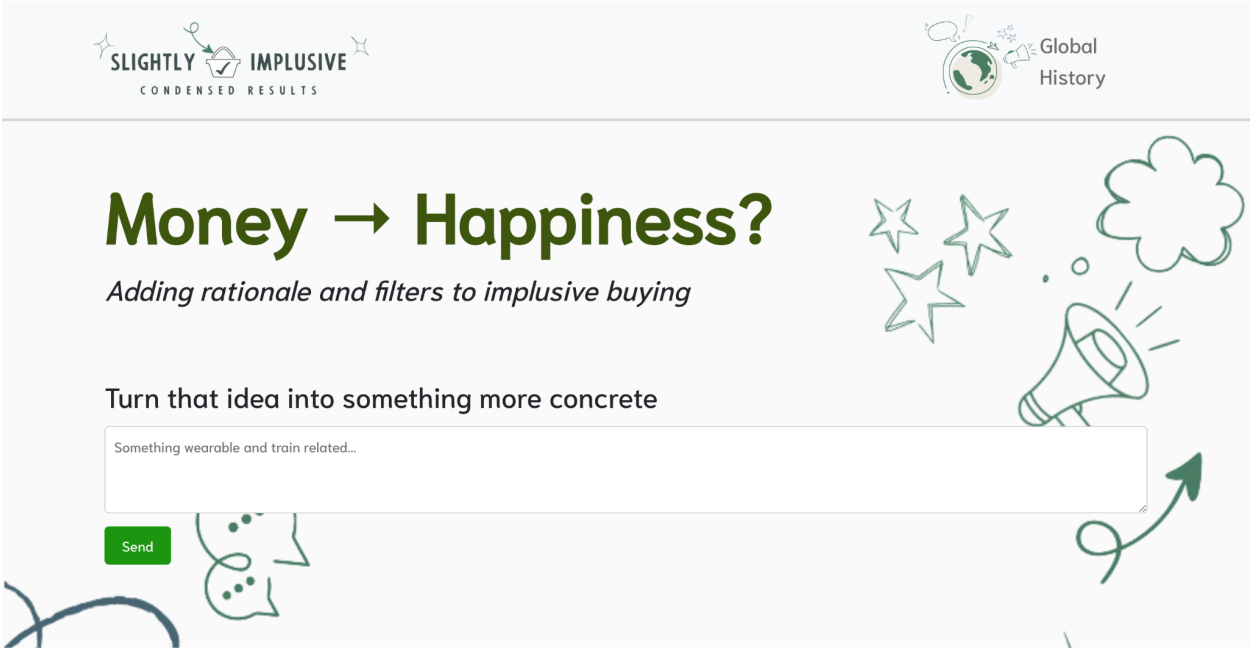
SLIGHTLY IMPULSIVE



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Background

Online shopping has become an integral part of living for many people. They provide accessibility to buying necessities or unique products that people otherwise wouldn't consider purchasing. However, this ease of access could also enable people to spend more money than they originally planned. Most eCommerce websites showcase numerous trendy or cheap items from the front page and within your search results to catch your attention. The constant scrolling through search results and shopping cart function of those websites usually lures users to add any interesting items they see into their carts and sort them out later. This layer of abstraction makes it more difficult for customers to conceptualize what or how many items they have clicked into their carts until the end when they checkout.

Unlike physical shopping, where customers can look into their shopping carts and have tangible products that help keep them rational and critical of what they truly need, online shopping only offers a picture of the product followed by reviews that could make them more curious about that product. There are no lines to wait for checkout or check out the things they are buying, only a click of a button that handles the rest and delivers their item straight to their door. Although, to a reasonable degree, buying intriguing things for fun is not harmful, eCommerce websites make it easy to overbuy and leave the customer feeling unsatisfied or wasteful after receiving their products. eCommerce could encourage customers to buy beyond leisure and create an unhealthy relationship with customers.

