

## Climate Change Education and Awareness Project

### Principle(s) Addressed

Understand the Existing Ecosystem;  
Be Data Driven; Use Open Standards, Open Data, Open Source and Open Innovation



## Overview

Climate Box, a regional project implemented by the United Nations Development Programme (UNDP), is an interactive learning web portal on climate change awareness. Wishtree Technologies improved the portal by adding functionalities, ensuring that the updates maintained a balance between [ecosystems](#), [data](#), and technology driven towards achieving significant positive impact.

## Background

There is no region or country in the world that is not experiencing the vast ill-effects of climate change. The UNDP Istanbul Regional Hub decided to address the all-encompassing climate change problem by developing the interactive learning toolkit, i.e Climate Box. A considerable part of the portal was required to be built upon existing infrastructure, much of which was static. After receiving the Terms of Reference, Ravishankar Iyer, Wishtree Partner and Co-founder, along with Neelima Lanjewar, Project Manager, initiated a kickoff meeting with the UNDP. The high-level requirements that were discussed, included:

- Introduction of [various user roles](#)
- Integration of the [collaborative module](#)
- An interface that would [attract primary school students](#)

The project was granted a timeline of 3 months, which was completed with cooperation between UNDP and Wishtree staff.





## Actions

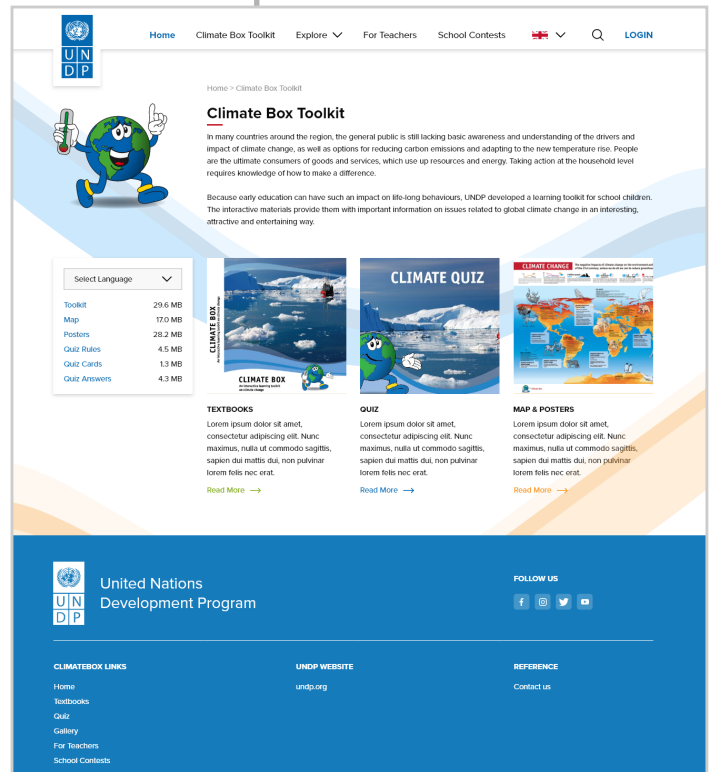
For the portal to be interactive and customizable, the Wishtree team developed an advanced Content Management System. Through the system, different groups of users would have content and functionalities tailored for them. The team set up systems to differentiate between public users and registered users, where all users could access learning materials, video lessons, webinars, and discussion materials, but only the registered users, namely teachers would be able to post questions, view consolidated answers, answer questions from other teachers, and download content exclusively available to the teachers. Wishtree developed an entire section dedicated to the administration of the portal content, where we distinguished between:

- **Toolkit Administrator** – who can manage the toolkit, i.e. Textbooks, Quiz, Maps, and Posters
- **Moderator** – who can respond to the teachers' questions, publish consolidated answers, and manage the user accounts of the teachers
- **Competition Administrator** – who can manage competitions conducted
- **Super Administrator** – who has access to the full admin section

We built collaborative modules and spaces to publish new content, which allowed the main toolkit to function smoothly.

As a toolkit, Climate Box caters to diverse users, but is primarily designed for school students, who would grow up to be responsible citizens fighting climate change. The Digital Principle, *Be Data Driven*, guided the creation of a highly intuitive interface for students, teachers and other public users, and also created pleasant user experiences, where the most important goals are knowledge sharing and awareness building.

