

GreenGuide, An App for Our Planet, Our Future

Erin Kim

Phillips Academy
Andover, Massachusetts, United States

Abstract

GreenGuide is a novel iOS app that recommends stores that sell sustainable products to users and makes it easier for users to visualize the impact of their actions on the environment. Designed with flexibility and the user's convenience in mind, GreenGuide returns personalized search results of the user's desired product based on the user's preferred price range and zip code. Search results include both online and in-person options, featuring stores that have a commitment to fair-trade, use eco-friendly materials, and/or have stated their dedication to sustainability. The local thrift shop options, in particular, support local businesses by making sustainable recommendations that are located nearby. In addition, GreenGuide has a "Reviews" feature to help the users decide what products to purchase, based on feedback from other users in the community. Users are also able to easily access their Wish List, list of reviews, and previous orders, as well as visualize the impact their purchase made on the environment. With these useful tools, GreenGuide encourages users to take personal steps to actively work towards minimizing the ramifications of climate change.

Table of Contents

1	Introduction	4
	1.1 Background: Why GreenGuide?	
	1.2 My Inspiration for Developing GreenGuide	
2	Methods	5
	2.1 Materials	
	2.2 Navigating GreenGuide	
3	Conclusion & Future Directions	6
4	Acknowledgements	7
5	Bibliography	7

1 INTRODUCTION

1.1 Background: Why GreenGuide?

Individual action is at the heart of the sustainability movement—whether it be people taking small, sustainable actions in their daily lives or participating in environmental campaigns themselves, these daily efforts build up into a more sustainable future. However, many people may not be inclined to carry out these actions due to the lack of educational resources available to them or simply the inconvenience of research—having to go through loops of Google searches to find sustainable clothing brands, eco-friendly dining options, organizations to support, etc. Observing many of these circumstances in my communities led me to create GreenGuide, a novel iOS app that streamlines this process and connects users to make sustainable shopping choices.

1.2 My Inspiration for Developing GreenGuide

As a passionate climate activist, I wanted to create an app that encourages users to adopt a more sustainable lifestyle and make a positive impact on their communities by supporting local businesses. Climate change is one of the most pressing issues of our time, and GreenGuide focuses on the importance of shifting our focus towards individual responsibility and behavior. Just by changing the seemingly insignificant choices each individual makes in daily life—such as switching their shopping habits to purchasing environmentally-friendly products—can help mitigate the effects of the climate crisis, yet many people are reluctant to take action because climate change may initially seem too huge to tackle and hard to measure. Thus, I created GreenGuide, which addresses this issue by making it much easier for users to find sustainable options for various daily-life products and get a more accessible view of their positive impact on the environment. I am hoping that GreenGuide will increase tangible action for sustainability and serve as a platform for local businesses to prosper.

2 METHODS

2.1 Materials

GreenGuide was developed in XCode and Visual Studio Code, using the programming language JavaScript and Node.js, and React Native framework.

