

Designing a Citizen Science Platform for Venice



December 11, 2020

Team Members:
Isabel Alvarado Blanco Uribe
Frank D'Alessio
Evan Davis
Tess Flaherty

Advisors:
Professor Fabio Carrera
Professor Jennifer deWinter

Website:
<https://sites.google.com/view/ve20-vcsp/>
Email:
gr-ve20-vcsp@wpi.edu

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1. Citizen Science in Venice

There are many different definitions of citizen science but the unifying theme is public participation in scientific research (Socientize Consortium, 2013). Citizen science allows for more data collection than one team of scientists could accomplish alone. Citizen science can help researchers study complex topics such as climate change, which cover immense spatial and temporal scales (Dickinson et al., 2010).

In Venice, Italy, citizen science is a rising field of interest. Higher Education Institutions, such as the Venice International University and the Ca' Foscari University of Venice, have begun studying the role citizen science plays in research (Venice International University, n.d.; Ca' Foscari University of Venice, 2020b). Within the community itself, citizen science projects focus on the conservation and preservation of the lagoon, an intrinsic piece to Venice's culture, art, and history (UNESCO, n.d.). One citizen science project enabled scientists to identify a new species of jellyfish and monitor invasive species in the lagoon (PERSEUS, n.d.). Another project, which occurred during the COVID-19 lockdown, asked Venetians to submit photos of the lagoon, canals, flora and fauna so the Ca' Foscari University (2020a) could analyze the effects of a reduced human presence.

The sponsor of our project, Venice Calls, plays an important role in the engagement of young people with the Venetian community at large. Their projects address environmental, social, and economic issues in the city by organizing social projects, events, conferences, emergency actions, and hackathons with the community. Their goal through these projects is to raise awareness and share experiences with Venetians (Venice Calls, n.d.). Last year, Venice Calls and Worcester Polytechnic Institute (WPI) collaborated on a project called "Plastic Free Venice: Quantifying and Mapping Plastic Pollution" in 2019. Together, they developed methods for reducing pollution and improving waste management efficiency (Bonanno et al., 2019).

Thus far, all of the very commendable citizen science efforts in Venice have not been coordinated and widely shared. A single comprehensive platform where all users can discover and participate in citizen science projects operating in the Lagoon could stimulate collaboration between organizations and help ensure Venice's culture and history last for years to come.

In addition to being a central hub for citizen science projects in the Lagoon, a platform could also provide useful visualizations of data gathered throughout the various projects. These visualizations would make the data more accessible to everyone. Having accurate information would inform both day-to-day decisions as well as long term policy. Research has shown that building local awareness through participation and decision-making will contribute to buy-in and better agreement on solutions (Socientize Consortium, 2013; Den Broeder, 2018). Data visualizations have also proved to be the key to understanding data and informing citizens on the progress of citizen science projects (Trafton, 2014).

To that end, the goal of this project is to design a digital platform for promoting and visualizing citizen science projects that address environmental, social, and economic problems in Venice. We identified user types and user journeys, analyzed features in existing platforms, and used the Iterative Design Process to refine our design. We finished with recommendations for design improvements and platform development. We hope our project will contribute to future citizen science efforts in Venice and its Lagoon.

2. What Citizen Science Is

Citizen science is the public participation in scientific research (Socientize Consortium, 2013). This chapter details the types of citizen science, the benefits of citizen science, the current citizen science projects happening in Venice.

2.1 Types of Citizen Science

There are three main ways citizens contribute to citizen science projects: classification, data collection, and instrumentation. Existing citizen science platforms like Zooniverse and iNaturalist focus on one type of citizen science (classification and data collection respectively) but our platform will be flexible enough to house all three.

2.1.2 Classification

Classification is the sole type of citizen science on Zooniverse. While there are multiple disciplines from biology to art, to history, they all require users to organize photos collected by a research team. For example, in a project about pelicans, participants identify how many pelicans are in the photo, what actions they are performing, how many eggs are in the photo, and if there are any other animals. Each project could have hundreds of thousands of photos to classify, which is why the hundreds of citizen scientists on the platform are vital (Zooniverse, n.d.).

2.1.1 Data Collection

Data collection is when citizens actively collect data for the project. The easiest example of data collection is the observations found on the iNaturalist and iSpot websites. People take photos of plants and animals and upload them to the platform along with its location. This data helps scientists observe population distribution of thousands of species across the globe (iNaturalist, n.d.; iSpot, n.d.).

One project is the Christmas Bird Count, which is the oldest citizen science project in the world, having started in 1900. Every December to January, birdwatchers count bird species and submit their data to the National Audubon Society. The data from these counts has been used vital in recognizing the impacts of climate change because scientists can track changes in population size and distribution of over 500 bird species (National Audubon Society, n.d.).

2.1.3 Instrumentation

Instrumentation is a primarily passive type of citizen science where citizens don't actively gather or analyze data but rather host an instrument, or sensor, that records data. Often, the sensors record air pollution such as Cambridge University's CamPerS (Cambridge Personal Sensors). It is a wearable lightweight sensor that measures carbon monoxide (CO), nitric oxide (NO), and nitrogen dioxide (NO₂) (Jerrett et al., 2017). They are not limited to air pollution as Pandeya et al. (2020) developed a sensor that measures water level to mitigate flood risk.

2.2 Citizen Science Benefits

Citizen science brings three general benefits: increased research quantity, increased research quality, and citizen and community advancement (Den Broeder et al., 2018). The flow from type of citizen science to benefits is captured in Figure 2.1

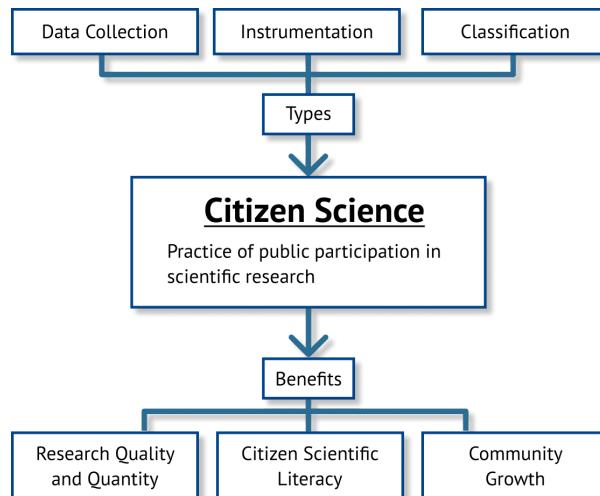


Figure 2.1 Citizen Science (infographic Flaherty, 2020).

2.2.1 Increased Quantity of Research

The participation of citizens means there are more people able to collect and analyze data and thus more research can be produced. This is especially important in research with large geographic and temporal scales (Dickinson et al., 2010). Some well-known global citizen science projects are the studies of butterfly and bird migrations. The North American Butterfly Association (NABA) has run the Butterfly Count Program in the United States, Canada, and Mexico since 1993. The data from these counts gets published into reports and informs scientists about geographic distribution and population size of butterfly species. Comparing data over time can give insight into weather and habitat change (NABA, n.d.).

2.2.2 Increased Quality of Research

Citizens increase the quality of the research by adding local knowledge that wouldn't be found in research literature, improving scientific knowledge and helping solve complex societal problems (Den Broeder, 2018). For example, local marine knowledge from regions across the world is "used to provide historical and contemporary baseline information, suggest stewardship techniques, improve conservation planning and practice, and to resolve management disputes" (Thornton and Maciejewski Scheer, 2012).

2.2.3 Citizen and Community Advancement

Finally, there are numerous benefits citizen science offers to citizens and their communities. Due to exposure of concepts such as the scientific method and rigorous collection of data, citizen science projects can increase scientific literacy in the community. Therefore, participants will be able to apply their new skills to scientific research and earn a new appreciation for science (Den Broeder, 2018). The local scientific awareness that is established

enhances social learning, social capital, and trust due to the participants' exposure to new skills and knowledge about the community (National Institute for Public Health and the Environment, n.d.). That new knowledge will inherently inform their opinions and decisions about local policy.

An example of individual and community benefits is in the Cat Tracker Project that took place in South Australia February 2015 to September 2016. The project consisted of two parts: an online survey and a period of tracking a select group of cats with a GPS. The online survey examined cat ownership, cat personality, attachment to cats, cat management, and participant demographics. The group that had their cats tracked, the citizen scientists, were the most impacted by the project and vowed to manage their cat's activity better. Additionally, survey responders that did not have their cats tracked, and people who did not participate at all, still learned better cat management practices (Roetman et al., 2018).

2.3 Citizen Science in Venice

Citizen science is rapidly growing in Venice. This section details the impact citizen science has on the community as well as the ongoing projects in Venice.

2.3.1 Research Into Citizen Science's Potential

The Venice International University (VIU), an international coalition of 20 universities, has a focus area called "Science Communication and Education" that specializes on public engagement and increasing knowledge and participation in science and research (Venice International University, n.d.). Ca' Foscari University in Venice, recently announced the Inclusive Science and European Democracies (ISEED) project. ISEED, an ambitious, multi-disciplinary project to analyze the role and value of citizen "participation in institutional decision-making that takes into account open, transparent, and shared access to deliberative process" as well as how to "improve participation and deliberation in democracy." The project will begin February 2021 (Ca' Foscari University of Venice, 2020b).

Venice also hosted the third international Citizen Observatories for Natural Hazards and Water Management (COWM) conference in September 2020, bringing representatives from research institutions, businesses, public agencies, and engineering companies together to discuss "water and soil resources management, natural risk management, and environmental protection" (COWM, n.d.). The goal of the 2020 conference was to explore citizen science's capability to increase resiliency in communities and protect cultural heritage (COWM, n.d.).

2.3.2 Citizen Science in Venice's Lagoon

Venice's culture and economy are primarily defined by its lagoon; the lifestyle and architecture has been built around the canals and countless art pieces have been inspired by its natural beauty (UNESCO, n.d.). Historically, the lagoon has played a vital role in the Venetian economy as an industrial center for shipbuilding, petrochemical processing, fertilizer and pesticide production, and non-ferrous metallurgical processing. Its location in the northern Adriatic Sea (as seen in Figure 2.2) grants it immense productivity as a port for exchanging goods even today. Over 120 fish farms fill the lagoon and over 80,000 farms for corn, cereal, and livestock occupy the drainage basin (Suman et al., 2005). The strong influence of the lagoon on Venice has caused "Venice and its lagoon" to be classified as a UNESCO World heritage site in 1987 (UNESCO, n.d.).

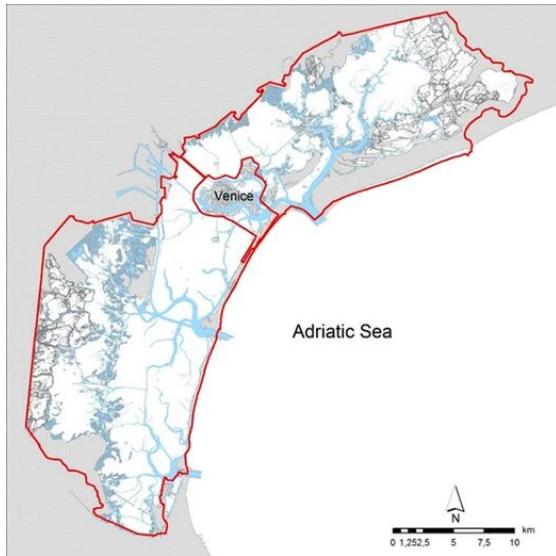


Figure 2.2. Venice and its lagoon (Scarton, 2017).

The biggest threats to the lagoon are humans, whether directly through pollution or indirectly by climate change. As such, most citizen science efforts within Venice concentrate on preservation and conservation of the lagoon and its ecosystem.