Individuals, organizations, and societies are consumers of resources, which in turn keep affecting the climate for the worse. While developing a learning toolkit like the Climate Box, the Wishtree team realized that shaping comprehensive knowledge and awareness





for the present and future stakeholders is one of the most proactive stances that could be taken, and here again, inspiration from the Digital Principle of [Understanding the Existing Ecosystem](#) guided efforts to build on existing efforts rather than duplicate them. We considered the particular needs that Climate Box would cater to, with respect to countries, regions, and communities so that the technology Wishtree used to build the website would be relevant and sustainable, while bringing value to the initiative.

## Analysis & Planning

While the purpose of the project was to upgrade Climate Box from a static website to a fully functional interactive web portal, requirement gathering went beyond analyzing technical aspects of the portal. Following the Digital Principle of [Understanding the Existing Ecosystem](#) helped the general and technical analysis as well as the planning phases. First, Wishtree had to inculcate in their internal team the knowledge of how the project would contribute to fighting climate change and lessening the burden of carbon footprints. Until this was in place, Wishtree could not have assured that the technical details would translate into relevant functionalities.

Wishtree did an interface analysis and gathered UX, Functional, and Usability requirements for various user groups. A [user-centered design](#) approach was used in subsequent phases. The backend functions were to be developed in close consultation with the stakeholders to ensure an enhanced and efficient user experience. After every Sprint release, Wishtree sent users a demo to ask for feedback.

If the suggestions were within scope, Wishtree would incorporate them. If not, they would go to the Change Request process, and after the completion of such process, Wishtree would send the User Acceptance Test (UAT) link with the final deployment code. After receiving the final feedback, Wishtree provided the user manual and training.

The changes done after receiving feedback were mainly related to the design of the website, which, according to the users, became clearer and easier to navigate after implementation of the changes they recommended.



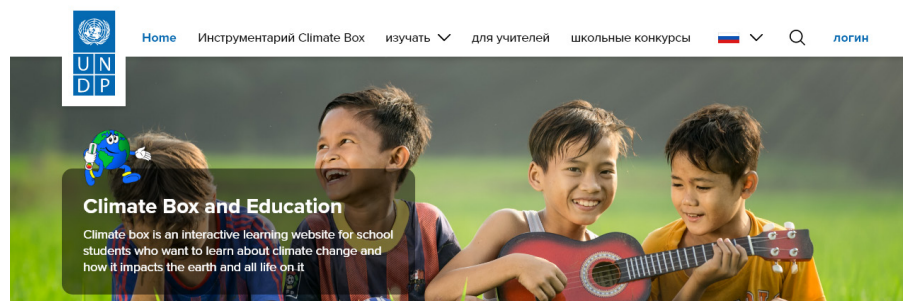
## Design & Development

For the Design & Development phases, we maintained the Digital Principle of [Use Open Standards, Open Data, Open Source, and Open Innovation](#).

WordPress was used as the Content Management System.

WordPress, as an open source CMS is:

- *Flexible* where it provides a variety of plugins and in-built design themes
- *Customizable* according to the theme
- *Easy to use* where non-programmers can proficiently manage the website content



The portal Wishtree developed was multilingual, initially in English and Russian, but with provisions for other languages like Arabic, French, and Spanish. Various user roles were involved, including those of teachers, public users, and administrators and role-based access was defined where user management modules were different for the different types of users, as discussed above. Although some visual components were carried over from the previously existing portal, the overall look and feel of the website were newly designed because UNDP wanted a design which would be attractive to primary school students, who should also be able to navigate the website very easily.

## Deployment & Implementation

After the preparation of the project plan, Wishtree consistently arranged demos for UNDP on a set of completed functionalities and implemented changes according to the feedback. The development of a detailed concept and prototype design for the [Climate Box](#) interactive learning portal based on the core



functionality requirements was followed by the development of the final web portal on the approved concept, and outline design with full functionality.

Parts of the toolkit were made available for download in PDF format. A moderated teachers' space was added where exchange of materials, discussion on climate change issues, and posting of questions could be done. A search engine for the materials was also created. Another space for international schools competing over climate projects was added, where moderators could publish and manage competitions. A dedicated administration section was also developed to manage the content and to allow the moderators to communicate with the audience.

