###### What is the problem?

Worldwide consumption and production drive the global economy, yet the current use of natural resources is unsustainable. The global material footprint rose nearly 18 percent from 73 billion metric tons in 2010 to 85.9 billion metric tons in 2017, the UN [reports](https://undocs.org/en/E/2020/57).  That’s why Sustainable Development [Goal 12](https://sdgs.un.org/goals/goal12) aims to achieve economic growth, sustainable development, and reduce our ecological footprint by changing the way we produce and consume goods and resources. (IBM call for code site)

###### How can technology solve the problem?

Technology can help in many ways, from recommendations on energy efficiency to highlighting the carbon footprint of online stock purchases. The goal is to consider all phases of resource use to do more and better with less. The Russell 3000 Index is a capitalization-weighted stock market index, maintained by FTSE Russell, that seeks to be a benchmark of the entire U.S stock market. It measures the performance of the 3,000 largest publicly held companies incorporated in America as measured by total market capitalization and represents approximately 98% of the American public equity market. As of 31 December 2017, the stocks of the Russell 3000 Index have a weighted average market capitalization of around $164 billion; the median market capitalization is nearly $1.8 billion. The index, which was launched on January 1, 1984, is maintained by FTSE Russell, a subsidiary of the London Stock Exchange Group. (wikipedia)

**The idea**

One of the more pressing challenges in greener world is the increasing complexity of products. Product designers should consider how to create products with end-of-life in mind, by reducing the emissions and adopting green opportunities. What investors can do, is to diverse their investments to those products. What consumers can do, is to purchase green products. Communities could benefit from developing infrastructure, policies, and systems to support green products.

To encourage this change, we propose creating a transparent and trustworthy application for trading green stocks, as well as providing information about green stocks to investors. This application will enable producers and consumers to build and buy products in a sustainable way for our society — by investing in green stocks and purchasing green products and therefore reducing emissions, increasing sustainability.

The application would support the two parties supporting sustainable production with:

• An investor who can find and compare price, return on investment, and other relevant information of stocks through a trustworthy, real-time application that provides corelated stock with respect to their Environmental, Social and Governmental practices.

• A manufacturer who can use green resources directly to produce green products through marketplace at competitive prices

**(From: blog post)**

GreenerStocks, a solution that promotes greener products with greener opportunities, is now open source.

Addressing the greener opportunities with AI, and IoT

By (our names)  
Updated July 20, 2021

Unsustainability and negative health implications

When a prolonged absence of sustainability in a region leads to CO2 emissions, the entire ecosystem suffers. Among those hardest hits are old people or those with underlying health problem, and the impact on global warming can have ripple effects on the larger population. These larger problems can range from health issues while also creating conditions that increase the risk of wildfires and flooding.

Created by five technologists from the IBM offices in Montreal, Quebec, Canada, GreenerStocks is a solution designed for investing opportunities in countries whose success hinges on access to advanced green opportunities advice. By leveraging the use of a mobile Android and iOS app as well as an advanced investment decision platform hosted on IBM Cloud, investors are better informed on how to invest and increase their chances of growing green opportunities,

The solution

GreenerStocks is an end-to-end IoT and cloud solution for anyone looking to invest in greener stocks to promote green manufacturer and punish non-green manufacturer. It involves mobile phone app to access all companies with green footprint. This app connects to a cloud back end that processes Russell 3000 GRE live data and combines it with user interest and future forecast of how green the companies’ stock will be based on current trend to advise the investor on how to optimally promote green opportunities.

The solution consists of the following:

* Use of a cheap Android phone/iOS (commonly used in any countries). The app does not to be installed and should be accessible on almost any phone.
* An intuitive app that inestors with low literacy skills can understand and follow the trend.
* A connection to cloud services from within app.

How GreenerStocks was built

The current team is made up of five members: Corentin software developer; Ali, a software developer; Fabio, a software developer; Mitra, a Software developer and Sheetal, a project manager.

They implemented a Java back end, deployed on Liberty, and hosted on [IBM Cloud](https://cloud.ibm.com/?cm_sp=ibmdev-_-developer-blogs-_-cloudreg). For up-to-date green stocks, the team incorporated sample Russell 3000 index data, which can connect to other index data such as S&P500 or any other. And for the latest information about screen stocks, the solution uses the IBM Watson Decision Platform. With this Decision Platform for green stocks, the team will be able to expand their solution to harness the power of predictive analytics, artificial intelligence, and IoT. GreenStocks can then incorporate much more data, such as correlation data for searching green stock with same return of investment or better, advanced models for switching to greener stocks, and an advanced AI chatbot for answer investor’s questions based on available information as well as future predition and the stocks based on its path to green opportunities.

Ease of use and availability

Because a large focus for the team was to empower farmers who might not be as technologically literate, they planned to incorporate an AI chatbot into the front end so that the instruction features in the app can be answered.

The future of GreenStocks

The GreenStocks currently features a mobile app, and a cloud platform for compiling data and decision making based on Russell 3000 index data. The team’s future roadmap includes adding more functions to the GreenStocks platform with improved ease of use and other IoT technologies.