The PERSEUS Project is funded under the EU Seventh Framework Programme with the goal of protecting the seas. It hosts two citizen science projects - Jellyfish Spotting and LitterWatch, in which people submit photos and information about jellyfish or pollution observations (PERSEUS, n.d.). Stefano Piraino, a professor of zoology at the University of Salento, is among many researchers who use the PERSEUS project to enable their research. Piraino used Jellyfish Watch to detect a new species of jellyfish in the Gulf of Venice (Piraino, 2014). While such a discovery is incredibly exciting, Piraino and his team are also focused on the impact this new species will have on the native flora and fauna (Piraino, 2014). Without Jellyfish Watch, this new species would not have been located as quickly and could've caused severe damage to the lagoon ecosystem.

Our sponsor, Venice Calls, collaborates with numerous other Venetian local businesses and organizations to perform citizen science projects. One of the biggest projects they do is based around pollution in Venice. They bring the Venetian community together to host events like Blue Horizon Project, to spread awareness about plastic pollution in the lagoon. They also work with Plastic Free Venice Lagoon to organize large-scale clean ups and environmental monitoring initiatives in collaboration with research institutions (Plastic Free Venice Lagoon, n.d.; Venice Calls, n.d.).

Citizen science has even prevailed and provided new insights while affected by COVID-19. Venice's economy is heavily reliant on tourism, bringing around 3 billion Euros a year (Momigliano, 2020). To reduce the impact of COVID-19, the Italian government limited all non-essential travel on March 9, 2020 (France-Presse, 2020). This drastically reduced the traffic in the streets, as there were an estimated 87,300 tourists crowding Venice daily (Bertocchi and Visentin, 2019). Soon after, Venetians marveled as the canal waters were clearer than they have ever seen, and fish and birds flocked the lagoon (Moraca, 2020). Fabio Pranovi and his ecology

research team at the Ca' Foscari University called upon Venetians to send them any photos of the lagoon, animals, or state of the canals. Any submissions sent will guide the team on analyzing anthropogenic influence on the lagoon and ways to improve environment conditions in Venice (Ca' Foscari University of Venice, 2020a).

2.3.3 Efforts by Venice Calls

Our primary stakeholder is our sponsoring agency, Venice Calls. Venice Calls is a non-profit organization that has been working to solve environmental, social, and economic problems in Venice. The organization was founded in 2018 by a group of friends who all had the same intention in mind: to protect Venice and the Lagoon. The organization strives to act on their mission by organizing projects, conferences, and events. Some projects include clean-ups, where the organization and those who choose to participate, clean beaches and the Lagoon area to reduce the amount of plastic found in the sea and raise awareness of the issue, as shown in Figure 2.3 (Venice Calls, n.d.).



Figure 2.3 Venice Calls clean up project (Venice Calls, n.d.)

Venice Calls also runs projects known as “retakes” where they clean and remove graffiti from city building walls. The organization has worked with Masegni & Nizioleti, a Venetian association whose goal is to organize cleaning events and organize activities against the vandalism of buildings (Venice Calls, n.d.). Venice Calls’ newest initiative is the Public Green Program, which focuses on planting trees and plants in order to raise awareness of the lack of greenery within the city. However, due to the COVID-19 pandemic, it has been postponed indefinitely.

2.3.4 Efforts by WPI, the Venice Project Center

The Venice Project Center is a part of Worcester Polytechnic Institute’s (WPI) Interactive Qualifying Project (IQP) program. During it, students travel to communities across the globe and work with those communities on a local problem. The Venice Project Center has been hosting projects since 1988 across a variety of subjects. Past projects include:

- “Created a digital model of Venice streets, conducting pedestrian counts to identify congestion points
- Designed a smartphone game exploring displaced artwork, demolished churches, and filled-in canals of Venice
- Built a proposal for tourism management based on safety and occupancy standards” (Worcester Polytechnic Institute, n.d.)

In 2019, in collaboration with Venice Calls, WPI students completed the “Plastic-Free Venice: Quantifying and Mapping Plastic Pollution” project in which they collected, categorized, and weighed pollution in the Venice Lagoon. They also assessed the effectiveness of public trash receptacles and waste pick-up locations so they could finally “develop recommendations for the overall plan to reduce plastic pollution” (Bonnano et al., 2019).

2.4 Enhancing Communication Between Science and the Community

Citizen science enhances social learning, social capital, and trust due to the participants’ exposure to new skills and knowledge about the community (National Institute for Public Health and the Environment, n.d.). That new knowledge will inherently inform their opinions and decisions about local policy which pervade throughout the community (Roetman et al., 2018). Thus, it is essential that citizen science data is clearly communicated to the community. Data visualizations can be used to enhance data comprehension (Taylor, 2016).

2.4.1 Emergence of Citizen Science Platforms

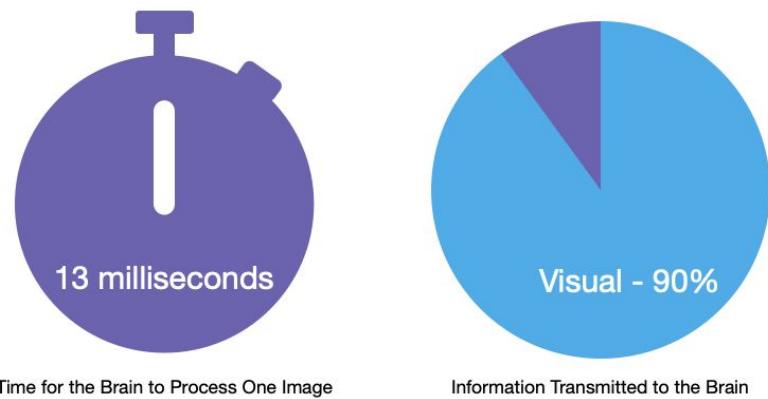
Advancements in technology have encouraged organizations to develop citizen science web platforms. These platforms have the potential to be immensely powerful resources to many different stakeholders: the public, journalists, other researchers, government officials, and more. Four ways citizen science web platforms are advantageous are:

1. Increase ease of communication within communities, and possibly change the boundaries of effective community formation (Leeuwis et al., 2018)
2. Act as a resource for citizens to learn about a topic and participate in researching it (Leeuwis et al., 2018)
3. Support the co-creation of relevant knowledge by making community-based monitoring part of citizen science activities that add value to available information Leeuwis et al., 2018)
4. Strengthen the ability of local communities to organize via connective action, which constitutes a new form of collective mobilization that is less reliant on formal organizational coordination (Leeuwis et al., 2018)

An example of a citizen science platform is SciStarter, which offers more than 3,000 projects to join where participants can collect or analyze data (Scistarter.org, n.d.). There are also free mobile apps available, such as iNaturalist, in which participants can share pictures of wildlife and nature of their region (iNaturalist, n.d.). This increase in citizen science applications being hosted on online platforms is the result of enabling projects to have many participants interact simultaneously. Not only does it allow for a larger amount of contribution, but it also provides an inherent way of advertising the project to prospective participants.

2.4.2 The Importance of Data Visualizations in Science Communication

Data visualizations enable quick comprehension of aggregate data. Without accurately and responsibly visualizing the data, stakeholders could misinterpret the data and make misinformed decisions. Therefore, it’s important our design provides clear communication about ongoing efforts in Venice backed up by straightforward and reliable graphs and charts. Data visualizations expedite information processing by displaying information in a format the human brain can process quickly.



*Figure 2.4 Graphical representations of the information in 2.4.2
(data from Trafton, 2014; visuals by Davis, 2020).*

The human brain can process an image in as little as 13 milliseconds (Trafton, 2014). For context, a blink of the human eye takes approximately $\frac{1}{3}$ of a second, or 333 milliseconds (Kwon et al., 2013). That makes visual information the fastest type of information a human can understand and hence why most information is presented visually. An example of visualizations aiding the speed of comprehension can be found in Figure 2.4

3. The Process To Produce The Design

The goal of this project was to develop a design of a digital platform for citizen science projects in order to address environmental, social, and economic problems in Venice. To design the platform, we followed the following design process:

1. Identify potential user identities and preferences
2. Adopt and adapt features from existing platforms
3. Iteratively design the citizen science platform

The subsequent sections describe the strategies we used to achieve each of the deliverables. These deliverables were followed through an iterative process, constantly being revisited throughout the duration of the project.

3.1 User Identities and Features of the Citizen Science Platform

To understand the goal and features of the platform, we first identified the types of users that could be using it through discussions with Venice Calls and our advisors. For the list of questions we asked to each entity please refer to Appendix C, D, and E. Then, for each user, we created detailed user profiles that described their occupation, purpose of using the platform, and preferences (Farino, 2013). The types of users we identified the following (Figure 3.1.1):

1. Organizers
2. Volunteers
3. Scientists
4. Journalists
5. Non-Volunteers/Citizens

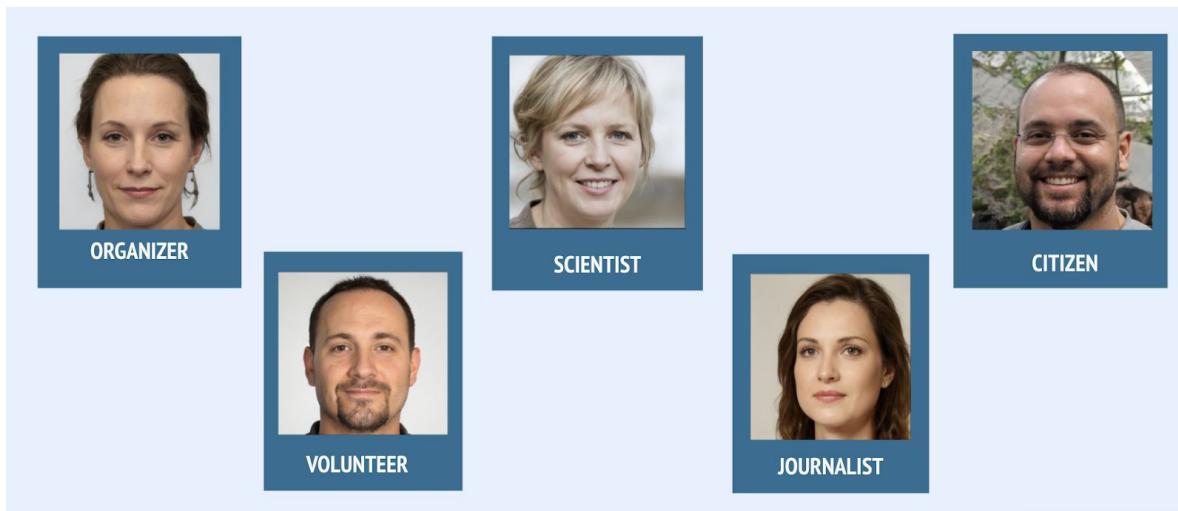


Figure 3.1.1. Headshots for User Profiles

The next step was to identify what each of these identities' motivation for using the platform could be. We identified the features they wished were in existing platforms and how they would use them. From the features that the potential users would want, we developed a list of features the design of the platform should have. Throughout the duration of the project, we revisited this deliverable to make sure our design addressed the wants and needs of our potential

users. Our main features, as seen in Figure 3.1.2, revolve around the citizen science projects that would be hosted on our platform. From these core four features, we designed elements of the website that would aid users in locating and using these features.

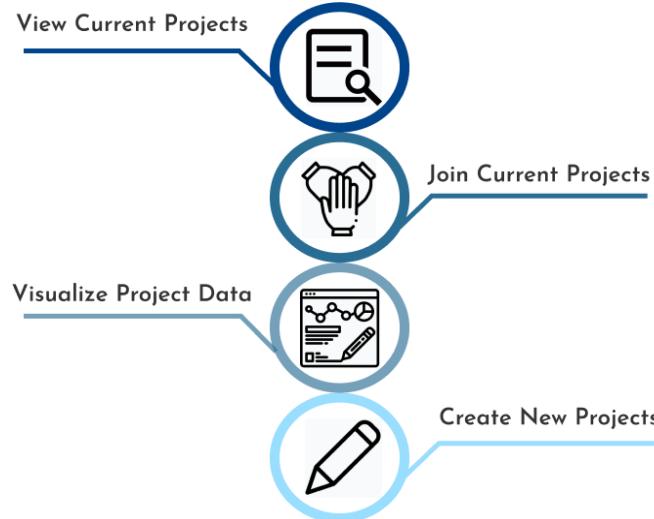


Figure 3.1.2 Main Features of the Platform

3.2 Adapt and Adopt Features from Existing Platforms

The second step in our iterative design process was to analyze existing citizen science platforms to adapt and adopt the user interface (UI) and user experience (UX) elements of their platforms.

