Problem:

Climate Change

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People do not have sustainable lifestyles

- People don't have enough knowledge around sustainable living in order to change their habits
- There is no incentive to adapt to more a sustainable lifestyle
- People don't hear stories that they can relate to and don't see the impact of their actions.

Our Ideas:

- Personalized stories based on the user's location and interests to trigger more sustainable living.
- More education in the classroom to develop good habits early on
- A 4 day challenge for 4 peers with daily tips, tracking of carbon footprint and trying to stay under certain carbon footprint amount. Reminders throughout the day as you log certain activities. Pseaple send kudos to each other.
- Showing that by providing personalized data you can change one habit like food choices
- Create a reward program when users keep their online purchases under a certain carbon footprint per month.
- Calculating the carbon footprint of a grocery shopper using their shopper account (King Soopers) and providing incentives to stay below a certain carbon footprint amount.
  - Watsonx.ai would be able to see patterns and give the customer tips to be more sustainable (plastic cups, all non-organic, etc)
  - Customers would get notifications and tips

Potential Technologies:

- Web extention?
- Watson discovery (intelligent data search)
- Mapping tools to return location-specific data
- Custom new model with Watson Knowledge Studio/NLU

Motivation for Pro-environmental behavior

Motivations for pro-environmental behavior

- Incentives
  - See "Chatbots As A Mean To Motivate Behavior Change" in resources
- Goal setting
- Feedback (details about how to changes behavior, which can be summative feedback towards a goal)
- Comparison (Friends, family, neighbors, etc)
- Commitment (pledge, or promise)
  - Information (easy to understand, presented at the right time, presented through direct experiences)

Project Timeline

User Interviews:

Surprised to learn:

- Most common answer to sustainable living was being aware of gas usage, recycling, reusing, and water use.
- Not many consider food to impact their carbon footprint. One mentioned eating leftovers but no one mentioned sustainable foods.
- People still prioritize convenience over the environment (not combining amazon shipments)
- People are eager to hear stories of something they can relate to/understand about sustainability (a daily tip or fact, a story about something local, etc)

Key Takeaways:

- People are willing to use a tool that makes them more conscious of how their lifestyle directly impacts the environment
- People relate to stories or local facts and statistics
- People are driven by financial incentives overall
- Misconception that being sustainable is more expensive (electric car)
- People want to do better than their neighbors (electricity bill compares you to your nieghbors)

Potential Users:

Archetype Name	Unique Need	Demographic Information	% of market
Learners	They need more knowledge on what goes into a sustainable lifestyle.	Middle school students	25%
Action-takers	Need more knowledge but also ways to apply their knowledge to the real world.	High school students	40%
Savers	Willing to get involved and need a way to do it while being wary of money.	Young and middle aged adults	35%

Resources:

https://www.youtube.com/watch?v=kwmqJRDbv98

https://www.ibm.com/demos/live/watson-discovery/self-service/home

https://cloud.ibm.com/docs/discovery?topic=discovery-watson-discovery-news

https://developer.ibm.com/patterns/create-a-cognitive-news-search-app/?cm_sp=Developer-_-code-_-trending_news

https://developer.ibm.com/callforcode/get-started/climate-change/green-consumption/#moreresources
https://developer.ibm.com/patterns/create-a-cognitive-news-search-app/
https://developer.ibm.com/patterns/create-an-app-to-perform-intelligent-searches-on-data/
https://assets.kpmg/content/dam/kpmg/xx/pdf/2019/10/the-plastic-recycling-opportunity.pdf

Get Started with the Call for Code Competition | IBM
Join the 2021 #CallforCode Global Challenge community fighting against climate change and build your skills on industry-leading open hybrid cloud technologies.
Developer

Modern Data and AI Platform
Modernize your data for an AI and multicloud world with IBM's leading, Kubernetes-based data and AI platform.
Ibm

You can't see this image because it comes from a private source.
Diva-portal

Act Now | United Nations
ActNow is the United Nations' global call to individual action on climate change. The campaign is a critical part of the UN's coordinated effort to raise awareness, ambition, and action for climate change and accelerate implementation of the Paris Agreement.
Un

How AI-powered Chat Bots Can Drive a More Sustainable Society
Recently, Nestle and InSites Consulting's chatbot research experiment was awarded top honors at the Australian Market and Social Research Society (AMSRS) Conference. It was a bot moderated research that aimed to find business-relevant results in the sphere of people's attitudes towards waste and ...
Medium

You can't see this image because it comes from a private source.
You can save time and resources by using your own TensorFlow based custom models (also referred to as custom networks) with IBM Visual Insights. In general, custom models work the same as any other model in IBM Visual Insights. However, there are some differences you should understand.
Ibm

Ibm

Chatbots as a means to motivate behavioral change:

The conversational chatbots can help in collecting much larger sets of textual data on the topic of sustainability at a wider scale than is possible by any other means at such a personalized level.

