(Co - WARe)
Artworks for GA2022

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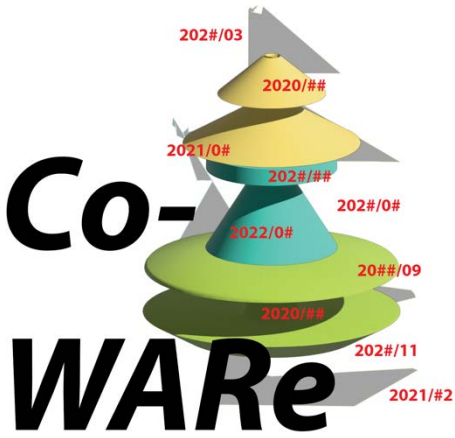


Abstract

Throughout history, humans have been creating receptacles in their daily activities to hold, keep, and preserve the rewards and objects they treasure. Applying the same notion, Co-WARe makes unique receptacles from covid data to express the information in an artistic form.

Co-WARe is an obj ectified presentation of all COVID-19 cases, deaths, geographically located data in each country, and the time of the data was generated. These data series project the different changes brought to each country since the beginning of COVID-19. It also provides more intuitive insight into the epidemic in all countries worldwide.

Statement of Work

Co-WARe refers to the process of converting data into a visualisation. The combination of dots, lines, planes and colour collocation form an interesting visual effect that drives and stimulates the public's personal experience of COVID-19. The addition of colour saturation also makes the overall impact more three-dimensional. Furthermore, it distinguishes the similar colours generated by similar data in different countries, making the Co-WARe more tangible and structural in subsequent production.

Chart Method

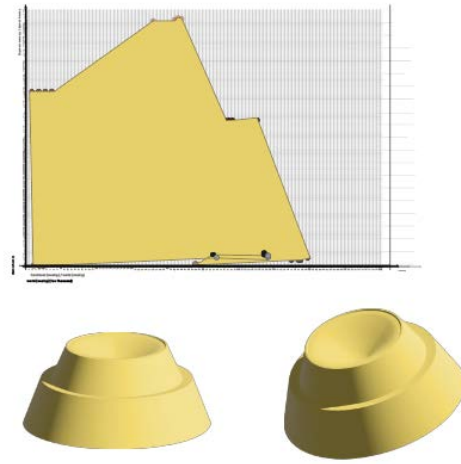
The Covid data were obtained from the WHO website (World Health Organisation). All data is charted on the graph to form a shape to warp into a 3D form. Nine data points were obtained from confirmed cases and d eaths, respectively. The nine coloured points were connected to form a shape on t he graph. The points were acquired from the formula charted (X Axis / Y Axis) on the graph.

1: World case (weekly) / Country case (weekly),
2: (Country case (Weekly) / World case (Total)) / (Country case (Weekly) / World case (Weekly)),
3: (Country case (Weekly) / Continent case (Total)) / (Country case (Weekly) / Continent case (Weekly))
4. (Continent case (Weekly) / World case (Weekly)) / (Country case (Weekly)/Continent case (Weekly))
5. Continent case (weekly) / Country case (Weekly)
6. (Country case (Weekly) / Country case (Total)) / (Country case (Total) / Continent case (Total))
7. (Continent case (Total) / World case (Total)) / Year (Weekly)
8. Continent case (Weekly) / World case (Weekly)
9. (Continent case (Total) / World case (Total)) / (Continent case (Weekly) / World case (Weekly))

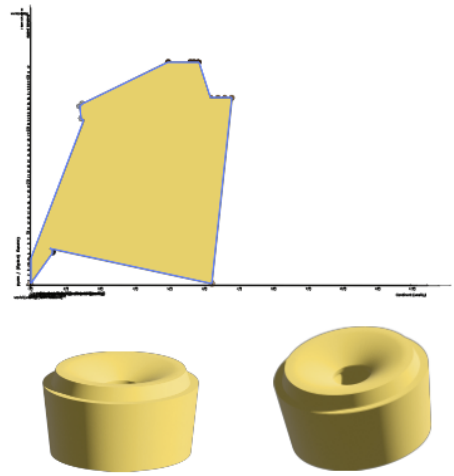
CONFRIMED CASE AND DEATH DATA CHARTING LOGIC

	X Axis	Y Axis
	World (weekly) [Ten Thousand]	Country (weekly)
	Country (weekly)/world(Total)	Country (weekly)/word (weekly)
	Country (weekly)/Continent(Total)	Country (weekly) / Continent (weekly)
	Continent (weekly) / world (weekly)	country(weekly)/continent(weekly)
	Continent (weekly)	Country (weekly)
	Country (weekly) / Country(Total)	Country(Total)/ Continent (Total)
	Continent (Total) / world (Total)	2020 (weekly)
	Continent (weekly)	World (weekly)
	Continent(Total) / world(Total)	Continent (weekly) / world (weekly)