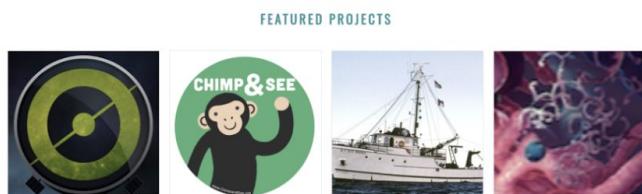
User interface is associated with visual elements, such as buttons and icons, that allow a user to interact with a product or service, or in our case, an online application (Digital.gov, n.d.). A seamless UI is essential for citizen science platforms to maximize user engagement and increase their likelihood of returning to the platform. Therefore, we conducted participant observations by analyzing twelve web platforms and ranking their features in a matrix as seen in Appendix A. After analyzing these platforms, we combined our rankings to focus on the most important features. The platforms with the top three scores, as seen in Appendix B, are listed below:

1. Zooniverse
2. EU-Citizen Data (tie)
2. iNaturalist (tie)
3. ALA Project Finder (tie)
3. Anecdata (tie)
3. CitSci (tie)

The best user interface elements were screenshotted and annotated with detailed labels to identify how and why we should implement them into our application. This can be seen in Figure 3.2.1.



This short sentence in the banner does a very good job at describing what the application does - it draws the users in



Featured projects are one of the first things that you see - lead by example

Figure 3.2.1 Annotation of Zooniverse

3.3 Iteratively design the citizen science platform

To design our online platform, we used Figma, an online collaborative application to design various user interfaces. Its easy-to-use interface and ability to create prototypes helped us share our designs with the stakeholders to solicit feedback and to evaluate the effectiveness of our designs. We also used Figma to gather features and user interface elements from various other websites and organize what aspects we like and want to incorporate into our design. By using Figma, the resulting product is a comprehensive and interactive design that clearly lays out how the website should function and look.

Once the design had been completed, we moved on to the next step of the Iterative Design Process, which involves designing layouts, connecting them together into a prototype, and then evaluating the prototype with the goal of improving the design. For the evaluation, we consulted our advisors, sponsor, and peers and they tested the design prototype. Their feedback informed us on aspects of the design that were missed or needed improvement.

4. The Venice Citizen Science Website

Using Figma we were able to design a website that met the needs of the users we identified. In order to efficiently describe the important features of our design, we will walk through each user profile to discuss how each type of user would use the platform. To view all prepared views of the website please reference Appendix F, G, and H or our website; <sites.google.com/view/ve20-vcsp>

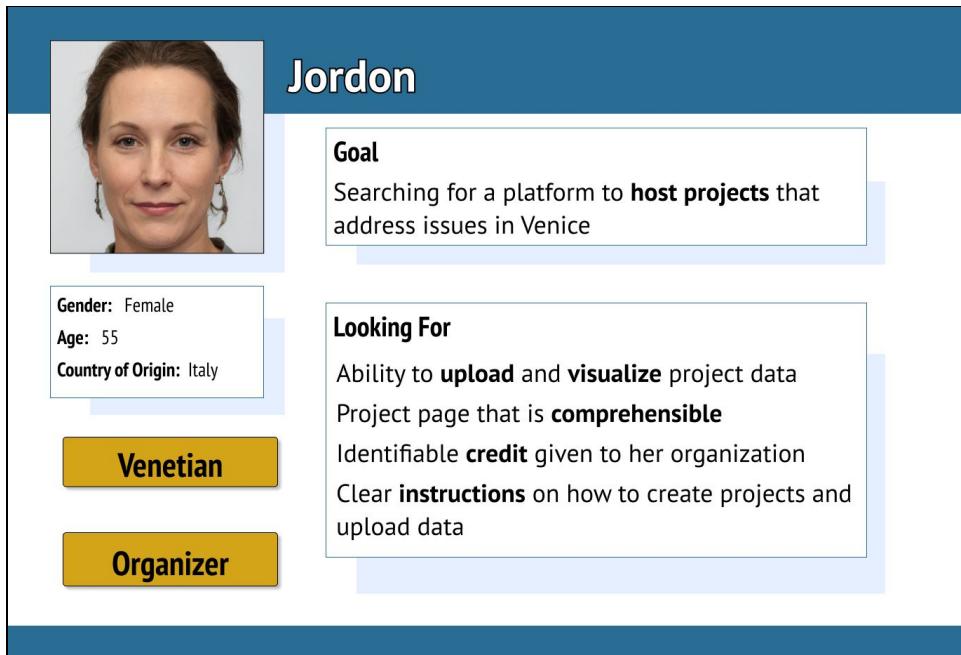
The overall organization of the platform, as seen in Figure 4.0.1, consists of multiple organizations that host citizen science projects. For each project, there can be multiple events. Each event has information on where and how to participate, and the data that was collected during that event. The events, project descriptions, images, data sets, and data visualizations for each organization can be changed at any time by an organizer.



Figure 4.0.1 The Conceptual Organization of the Platform

4.1 Organizer

The primary users of our platform will be the organizers of the citizen science projects. These users represent local organizations who sponsor citizen science projects. We created a user profile for organizers, as it can be seen in Figure 4.1.1.



A screenshot of a user profile for 'Jordon'. The profile features a portrait photo of a woman with brown hair. The name 'Jordon' is displayed prominently at the top. Below the name, there is a section titled 'Goal' containing the text: 'Searching for a platform to **host projects** that address issues in Venice'. To the left of the goal section, there is a box containing demographic information: 'Gender: Female', 'Age: 55', and 'Country of Origin: Italy'. Below this box are two yellow buttons labeled 'Venetian' and 'Organizer'. To the right of the goal section is another box titled 'Looking For' containing the following text: 'Ability to **upload** and **visualize** project data', 'Project page that is **comprehensible**', 'Identifiable **credit** given to her organization', and 'Clear **instructions** on how to create projects and upload data'.

Figure 4.1.1 Organizer User Profile

An organizer would use the platform to publish their projects in order to attract volunteers. They would also want to visualize data obtained from the projects. Accomplishing these tasks require complex tools, thus the organizer needs the platform to have clear instructions and an intuitive design. Finally, an organizer would want all platform users to be able to view and contact their organization.

In our platform we include an organization page, as seen in Figure 4.1.2, where organizers like Jordan can publicize their organization's mission, contact information, and citizen science projects that they are hosting. When an organizer is logged in, they can change the content of the page and add new citizen science projects whenever they want. The process to add a project is made easier by outlining steps that provide assistance with what each section should contain.



Figure 4.1.2 Organization Page

Once the organizer has created a new project, they can edit the project to provide graphics, descriptions of the project, contact information, as well as information on how to take part in a project and its events. This editing view of projects and events can be seen in Figure 4.1.3.

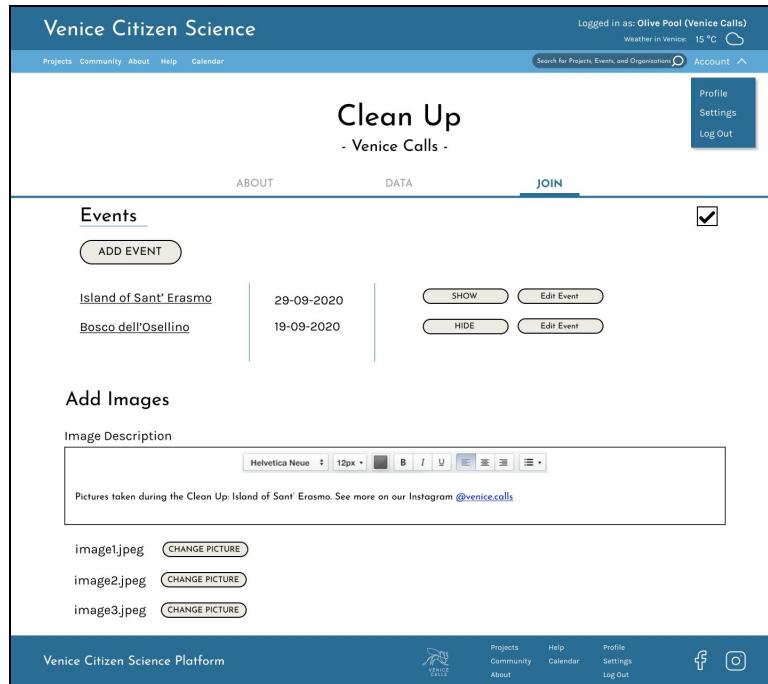


Figure 4.1.3 Editing Project Page

An organizer can also upload data for a project or a project's event. From their point of view, the data section of a project or event page allows them to filter through already existing data sets and data visualizations, but also upload their own data to the platform. This interface can be seen in Figure 4.1.4.

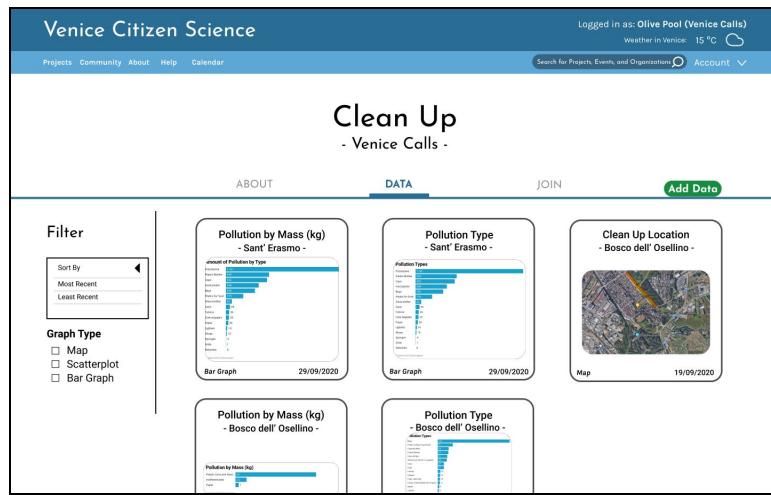


Figure 4.1.4 Data Tab from Organizer's Perspective

4.2 Volunteer

Our second type of user is the volunteer. Without them, we wouldn't have abundant amounts of data to collect and share. We created a user profile to provide an example of who a volunteer who uses our platform could be like. The information regarding our volunteer, Phil, is displayed in Figure 4.2.1.