Problem Statement

Most eCommerce websites utilize overwhelming front pages and search results filled with trendy or unrelated items to catch the customer's attention and make them more likely to buy something they didn't plan for. Although those recommendations can lead to interesting buys or surprising catches, they could also create a bad habit for customers to impulse buy useless things that they later regret spending money on, ultimately leaving them unhappy or ashamed. Especially with eCommerce websites that plaster trending, suggested, and new products, people are more likely to try new unintended products, even if they otherwise wouldn’t have been interested. For people who rely on online shoppings accessibility and are used to the purchasing process, it could be a

lot more common for them to add unnecessary items into their carts and checkout because they are less mindful and cautious of what's within their carts. This trend could also antagonize buying based on interest, even if it isn't excessive.

Slightly Impulsive

Slightly Impulsive is a website that makes online shopping less overwhelming and more goal-oriented by adding an AI that generates the item that best fits the user's request. Slight Impulsive treats online shopping as a communication and more recommendation-based rather than a treasure hunt. Users could input anything from abstract to detailed and narrow down what they want up to a specific product based on AI-generated responses. The goal of this website is to remove the unnecessary swarm of suggestions that the user didn't ask for and give them a two-way street that personalizes the results based on what the user says they want. It could be a great platform to help think of what to buy for fun, birthday, travel, and other purposes and take control of what they want to see, even if it is something random.

Goals with Our Solution

- Provide a start off point for people when they are shopping online
    - Another option for people to go to whether it is because they can't turn their ideas into a physical product or just want to see what they could hypothetically buy without the need to scroll through endlessly
    - Gives people a platform for them to start consulting and putting their ideas into words. AI suggestions could give them concrete representation of their ideas so they could narrow down the type of product they are aiming for.
- Personalize the online shopping experience
    - The traditional way of shopping is just scrolling through an enormous catalog of items and choosing yes or no on the spot which could introduce pressure and fear of missing out, making the customer more incline to impulse buying
    - The addition of AI-generated suggestions and ideas before seeing possible options could help give the customer a sense of control rather than feeling lost in an endless flow of items designed to catch people's attention.

Specification

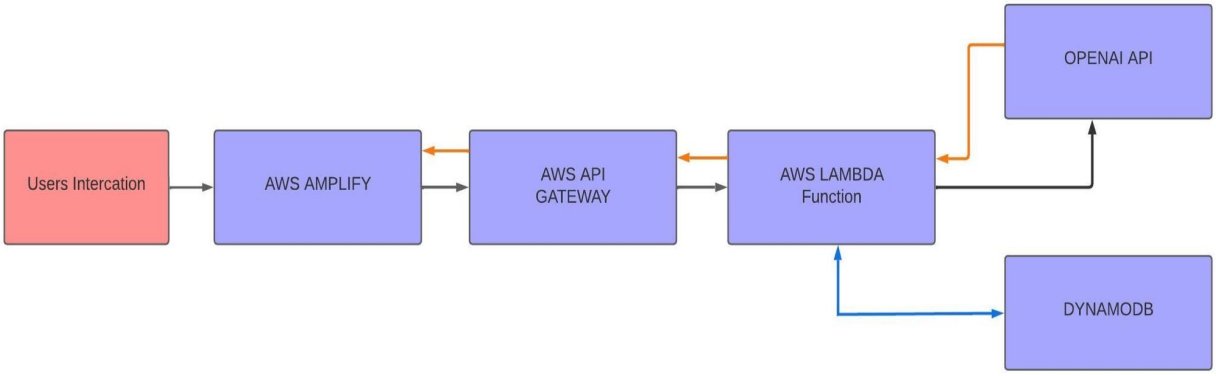
Primary Features and Purpose

- User could prompt without constraint and an AI-generated response would suggest products based on their interest
    - ChatGPT is used as the AI so that users can enter whatever they wish and still create meaningful conversation. AI generated response is one of the best tools for generating a relevant suggestion no matter how off topic the prompt might be.
- AI-generated feedback to offer a second opinion and summarize the rationality behind a possible purchase
    - A helping hand to dive a bit deeper into the product's usability beyond its surface. Having a different opinion can help customer think about their ideas more critically, whether by agreeing or disagreeing with the AI-generated feedback
    - Feedback is based on some common questions that could help the user imagine if the product would be used or liked even after their initial curiosity. Users could hold a more realistic expectation towards the product so they are less unlikely to regret their decision.

