

#team-channel-team-77, Challenge #20

*Welcome to our stream of consciousness, a crazy trip of 10 diverse travellers.
Fasten your seat belt and ready to go!*

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Our Team

First things first: we get to know each other

Balthazar

<https://www.linkedin.com/in/balthazar-de-moncuit-b77332a7/>

WebDev Frontend, UX Design
Computer Science Engineering

July

Programming (Python and PLC)
Mechanical Engineering

Laura

<https://www.linkedin.com/in/laurabianchilb/>

R&D on mechanical testing
Mechanical Engineering

Malin

WebDev Full Stack, Frontend, Typescript angular, Backend C#
Background in Computer Sciences

Marc S.

Machine Programming

Michelle

Student in Biomedical Sciences. Programming in (R and Python)

Nadine

Nick E.

Marketing, Communications, UI/UX, Design (Adobe Programs)

Tim Habermann

Economist, business model concepts, strategy, marketing and basic
knowledge in HTML, CSS and R

Tim Wacker

Teaching student. Creative Thinker

Our Challenge

TITLE

Future-fit economies and society: From the activities and behaviors adopted during the crisis, which ones do we want to keep and develop post-Covid-19?

CONTEXT

During the crisis we witnessed a strengthening of social networks/ neighbourhoods, increased use of virtual connections tools (overcoming resistance to new ways of connecting) and growth of available educational information on how to live well with less (e.g. travel, information overload, consumption of non-essential items) whilst spending more time with nuclear family, hobbies or decluttering our lives.

Inspiration: <https://www.horx.com/48-die-welt-nach-corona/>

CHALLENGE

Creating tools to facilitate and enable climate-positive and future-fit activities and behaviors post- Covid-19? #resourceconsciousliving
Lifestyle areas: mobility, tourism, food, living & energy, non-food consumption

Overall Concept

We define our business model

We want to promote the awareness of how the virus and the lockdown have a positive impact on our carbon dioxide emission. We want to measure the change of personal ecological footprint comparing the situation before COVID-19 to the situation during the crisis and in a next phase show easy ways of reducing the carbon dioxide emissions after the crisis without big restrictions. It will be scalable with the possibility to make the calculation more complex while adding more detail.

Our final product will be a website where a user can answer questions about his emission (during and before COVID-19) and the website will show the user the delta of the emission (transport, food, holiday ...). At the end of the survey we give easy advice, based on the answers in the form, for easy ways of emission reduction (ways to maintain the positive covid-habits), without big restrictions into the usual life quality. Optionally the tool could be implemented in other websites.

Showing the change of carbon emission is the focus of our concept. But as it is only a relative calculation, the overall idea is to combine the relation, respectively the change with a normal footprint calculation. This allows the user to have a reference value (how does the carbon emissions of the user is in general, how many worlds does he need to hold on his lifestyle?). But we will put less effort in the second part and only if we have enough time, as there are many good footprint calculators and our value generation takes place with the visuality of the change. We will integrate some representative questions to show the implementation of a footprint calculator.

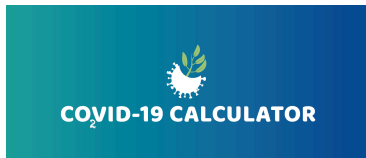
Task Forces

How we split the tasks

Design-concept (layout)

- Disability Friendly
- Small sentences, so the automated translation is possible

This is our Logo



Background color left: #00a099

Background color right: #054c93

Plant color: #9dc673

Logo Text: Baloo

Titel Font: PT Sans Caption bold

Text Font: Raleway regular

- **Storytelling**
We want to tell a story to the user. Depending on the delta he has for one question, we can show him different texts about how he has an impact, what he can improve, how he can improve.
The story approach can be used to collect the data too.
With global data analysis we can improve those stories.
- **Appearance of the tool**
easy and light intro into the tool
simple animations
simple arrows to navigate
- **Step-by-step usability (user process)**
"Flow"/"Process"-User Experience
split the questionnaire by topics
topics could be: "how do you go to work", "what do you do for easter vacation"
- **Graphics**
For Symbols, Graphics, etc.
- **Color / Typo concept**
few colors