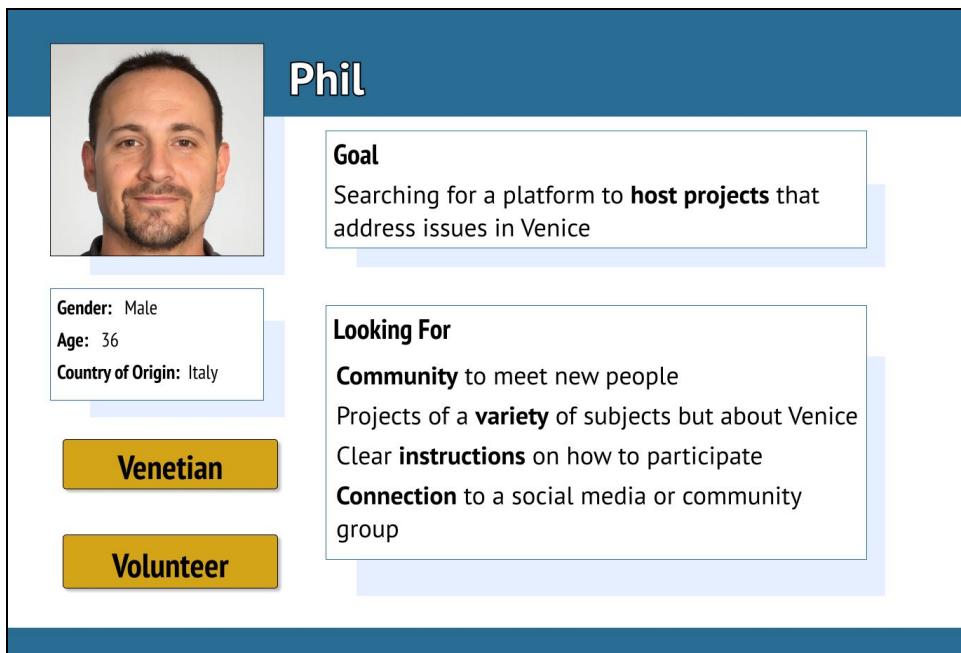


Figure 4.2.1 The Volunteer User Profile

Volunteers want to learn more about the organizations that host citizen science projects and how to get involved in their projects. In addition, volunteers may be looking for a community to meet new people.

Volunteers can click on the Projects tab to find citizen science projects that they may be interested in participating in. They will then arrive at the projects page, as seen in Figure 4.2.2.

Figure 4.2.2 Projects Page

On the projects page, volunteers have many options to find a project that they deem interesting. One of the tools they could use is the filter section on the left hand side of the screen. The filter allows for users to view projects by: status of the project, United Nations Sustainability goal, sponsoring organization, type of participation, and type of citizen science project. By using the filter, volunteers can find specific projects that align with their interests. Each project has a brief description. Users can also get a glimpse of what the project is about by looking at the thumbnail picture and the associated United Nations Sustainability Goal.

Once the volunteer has found a project that they are interested in, they can click on it to arrive at the project's About page. We'll discuss the about page more in the section 4.4 Journalists and Citizens. To learn more about the organization hosting the project, users can click on the organization name. To learn how to participate in this project, volunteers can click on the Join button, as seen in Figure 4.2.3.

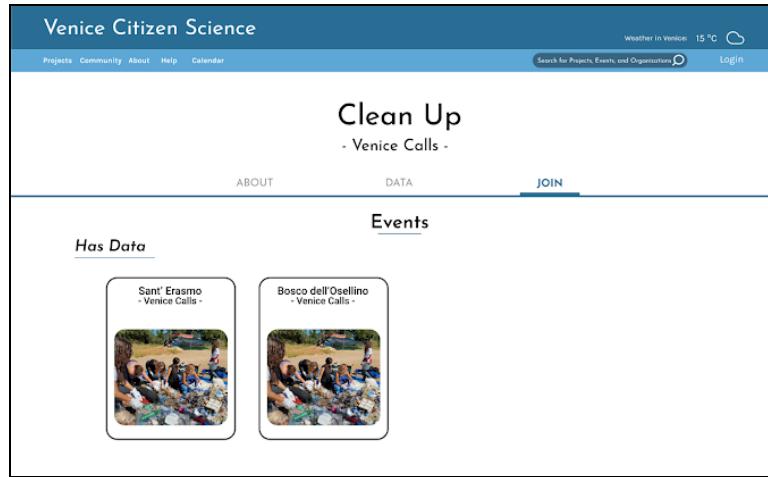


Figure 4.2.3 Join section of the Project Page

Volunteers can participate in events the project is hosting. The events are displayed in a grid-like format with a title and picture of the event. For example, the Clean Up project has an event called “Island of Sant’ Erasmo”, where participants will be picking up plastic and sorting it based on its type and weight.

If a volunteer sees an event that they are interested in joining, they can click on the event and be led to the event’s Join page, as seen in Figure 4.2.4. There, users can see when and where the event will take place, what kind of gear is required, how to sign up, and who to contact with questions. To get directions to the meeting location, clicking on the map will direct users to a Google Maps page where they can get personalized directions to the event.



Figure 4.2.4 Join section for an Event

If the organization is not hosting events, users can scroll down on the project’s join page to learn more about other ways to participate in the project, as seen in Figure 4.2.5. Users can also join the project’s newsletter to be kept up to date about the progress of the project and to learn new ways that they can get involved.

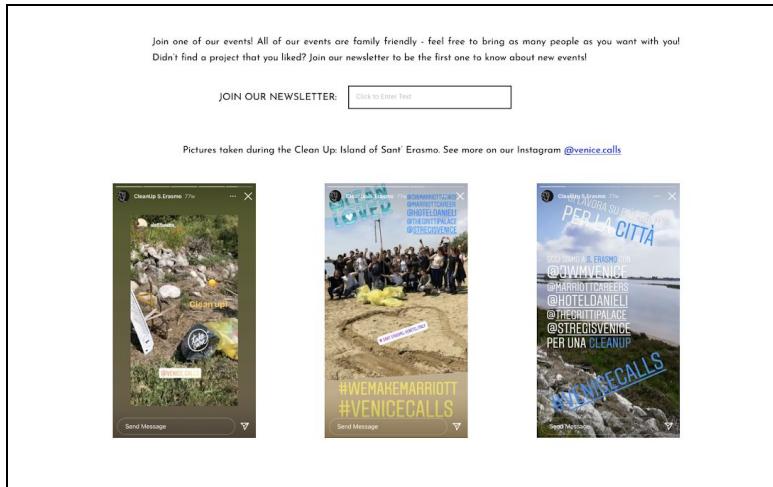


Figure 4.2.5 Join Section with Newsletter option

4.3 Scientists and Government Officials

The next types of users are scientists and government officials. We grouped them together because they have similar motives when navigating our platform. Both of these types of users want access to raw data and view the methods of data collection used by specific projects. Scientists want to look at the raw data on our platform in order to help them with their own projects or research. Government officials want to look at data and view projects in order to share accurate information with the public. We created a user profile for a scientist, as seen in Figure 4.3.1.

Figure 4.3.1. Scientist User Profile

When using the application, scientists will look at projects related to their field and spend most of their time in the “Data” tab of the events page as seen in Figure 4.3.2.

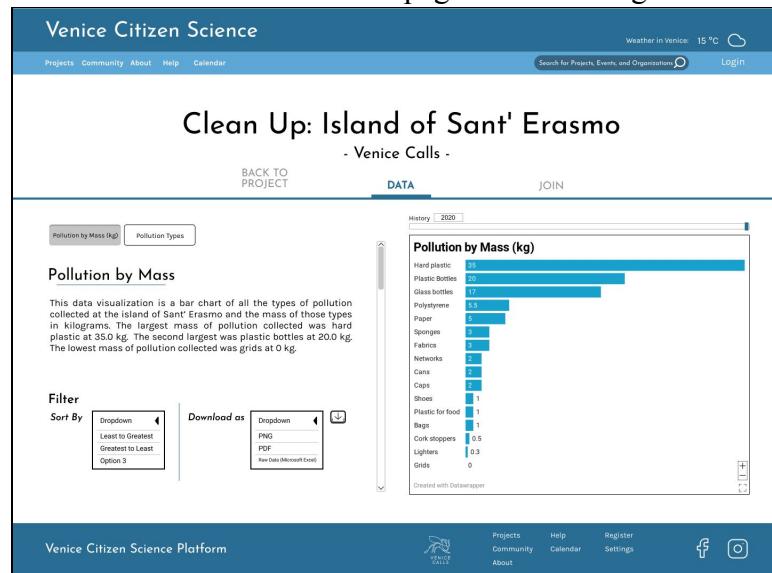
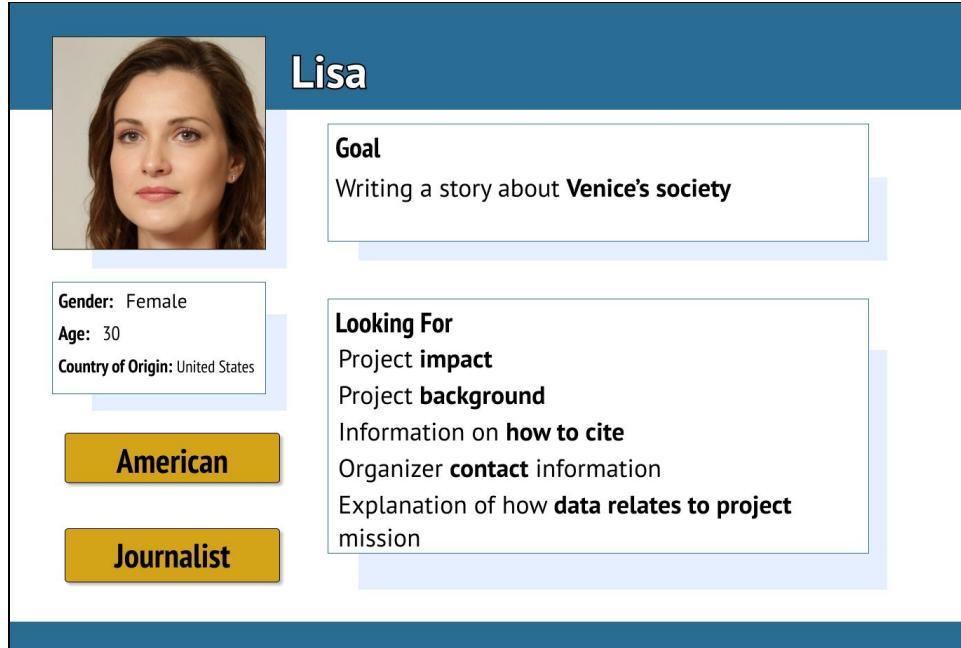


Figure 4.3.2. Data View and Download Page

At the top of the left section of the page, users can toggle through each data set and get a description, accompanying visual, and options to download the data. After selecting a data set, users can filter the data they want to see in the visual or download the raw data to create their own data visualizations.

4.4 Journalists and Citizens

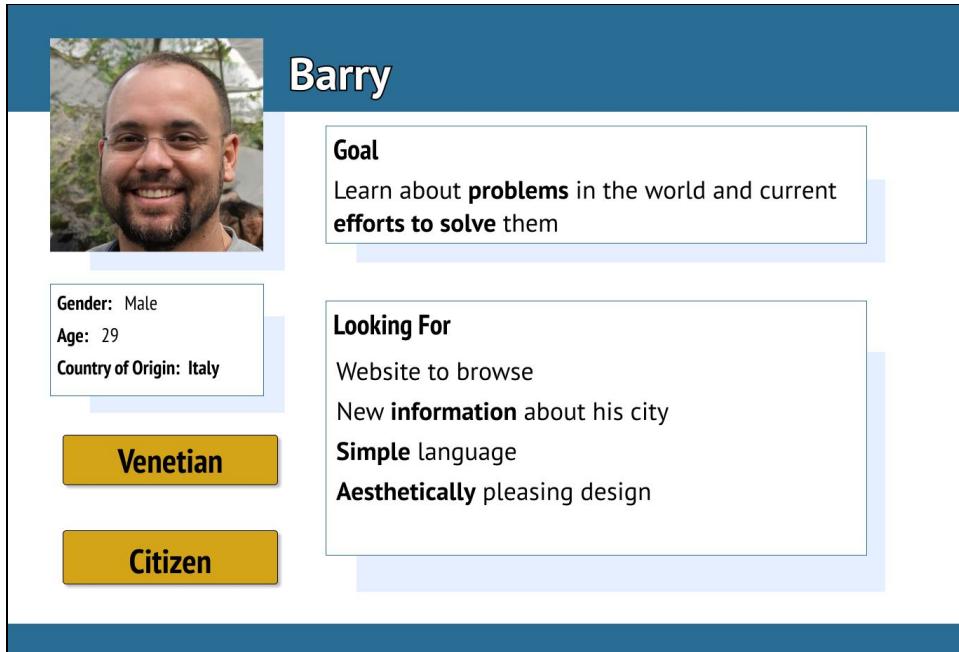
Our final two types of users are journalists and citizens. Because they share similar user journeys and preferences, they will be discussed in the same section. Their user profiles can be seen in Figure 4.4.1 and Figure 4.4.2 respectively.



