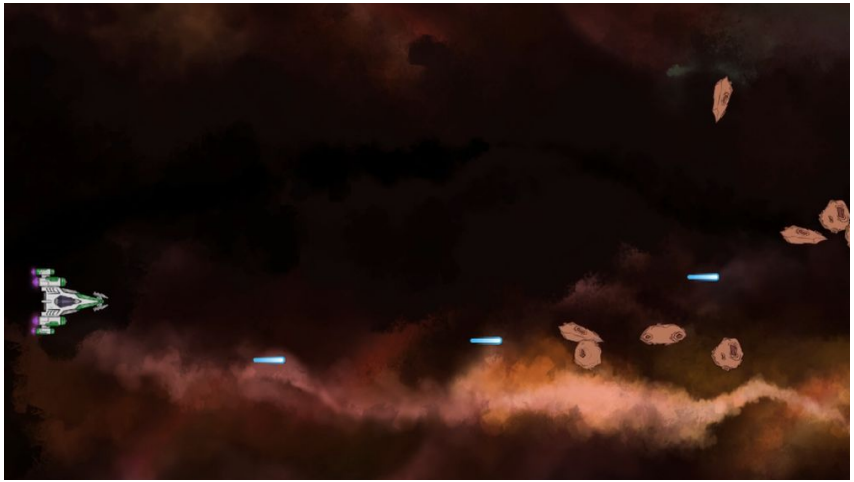
Holistic approach

Coping with illness

Self-management

From 2016 · Respiratory health

Game jams at Lift and Open Geneva



Critical public health

Holistic approach

Coping with illness

Self-management

From 2019 · Peer support

Game jams at Necker hospital, Arc en ciel
Study at Sainte Justine + Quebec hospitals

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- **Critical public health**
- Holistic approach
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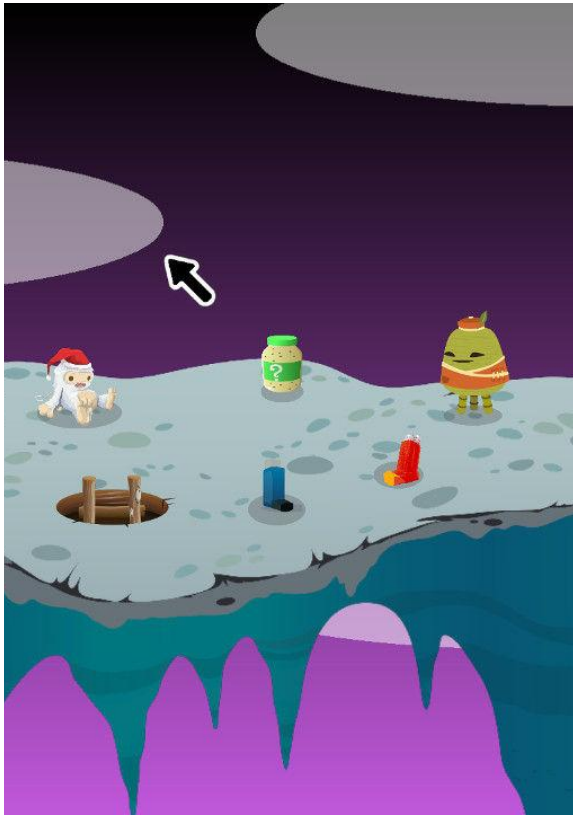
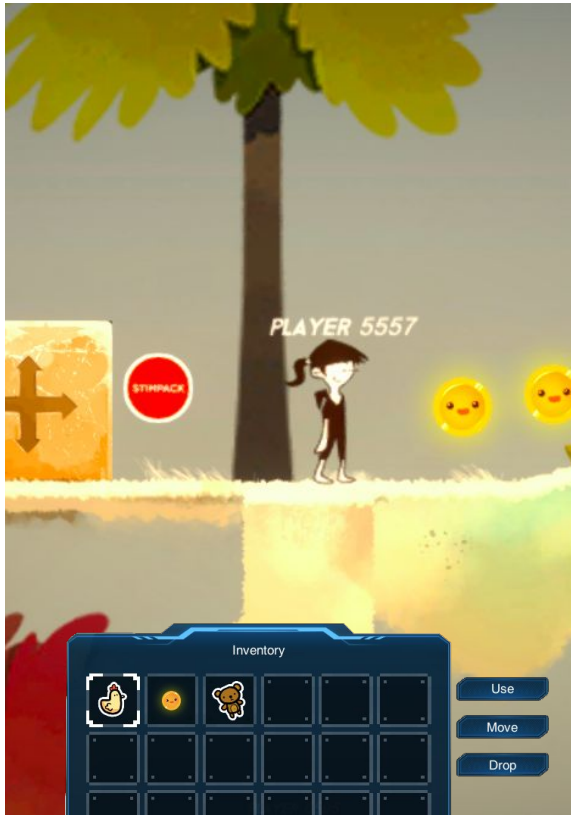
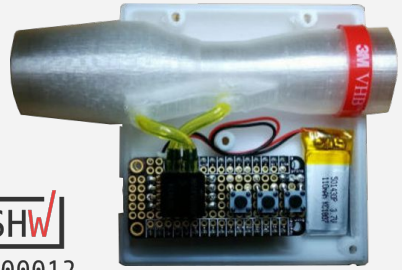



