careables.org

RRI practices in healthcare

Dr. Barbara Kieslinger, Centre for Social Innovation - ZSI, Vienna, Austria

Careables.org is managed by the Made4You project and has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 780298.

careables is a mixed community of people and organisations committed to the **co-design and making of open, personalised healthcare for everyone**, born from the EU-funded collaborative H2020 project Made4You

Lupo

FGB
ItaliaCamp

Lupo's cane tip

A definition

Careable

a **solution** that aims to **improve the quality of life** for people with unmet needs or facing physical limitations.

open = co- designed, replicable, accessible, adjustable, and shareable online, using digital technologies.

a **new category** that promises readily customized solutions and a **horizontal and collaborative approach to health and care**.

Slide N Shop

from Katharina Hailer, Thimo Planert, Madini Liebscher, Dennis Knoll, Amélie Cayré

Stomanoir

from Anna John, Rutger Oomkes, Sanne Muiser (Amsterdam, Niederlande)

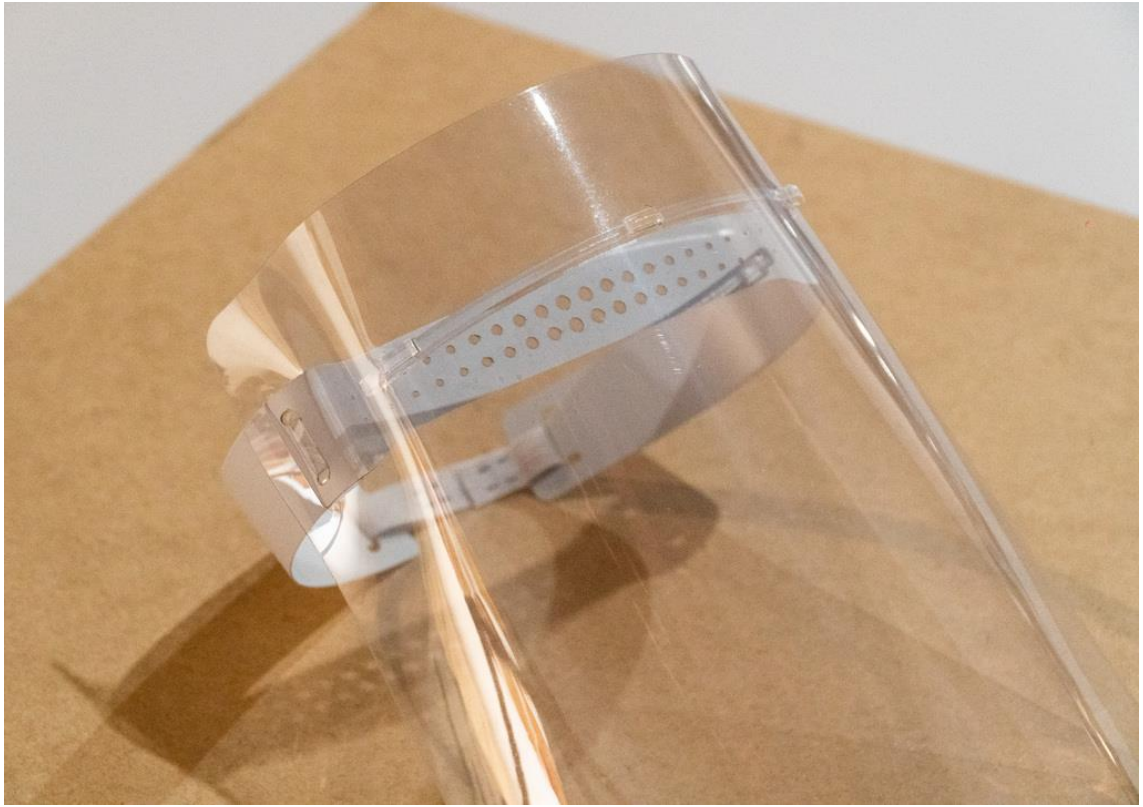
Nailcutter for one hand

by Benjamin Nisker

by Leopold Seiler

+ methods for co-design & documentation

… and then came Covid-19



COVID-19

stories

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CASA CRIATURA
PROTECTIVE GEARS
RELATED STORIES

Safety gear thanks to ‘Casa Criatura’

A great initiative in reaction to COVID-19 in Brazil

CASA CRIATURA

In Olina, a historical site in Brazil, the Casa Criatura has started to locally produce medical protection masks and donate them to the municipality's Health Department in their support to fight COVID-19.

When faced with the Coronavirus, Casa Criatura acted rapidly and adapted their plans to the production of safety gear and protection products. So far, all the products were manufactured with their own resources, using mostly 3D printing. Casa Criatura now counts on donations so that this work does not stop.