The team also plans to add the function for farmers to take pictures of their crop and upload it to the Liquid Prep platform. Using the Watson Visual Recognition image processing service that leverages the use of machine learning, they can better judge the state of the crop and improve the watering recommendation confidence level. Additionally, by using images to better understand the current crop state, the team could enhance the illustrations for the action items in the app to reflect the farmers’ current crop growth stage.

As part of the IBM Code and Response initiative, the team will be having a design thinking workship in Ottawa on March 23, 2020, the day following World Water Day, to outline the next steps around the app’s development and launch.

IBM Call for Code challenge for Morgan Stanley employees

As part of the Call for Code 2021 Global Challenge, the team engaged in friendly competition and more importantly, in creating tangible solutions with technology for green opportunities.

Resources

used the following resources.

* IBM Watson Decision Platform
* IoT technologies
* Investing in green Stocks
* [IBM](https://cloud.ibm.com/catalog/services/visual-recognition?cm_sp=ibmdev-_-developer-blogs-_-cloudreg) Cloud

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From readme in GitHub)

**Contents (based on sample in Readme in GitHub**

* [Submission or project name](https://github.com/Call-for-Code/Project-Sample#submission-or-project-name)
  + [Contents](https://github.com/Call-for-Code/Project-Sample#contents)
  + [Short description](https://github.com/Call-for-Code/Project-Sample#short-description)
    - [What's the problem?](https://github.com/Call-for-Code/Project-Sample#whats-the-problem)
    - [How can technology help?](https://github.com/Call-for-Code/Project-Sample#how-can-technology-help)
    - [The idea](https://github.com/Call-for-Code/Project-Sample#the-idea)
  + [Demo video](https://github.com/Call-for-Code/Project-Sample#demo-video)
  + [The architecture](https://github.com/Call-for-Code/Project-Sample#the-architecture)
  + [Long description](https://github.com/Call-for-Code/Project-Sample#long-description)
  + [Project roadmap](https://github.com/Call-for-Code/Project-Sample#project-roadmap)
  + [Getting started](https://github.com/Call-for-Code/Project-Sample#getting-started)
  + [Live demo](https://github.com/Call-for-Code/Project-Sample#live-demo)
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  + [Acknowledgments](https://github.com/Call-for-Code/Project-Sample#acknowledgments)

**Short description**

**What's the problem?**

Worldwide consumption and production drive the global economy, yet the current use of natural resources is unsustainable. The global material footprint rose nearly 18 percent from 73 billion metric tons in 2010 to 85.9 billion metric tons in 2017, the [UN reports](https://undocs.org/en/E/2020/57). That’s why Sustainable Development [Goal 12](https://sdgs.un.org/goals/goal12) aims to achieve economic growth, sustainable development, and reduce our ecological footprint by changing the way we produce and consume goods and resources.

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The idea

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**The idea**

It's imperative that learning and creating can continue when educational institutions have to shift the way they teach in times of crises, such as the COVID-19 pandemic. Providing a set of open source tools, backed by IBM Cloud and Watson Services, will enable educators to more easily make content available for their students.

**Demo video**

Video to be added

**The architecture**

1. The user navigates to the site and looks for green stock and its greener replacement.
2. Watson chatbot QnA.
3. Watson Ai prediction for future of Stocks
4. The app can be used with iOS and Android devices.

**Long description**

link for github

**Project roadmap**

The project currently does the following things.

* Searching the current stocks
* Searching its corelated stocks with greener options and same return on investment
* Providing detailed information on the company
* Chatbot QnA
* Forcasting future of the stck based on past behaviour

It's in a free tier IBM Cloud Kubernetes cluster..

See below for our proposed schedule on next steps after Call for Code 2021 submission. To be done

Roadmap here to be added

**Getting started**

In this section you add the instructions to run your project on your local machine for development and testing purposes. You can also add instructions on how to deploy the project in production.

* To be added

**Live demo**

You can find a running system to test at [callforcode.mybluemix.net](http://callforcode.mybluemix.net/).

**Built with**

* [IBM Cloudant](https://cloud.ibm.com/catalog?search=cloudant#search_results) - The NoSQL database used
* [IBM Cloud Functions](https://cloud.ibm.com/catalog?search=cloud%20functions#search_results) - The compute platform for handing logic
* [IBM API Connect](https://cloud.ibm.com/catalog?search=api%20connect#search_results) - The web framework used
* IBM Watson - The web framework used
* To be added

**Contributing**

Please read [CONTRIBUTING.md](https://github.com/Call-for-Code/Project-Sample/blob/main/CONTRIBUTING.md) for details on our code of conduct, and the process for submitting pull requests to us. To be done

**Versioning**

We use [SemVer](http://semver.org/) for versioning. For the versions available, see the [tags on this repository](https://github.com/your/project/tags). To be done

**Authors**

* **Name to be added + git hub**

**License**

This project is licensed under the Apache 2 License - see the [LICENSE](https://github.com/Call-for-Code/Project-Sample/blob/main/LICENSE) file for details. To

**Acknowledgments**

* Based on github readme.