PLAYER 5557
STIMPACK
Inventory
Use
Move
Drop



OSHW
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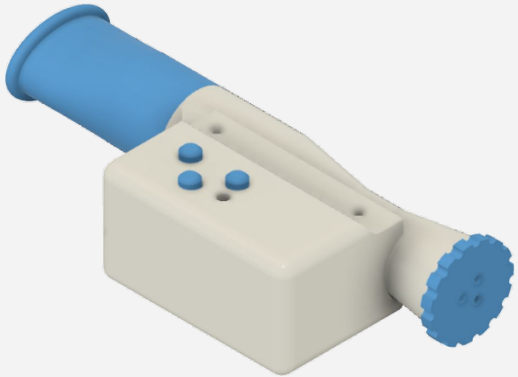


Critical public health

- Patient challenges structural barriers to health
- Medical professional as potential oppressor or radical ally
- Success: **change in social and political structures**

Whole system approach

- Patient achieves holistic care, supported by community
- Medical professional is a guide
- Success: **new opportunities** for healthy living

Coping with illness

- Patient builds a coherent self
- Medical professional is a supporter
- Success: **living well** with illness

Self-management

- Patient follows a self-management plan
- Medical professional is a trainer
- Success: **compliance** to treatment

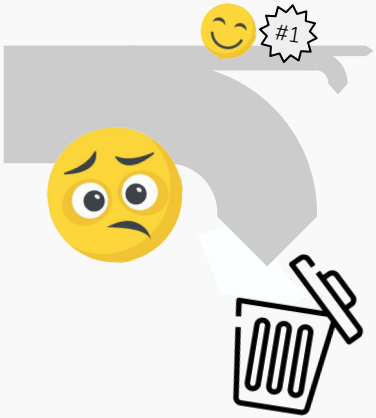
Adapted from Trish Greenhalgh 2009

Initial release: doi.org/10.5281/zenodo.5503963

EUvsVirus · April 2020

Icon by Vectors Market on Flaticon.

Common hackathons fails



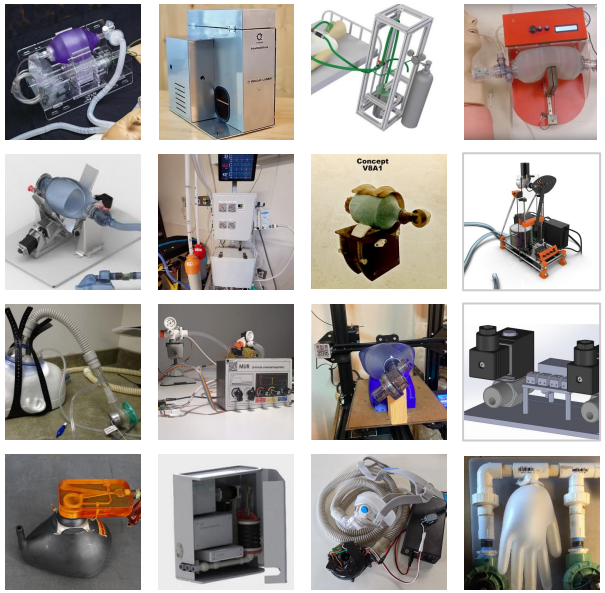
information overload + waste of resources = loss of motivation

