EverCart

Know Your Footprint, Shop Smarter.

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By 2030, carbon emissions from the fashion industry could rise to **1.5 billion tons** per year

The fashion industry is responsible for **20% of global wastewater** and **10% of global emissions**

THE SOLUTION? EVERCART.

WHAT IS EVERCART?

1. A Chrome Extension
2. Provides **live** water consumption and carbon emission data for the products in your shopping cart
3. Uses **Google BreadBoard** to recommend more sustainable alternatives

DIVING DEEPER....

Scrape

Uses web-scraping to grab keywords such as “shirt”, “jacket”, “15% cotton”, “recycled polyester” and makes informed estimates about the fabric or materials needed for each item.

Calculate

Calculates the water consumption and carbon emissions based on fabric content and item type. Compiles data into a climate score reflecting the overall footprint of the product.

Inform

Presents the data of each product to the consumer upon viewing their cart. Allows user to view the individual impact of each item and their climate scores: water, carbon footprint and materials.

Sample of Textile Data Used

Textile	Water (L)	Carbon (kg)
Polyester	60	9.5
Cashmere	8200	8.5
Spandex	60	9.5
Cotton	10000	4.0
Wool	1500	7.5
Lycra	155	6.3

Clothing	Fabric (m^2)
T-Shirt	1.2
Sweatshirt	2.5
Leggings	1.8
Sundress	2.0
Socks	0.3
Puffer	3.2

*using industry standards

03

Algorithm and Target Demographic

Our Algorithm

Climate Calculator:

- ➔ Evercart's backend is built using **Javascript**.
- ➔ The backend first scrapes the web data given a link to a product, searching for the title to get the type of clothing as well as keywords such as "materials" to find the fabric types and percentage makeups of the clothing.
- ➔ Using this site data, the program efficiently searches for matches of the clothing in extensive maps that contain data such as the average square meters of cloth used to create a given item, the carbon emissions for a type of material, and the water needed to cultivate the material.
- ➔ With the appropriate data obtained from the maps, the program then completes calculations to calculate the “ClimateFriendly Score”
- ➔ (Calculations on the next page)