Example:
Comfirmed Case Data



Example:
Death Case Data



Example:

Colour Allocation

The colour is generated by combining the **CMYK** value (C represents Confirmed Case, M represents Geographical Location Coordinates (MAP), Y represents Time (Day, Month or Year), and **K** represents Number of Death(Black to represent death) to form a unique colour for each respective data set. Temperature data were introduced to add saturation to the colour.

Example :

Colour allocation for February 2020.

C – Confirmed Case
Data use from the highest case day in the month.

Equation = Highest Case Number on the Country day /Global data of the same day

The highest case day in the month. **February** is on the 31st

31/02/2020, USA, 31 /
31/02/ 2020 Global data, 8247.

31/8247 x 100 = **0.37.**

M – Percentage of Country land mass to the overall world land mass

Date gather from https://en.wikipedia.org/wiki/List_of_countries_and_dependencies_by_area

USA land mass in percentage is **6.3%**

Y – Date of the Date
Formula:
100%/12 (12month) = 8.3
Month Order x 8.3

February is the 2nd month.
Therefore, **2** x 8.3 = **16.6**

K - Death Case
Data use from the highest case day in the month.

Equation = Highest Case Number on the Country day /Global data of the same day

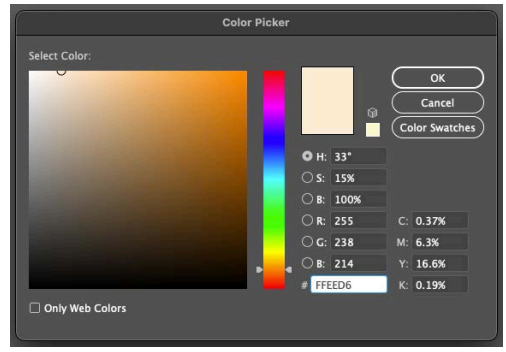
The highest case day in the month. **February** is on the 31st

31/02/2020, USA, 1 /
31/02/ 2020 Global data, 520

1/520 x 100 = **0.19.**

C = 0.37, M = 6.3, Y = 16.6, K = 0.19

The generated colour :



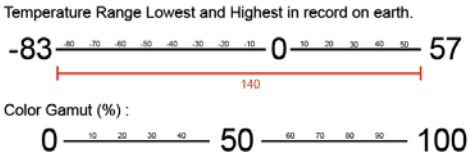
Generated Colour :

C = 0.37, M = 6.3, Y = 16.6, K = 0.19

To add m ore depth to the colour, an value was added to the saturation of the generated colour base of the temperature. (Highest temperature of the day for the month.

The global minimum temperature is -83 degrees Celsius, and the global maximum temperature is 57 degrees Celsius.
https://weatherspark.com/

To acquire the saturation value, An equation is used to convert the temperature value to the saturation value. used on the generated colour.



Equation:

$$\frac{140}{100} = \frac{x+83}{y} \quad \begin{matrix}(\text{temperture}) \\ (\text{saturation value})\end{matrix}$$

Example: **10°C -**

$$\frac{140}{100} = \frac{x+83}{y} \quad \begin{matrix}(\text{temperture}) \\ (\text{saturation value})\end{matrix}$$

$$\frac{140}{100} = \frac{10+83}{y}$$

$$\frac{140}{100} = \frac{93}{y}$$

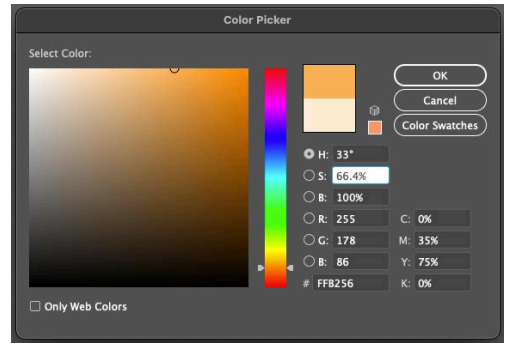
$93 \times 100 = 140 \times Y$

$9300 = 140 \times Y$

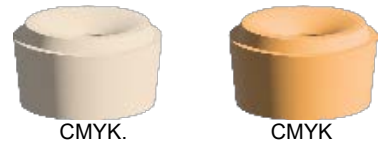
$9300/140 = Y$

$66.4 = Y$

Saturation Colour (66.4% Saturation) :