The figure displays a journalist user profile for a user named Lisa. The profile is structured with a blue header and footer and a white central area. In the top left corner is a portrait of a woman with brown hair. To the right of the portrait, the name "Lisa" is written in a large, bold, white font. Below the portrait, there is a box containing demographic information: "Gender: Female", "Age: 30", and "Country of Origin: United States". To the right of this box, under the heading "Goal", it says "Writing a story about Venice's society". Below the goal, under the heading "Looking For", there is a list of items: "Project impact", "Project background", "Information on how to cite", "Organizer contact information", and "Explanation of how data relates to project mission". At the bottom left of the profile, there are two yellow rectangular buttons with black text: the top one says "American" and the bottom one says "Journalist".

Figure 4.4.1 Journalist User Profile

A journalist would be interested in learning about the citizen science projects and the impact they have on the Venitian community. If they wanted to cite the information they obtained from the platform, they would like to know how to cite the information. In addition, if they want to interview the organizers of the projects, they would like to have access to their contact information.



The image shows a citizen user profile for a user named Barry. At the top, there is a portrait photo of a smiling man with a beard. Below the photo, the name "Barry" is displayed in a large, bold, white font. To the left of the profile, there is a box containing demographic information: "Gender: Male", "Age: 29", and "Country of Origin: Italy". Below this box are two yellow rectangular buttons with black text: "Venetian" and "Citizen". On the right side of the profile, there are two sections: "Goal" and "Looking For". The "Goal" section contains the text: "Learn about **problems** in the world and current **efforts to solve them**". The "Looking For" section contains the text: "Website to browse", "New **information** about his city", "**Simple** language", and "**Aesthetically** pleasing design".

Figure 4.4.2 Citizen User Profile

A Venetian citizen would be looking to learn more about how issues in their city and the world are being addressed. They would mainly be browsing through the platform and the current projects for their pleasure and would want to learn more about the platform's goal, how the platform is accomplishing that goal, and the history of the site.

When general visitors first reach the platform they will be greeted by the home page (Figure 4.4.3). At the top of the home page is a banner image, which shows Venetians participating in citizen science projects, and is accompanied by a short description of the platform. The description welcomes the visitors and has a call to action to interact and participate. Below the banner image are a few featured projects, these highlight the wide array of opportunities available on the platform. Further below is the platform's mission and a visual of the main features the platform offers.

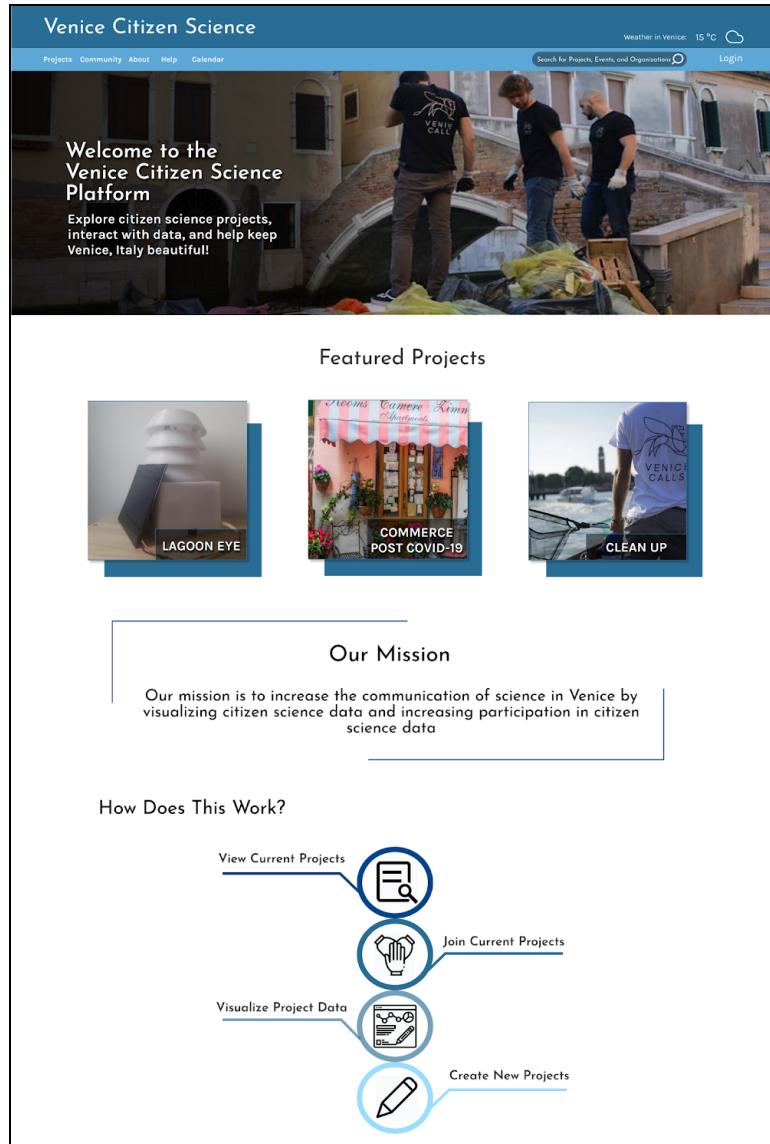


Figure 4.4.3. The homepage of the platform

In addition to the homepage, there is more information on the About page describing how the platform works and how projects relate to the UN Sustainability Goals.

Figure 4.4.4. About page of platform

Once users are familiar with the platform, they can begin exploring projects. After selecting one, they are able to view the goal of the project, its impact thus far (seen in Figure 4.4.5), and contact information for the project's organizer(s). For more information about the sponsoring organization, users can click on the name of the organization, which is located under the project's title, and be taken to the organizer page (Figure 4.4.6).

Figure 4.4.5. About and apparent location of project organizer on project page.

Users can read the organization's mission and see what other projects they are sponsoring. Contact information for the organization is also easily accessible on the left side under the organization's cover image.

Figure 4.4.6. Mission and contact information on the organizer page.

Once the journalist has collected all needed information from the platform, they may want to know how to cite it. Selecting the “Help” button on the menu bar displays the platform’s help page and located near the top are citation instructions (Figure 4.4.7).

Figure 4.4.7. Information on how to cite the platform.

5. Concluding Thoughts On The Design

The one feature every user will use is the **homepage**. Because it will be seen by everyone, it is important to ensure the homepage is **straightforward, easy to navigate**, and aesthetically pleasing. Our design has a banner image at the top of the page welcoming users to the platform and giving them a preview of what the platform is about. Right underneath, a select few projects are featured so users are quickly introduced to the amazing projects this platform has to offer. Next, the mission of the platform is stated, to help anyone who is still unsure what the platform is for. Finally, the homepage has an interactive graphic with four buttons; View Current Projects, Join Current Projects, Visualize Project Data, and Create New Projects.

Second to the homepage, the **Help and Get Involved Pages** answer questions and offer guidance for all types of users. These pages help users learn more about how the platform works and how to get involved. The “Help” page answers some common questions asked by first-time users. Some of these questions are “How do I cite the website as a source?” and “How do I download/upload data?” The “Get Involved” page further explains how each type of user can get involved using our site. It explains what organizations, journalists, volunteers, scientists, government officials, and even what normal citizens can do to further make use of the site. We feel that these pages are important for **ensuring users clearly understand how to use the platform**.

The **project discovery page** is integral to the success of the platform. It provides easy access to all projects happening in Venice. Users can easily find the project they want with sort and filter options to best suit their preferences.

The motivation for this project was to **provide better access to citizen science data** and the data visualization pages provide that access. Users can easily visualize data and can download their visualizations for future use. Additionally, users can **get access to raw data** for any project.

To summarize, there are plenty of features that make this platform great. These are just several of the many features that we included in the platform design. We hope these features inspire users to return to the platform. Next, we are giving our design to our sponsor, Venice Calls, to **develop into a fully functional website**.

6. Recommendations for Future Development

The design laid out in this report sets the course for developing a robust platform to support the various citizen science efforts occurring in Venice, Italy. Throughout this project we have gathered ideas, suggestions, and research on how to successfully implement this platform. In this section we will detail what we've learned and what decisions still need to be made.

6.1 Data Visualizations

Data visualizations were the central idea that spurred this project into existence. Our sponsor has a deep desire to share the data they are collecting in a way that can further scientific research and establish credibility of their collection methods. In order to implement data visualizations in this platform, three processes need to be considered:

1. The process by which data is stored
2. The process by which graphs and figures are created
3. The process by which data is downloaded (in bulk) and cited

Data is uploaded in three primary ways; in bulk by organizers, individually by volunteers, or semi-continuously by automatic sensors. The organizers will want to be able to upload their data as a document, primarily Excel Workbook, CSV, or as JSON. For them, the platform needs to be able to **receive uploaded files** and securely parse them in order to **save the data in a database**. The volunteers will want to upload data through the website directly, most likely on their phone. It will be important for the mobile version to contain a page making it easy to submit data to a project. The sensors will need to talk to the platform directly, with little to no human interaction. This is most securely accomplished by implementing an Application Programming Interface (API). The API handles the communication between the website/sensors and the database, ensuring the connections are secure (authenticated) and safe (non-malicious). Further research is needed to successfully implement a secure and safe API.

Graphs can be created using a multitude of software and services. The trouble comes when looking for the best software or service for the situation. During the course of designing the platform, we identified two solutions for creating visuals and embedding them in the platform. The first, and easier, method is to have users make an account on datawrapper.de and get embed codes after using Datawrapper's visuals utility. The second, and more seamless, method is to develop a visuals creation utility using **D3.js**, a popular JavaScript library for manipulating data and creating graphics. More research is warranted as well as consideration of the time and other constraints put on the development team.

Sharing data is the next step after storing and visualizing it. Various entities will want to be able to download graphs as well as the raw data for independent analysis. While only one option for downloading the raw data is necessary, supporting several file types to download makes it easier for users. We recommend supporting **excel workbook files** at a minimum. Additional file types may include CSV and JSON. In addition to downloading the data, users and organizers will want an easy way to cite the data they are using. Having a citation generator as

part of the download screen would make the process easier. More research is needed to discover if such generators exist already.

6.2 User Engagement

Visitor/user engagement is highly important for the success of this platform. Without users there is no point to creating a platform in the first place. It's important to continually grow the platform's audience of users as well as maintain engagement with those users who are already established.

- SEO
- Newsletters
- Accessibility

In order to **bring new users to the platform**, optimizing it for **search engines** is critical. Ensuring the search engine can retrieve useful information from the platform will help raise the ranking of the platform in users' search results.

In order to **Maintain current users**, we will email a periodic **newsletter** with updates to the platform and its projects. The newsletter can contain information on how to get involved, and the benefits of being involved. This is also an opportunity to prey on the 'fear of missing out' complex, to entice users into participating.

Another key aspect of user engagement is **accessibility**. When developing web applications, the end goal is to have the application used by as many people as possible. With that goal in mind, it is crucial to accommodate as many users as possible. Users with impairments may have a harder time interacting with a website if their situation is not considered during the design of the application. Therefore, we recommend referring to the **W3C Web Content Accessibility Guidelines** to understand accessibility, usability, and inclusion principles and how people with disabilities use the web. Following those guidelines will help to ensure the platform is accessible to as many users as possible.