Footprint calculator

- research of data
- algorithm
- CO2/day? CO2/week? /month?-> per year
- time frame = 1 week unit, to be multiplied according to the confinement period (use the same period to compare the pre-corona)
- find ways/solution of how calculate the actual footprint comparison
- handling of the calculator
- Which is the output of the calculator? individual evaluation, suggestions
- There will be a split screen/ the same question should be answered always twice once for the situation before the COVID-19 and one situation

task 1 = which questions are asked to the user? Which data are handled?
(Laura, Tim)

- Find out the **input data** for the algorithm. So that we can use the same type. **Database**
- How can we **scale** the separate/single calculations

task 2 = check the outputs, the solution of the algorithm and the suggestion given to the user (the end product) (Nadine)

- What do you get at the end/ evaluation (Footprint, Worlds...)? How should the end product look like.

task 3 = how inputs and outputs are related? (July, Michelle)

- How do the algorithm calculate the different outputs of the questions?
- How do we **combine** the single calculations to one big one.

Finally we implement the python snippet in HTML for the website

Inspirational data links:

<https://www.carbonindependent.org/32.html> (2 Excels at the end) (whole page has quite a lot of data and references)

Go through already existing calculators:

- <https://www.carbonfootprint.com/measure.html>
- <https://footprint.wwf.org.uk/#/>
- <https://act.greenpeace.org/page/33073/action/1?mode=DEMO&locale=en-ZA>
- <https://www.wwf.ch/de/nachhaltig-leben/footprintrechner>
- <https://ourworldindata.org/co2-and-other-greenhouse-gas-emissions>
- <https://www.carbonfootprint.com/calculator.aspx>
- <https://www.footprintcalculator.org>

- <https://www.myclimate.org/>
- <https://carbonclick.com>

- Problems that could come
 - The weighting will not be reasonable
 -

Preliminary survey

Aim: gather specific information about the change in lifestyle to built baseline and database for calculator and get to know which behaviors changed due to covid confinement to create new questions.

Before/During Question Pool [2 answers expected]:

- do you go grocery just for yourself or also for other nuclei? how many? (nucleus = people living under the same roof: flatmates = 1 nucleus, family neighbour = 1 nucleus, ect)
- ebooks: do you read ebooks or buy paper books? how many?
- do it yourself: do you repair broken households or objects or you trash them and buy new ones? how many?
- food waste: how much food do you trash? more or less?
- How many kilometers do you have to go to reach work?

Open questions [we expect a sentence, inspiration for us to ask more question]

- what did you change in your daily life?
-

Concept

- Website
 - calculating system
 - no bonus points for doing thing, they don't expel co2
 - time range before lockdown (last year) → for most of the questions
 - time range during lockdown (from lockdown until now)→ for most of the questions

we could ask at the beginning to choose those topics that have changed after the lockdown for the user and just ask questions about those topics.

The bonus is:

- The user just answer questions which have an impact
 - the survey is shorter and the output is exactly the same
 - more topics can be covered means also that we need more data and it makes it more difficult
- Frontpage
 - goal of survey
 - facts (positive impacts you can keep)

- during the corona crise our output of co2 is xx% lower than before, if we would continue like this we could reach xy or xy could happen
- Questions you have to answer
 - Just situations which changed during the crisis and about which have a big impact to the co2 expelation
 - For each question the user has to say how big the restriction was to change this. With this information we can choose the recommendation for the evaluation. So the user just gets recommendations which don't demand too much, with this the chance is high that the user will change it really.
 - mobility
 - For how many kilometers you used the car? per year, since the crisis started
 - How many l/100km does your car need?
 - For how many kilometers you used the train? per week or working day
 - For how many kilometers you used your bike? per week or working day
 - kilometers or from point a to b (users don't trust when they have to tell locations)
 - Did you use the plane to get to meetings?
 - following question if yes (How many miles or hours per year are you using it because for work?)
 - online shopping
 - Did you order more things online than before the crisis?
 - if no, skip to the next topic because there is no difference in the result.
 - How many packets did you get more per week than before the crisis?
 - How many international orders did you get last year? How many since Covid-19
 - shopping (food)
 - Did you take more attention to buy local food?
 - Did you take more attention to buy biological food?
 - travelling (not in co2, more recommandation)
 - in the end it should ask if it's that horrible to spend holidays in switzerland or to go by train
 - Before and after:
 - For how many kilometers you used the train?
 - For how many miles or hours you used the plane?
 - time range before lockdown (last year)