as little information as needed + **coordinated work across teams** = **feeling of belonging, projects sustain**

Initial release: doi.org/10.5281/zenodo.3743244. Icons: Vector markets, dDara on flaticon

Example of ventilation machines

60+ open source projects



800,000 machines needed

1 open-source modular design required

- ✓ easy to reproduce where needed
- ✓ validated and iteratively improved
- ✓ adapted to locally available resources

Initial release: doi.org/10.5281/zenodo.3740537

Covid hackathons between March-June 2020: what impact on people's lives?

Event	Days	People	People/day	Projects	OSVM
EUvsVirus	3	22,000	66,000	2,160	16
WirVsVirus	3	28,361	85,083	1,200	4
Covid-19 Global Hackathon	7	18,920	132,440	1,561	2
Hack the Crisis India	3	15,000	45,000	350	?
Global Hack	3	12,000	48,000	500	1
Subtotal		96,281	**376,523**	5,771	**23**
130 other hackathons	3-7	>53,719			
Total		**150,000**			

≃ 1568 FTE + collective wisdom

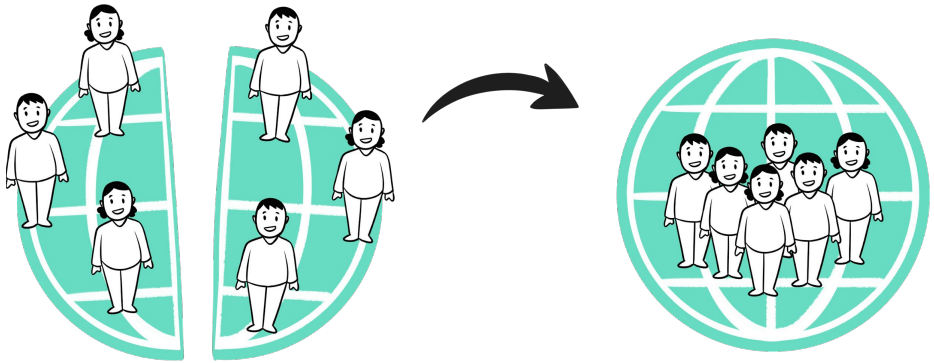
info@openvillage.ch

Key elements

self-adaptation
creation-as-research

cooperation
transdisciplinarity

fun
authenticity



Health commons · Today

Icon by Vectors Market on Flaticon.

doi.org/10.5281/zenodo.4327587 – Also in Français, Español, Português, русский, 中文, हिंदी, বাংলা, العربية

HEALTH TECHNOLOGY AS COMMONS: TRUSTABLE, AFFORDABLE, ADAPTABLE

Geneva Health Forum 2020 · Open Village · www.openvillage.ch

6 in 10 humans still have no access to care, or do not adhere to it, despite rising investments.[1-3]

Alcohol-based hand rub[4] and WikiMed[5] illustrate how creating freely reproducible equipment and software with communities can: save millions of lives, increase integrity, cut costs by 90%.

Cooperation-driven care is the only way to realize the 2030 agenda in time: health for everyone.[6]

We present nine alternatives to the dominant proprietary excluding innovation model, to drive development towards a responsible, solidar society.

