Less_n

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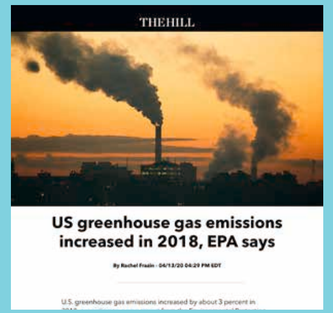
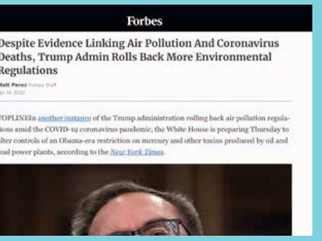
Preface

Growing up, I was always fascinated by nature. There was little I loved doing more than going to the park, Lunchables in tow, ready for another adventure in the "wilderness". I remember walking through a trail in Hellyer Park, and marveling at how even while the world moves on just beyond the park's trails and lake, a person from 200 years ago could walk through that same trail, and not know that they were 200 years into the future. Something about nature staying the same (or changing very slowly) gave me a sense of comfort.

But it wasn't staying the same. When I first learned about climate change, it didn't really feel real. It felt like a far-away danger, not for me to worry about. But the more I learned about it over the years, the more it concerned me. I started paying attention and saw that it wasn't as far away as I thought. But I assumed the grownups would do something about it. And it seemed like they would. The Obama administration took measures to combat climate change, and the world in general seemed to be moving in the right direction to address the issue, even if it wasn't as fast as I would have liked.

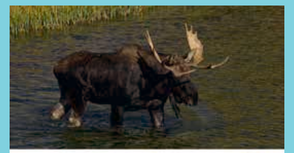
When the Trump administration came in and started tearing down environmental protection after environmental protection, I became the most politically engaged I had ever been, going to my first of many protest marches, the March for Science. But what else could I do? I figured the least I could do is reduce my own impact on the environment. I started cutting back on meat, bought a reusable bottle, and began bringing my own bag when I go shopping. Translating my frustration into action led to lifestyle changes that would be the foundation that would inspire my thesis.

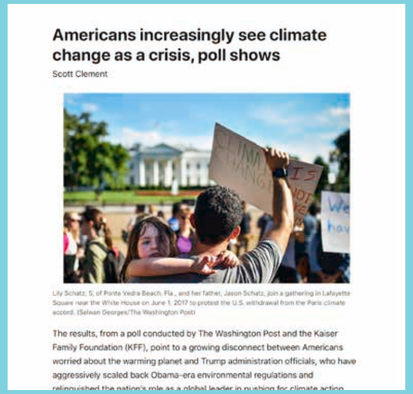




Abstract

Climate change is the most urgent and pressing danger of our time. Studies have shown us the terrifying consequences of climate change, whether it be the Australian fires of 2020, or the increasingly dangerous hurricane season in America. The collapse in biodiversity and ecosystems has consequences we have yet to know the full extent of. People are often frustrated by the slow pace of policy that helps combat climate change. Sometimes we feel as though if we can't get legislation passed that addresses this issue, there's not much else we can do in the meantime to reduce our environmental impact. Although laws to fight climate change are important, there's more we can do to fight our own role in this issue and to hurt the planet less. Bringing awareness to how reducing an individual's impact on climate change by reducing their carbon footprint through lifestyle changes can help make a difference.



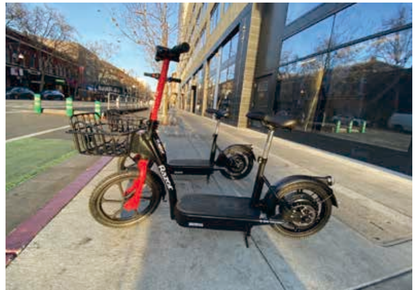


Tote bags help reduce plastic waste

Meatless options in food are rising.

Reusable bottles help reduce the 22 billion bottles in landfills every year.

Electric scooters are a greener way to get around.



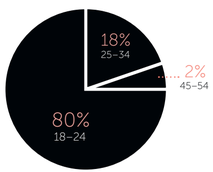
Australia fires of early 2020 are a clear consequence of climate change.

Thesis

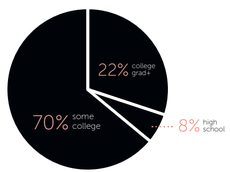
Most people that care about the environment are not fully aware of how just how much they could reduce their own carbon footprint by making lifestyle changes. I intend to draw attention to how making some of these potential changes could reduce our environmental impact, and to show that making a bunch of small changes here and there can add up to a big difference.

Survey

Age Group



Education



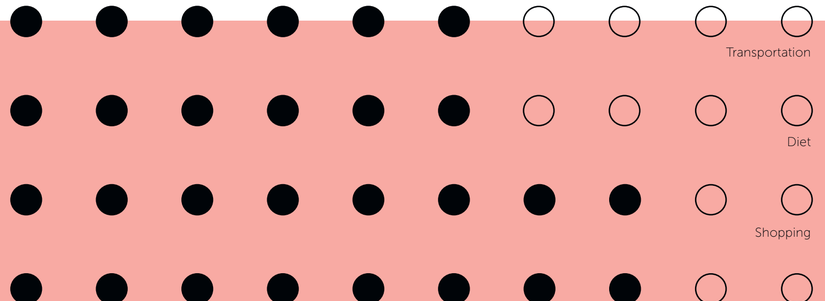
Most of the participants were college students in the 18–24 age bracket.

Concerned for the Environment

Approximately 90% of respondents said they were concerned for the environment.

Willing to Sacrifice Convinience

I was encouraged to find 80% of respondents are willing to make lifestyle changes.