Chatbots as a mean to motivate behavior change

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Contacts

- City of Broomfield
- City of Lafayette
- Broomfield's sustainability plan
- Sustainable Broomfield - Brianna (President)
- Broomfield Sustainability Hub
- Sustainability Coordinator - Elizabeth
- Camille and Andrew
- Advisory Committee on Environmental Sustainability

Help Broomfield choose the next steps in sustainability
How do you envision a sustainable Broomfield? This summer, the City and County of Broomfield is embarking on a sustainability planning process focusing on reducing greenhouse gases and achieving zero waste. Your input is critical. Environmental sustainability is key for long-term social, economic
Broomfieldenterprise

City of Broomfield
Stay informed by joining City of Broomfield
Broomfieldvoice

Advisory Committee on Environmental Sustainability
Formerly the Environmental Stewardship Advisory Task Force, this ongoing committee is charged with reviewing the Environmental Stewardship chapter of the Broomfield Comprehensive Plan. Meetings are generally the second Monday of the month at 6 p.m. Please check the calendar and agendas for ...
Broomfield

You can't see this image because it comes from a private source.
Cloud

Already existing sustainable chatbots (competitors):

Act Now UN chatbot

It is focused on a global goal but people can't relate to that because the scope is too large.

To do's:

- name our chatbot
- Choose 4-5 use case that the chatbot will focus on
- Research local sustainable things that the chatbot can refer to in their conversation for each of the buckets
- Brainstorm what to cover under each topic
- Create conversational flows for the chatbot
- See if there's a way to integrate our chatbot on a website with chatbot to have one local climate change news story based on the IP address
- pick 3 use cases, make a design, and do research for each use case in order to motivate people

Our Chatbot:

- Target User Group: Lafayette residents
- Tone: positive, encouraging, motivating, insightful
- Market chatbot by offering incentives: Offer a discount to one of the green businesses in lafayette at the end of the chatbot conversation more about living sustainably today. Here ba coupon to ...
- Potential Client
- The chatbot will start a conversation with it's users and give them tips with how to live more sustainably
- Topics to cover with chatbot:
- At the beginning, Chatbot could offer a local fact. Did you know that....? What can I help you learn more about today.
- For food sustainability it would provide where local food markets are located

Energy and Environmental Sustainability | Lafayette, CO - Official Website
Learn how the city is creating annual savings and power at the same time.
Lafayetteco

- maybe have a total count where it shows the number of people who have logged that they did something sustainable
- By creating a local chatbot with local tips we will be able to get more people involved because the stories will hit closer to home.
- Incorporating schools - and their goals as well

Act Now | United Nations
ActNow is the United Nations' global call to individual action on climate change. The campaign is a critical part of the UN's coordinated effort to raise awareness, ambition, and action for climate change and accelerate implementation of the Paris Agreement.
Un

Questions:

- Call for Code talks about Climate Change data sets, do we have access to those? Is ther one that could help us?
- Yes, call4code resources are available for all & IBM cloud w free plans
- If our chatbot if off a test website, could we also have a local news feed using wattson discovery?

Questions for Elizabeth:

- Are there any specific topis tant a lot of people are interested in learnign more about?
- Where have you seen the msot improvment in sustainability?
- Why did you choose the topics that you did to include on your web page
- Do you have any ideas for things we could include in our chatbot?
- What major bucket would be the most important ones to include?
- What user group do you think is the most important group to target?
- Do you hear about food sustainability a lot?

Brainstorming

- Look at the UN sustainability goals website
- Waste reduction
- Transportation
  - For example on the sustainble page of the city of lafayette website, it broadcasts that boulder county is giving away an electric bike to one lucky home under the news section.
  - Include maps of public transport, info about it, stats (carbon footprint etc.), or maybe even finding nearest public transport
- Food
  - Ex. Did you know that we have local food projects here in Lafayette? For more info check out this website...
- Energy
  - Solar panels, electric vehicles,