PROTECTIVE GEARS

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Training kit

PPE Playbook for Makers

A Playbook made by designers and doctors for anyone at home to create Personal Protective Equipment (PPE) and

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Principles

Coronavirus Tech Handbook

Sourcing and sharing reliable information on COVID-19 is vitally important and the Corona Virus Tech

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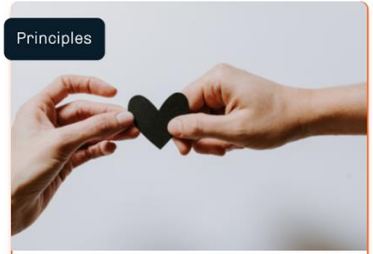
Principles



Digital Solidarity

In a time when social distancing has become the center of our lives, DIGITAL SOLIDARITY wants to help you out while

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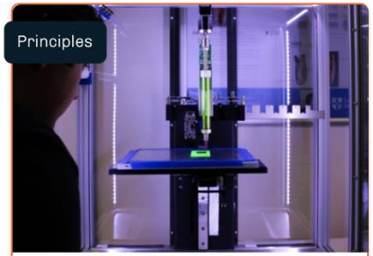
Principles



Corona Care Maker Initiatives

A very useful list of projects that shows makers' responses to the Covid-19 outbreak. Careables wants to try to

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Training kit

Careables Training Kit

The toolkit provides a set of guidelines and templates to organise participatory co-design process in open source

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Methodology

Share4Rare Toolkit for Patient Advocacy

A practical guide to patient advocacy, specifically connected to rare diseases

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COVID-19

38 projects

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Design for care collection

Careables is an open and inclusive approach to healthcare for citizens based on digital fabrication, distributed manufacturing and collaborative making.

www.careables.org

welder.app/careables

Tagged with:

COVID-19

MY FACE MASK 0

Custom 3D printed mask with replaceable filter, obtained from a 3D scan of the wearer.

3d Printing | COVID-19 | Self Care

Hospital Scrubs 0

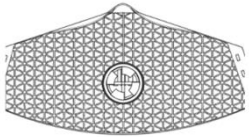
Lightweight and disposable clothing worn in a hospital setting.

COVID-19 | Healthcare

Posterior Harness 0

Ear saver for healthcare workers.

3d Printing | COVID-19 | Healthcare



3D Hope Mask 0

The 3D printable mask is easily adaptable to any face shape, washable and reusable. .

3d Printing | COVID-19 | Adaptive Morphology | Digital Fabrication

DIY COVID-19 protective mask-Scien... 0

DIY laser cut & ready to assemble PET plastic face shield for preventing virus infection.

COVID-19 | Digital Fabrication | Laser Cutting

Protective Face Mask 0

An emergency mask in a time of crisis and lack of proper Personal Protective Equipment.

COVID-19 | Healthcare | Low-Cost Fabrication | Self Care

How are projects documented on welder.app/carables?

Easy COVID 19 4

Emergency mask for hospital ventilators.

COVID-19

Easy COVID 19

COVID-19 Careables

updated Apr 1, 2020

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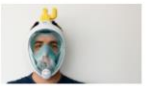
CC Attribution

Overview

Files:

- File for Mares mask
- File for Ocean Reef Mask
- Files for Decathlon Mask



Summary

Isinnova, in collaboration with Dr. Renato Favero (Gardone Valtrompia Hospital), has studied the possibility of creating valves with 3D printing capable of transforming a common snorkeling mask into an emergency respirator.

Thanks to the CAD drawing provided by the ideator, productor and supplier of the snorkeling Easybreath mask (Decathlon), Isinnova team was able to design a new component to guarantee the connection to the ventilator: the Charlotte valve.
The prototype was printed in 3D. It has been tested on one of their colleagues directly inside the Chiari Hospital, connected to the ventilator body, and has proven to be correctly working. The hospital itself was enthusiastic about the idea and decided to test the device on a patient in need. The testing was successful.

Usage by the patient is subjected to the acceptance of use of an uncertified biomedical device, by providing a signed declaration.

Whereas the effectiveness of the project, Isinnova decided to urgently patent the link valve (Charlotte Valve), to prevent any speculation on the price of the component. The patent will remain free to use, because it is in our intention that all hospitals in need could use it if necessary.