Lifestyle Categories People Are Willing to Change

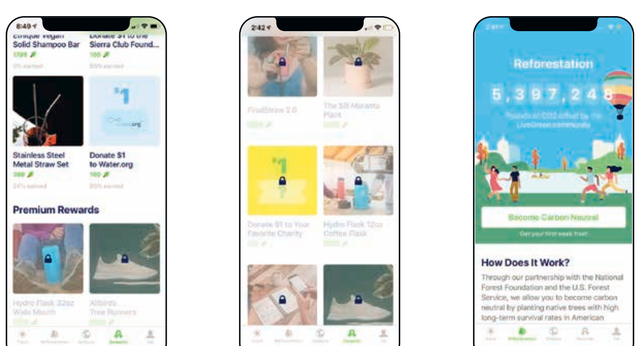
After running a short survey to determine whether people are interested in resolving the issues that make up our part of the global CO^2 emissions, the results I found were overwhelmingly positive. Granted it was a majority young, college-educated sample, I believe these results speak to the need for a tool that would help people willing to make changes to their lifestyle.

Existing Apps

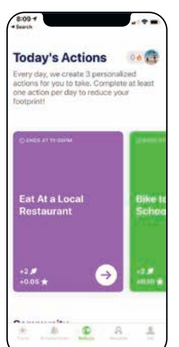
Although there aren't currently apps that have the feature set I believe would address my findings, there are numerous existing apps that already help people keep track of their carbon footprint. Some of them let people see how they are doing compared to their friends. They do a decent job doing those things, some better than others. Three different apps, in particular, stood out to me due to the different ways that they approached this problem, and I was able to learn from their strengths and shortcomings in the development of my own solution that attempts to solve many of those shortcomings.

LiveGreen

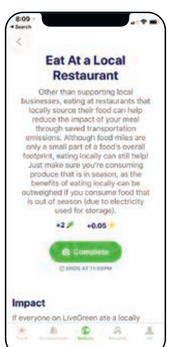
This app had many features that I found to be very beneficial for people who would like to lower their carbon footprint. Perhaps the best free feature here was the Habits tab, which was a checklist of things people could do to reduce their carbon footprint. Although helpful, it doesn't appear to learn from the user's behavior and seems kind of tedious as it requires users to verify each action with a photo. The user interface is intuitive enough, but the main draw of the app (carbon-neutral feature) is a paid feature that isn't effective unless the user checks into the app and does a laundry list of checklists every day to ensure an accurate CO^2 count. Many of these apps have rewards, which are a nice bonus, but I think they could be a bit unnecessary as most people are already motivated to make these changes not for their own benefit, but for the planet. Consumerism is part of the problem, not the solution.



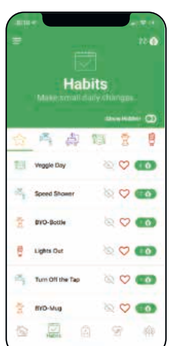
If a user wants to get the premium rewards, they have to pay a monthly subscription.



Suggested tips aren't always great; they're unaware of the ongoing global pandemic



Having to photograph a tip for "proof" every-day seems kind of tedious.

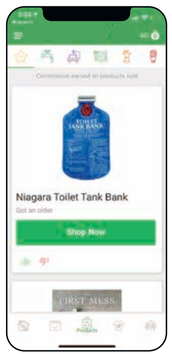


Endless Habits list needs to be completed everyday to fulfill app's purpose.

Completed Habits have a congratularory pop-up that doubles as a sponsored ad.

Major emphasis on offsetting carbon foot-print, which requires a paid subscription.

In many instances the app feels like a big eco-friendly Amazon ad.



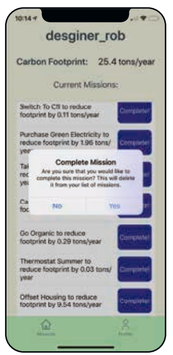
EcoCred

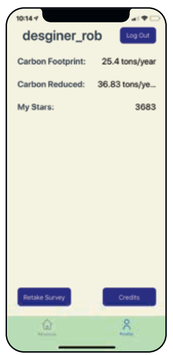
This app was similar to LiveGreen in its use of Habits, this time under both the Home and Habits tab, making it a bit redundant and confusing as to why it needs to be there twice. These work as a checklist, no pictures needed. The main issue I had here was that the categories seem to bleed into each other all over the place. For example, there's a Products tab that showcases products that could help you live greener, but these also show up every time you complete a habit that could be completed with said product. If someone just completed a "BYO Bottle", why would they need a sponsored deal for a new one? This can make the app feel more like a sponsored ad rather than a CO^2 tracker.

Greenfoot

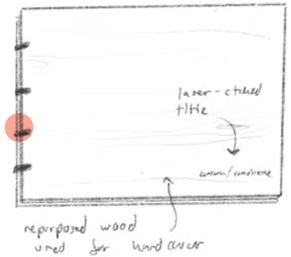
In some ways, Greenfoot was the best of the three just by its sheer simplicity. It's a short survey, followed by your estimated carbon footprint. It then presents options users can commit to, along with how much it'd reduce their footprint by. No bells or whistles whatsoever. The user interface is it's biggest shortcoming (besides the green on beige footprint app icon) reminiscent of an early 2000s era website, but it is straightforward and easy to use if someone were to download it.

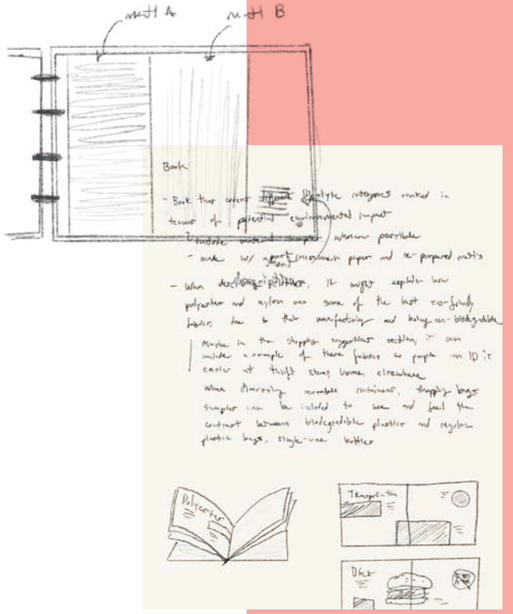
After taking a basic or full survey, users are presented with their estimated CO^2 footprint.