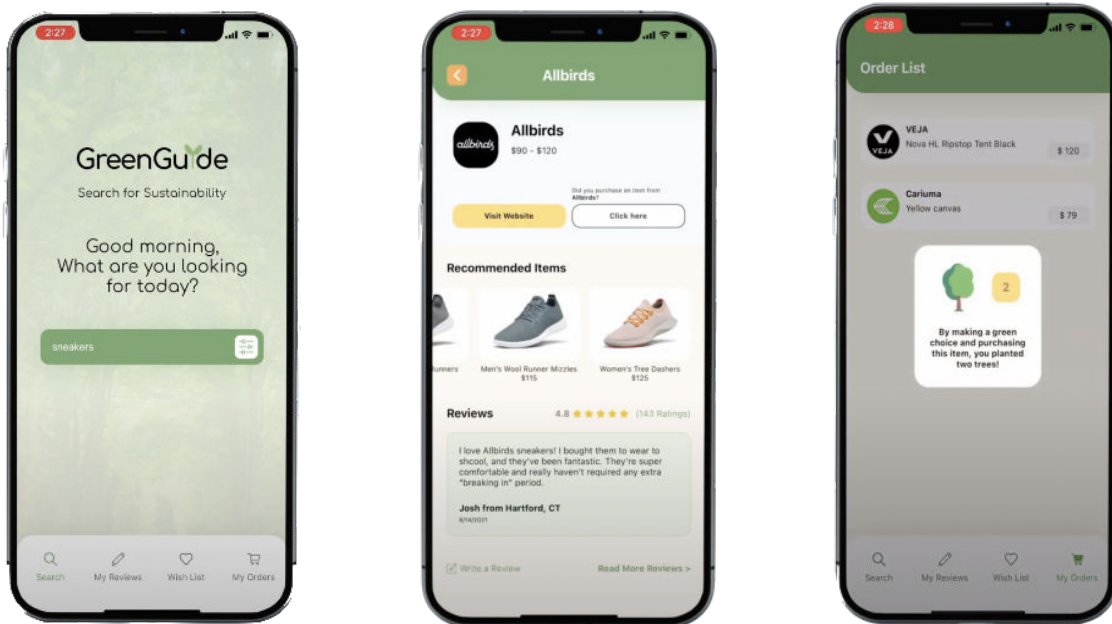


2.2 Navigating GreenGuide

When first opening the app, users are presented with a search bar, in which they can type whichever type of product they need to purchase, for example, sneakers. GreenGuide then directs users to adjust their ideal price range and zip code, in order to return the most personalized and accurate results as possible. Users will then be presented with a list of stores that sell sustainable products, either options that can be purchased online or by visiting local thrift shops in-person. Upon finding a store that catches their eye, users can press the “heart” button to add the store to their “Wish List.” Pressing an online store shows the name of the store, price range, and website, as well as photos and prices of recommended items, along with rating and reviews to help guide the user’s search. If the user purchases a product from the store, they can then press the “Did you

purchase an item” button, which gives the user an option to leave a review. Pressing on the local thrift shop option presents how far the shop is located, store address, website, and hours. Every page has a back navigation button, in which users can return to the search page to search whichever new product they need.

At the bottom of each page are four options that provide information that is unique to that user: “Search,” “My Reviews,” “Wish List,” and “My Orders.” Pressing the “My Reviews” button shows the list of reviews the user has written. The user also has the option to edit and republish any of the reviews. The “Wish List” button has a list of all items that the user had marked with a heart, which the user can edit if they wish to remove a store from their Wish List. Pressing the “My Orders” button allows users to view a list of previous purchases as well as visualize the impact their purchase made on the environment.



3 CONCLUSION & FUTURE DIRECTIONS

By bringing the results of sustainable research right to the users, I hope that GreenGuide will encourage users to make more eco-friendly, local choices and take one step towards becoming conscious citizens. After a trial of GreenGuide and incorporating the feedback of users, I hope to release the improved GreenGuide 2.0, which will not only track the user’s climate impact but

more specifically the user's carbon footprint with precise numbers through a carbon footprint calculator. I also want to extend the scope of the app's role as a "Guide" to also include actionable tips and short inspirational quotes on climate justice at the end of each page. In addition, I plan on including a "Resources" page with recommendations on what books/movies/documentaries users can watch to learn more about climate justice, which climate activists to follow on social media, and more. Furthermore, once the number of GreenGuide users grows, I also want to contact each of the local thrift shops that I had featured in the app to receive an overview of their inventory so that whenever a user searches for a particular product, the search results can reflect whether or not the local thrift shop has that item in stock and what specific options are available.

4 ACKNOWLEDGEMENTS

I would like to extend my gratitude to Professor Ming Guo, Dr. Yulong Han, and Wenhui Tang of the Massachusetts Institute of Technology (MIT) Guo Lab in which I am currently interning, for encouraging me to continue to pursue coding and graphic design in useful applications. I would also like to thank my Biology teacher, Dr. Jeremiah Hagler, for instilling in me an interest in climate change, as well as Dr. Christine Marshall, advisor to the Phillips Academy Science Club, for all her support.

5 BIBLIOGRAPHY

Apple Developer. (n.d.). iOS App Dev Tutorials. Retrieved April 3, 2022, from <https://developer.apple.com/tutorials/app-dev-training>.

Keur, C., & Hillegass, A. (2020). *iOS Programming*. Big Nerd Ranch Guides.

Node.js Guides. (n.d.). Retrieved April 2, 2022, from <https://nodejs.org/en/docs/guides/>.

React Native: How to integrate your React Native apps with Meteor. (n.d.). Retrieved April 2, 2022, from <https://guide.meteor.com/react-native.html>.