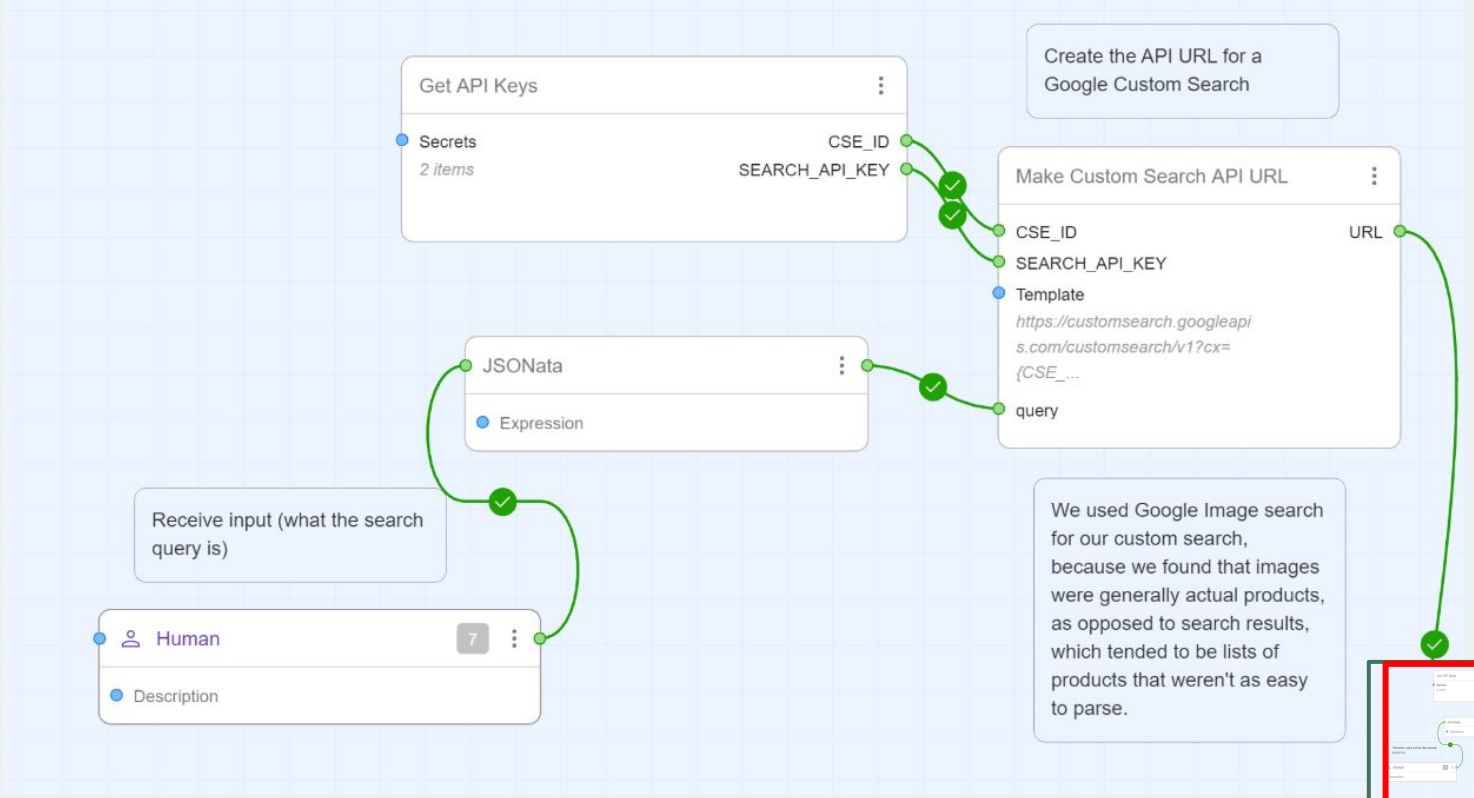
ClimateFriendly Score Calculations

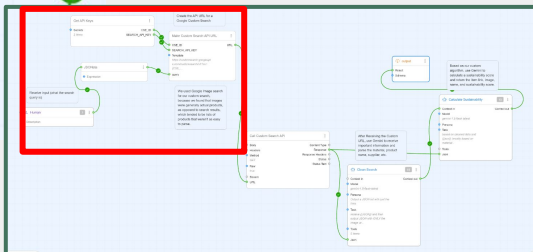
$$\text{Normalized Value} = \frac{\text{Actual Value} - \text{Min Value}}{\text{Max Value} - \text{Min Value}}$$

$$\text{ClimateFriendly Score} = W_w \times \text{Norm}(W) + C_w \times \text{Norm}(C_{prod})$$

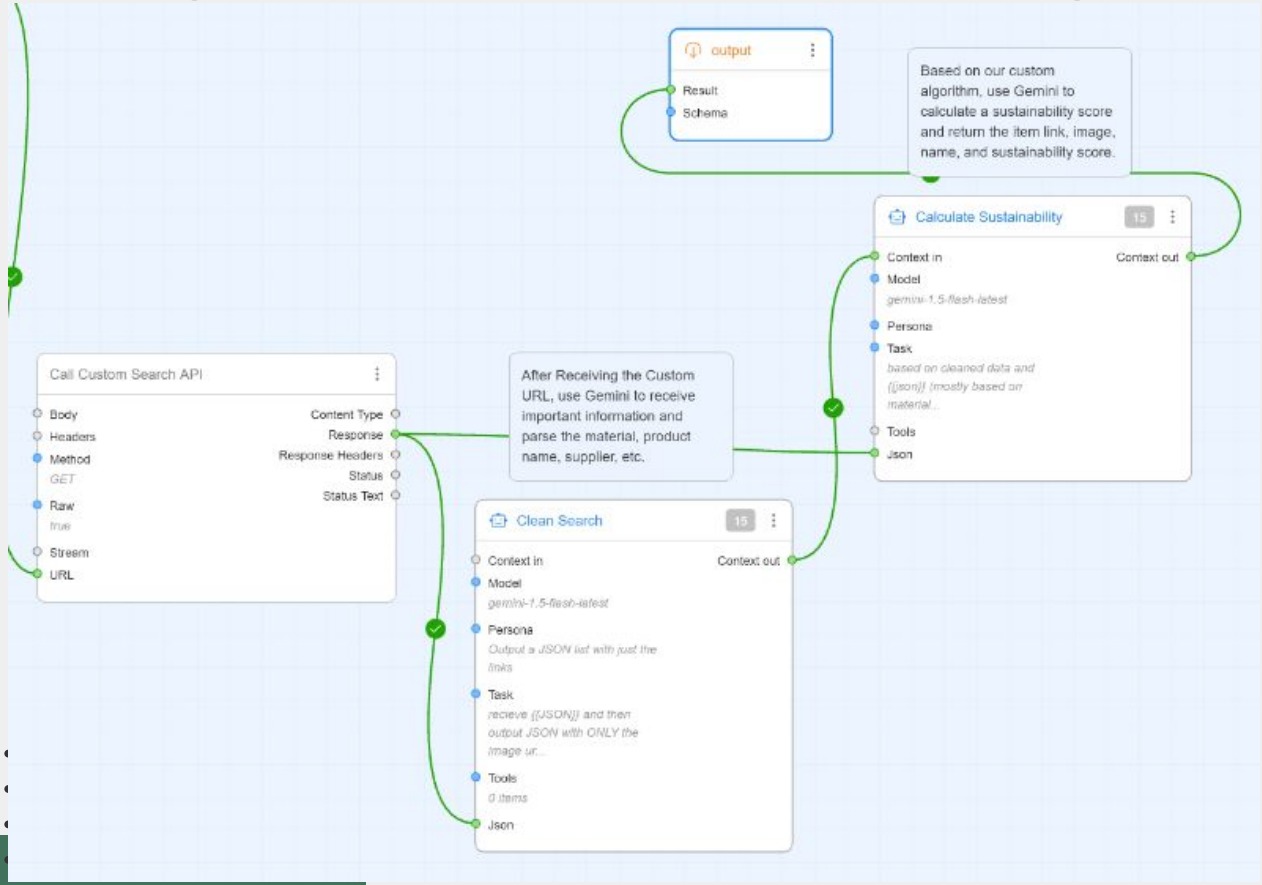
$$\text{ClimateFriendly Score} = 0.5 \times \frac{W - W_{\min}}{W_{\max} - W_{\min}} + 0.5 \times \frac{C_{prod} - C_{prod_{\min}}}{C_{prod_{\max}} - C_{prod_{\min}}}$$