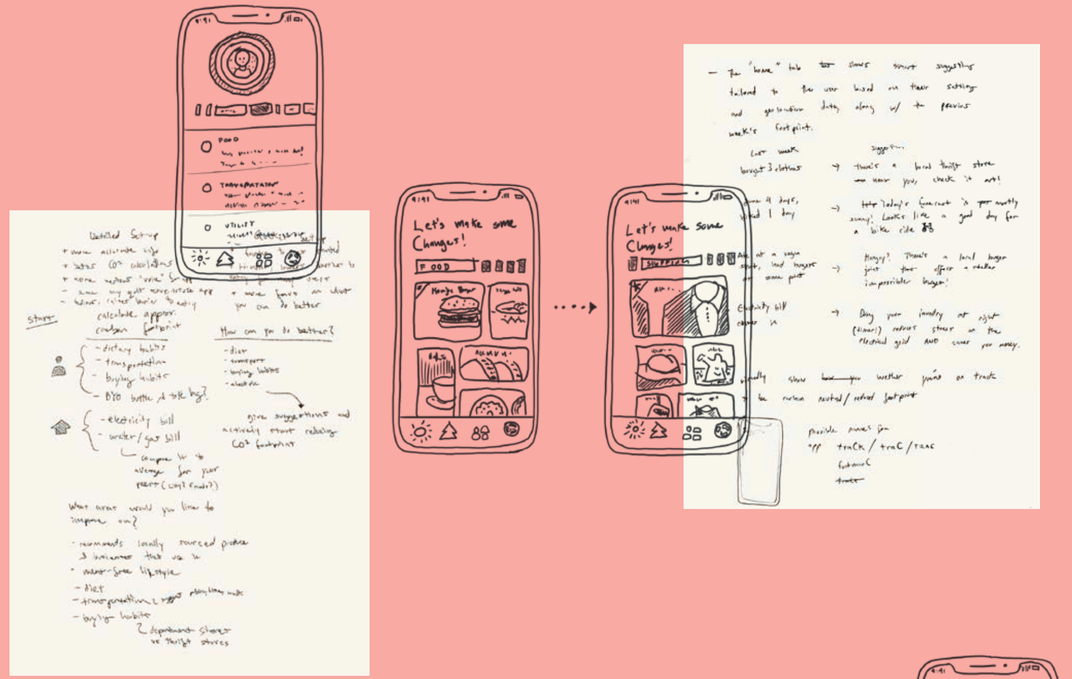
Tips are presented as "Missions"; completeing them reduces your CO^2 footprint estimate.





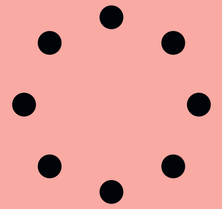
Ideation

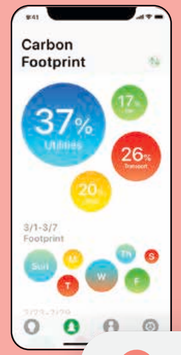
After reviewing existing offerings, I found that they didn't address the issues my survey found a need for. I explored several options, and an app seemed best suited to offer a solution. The main feature of this app would also be to change users' habits, but with a more proactive approach that would vary from user to user, as it would change and adapt to their lifestyle. This would make users more likely to stick to it as it would only ask for them to make relatively minor changes to their lifestyles that would add up to less CO^2 emissions.

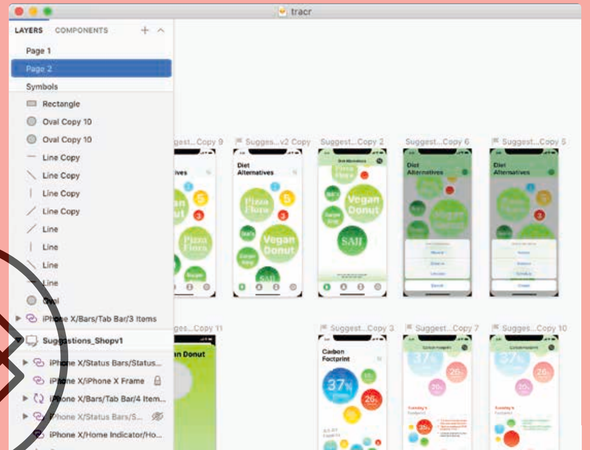


Earlier drafts had a more traditional user interface

Final design direction







the first app icon idea played w/ the circular element of the app

Lifestyle

Footprint

Friends

Set-up

Settings

Lifestyle

Aa Bb Cc Dd Gg Hh Ii Jj Kk Ll Mm Nn
Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz

Poynter Oldstyle Text

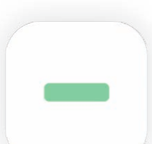
Aa Bb Cc Dd Gg Hh Ii Jj Kk Ll Mm Nn
Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz

Museo Sans

Identity

The fonts selected for the brand strike a balance between modern and a more traditional aesthetic. The Poynter Oldstyle Text typeface contrasts and complements the minimalist vibrant circles of the app, and Museo Sans steps back and lets the circles come forward. The colors chosen for the app are meant to feel light and airy, evoking the optimism of a more environmentally-conscious future we hope to create.