Hand prosthesis to ease one's daily life

A prosthetic hand usually costs 6-10 K€. Enable brings together over 30000 volunteers who design and distribute 3D-printed prostheses to vulnerable people. www.enablingthefuture.org + www.gre-nable.fr + www.enablenepal.org

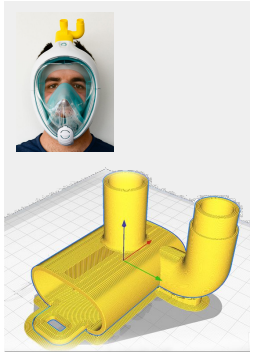
Drugs produced with integrity

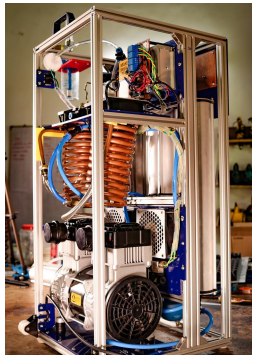
India has a pioneer approach in pharmaceutics. Open Source Drug Discovery brings together 7900 people who collectively develop open-source, low-cost therapies for neglected diseases such as tuberculosis, malaria, leishmaniasis. www.osdd.net

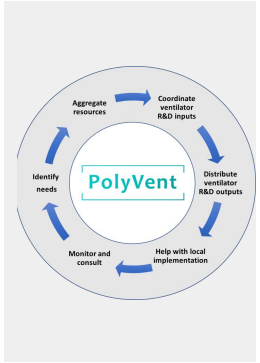
Open-sourcing MRI could save the German healthcare over 200 M€ yearly[7]

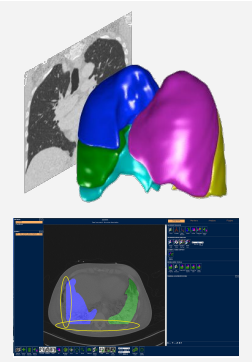
Solidarity-driven medical innovation is up to 99% cheaper.

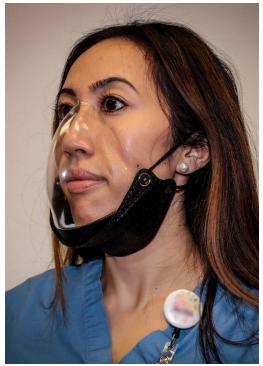
15 examples of open-source respiratory health commons

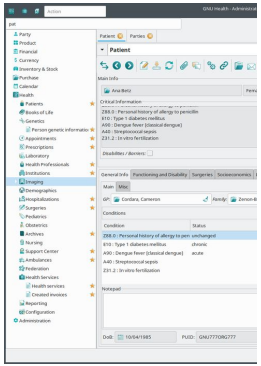


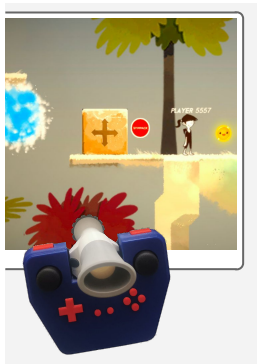


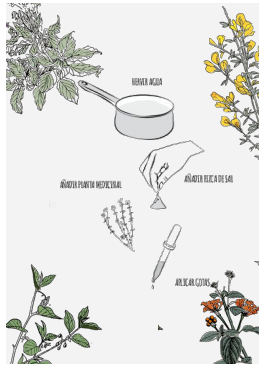












doi.org/10.5281/zenodo.5515632 Images: openventbristol.co.uk, jogl.io, openpcr.org, ospfound.org, anticov.org, wikimedia.org, github.com, bemask.org, logair.io, gnuhealth.org, breathinggames.net, cemi.org.co, Victoria Kelly