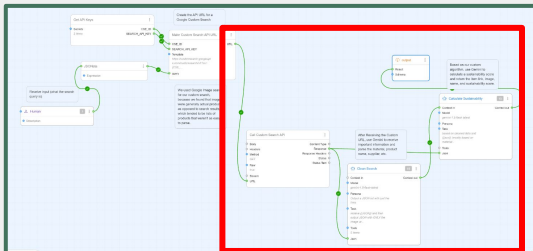
Google BreadBoard Intelligent Shopper



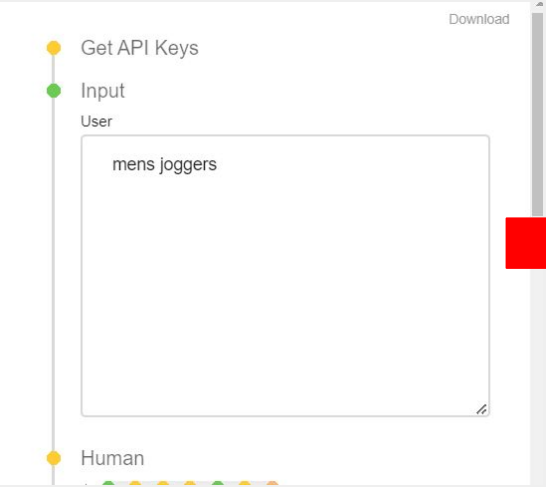


Google BreadBoard Intelligent Shopper





Breadboard Example Input and Output

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Target Demographic: Who Benefits?

Environmentalists,

- People with the environment in mind will find the recommendation feature helpful in making informed decisions and helping to solve the sustainability issues that they care about.

Information Seekers,

- People hoping to learn more about their impact will find this tool enlightening, being able to see the environmental breakdown of everyday activities and shed light on the actual impact of the fashion industry.

Serial Shoppers,

- People who often forget to mind their carbon footprint and need anti-consumption reminders will benefit from the “guilt-tripping” aspect of this product, reminding serial shoppers of the impact of their purchasing decisions.

and everyone....

- Anyone will benefit from this product, because everyone shares the same Earth. Whether you are shopping for a Christmas gift or your treat of the week, being aware of the impacts that your purchases create will help everyone on our planet see a greener tomorrow.

04

Demo and Challenges

DEMO

Challenges

Problem:

Obtaining an accurate Climate Score to display and compare different products with was a challenge for us, because we wanted to create a metric that weighed the carbon emissions and water use of different items fairly while being instantly understandable to our customers.

Problem:

We ran into issues when incorporating scraped product information into the final chrome extension because the puppeteer library the backend used to scrape web information isn’t supported for chrome extensions to use.

Solution:

We landed on a metric that is based on the most and least climate-effective materials for carbon and water respectively, normalizing a product's individual score with those maximum and minimum values for all of the common clothing types.

Solution:

To solve this, we changed the entire web-scraping function to support the chrome extension usage.

05

Improvements & Future Goals

Improvements / Future Goals

Incorporate Shipping Footprint

Our current algorithm only takes the water consumption and carbon emissions into account for the sake of the prototype. A completed version of this product would also use user location, distribution centers and factories to estimate the carbon footprint and plastic waste associated with shipping and distribution

Work Across All Shopping Sites

Our prototype was built off of Lululemon site to show how reputable companies also have a negative impact. The goal for the final product is to work across all shopping sites for all products. Due to time constraints, we weren't able to do this.

Save shopper information

Allow users to set up a profile and save the data of their total climate footprint. Eventually, we want to incorporate a positive feedback features that rewards consumers for what they haven't purchased.

"Gamify" Sustainable shopping behavior

As previously mentioned, we want to reward users for sustainable behavior. For example, items that are currently in their cart but not yet purchased. Users would receive points for leaving carts unpurchased and closing out of tabs. It would be cool to offer rewards associated with accumulating sustainability points.

Thank You!