The app icon strips eschews the expected circles for a single green minus sign on a pure white background, symbolizing the reduction of the unnecessary, which reinforces the app's mission of doing away with the unnecessary. Icons within the app are simple linear pictographs that lend to the airy and light interface.



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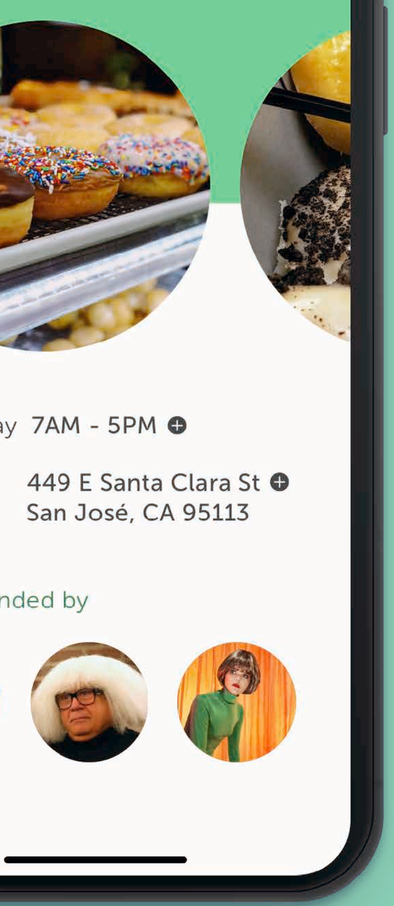
387B59	7A4038	337D80	826B2B	000000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449 E Santa Clara St
San José, CA 95113
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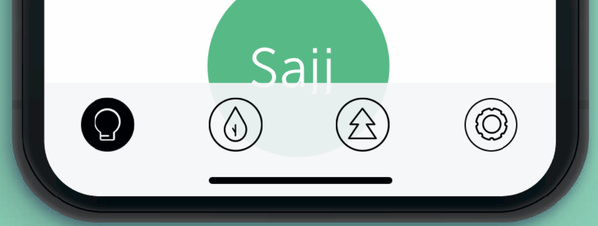
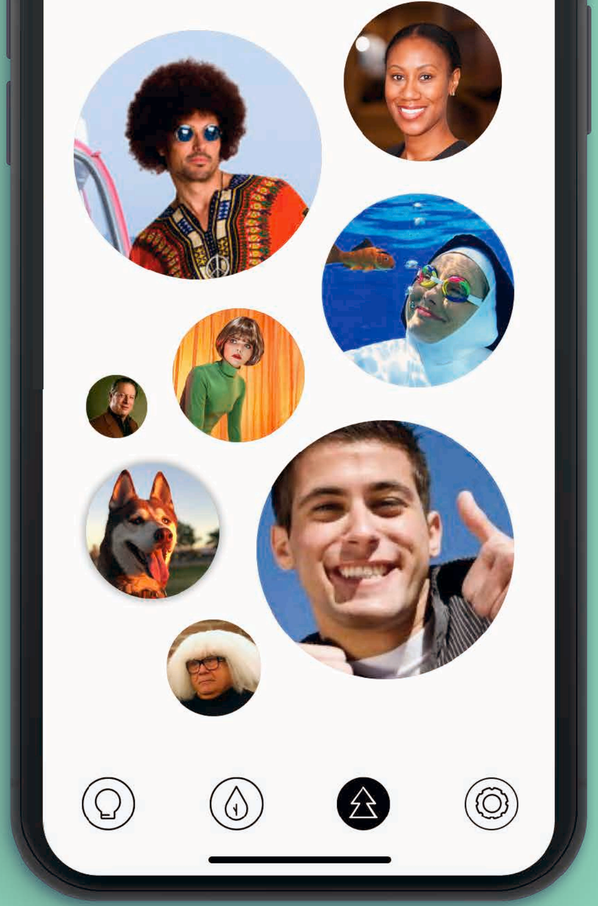
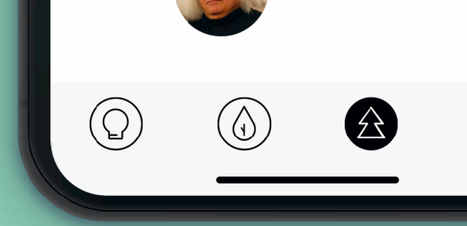
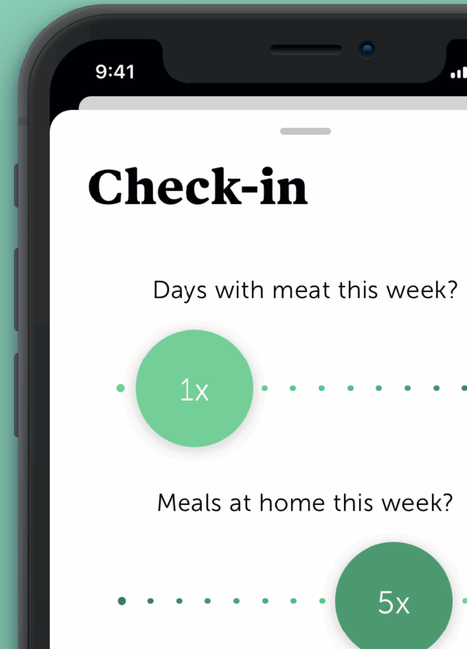