- time range after lockdown (from lockdown until now)
- Diverse
 - Working from home
- Evaluation
 - what can I keep, with not having more input
 - 1 day working from home → saves xy kg...
 - enjoy holidays on places you can reach by train
 - good feeling in the end → this you've done good and just keep it
 - explain the amount of CO₂ you saved in a simple way (impact to climate goals, etc.)
 - overview what could be possible
 - if you say at the end that you will keep the positive effect the amount of saved CO₂ get added and you can see the total amount of saved CO₂ from all the users before
- Ask **feedback** to the user with open question, for example:
 - What did you change in your life and was not asked in the quiz?
 - How would you improve the calculator?
- Goal of Versusvirus?
 - Available on other websites?
 - giving the people a good feeling instead of the feeling you're going to destroy the earth
 - easy feedback in the end

Wording

Frontpage

Do you wanna know how much CO2 you saved during Covid-19?

If you apply some of the effects of covid-19 to your life after the pandemic, you can reduce your co2 footprint. → find out how much!

Questions and answer option (specific for impact)

MOBILITY

Before the lockdown: How many kilometers do you use your car per year?

Answer -> select: 0 - 5000km
5000 - 10'000km
10'000 - 15'000km

15'000 - 20'000km
20'000 - 30'000km
30'000km +

After the lockdown: How many kilometers do you use the car per week?

Answer-> select:

- Not using
- 0 - 250km
- 250 - 500km
- 500 - 750km
- 750 - 1000km
- 1000 - 1250km
- 1250 - 1500km
- 1500 - 2000km
- 2000km +

Before the lockdown: How many kilometers do you use public transport per week?

Answer-> select:

- Not using
- 0 - 200km
- 200 - 400km
- 400 - 600km
- 600 - 800km
- 800 - 1000km
- 1000 - 1200km
- 1200km +

After the lockdown: How many kilometers do you use public transport per week?

Answer-> select:

- Not using
- 0 - 200km
- 200 - 400km
- 400 - 600km
- 600 - 800km
- 800 - 1000km
- 1000 - 1200km
- 1200km +

If it's more less than before (just one answer possible) -> Why did you move less than before the lockdown?

Because I'm working from home.
Because I'm working not that far away anymore.
Because I'm using public transport instead of the car.
Because I'm using my Bike instead of public transport.

TRAVEL

How many hours have you spent in an airplane in the last two years?

Answer:

- Never used plane
- 1 - 5h
- 5 - 10h
- 10 - 15h

15 - 20h
20 - 30h
40 - 50h
50h +

How many days have you spent on a cruise ship in the last two years?

Answer: None
1
2
3
4
5
5 - 7
8 - 10
10 - 13
13 - 17
17 - 21
21 +

How many days have you spent in a hostel or hotel in the last year?

Answer part 1: 0
1
2
3 - 5
5 - 7
7 - 10
11 - 15
16 - 20
21 - 27
28 - 40
40 - 50
50 +

subquestion: Average number of stars

Answer part 2: Hostel
1-3 Stars
4 Stars
5 Stars

How many days have you spent in a hostel or hotel since the lockdown?

Answer part 1: 0
1
2
3
4
5
6 - 7
8 - 10
10 +

subquestion: Average number of stars

Answer part 2: Hostel

1-3 Stars
4 Stars
5 Stars

FOOD CONSUMPTION

How much seasonal fruit and vegetables do you buy?

a quarter
half of it
three quarters
everything

What percentage of your purchases are label products (organic, MSC, Fair Trade)?

nothing
a quarter
half of it
three quarter
everything

How often do you throw away food?

Often (several times a week)
Sometimes
Never

How often do you consume milk and dairy products like yoghurt, cheese, butter or cream?