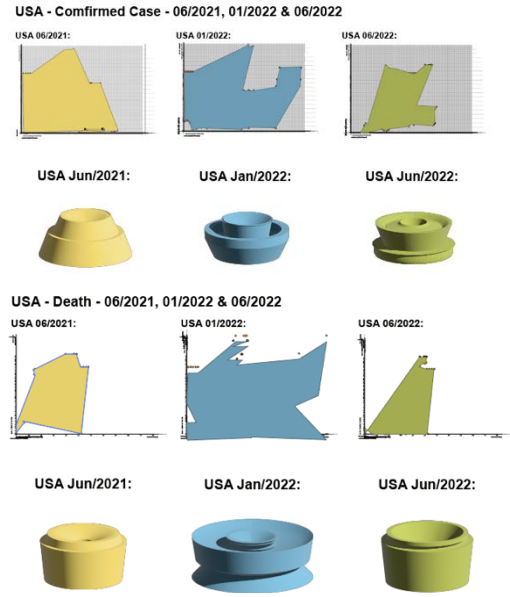
Colour with saturation :

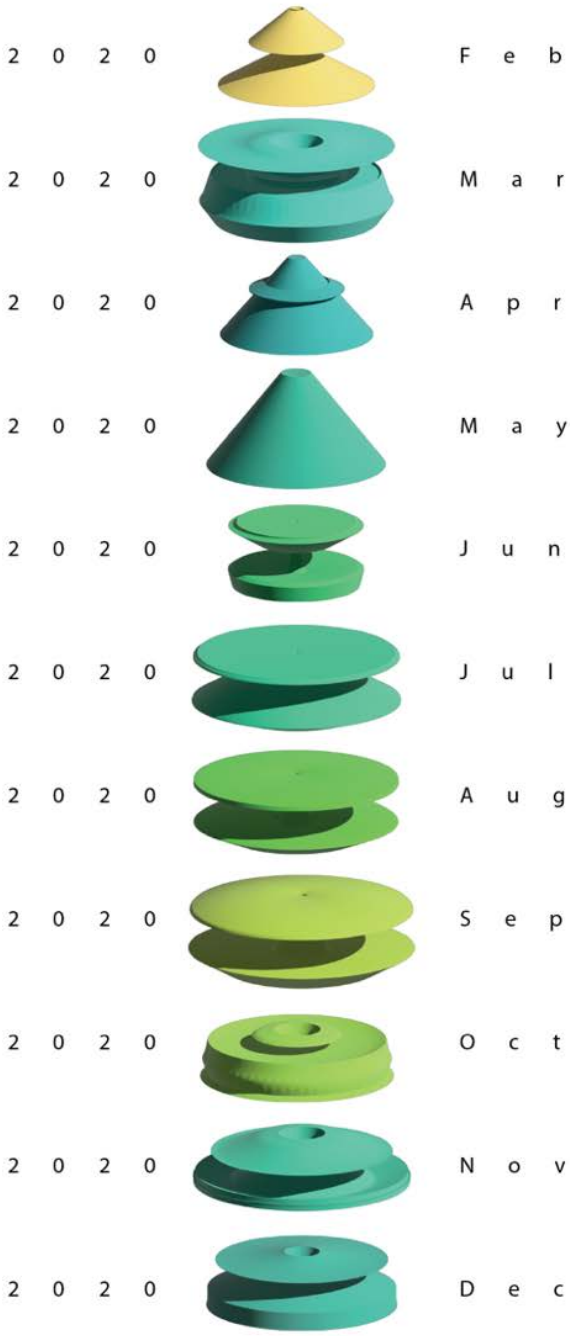


CMYK. without Saturation

CMYK With Saturation

Examples:




2020 Feb
2020 Mar
2020 Apr
2020 May
2020 Jun
2020 Jul
2020 Aug
2020 Sep
2020 Oct
2020 Nov
2020 Dec