Saji

9:41
Diet Alternatives
Pizza Flora

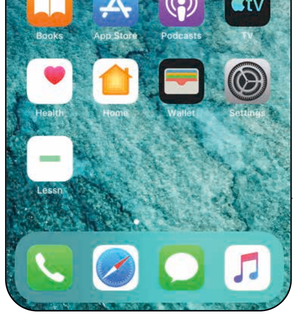


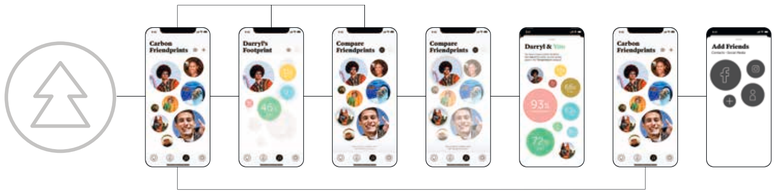


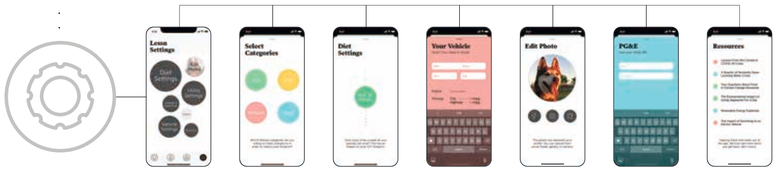

9:41
Check-in
Days with meat this week?
1x
Meals at home this week?
5x

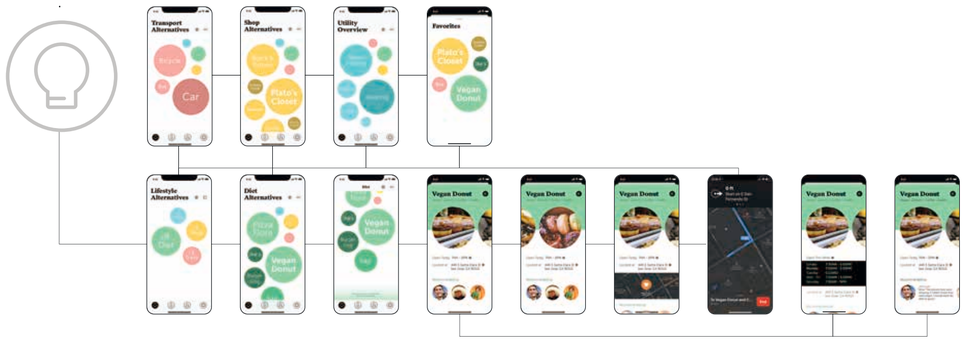
Flowchart

Ease of use is paramount to Lessen. Users have multiple ways of getting into the app, from widgets and notifications, to shortcuts. Once inside, the app presents information in easy to tap circles, which bring up more detailed information in cards, which users can navigate away from by swiping them back down. This allows for a more fluid, gesture-based user experience.



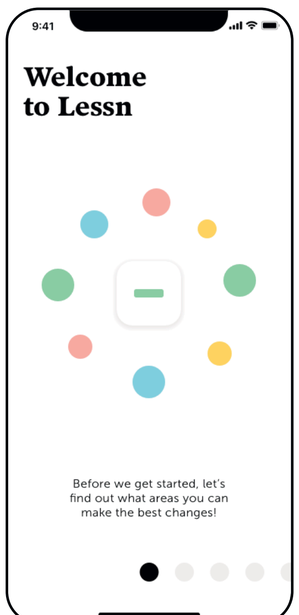




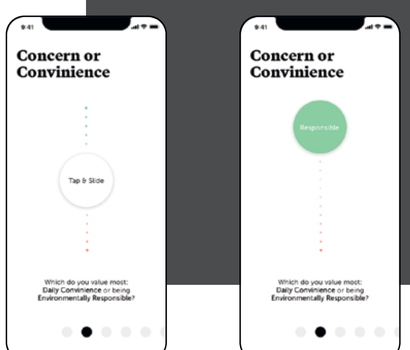


Set-up

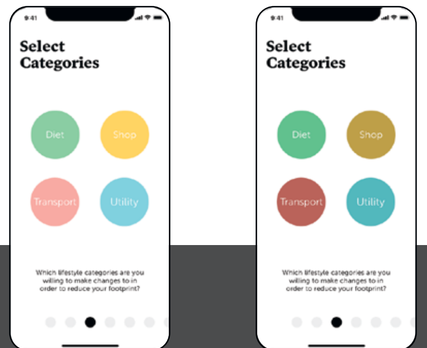
The app first greets users with a splash screen that welcomes them to Lessn. It serves as an introduction into the design language and as a glimpse into the way the app's card interface works. Unlike most CO^2 tracking apps, it asks only for basic information into the user's lifestyle, and for their utility bill. The user's footprint will get more fleshed out as the app is used.



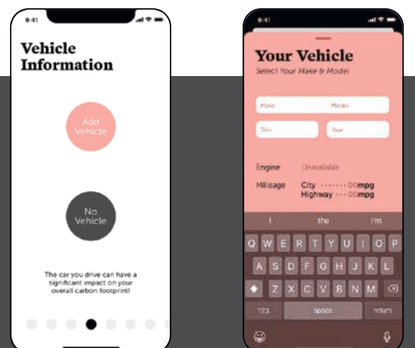
The first screen serves as an introduction into the look and feel of the app.



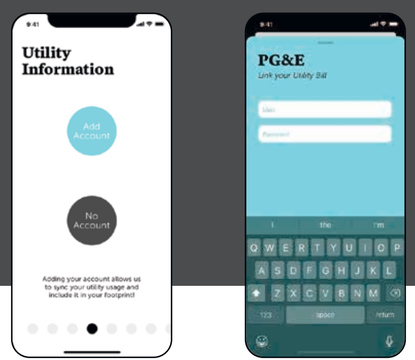
Users rank how much they value their convinience over their environmental concerns.



Users select categories they'd like to track and recieve suggestions for.

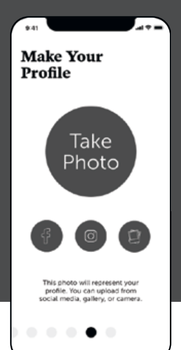


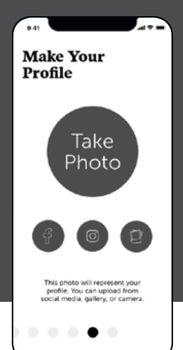
Users can choose to add their vehicle to better track their carbon footprint.