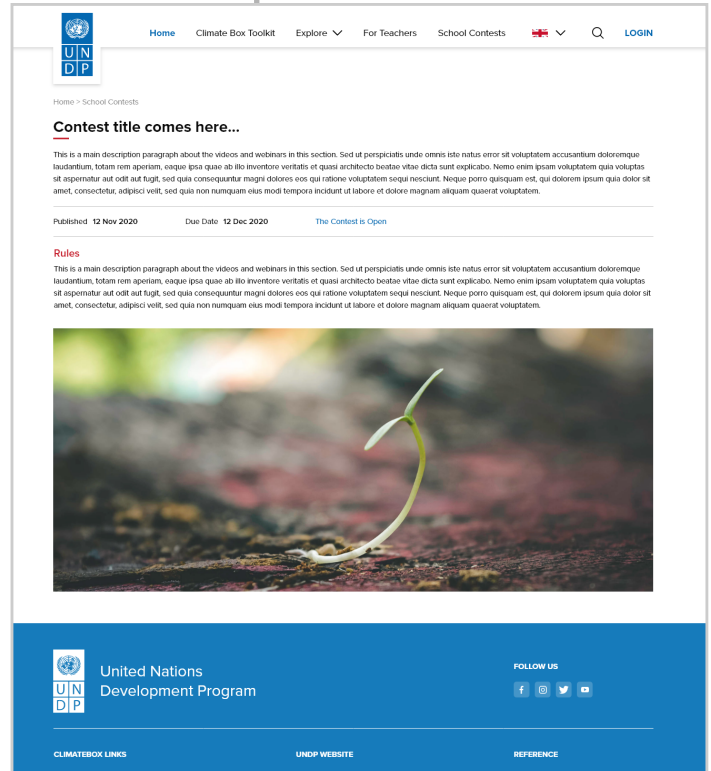
## Monitoring & Evaluation

Wishtree's consultative approach guaranteed multiple changes to the initial requirements and scope of the project to add more value to the overall customer engagement.

The team worked closely with UNDP to ensure that the design of the interface was attractive to the young users, who were the primary target audience for the portal. Wishtree integrated and complied with all UNDP communication rules and regulations, under the UNDP IRH Communications Team, and continually tested, debugged, and improved the application toward performance optimization. They also produced documentation for requirement gathering, prototypes, sign-offs, coding, and release. Till now, Wishtree Technologies continues to provide monthly reports for the performance of the website, recommendations for improvements, and other relevant updates.

## Challenges

Wishtree's primary obstacle was a societal lack of awareness about the ill effects of climate change. Since it is a worldwide phenomenon, UNDP looked at building a multi-language system that had to be a fully managed and interactive portal, which greatly increased the scope of the project.





Key challenges included:

- Accommodating multiple languages
- Making the portal universally accessible, while also adhering to the original vision of the toolkit to be an interactive system

Additionally, significant time was spent in understanding the technical components of climate change and the existing system, then building and improving on internal team knowledge, as well as leveraging technology to make the portal a way of imparting necessary and engaging information.

## Results

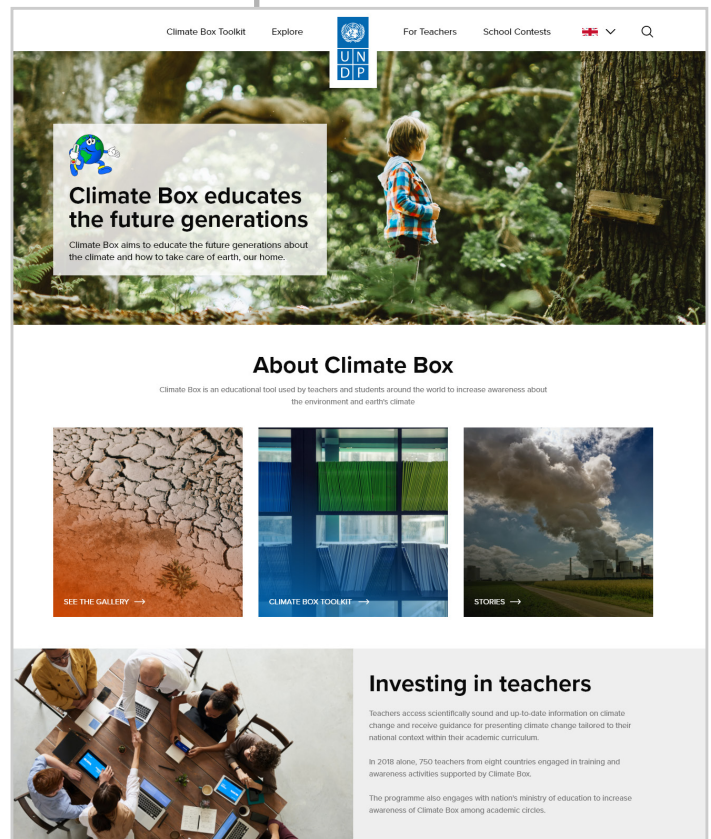
UNDP focused on tackling climate change by spreading awareness among primary school students and providing teachers with a platform to collaborate and share knowledge with one another. To be a fun, interactive toolkit, Climate Box needed to have different levels of functionality for different user groups. Exchange of ideas and collaboration was also important so as to present information that would also grab and retain the attention of the target audience. Also, a prompt feedback system was necessary, for which Wishtree set up regular spreadsheet updates along with time estimates for each component of the work, and collaborated with UNDP on this shared spreadsheet to refine the requirements and deliver the project within the agreed timescale.