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Appendices

Appendix A - Platform Comparison Rubric

Platform Name	Targeted Purpose	Helpful Features (List most helpful (top) to least helpful (bottom))	Explain why you found the features helpful	UnHelpful Features (List least helpful (top) to more helpful (bottom))	Explain why you found the features unhelpful	Ease of use (1-10, 1: not easy, confusing, got lost. 10: Super easy, clear instructions, never lost)	Explain how the platform was or was not easy to use	General Comments
<i>EU-Citizen Science</i>								
<i>CitSci</i>								
<i>Anecdata</i>								
<i>iNaturalist</i>								
<i>iSpot</i>								
<i>Zooniverse</i>								
<i>ALA Project Finder</i>								
<i>Venice Project Center</i>								
<i>Minna-no Data</i>								
<i>Österreich forscht - Citizen Science Network Austria (CSNA).</i>								
<i>Cape Citizen Science</i>								

Appendix B - Scores of Citizen Science Projects -

Platform Name	Ease of use (1-10, 1: not easy, confusing, got lost. 10: Super easy, clear instructions, never lost)	Ease of use (1-10, 1: not easy, confusing, got lost. 10: Super easy, clear instructions, never lost)	Ease of use (1-10, 1: not easy, confusing, got lost. 10: Super easy, clear instructions, never lost)	Ease of use (1-10, 1: not easy, confusing, got lost. 10: Super easy, clear instructions, never lost)	Sum Of Scores
EU-Citizen Science	8	9	9	6	32
CitSci	6	10	7	8	31
Anecdata	7	7	10	7	31
iNaturalist	7	10	5	10	32
iSpot	6.5	7	6	9	28.5
Zooniverse	9	10	6	10	35
ALA Project Finder	9	7	8	7	31
Minna-no Data	7	6	7	5	25
Österreich forscht - Citizen Science Network Austria (CSNA).	8	5	9	10	32
Cape Citizen Science	8	4	8	8	28
European Citizen Science Association	9	7	7	9	32
Venice Project Center	9	8	9	5	31

Appendix C - Interview Questions for Professor DeWinter

1. Do you have any experience with crowdsourcing platforms?
 - a. If No, switch questions to about data visualization platforms
2. [If Yes to Question 1]: What features are key in a (crowdsourcing) platform?
3. [Following Question 2]: What are the best methods of implementing these features?
4. [Following Question 3]: Can you link us to some examples you love?
5. [Following Question 4]: What are common mistakes made with these platforms?
6. How do we get a sense of Venetian cultural designs?
7. How should we approach making user profiles and journeys?

Appendix D - Interview Questions for Venice Calls

1. How many citizen science projects have you run? (to organizations)
2. What went well, what did not go well?
3. What kinds of feedback have you gotten?
4. Who do you want to use your site?
5. What organization has a model that you think is really good?
6. What kinds of methods did you find attracted the most volunteers?
7. How did you spread the word of your project?

Appendix E - Interview Questions for Professor Harrison

1. What are the best data visualization options?
2. How can we import data visualization options into our platform?
3. What are the strengths and limitations of data visualization?
4. What is the right balance of text and imagery to convey information?
5. How can we limit bias from our data visualizations?
6. Do visualizations across different age groups need to be different? How?
7. What are some resources we can follow to ensure our graphs follow industry standards or best practices?

Appendix F - The Application: Visitor View

The Home Page

The screenshot shows the homepage of the Venice Citizen Science Platform. At the top, there's a header with the platform's name, a weather update (15°C), a search bar, and a login link. Below the header is a large banner featuring three people working on a canal bank. To the left of the banner is the text: "Welcome to the Venice Citizen Science Platform. Explore citizen science projects, interact with data, and help keep Venice, Italy beautiful!"

Below the banner is a section titled "Featured Projects" with three cards:

- LAGOON EYE**: An image of a white cylindrical sensor device.
- COMMERCES POST COVID-19**: An image of a shop front with a pink awning.
- CLEAN UP**: An image of a person in a boat collecting trash.

Underneath these cards is a section titled "Our Mission" enclosed in a box. It contains the text: "Our mission is to increase the communication of science in Venice by visualizing citizen science data and increasing participation in citizen science data".

Further down is a section titled "How Does This Work?" which includes a diagram showing four circular icons with corresponding labels:

- View Current Projects**: A magnifying glass icon.
- Join Current Projects**: A hands icon.
- Visualize Project Data**: A chart icon.
- Create New Projects**: A pencil icon.

At the bottom of the page is a section titled "SUSTAINABLE DEVELOPMENT GOALS" with a grid of 17 colored squares, each representing one of the UN Sustainable Development Goals (SDGs). The squares are numbered 1 through 17 and have corresponding icons and names:

1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 FAIR TRADE, SUSTAINABLE INDUSTRIES, AND CLIMATE CHANGE	17 PARTNERSHIPS FOR THE GOALS	

At the very bottom of the page is a footer with links for "Venice Citizen Science Platform", "Projects", "Community", "Help", "About", "Calendar", "Register", "Settings", and social media icons for Facebook and Instagram.

“How Does This Work?” Page

This screenshot shows the 'How Does This Work?' page of the Venice Citizen Science platform. The page is titled 'How Does This Work?' and contains four main sections, each with an icon and a brief description:

- View Current Projects**: An icon of a magnifying glass over a document. Description: "This platform hosts citizen science projects that address economic, environmental, and social issues in Venice."
- Join Current Projects**: An icon of a hand holding a coffee cup. Description: "Through the Projects page, you can pick and choose which projects you are interested in! By clicking on a project, you will be able to see how you can participate in the citizen science project."
- Visualize Project Data**: An icon of a bar chart with a pencil. Description: "Thanks to your efforts, more and more data will be added to the project. As this occurs, a data visualization to represent that data will be created. It will take the form that best interprets the data such as a bar graph, scatter plot, histogram, etc. After, you can download the data for your own use! All data is open source. If you don't like the
- Create New Projects**: An icon of a pencil writing on a document. Description: "Use the project creation page and fill out the steps to add an existing project or create a new one. Our platform will help to invite the Venetian community, or anyone willing to volunteer, to participate!"

The page footer includes the 'Venice Citizen Science Platform' logo, navigation links for Projects, Community, About, Help, Calendar, Register, Settings, and social media icons for Facebook and Instagram.

Community Discussions Page

This screenshot shows the 'Community Discussions' page of the Venice Citizen Science platform. The page features a large heading 'Community Discussions' and a subtext: "Discussions about the platform and projects can be found on our Facebook group. Click [here](#) to view that group!" Below this is a screenshot of a Facebook group page for 'Venice Citizen Science' showing a post with two people standing near a canal.

The page footer includes the 'Venice Citizen Science Platform' logo, navigation links for Projects, Community, About, Help, Calendar, Register, Settings, and social media icons for Facebook and Instagram.

About Venice Citizen Science Platform Page

Venice Citizen Science

Projects Community About Help Calendar Weather in Venice: 15 °C ☀️ Search for Projects, Events, and Organizations Login

About Venice Citizen Science

Our Goal

In order to increase the value of science in the Venetian community, we aim to host a diverse set of citizen science projects that address multiple challenges that Venice is facing.

How

Increasing the communication of science among the venitian community can have many positive impacts. Not only can it increase science literacy among the community, but that can also translate into support for science based policies that will positively affect the living environment in the long run.

Having a platform to host Venetian citizen science projects can also have a positive effect abroad. The international science community and journalists can have access to the data visualizations and the data collected in these projects to learn more about the Venetian community.

The Venice Citizen Science platform and Venice Calls support the Sustainable Development Goals. As such, all projects on this platform are categorized by one or more goals.

For a brief description of each goal, you can view our page on them or visit <https://sdgs.un.org/goals>

History

This website was designed by four WPI undergraduate students in 2020, with the hopes of it being developed into a fully functioning website one day. Venice Calls, the sponsor for this project, will work to continue working on this application.

Venice Citizen Science Platform Projects Community Help Register Settings

Sustainable Development Goals Page

Venice Citizen Science

Weather in Venice: 15 °C

Projects Community About Help Calendar Search for Projects, Events, and Organizations Login

Sustainable Development Goals

For a brief description of each goal, you can view our page on them or visit <https://sdgs.un.org/goals>

SUSTAINABLE DEVELOPMENT GOALS

Venice Citizen Science Platform Projects Community Help Calendar Register Settings

Calendar Page

Venice Citizen Science

Weather in Venice: 15 °C

Projects Community About Help Calendar Search for Projects, Events, and Organizations Login

Project Events

December 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	1	2	3	4	5

Plastic Free Venice Clean Up

Venice Citizen Science Platform Projects Community Help Calendar Register Settings

Search Results Page

Venice Citizen Science

Projects Community About Help Calendar Weather in Venice: 15 °C Cloud Search for Projects, Events, and Organizations Login

SEARCHING FOR: VENICE

3 Results in Projects

Clean Up
- Venice Calls -

Our Clean Up program in Venice where we pick up plastic and other debris, categorize it, weigh it, and record where it was picked up.

[View Project](#)

Commerce Post-COVID
- SerenDPT -

This project, in collaboration with WPI, analyzes the impacts of COVID-19 on businesses in Venice.

[View Project](#)

Lagoon Eye
- Venice Calls -

The Lagoon Eye project monitors air pollution, temperature, and other data sets to learn more about the impacts of climate change.

[View Project](#)

2 Results in Projects

Our Goal

In order to increase the value of science in the Venetian community, we aim to host a diverse set of citizen science projects that address multiple challenges that **Venice** is facing.

How

In order to increase the quality of the living environment in **Venice** we aim to host projects that support the United Nations's Sustainable Development Goals.

Venice Citizen Science Platform Projects Community Help Calendar Register Settings [Facebook](#) [Instagram](#)

Explore Projects Page

Venice Citizen Science

Projects Community About Help Calendar Weather in Venice: 15 °C Cloud Search for Projects, Events, and Organizations Login

Projects

Filter

STATUS

- Active
- Completed

CATEGORY

- No Poverty
- Zero Hunger
- Good Health & Well-Being
- Quality Education
- Gender Equality
- Decent Work & Economic Growth
- Industry, Innovation, & Infrastructure
- Sustainable Cities & Communities
- Responsible Consumption & Production
- Climate Action
- Life Below Water
- Life On Land
- Peace, Justice, & Strong Institutions
- Partnerships For The Goals

ORGANIZATION

- Venice Calls
- Venice Project Center

PARTICIPATION

- Online
- In-person

TYPE

- Classification
- Observation
- Instrumentation

Clean Up
- Venice Calls -

Clean Up is a program in Venice where we pick up plastic and other debris, categorize it, weigh it, and record where it was picked up.

[View Project](#)

Commerce Post-COVID
- SerenDPT -

This project, in collaboration with WPI, analyzes the impacts of COVID-19 on businesses in Venice.

[View Project](#)

Lagoon Eye
- Venice Calls -

The Lagoon Eye project monitors air pollution, temperature, and other data sets to learn more about the impacts of climate change.

[View Project](#)

Venice Citizen Science Platform Projects Community Help Calendar Register Settings [Facebook](#) [Instagram](#)

Project “Clean Up” About Page

The screenshot shows the Venice Citizen Science platform's "About" page for the "Clean Up" project. At the top, there's a header with the platform logo, weather information (15°C), a search bar, and a login link. Below the header, the project title "Clean Up" and subtitle "- Venice Calls -" are displayed. A navigation bar with tabs "ABOUT" (which is active), "DATA", and "JOIN" follows. On the left, there's a graphic showing a pile of plastic waste above a circle containing the text "10 KG of plastic collected so far". To the right, a section titled "About Clean Up" contains text about the project's goal to combat plastic waste in the lagoon. Below this, a section titled "Organizers" includes contact information: info.venicecalls@gmail.com. The footer contains links to the Venice Citizen Science Platform, social media icons for Facebook and Instagram, and a "Logout" button.