More than 4 times a day
2-4 times a day
1-2 times a day
4-6 times a week
Less than once a week
Never

How often do you eat dishes that contain meat or fish?

More than 3 times a day
2-3 times a day
Once a day
4-6 times a week
1-3 times a week
Less than once a week
Never

OTHER GOODS CONSUMPTION AND LEISURE

How much do you spend each month on clothes and shoes?

0 - 25CHF
25 - 50CHF
50 - 100CHF
100 - 125CHF
125 - 250CHF
250CHF +

How much do you spend each month on leisure and culture (pets, fitness subscription, magazines, cinema, consumer electronics and subscriptions, hobbies, etc.)

- 0 - 50CHF
- 50 - 150CHF
- 150 - 250CHF
- 250 - 400CHF
- 400 - 600CHF
- 600CHF +

How much do you spend each month on furniture and household appliances?

- 0 - 25CHF
- 25 - 75CHF
- 75 - 125CHF
- 125 - 200CHF
- 200 - 300CHF
- 300CHF +

How much money do you spend each month on food in restaurants, canteens and take-away and on overnight stays away from home?

- Very much (more than 600.-)
- Much (around 400.-)
- An average amount (around 250.-)
- Not very much (around 100.-)
- Not much (around 50.-)

DOMESTIC APPLIANCES

Which cooling units do you have?

- Several refrigerators and/or freezers
- fridge-freezer combination (two-door) or fridge with small freezer compartment in combination with freezer
- A refrigerator with a small freezer compartment

How do you mainly wash your laundry?

- Each wash at the maximum intended washing temperature and sometimes also boil wash (95 °C)
- Most of the laundry at 40 °C, about one third at 60 °C, no boil wash (95 °C)
- More than half of the laundry at 30 °C and less, only very rarely 60 °C

How do you dry your laundry?

- Only in tumbler or room with air dryer
- partly with tumble dryer/air dryer, partly on the washing line
- On the clothesline

What proportion of green electricity with the "naturemade star" label is used in your household?

- There's no green electricity in my household
- The household is partly supplied with green electricity (e.g. with its own PV system)
- The household is supplied 100 percent with green electricity

Endpage, evaluation, your CO2 footprint

Overall feedback:

if overall delta < 0: (good)

- Congratulations your CO2 footprint has decreased by XX tons during covid-19!!

if overall delta > 0: (bad)

- How is it possible that you are emitting more CO2 than before the pandemic? You can save tons of CO2, if you apply some of the habits during covid-19 to your daily lifestyle.

Finally, one could make some suggestions on how to reduce one's CO2 footprint in the future. For example

if delta mobility < 0:

mobility (see last question mobility)

- if: "Because I'm working from home."
→ Obviously this is not always possible to do daily when we're back to normal but maybe because you're already set up at home you could try to implement this more regularly.
- if: "Because I'm working not that far away anymore."
→ Great, you live closer to your workplace therefore you can decrease your CO2 emission by having a shorter commute to work.
- if: "Because I'm using public transport instead of the car."
→ This is not really recommended right now but good job at trying to change your lifestyle. Keep this up for the future!
- if: "Because I'm using my Bike instead of public transport."
→ Awesome! You're implementing social distancing and working out in the fresh air at the same time! This doesn't only have an impact on the environment, but also especially on your physical and mental well being. Keep it up!
- if: other reasons
→ keep it up!

if before travel > 0:

- if CO2 (50*5Star) < before travel:

great job keep this lifestyle up!

- if CO2 (50*5star)>before travel:

Everybody is waiting for the moment to break out of the well known surroundings again.

We do too!

But didn't you catch yourself going for walks in your neighborhood and finding new interesting things that you never knew existed before?

With your travel behavior you could also...

- ...heat up one olympia swimming pool ($2'500\text{ m}^3$) about on $xy^\circ\text{C}$ for xy hours
- ...use your laundry machine for xy years
- ...travel by train xy times around the world

Web-dev

- technologies stack (angular frontend, backend?)
- website

Repository: <https://github.com/MalinEkdahl/versusvirus-team-77>