### Benefits to the students

- Convenient access to information
- Interactive learning process leading to more knowledge retention
- Quiz module to make learning interesting
- Visually appealing e-textbooks, maps, and posters

### Benefits to the teachers

- Accessibility is easy and there is no need to have advanced technical skills

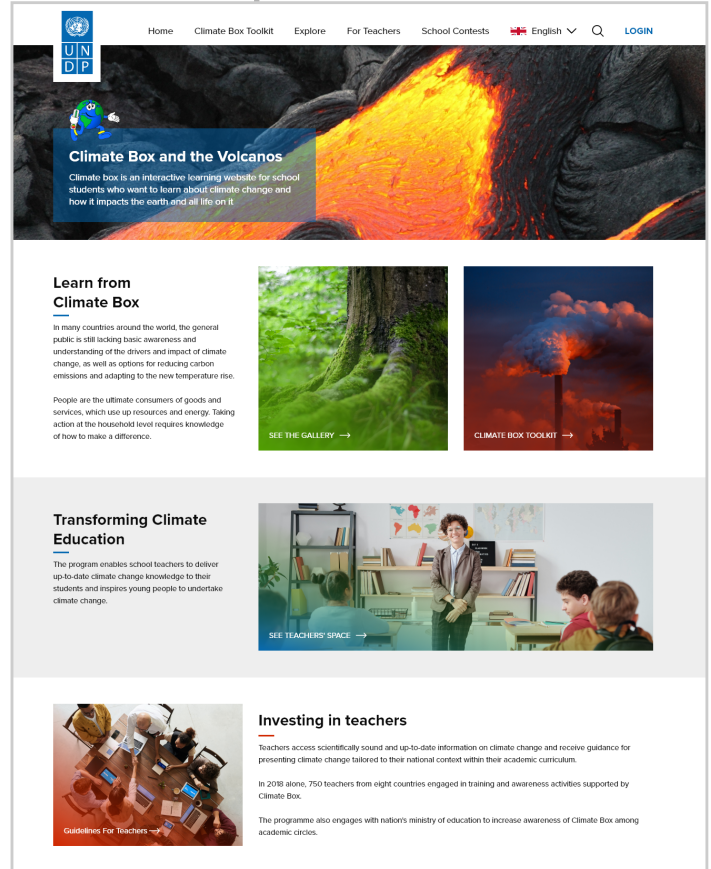




- Common platform to share knowledge and resources
- Learning materials, video lessons, and webinars
- Seamless sharing of resources and ideas

## Benefits to UNDP

- **Manageability:** No technical skills are required to use and manage the platform. It is powered by a custom-built CMS (Content Management System) that makes it easily scalable and customizable as per needs.
- **Multi-lingual support:** It has a multi-language system and therefore the content can be localized and accessed by everyone.
- **Data Confidentiality and Protection:** Enhanced data security as only the applicant and the receiving UNDP department can access the information.
- **Impact:** The system allows for quicker realization of the intended Sustainable Development Goals (SDGs) of *Quality Education and Climate Action*.



## Lessons Learned and Recommendations

- The Principle of using **Open Source and Open Innovation** reminded us of the importance of simplicity when it comes to functionality.
- Developing educational and learning products is one of the most significant steps we can take towards creating sustainable positive impact, and we have gained enormous support from the Digital Principle of **Being Data Driven** in this aspect.
- And most importantly, the Principle of **Understanding the Existing Ecosystem** helped us with data illustrations and added to our repertoire of creating knowledge-based products focused on the environment and climate, the two most important issues we all need to stand together against.