Project “Clean Up” Data Page

The screenshot shows the Venice Citizen Science platform's "Data" page for the "Clean Up" project. The layout is similar to the "About" page, with the header, project title, and navigation bar. On the left, there's a "Filter" sidebar with "Sort By" options ("Most Recent" and "Least Recent") and "Graph Type" options ("Map", "Scatterplot", and "Bar Graph"). The main content area displays five data visualizations arranged in a grid:

- Pollution by Mass (kg) - Sant' Erasmo -**: Bar Graph, 29/09/2020
- Pollution Type - Sant' Erasmo -**: Bar Graph, 29/09/2020
- Clean Up Location - Bosco dell' Osellino -**: Map, 19/09/2020
- Pollution by Mass (kg) - Bosco dell' Osellino -**: Bar Graph, 19/09/2020
- Pollution Type - Bosco dell' Osellino -**: Bar Graph, 19/09/2020

The footer is identical to the "About" page, featuring links to the platform, social media icons, and a "Logout" button.

Project “Clean Up” Join Page

Venice Citizen Science

Weather in Venice: 15 °C

Projects Community About Help Calendar Search for Projects, Events, and Organizations Login

Clean Up

- Venice Calls -

ABOUT DATA JOIN

Events

Has Data

- Sant' Ermanno - Venice Calls -
- Bosco dell'Osellino - Venice Calls -

No Data Yet

- Alberoni - Lido - Venice Calls -
- Cà Roman - Pellestrina - Venice Calls -
- Marzenego Osellino - Venice Calls -
- Murano - Venice Calls -
- Murazzi - Lido - Venice Calls -
- Murazzi Beach - Lido - Venice Calls -
- Poveglia - Venice Calls -
- San Nicolò - Venice Calls -
- Secca S. Alvise - Venice Calls -
- Secca S. Michele - Venice Calls -
- Secca S. Pietro - Venice Calls -
- Secca Tronchetto - Venice Calls -
- Torcello - Venice Calls -

Join one of our events! All of our events are family friendly - feel free to bring as many people as you want with you! Didn't find a project that you liked? Join our newsletter to be the first one to know about new events!

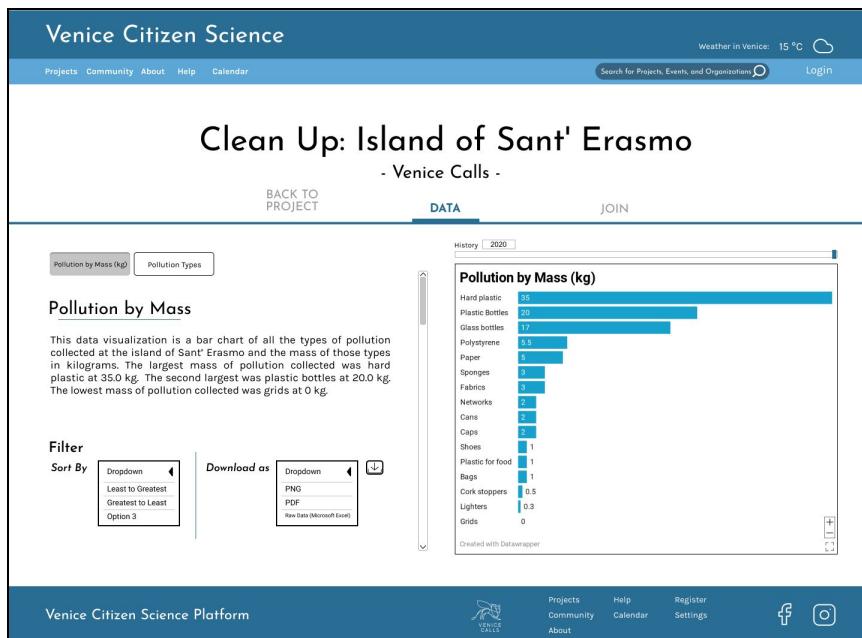
JOIN OUR NEWSLETTER:

Pictures taken during the Clean Up: Island of Sant' Ermanno. See more on our Instagram @venice.calls

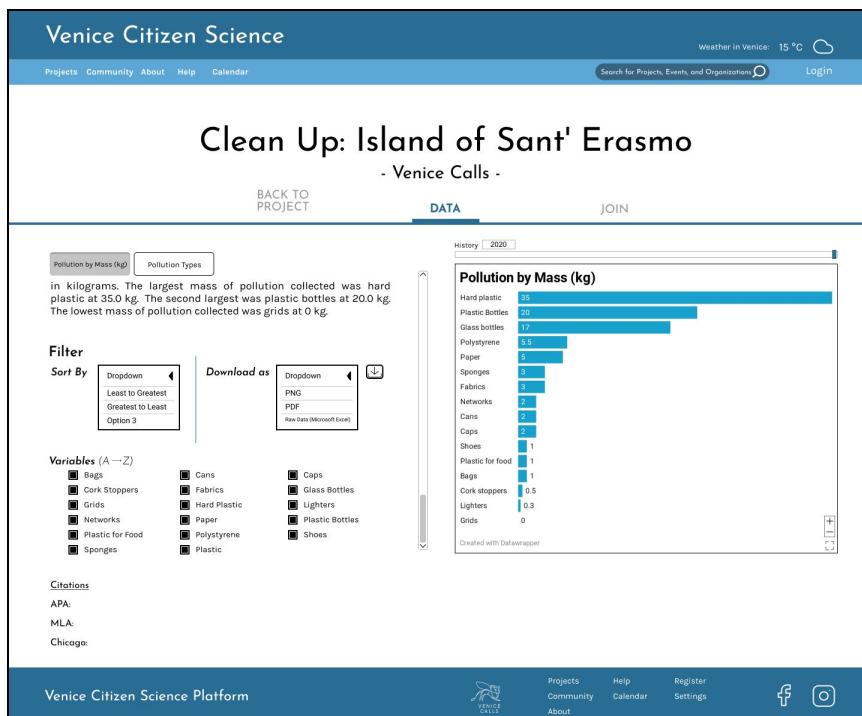
Venice Citizen Science Platform

Projects Community Help Register Settings

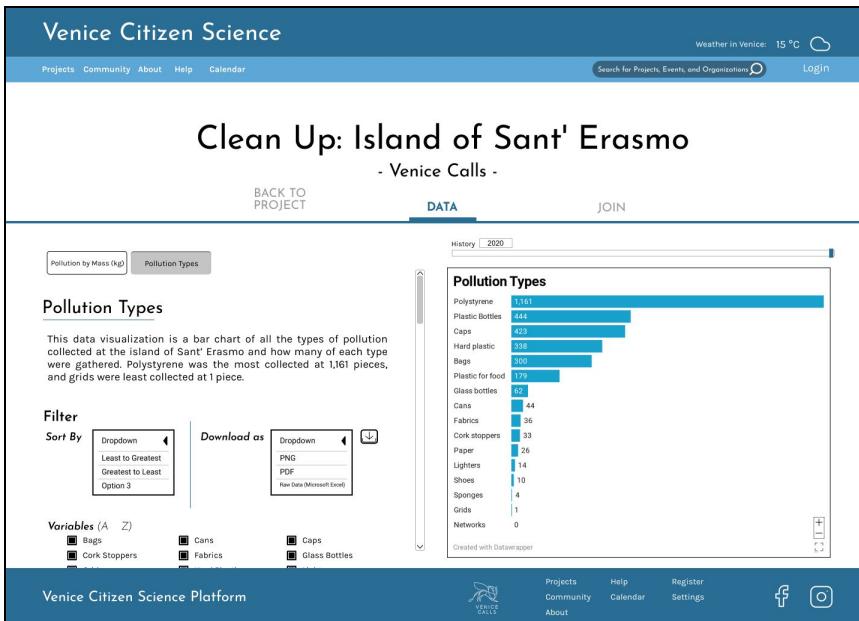
Event “Clean Up: Island of Sant’ Erasmo” Data Page: Pollution by Mass (kg) Database [top]



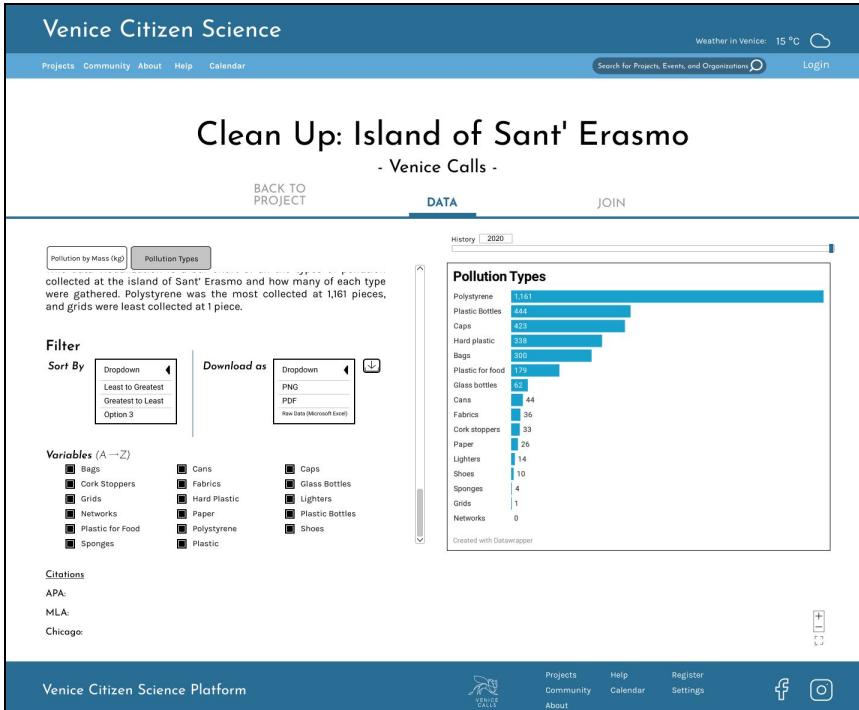
Event “Clean Up: Island of Sant’ Erasmo” Data Page: Pollution by Mass (kg) Database [bottom]



Event “Clean Up: Island of Sant’ Erasmo” Data Page: Pollution Types Database [top]



Event “Clean Up: Island of Sant’ Erasmo” Data Page : Pollution Types Database[bottom]



Event “Clean Up: Island of Sant’ Erasmo” Join Page

Venice Citizen Science

Weather in Venice: 15 °C

Projects Community About Help Calendar Search for Projects, Events, and Organizations Login

Clean Up: Island of Sant' Erasmo

- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

How

Join us at Sant' Erasmo! You will be picking up plastic pollution in the area so make sure you wear comfortable clothing that is suitable for the weather and you don't mind getting dirty. We will provide trashbags and gloves.

When

September 29, 2020
10:30 am - 1:30 pm

Where

30141 Venezia VE [Directions via Google Maps](#)



Didn't find an event that you liked? Join our newsletter to be the first one to know about new events!