Users can sync their utility bill to stay on top of their home's role in their CO^2 emissions.

Whether a user reuses bags and bottles has a significant impact on their footprint over time.





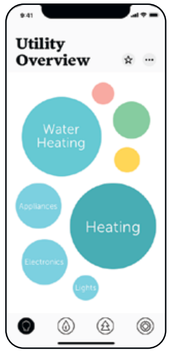
Users can upload a photo for the profile circle so their friends can easily recognize them.

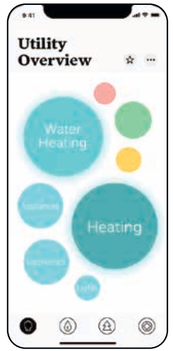
After Set-up, the app is ready to use!

Lifestyle

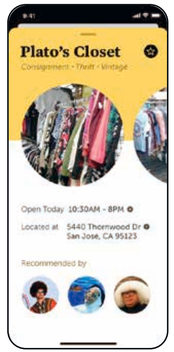
Lessn learns the habits users through the places they frequent and spend time in, analyzing the businesses in the vicinity and suggesting eco-friendly alternatives that would help users reduce their environmental impact. Alternatives are shown with the newest nearest the top. The size of the circles corresponds with how much of a match it is for the user, and the tint of the circle represents eco-friendliness: the lighter it is, the better.

Alternatives are displayed in circles, with the newest suggestions higher up.

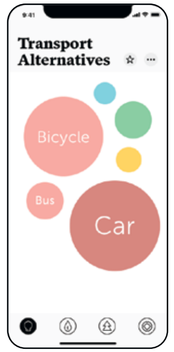


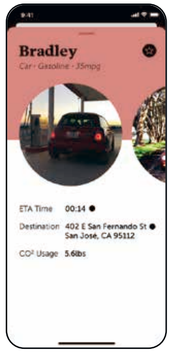


Some Alternatives glow to alert users to data that could help reduce CO² significantly.



Tapping a circle brings up a general info card for the selected item.



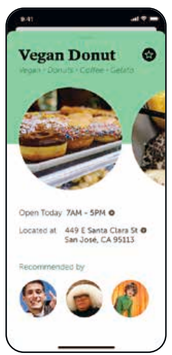


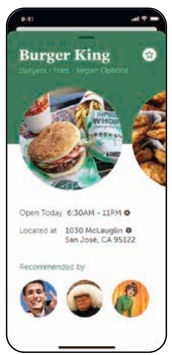
Transport Alternatives shows ETA and CO² emissions for each vehicle option.

Vegan Donut

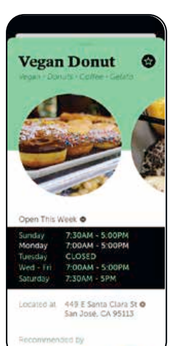
Sajj

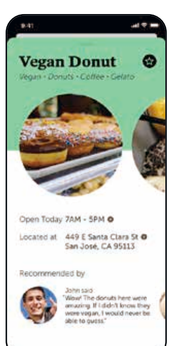
Burger King



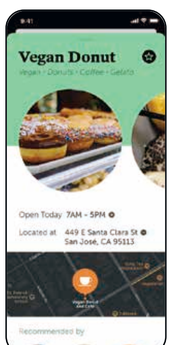


Each card is color coded to its circle, and includes relevant Yelp-generated images.

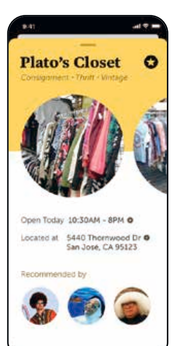




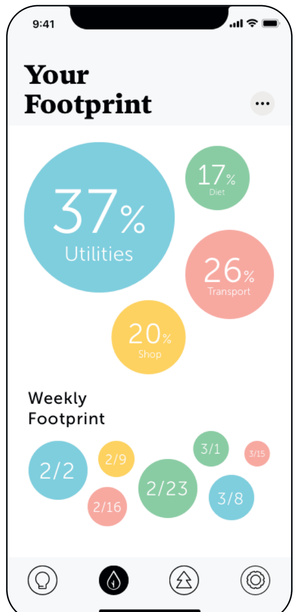
Friend recommendations and weekly hours are accessible in the card view.



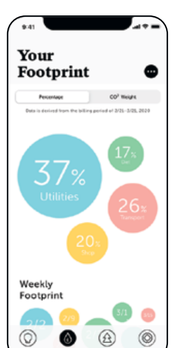
Users can view where the business is located and launch Maps right from the card.

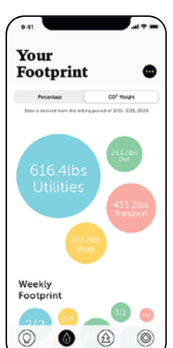


Tapping the star on a card boldens it and saves it to the easily accessible Favorites list.

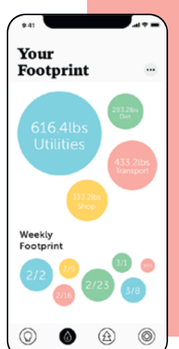


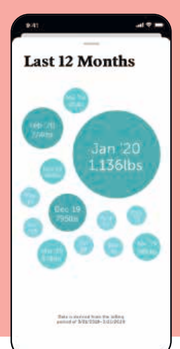
Viewers can see that month's CO2 footprint and how it breaks down in terms of percentage.