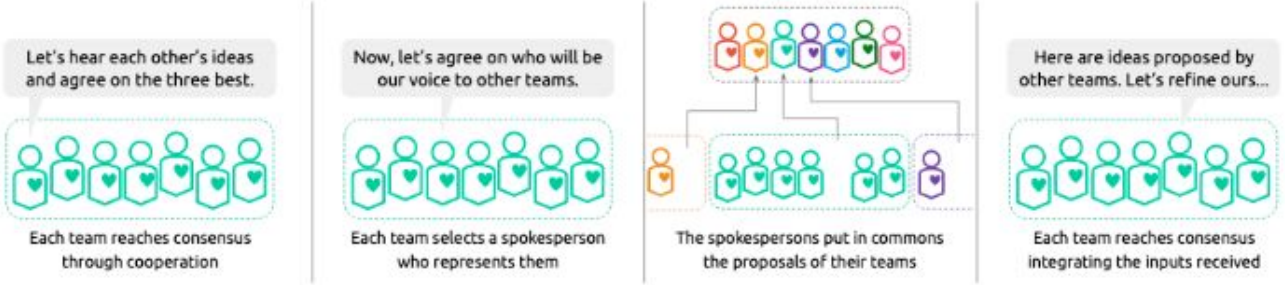
doi.org/10.5281/zenodo.5497574 – Also in Français

Global crises, democratic solutions—within days

Using Internet to empower citizens, reach popular consensus, and ensure democratic decision-making

In the last months, governments around the world have adopted public policies to promote large-scale vaccination, and covid certificates. Whether such measures are adequate or not has been largely debated. But why have such debates emerged? To this day, alternatives to centralized decision-making have been limitedly discussed.

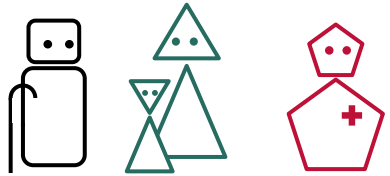
Here, I present how an online platform could help thousands of citizens express their needs (plurality), agree on common priorities (popular consensus), and pool resources to become the protagonists of a common project, like body cells coordinate in real time to preserve life.



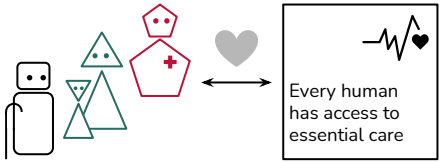
Spokespersons should only ease information sharing, that is to provide other spokespersons

A six steps model

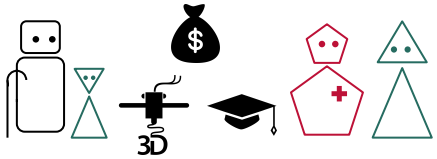
1 Ensure shared values among contributors



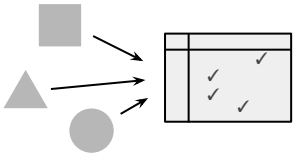
2 Reach consensus on common priorities



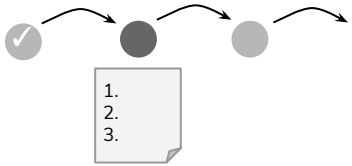
3 Find one's rightful place to contribute to the collective



4 Map existing projects and best practices



5 Consolidate the work, prioritize steps to adoption



6 Mutualize resources and allocate them fairly

Adapted from doi.org/10.5281/zenodo.3737898

Thank you

www.breathinggames.net/openvillage

doi.org/10.5281/zenodo.5527044

Icon: Vectors Market, flaticon

Further references

- Global crises, democratic solutions—within days.
  Using Internet to empower citizens, reach popular consensus, and ensure democratic decision-making.
  https://doi.org/10.5281/zenodo.5497574
- Open-source respiratory health commons.
  15 projects communities can adapt, repair, reproduce for low cost medical care (libre and open-source tech).
  https://doi.org/10.5281/zenodo.5515632
- Health technology as commons: trustable, affordable, adaptable.
  Also in Français – Español – Português – русский – 中文 – हिंदी – বাংলা – العربية
  https://doi.org/10.5281/zenodo.4327587
- Open-source games for health, multiplayer and gamepads.
  Co-creating fun care with children with asthma, young adults with cystic fibrosis, elders with COPD.
  https://doi.org/10.5281/zenodo.5515638
- Team-building and information flow for large groups such as online hackathons.
  https://doi.org/10.5281/zenodo.3743244