Out of Bound Features

- Built-in shopping window to showcase how different retailers are selling this item and their cost
    - User could compare between different retailers to make the most affordable purchase and understand the general pricing and budget they would need for certain products
- Incorporate this project as a browser plug-in so it could work alongside other eCommerce website for a more seamless and accessible way to find suggestion and avoid excessive scrolling

Technical Architecture Diagram



Technical Stack

AWS Lambda

In our architecture, AWS Lambda functions as a bridge between the API Gateway and the OpenAI API. When an event triggers the Lambda function, it sends a request to the API Gateway. We've chosen to use Lambda in this manner due to its event-driven nature and its ability to scale automatically, managing the resources required by our applications according to incoming requests. Using Lambda, we are able to write and run code without provisioning or managing servers, making it a highly efficient and cost-effective solution.

AWS API Gateway

Our usage of AWS API Gateway revolves around it being an intermediary that handles requests between our front-end application and the OpenAI API, embedded within the Lambda function. API Gateway effectively manages all the tasks involved in accepting and processing concurrent API calls, including traffic management, CORS support, authorization, and access control. This allows us to ensure smooth, reliable communication between our users, applications, and the server. Additionally, API Gateway provides us with detailed metrics and logs for each API call, assisting us in monitoring API usage and performance. In conjunction with Lambda, API Gateway enables us to create a secure, scalable, and efficient conduit to the OpenAI API, thereby facilitating our intelligent, AI-driven functionalities.

AWS Amplify

AWS Amplify plays a big role in our project by providing a robust hosting platform for our application. As a comprehensive set of tools and services, Amplify simplifies the process of deploying and hosting our web application. It allows us to swiftly set up a secure, scalable, and reliable hosting environment, effectively taking care of the complexities associated with deploying and managing infrastructure.
AWS Amplify is particularly beneficial to our project because it seamlessly integrates with other services in the AWS ecosystem. This enables us to build a fully serverless backend, tying together services like AWS Lambda, DynamoDB, and API Gateway. With features like continuous deployment from Git-based repositories and atomic deployments, Amplify ensures that we maintain a smooth and consistent deployment pipeline, reducing the chances of deployment-related errors and downtime.

DynamoDB

In our project, DynamoDB plays a crucial role in storing the results retrieved from the OpenAI API. As a highly reliable and scalable NoSQL database service provided by AWS, DynamoDB allows us to store and retrieve the data, and serve any level of request traffic. We use DynamoDB's flexibility to efficiently manage the data returned by the OpenAI API.

External APIs

ChatGPT

As a core component of our system, ChatGPT, developed by OpenAI, serves as the driving force behind our AI-powered interactions. ChatGPT is a highly sophisticated conversational AI model that generates human-like text responses based on the input it receives. By integrating this advanced AI model into our system, we can automate interactions with users in a way that is both meaningful and engaging. The use of ChatGPT allows us to provide rapid, accurate, and contextual responses to user queries, thereby enhancing user engagement and satisfaction. It also significantly reduces the need for human intervention in handling routine queries, thereby improving the efficiency of our operations.

Pexels

Pexels is an API that pulls images from the Pexels Content Library. Pexels provided photography corresponding to AI-generated ideas that help the user visualize the suggestion beyond simple words.

Resources

- Github
- Deployment link

External API

- ChatGPT
- Pexels