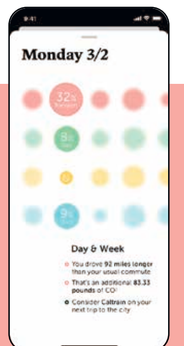


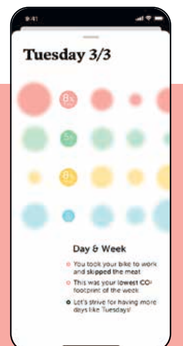
Users can view their overall month's CO² footprint as weight or percentages.





Tapping a circle brings up an overview of the last 12 months for that category.



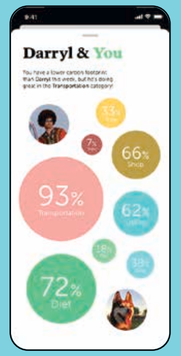


Users can see how each day that week breaks down, with an overview and additional tips.

Footprint

Users can see the results of their carbon footprint reduction efforts here, with the information presented by year, month, week, and day. It can be divided into categories, with tips on how to improve. Users can also choose to view this information in percentages, or as the projected weight of their CO^2 emissions.

Users can compare their CO^2 footprint by category with their friends.



Users can see how their friends are doing, and an overview of their CO^2 footprint.

Friends' circles provide a quick look into their eco-friendliness ranking relative to each other.

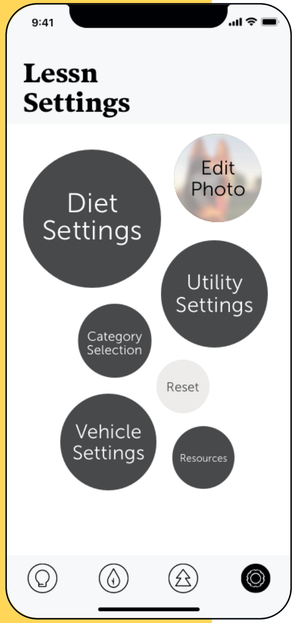
Friends

A little friendly competition can be just enough for many to step up their environmental habits. Lessn allows users to add friends and see how they compare to them in terms of eco-friendliness. Friends can recommend their favorites for others to see their thoughts on them. Knowing friends can see how each other is doing can serve as additional motivation for users.

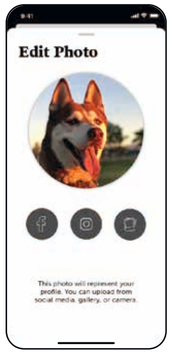
Friends can be added from social networks, contacts, or by their phone number.

Settings

Settings allows for users to make changes to the questions they answered during Set-up. They also have access to Resources, a collection of online articles relevant to individuals that are trying to do their best to fight climate change. Much like the rest of the app, Settings learns from and adapts to the user, changing the size of each setting's circle based on their use.

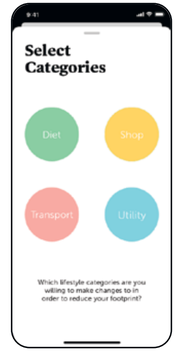


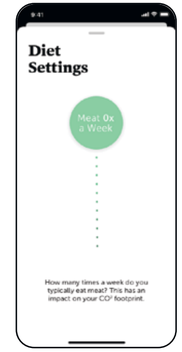
Most of the circles start out at the same size, but eventually change to adapt to the user.



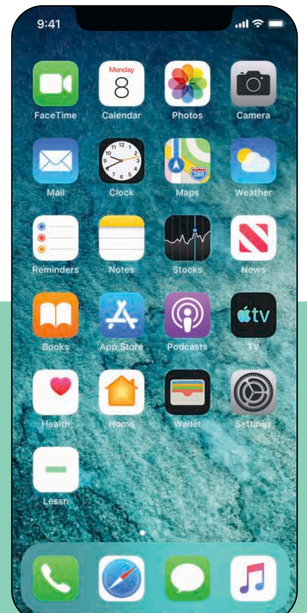
Editing the profile photo and reading up on environmentalism can be done from Settings.

Things such as Vehicle and Utility information can be updated from Settings.

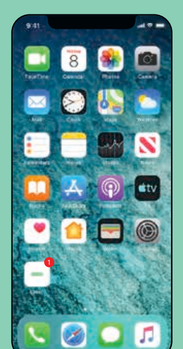


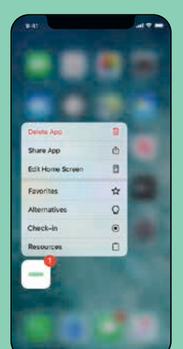


Changes to preferences can be made intuitively through Settings.

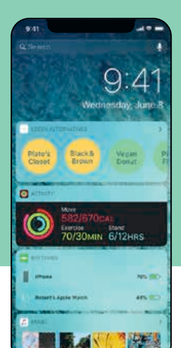


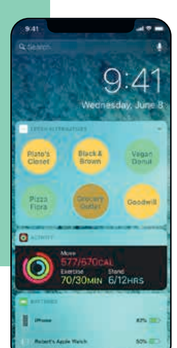
The app icon is a simple green minus sign on a white canvas, stripped of any other graphic elements.



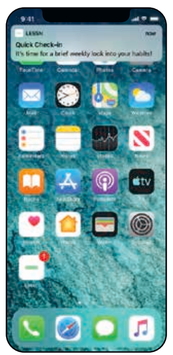


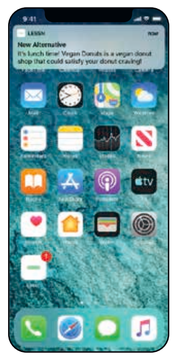
A long press brings up shortcuts to save users time in getting to their favorite features.

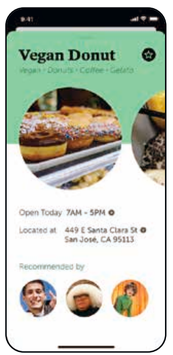




The widget allows users access to the newest Lifestyle Alternatives right from thei lockscreen.