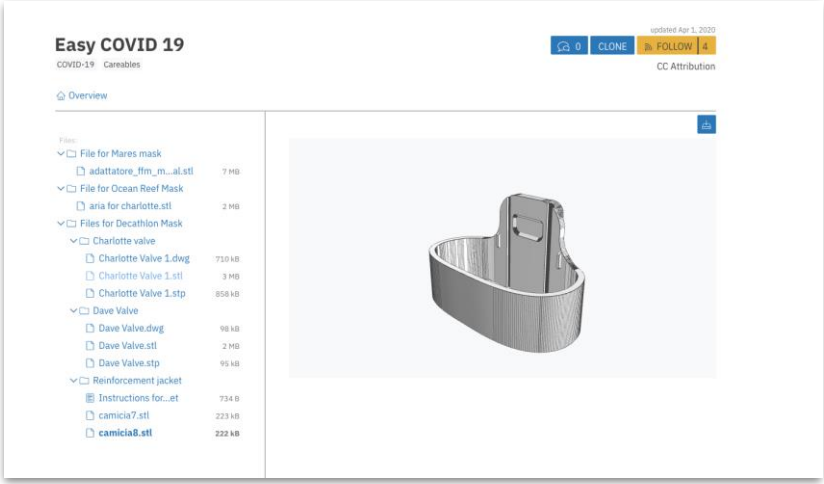
3D files

In the file tree panel it's possible to find files for:

- the Decathlon Mask
- the Ocean Reef Mask
- the Mares Mask

3D Print Settings

- ➔ Summary
- ➔ detailed instructions
- ➔ 3D files
- ➔ assembly guide
- ➔ contact details
- ➔ license information
- ➔ bill of material



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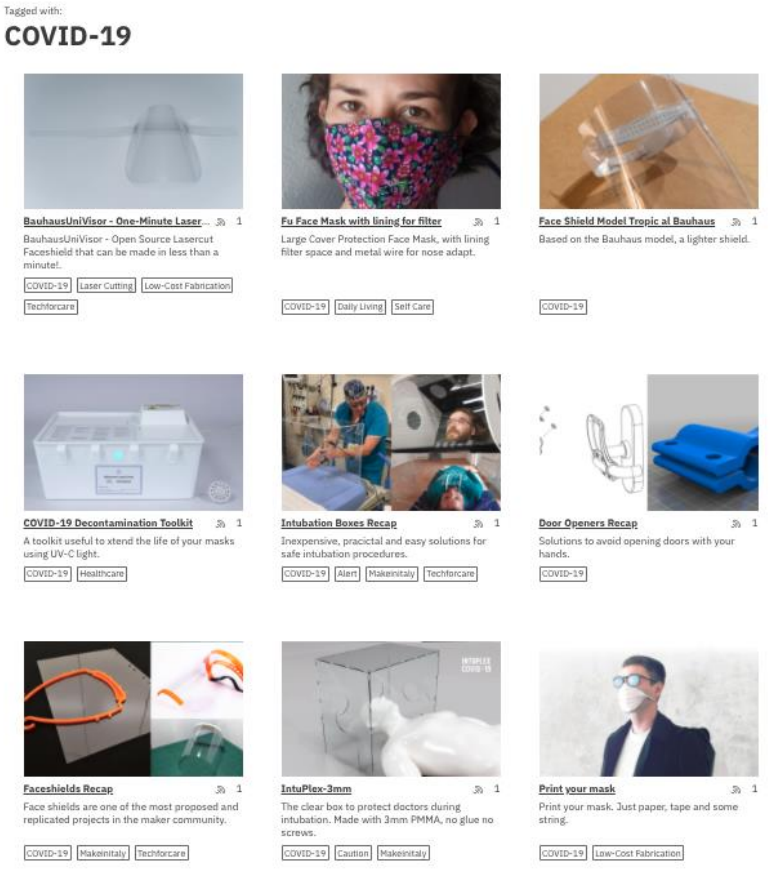
- → **180 careables projects**
- → **38 Covid-19 projects**



responsible making principles

1. **Make things that make sense**: Create solutions that answer to real personal problems or needs.
2. **Co-design with others**: Make space for diverse skills, competences, knowledge, and experiences to merge and come to new and meaningful solutions.
3. **Empower people**: Teach others so that everyone can become more technologically literate and see the potentials.
4. **Share How You Make:** Openly document the making of the project enabling its replication and choose the most appropriate licenses for your project.
5. **Be aware of limits**: Consider any gaps of knowledge when you design for health and care, ask the people you design for and clinicians for support and feedback and follow quality and safety standards.

legal & ethical guidelines

- privacy and data protection
- IPRs
- liability
- ethics
- medical device regulation

Careables Global
careablesglobal.slack.com

Careables Social Media Channels

GIG careables channel

capacity building events
Summer School
HackAdemy

moving exhibition

partners

ZSI, Austria

OpenDot, Italy

Agile Heap, Germany

Waag, Netherlands

KUL, Belgium

Together to Go, Italy

GIG, worldwide

contact
kieslinger@zsi.at

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able / having necessary power, skill, quality. Being able expresses the possibility and capability of doing something

Questions?

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