Alerts help users keep reducing their carbon footprint even if they don't open the app daily.

Alerts

After exiting the app, Lessn continues to help users reduce their carbon footprint through configurable push notifications that can alert them to new alternatives and to remind them of their weekly check-in. Widgets can give users access to the newest suggestions from the lock screen. Even before entering the app, Haptic Touch brings up a list of helpful shortcuts to speed up access to the features that they might use most.

Stories

So, how would people use Lessn? The following are possible scenarios that showcase how people from different backgrounds might reduce their carbon footprint with the help of Lessn.

Darren

Music Teacher

Income: $55,000
Hobbies: Catching some waves

Darren is a music teacher in Santa Cruz. Even before Lessn, he already took steps to reduce his impact on the environment, such as using a reusable bottle, and avoiding using his car when he can bike to work instead. But he isn't really sure where else in his life he can make changes to go even greener. After first downloading Lessn, he just goes about his day as usual. But as he does, Lessn begins to learn about Darren's habits, such as the kind of restaurants he might be eating at, his shopping habits, and his utility usage. After a few days, Darren receives a notification suggesting a burger joint right down the street from his job. Opening the app, he learns that they offer highly rated Beyond burgers, which would reduce his diet carbon footprint by over half for the day. Lessn has started him on a path to reduce his carbon footprint by ways only he can, since it learns from him and adapts to his habits.

Jenny

Accountant

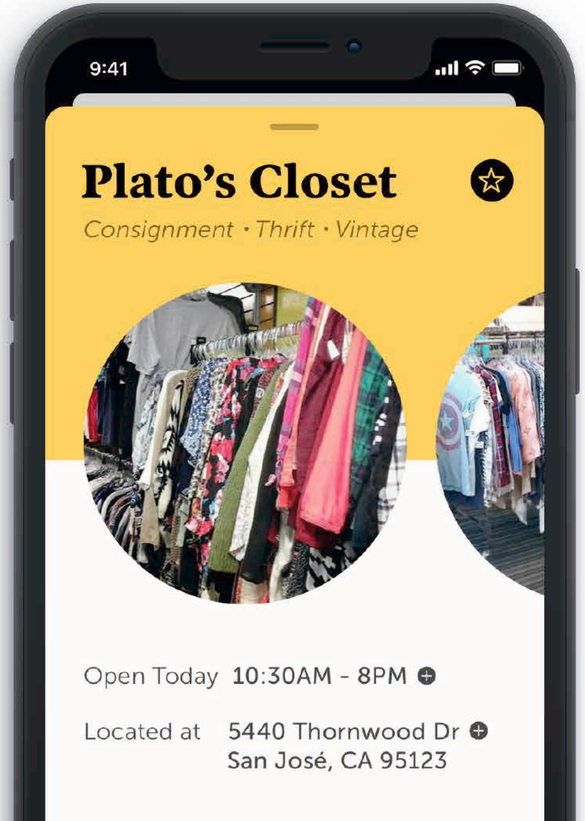
Income: $84,000
Hobbies: Beekeeping

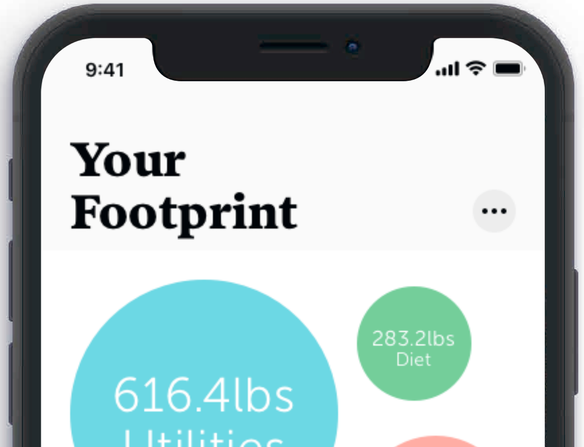
Jenny is an accountant that has a very busy schedule. She wishes she could do more to reduce her carbon footprint, but she doesn't know where to start. And she doesn't have the time to find out. But her friend tells her about Lessn, and she downloads it right away. She's pleased by the quick and easy set-up process, and goes on about her day as Lessn runs in the background, learning her habits. Over the course of the next few days, she begins to make meaningful reductions in her carbon footprint thanks to the suggestions from the app, which convinces her to vegan after she sees what a meatless week does for her environmental impact. She thought she never could, due to her love for baked treats. But after receiving an alert for a local vegan donut shop, she's finally convinced to make the switch. Thanks to Lessn, she might've never learned how much of a difference her diet could make on her footprint.

Water Heating
Appliances
Heating
Electronics
Lights
Neu2u
Whole Foods
Wednesday, Ju
LESSN ALTERNATIVES
Plato's Closet
Black & Brown
Pizza Flora
Grocery Outlet
ACTIVITY
Move
577/670CAL
Exercise
70/30MIN
Stand
6/12HRS
BATTERIES
iPhone
Robert's Apple Watch
orites
Grocery Outlet
ato's loset
Ike's
9:41
Appliances
Refrigerator · Washing Machine

Conclusion

Most people believe climate change is a major threat, and they recognize its severity. Most are willing to make substantial changes to their lifestyle in order to help combat climate change. If presented with an alternative that is more eco-friendly and sustainable than what they are used to, people are quite likely to give it a try. People just need to know what those alternatives are, and they need to see how all those little changes add up into big shifts in our behavior and habits. We are social beings and are susceptible to influence from our peers. If that influence further pushes us in the right direction, we as a society can collectively become more environmentally conscious, and make a significant impact in the fight against climate change. I believe Lessn addresses the issues that can make such a transition so difficult by presenting users with alternatives tailored just for them.





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Images

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"National Geographic Earthwise Bags Planet or Plastic? Tote Bag." Shop National Geographic.

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