[JOIN OUR NEWSLETTER](#)

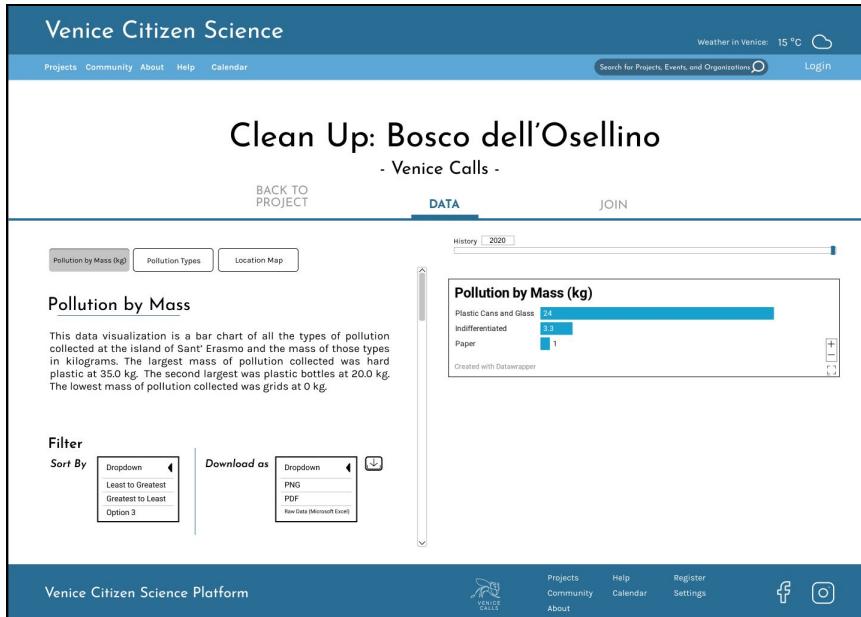
Pictures taken during the Clean Up: Island of Sant' Erasmo. See more on our Instagram [@venice.calls](#)



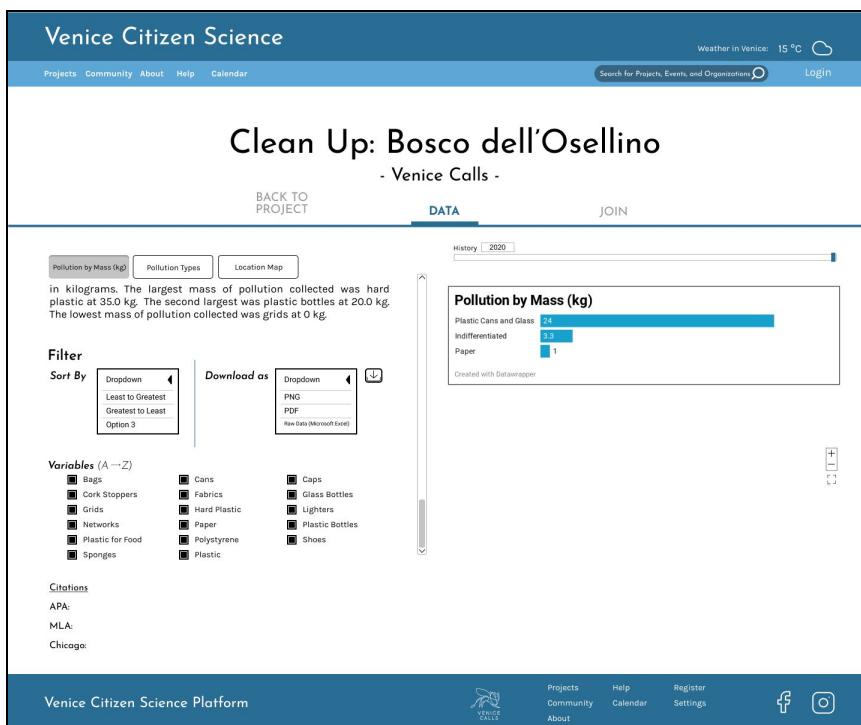
Venice Citizen Science Platform

Projects Community About Help Calendar Register Settings

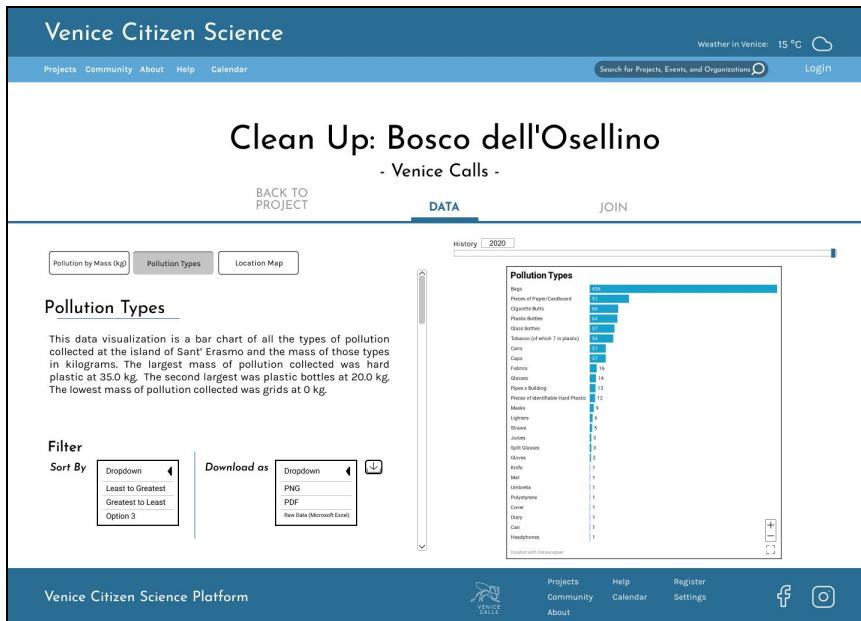
Event “Clean Up: Bosco dell’Osellino” Data Page: Pollution by Mass (kg) Database[top]



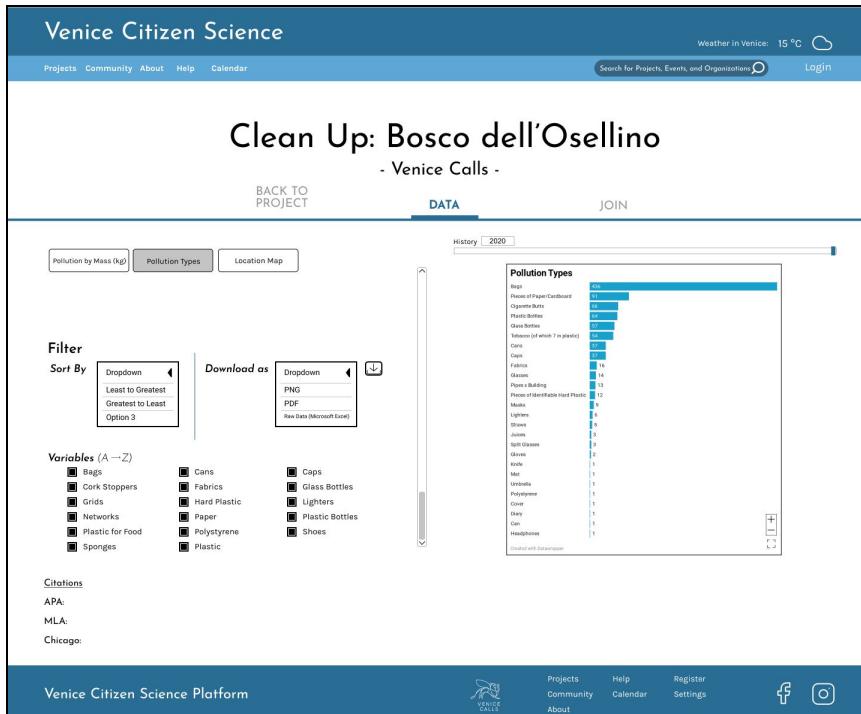
Event “Clean Up: Bosco dell’Osellino” Data Page: Pollution by Mass (kg) Database[bottom]



Event “Clean Up: Bosco dell’Osellino” Data Page: Pollution Types Database [top]



Event “Clean Up: Bosco dell’Osellino” Data Page: Pollution Types Database [bottom]



Event “Clean Up: Bosco dell’Osellino” Data Page: Location Database

Venice Citizen Science

Weather in Venice: 15 °C 

Projects Community About Help Calendar Search for Projects, Events, and Organizations Login

Clean Up: Bosco dell’Osellino

- Venice Calls -

BACK TO PROJECT DATA JOIN

Pollution by Mass (kg) Pollution Types Location Map

Location Map

This map shows the area at which the clean up took place. The clean up took place at Bosco dell’Osellino a park on mainland Italy by Forte Marghera.

Download as  

Dropdown
PNG
PDF
Raw Data (Microsoft Excel)



Venice Citizen Science Platform  Projects Community Help Register Settings  

Event “Clean Up: Bosco dell’Osellino” Join Page

Venice Citizen Science

Weather in Venice: 15 °C 

Projects Community About Help Calendar Search for Projects, Events, and Organizations Login

Clean Up: Bosco dell’Osellino

- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

How

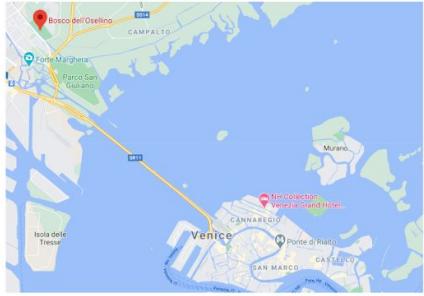
Join us at Sant’ Erasmo! You will be picking up plastic pollution in the area so make sure you wear comfortable clothing that is suitable for the weather and you don’t mind getting dirty.. We will provide trashbags and gloves.

When

September 19, 2020
10:30 am - 1:30 pm

Where

Via Amerigo Vespucci, 223,
30173 Venezia VE, Italy
[Directions via Google Maps](#)



Didn't find an event that you liked? Join our newsletter to be the first one to know about new events!

JOIN OUR NEWSLETTER:

Pictures taken during the Clean Up: Island of Sant’ Erasmo. See more on our Instagram [@venice.calls](#)



Venice Citizen Science Platform

Projects Community About Help Calendar Register Settings  

Event “Clean Up: Island of Sant’Erasmo” Join Page - Classification

Venice Citizen Science

Weather in Venice: 15 °C 

Search for Projects, Events, and Organizations  Login

Clean Up: Island of Sant' Erasmo

- Venice Calls -

ABOUT DATA JOIN

Join our classification efforts by visiting our project on Zooniverse!

ZOONIVERSE LINK

Couldn't find something you were interested in? Join our newsletter to be the first one to know about new events!

JOIN OUR NEWSLETTER:

Pictures taken during the Clean Up: Island of Sant' Erasmo. See more on our Instagram [@venice.calls](#)



CleanUp S.Erasmo 77w

Send Message

Send Message

Send Message

CleanUp S.Erasmo 77w

Send Message

CleanUp S.Erasmo 77w

Send Message

VENICE CALLS

Venice Citizen Science Platform

Projects Community Help Calendar Register About

Project “Commerce Post-COVID” About Page

Venice Citizen Science

Weather in Venice: 15 °C 

Projects Community About Help Calendar Search for Projects, Events, and Organizations Login

Commerce Post-COVID

- SerenDPT -

ABOUT DATA JOIN

About Commerce Post-COVID



Clean Up is a project hosted by Venice Calls. The lagoon has a lot of plastic waste, therefore Venice Calls conducts clean ups every month to help combat this problem. The plastic is sorted and weighted in order to learn more about this challenge that is facing Venice.

So far, volunteers have collected as much as 500 kg of plastic in the lagoon, making it a much safer place for humans and for wild life.

Organizers

CONTACT INFORMATION: contacts@serendpt.net

Venice Citizen Science Platform Projects Community Help Register Settings  

Project “Lagoon Eye” About Page

Venice Citizen Science

Weather in Venice: 15 °C 

Projects Community About Help Calendar Search for Projects, Events, and Organizations Login

Lagoon Eye

- Venice Calls -

ABOUT DATA JOIN

About Plastic Free Venice



Plastic Free Venice is a project hosted by Venice Calls. The lagoon has a lot of plastic waste; therefore Venice Calls conducts clean ups every month to help combat this problem. The plastic is sorted and weighted in order to learn more about this challenge that is facing Venice.

So far, volunteers have collected as much as 500 kg of plastic in the lagoon, making it a much safer place for humans and for wild life.

Organizers

CONTACT INFORMATION: info.venicecalls@gmail.com

Venice Citizen Science Platform Projects Community Help Register Settings  

Project “Lagoon Eye” Data Page: Location of Sensors Database

The screenshot shows the Venice Citizen Science Platform's "Lagoon Eye" data page. At the top, there's a header with "Venice Citizen Science" and a weather widget showing "15 °C". Below the header is a navigation bar with links for "Projects", "Community", "About", "Help", "Calendar", "Search for Projects, Events, and Organizations", and "Login". The main content area has tabs for "ABOUT", "DATA", and "JOIN", with "DATA" currently selected. A map of the Venice lagoon and surrounding islands like Murano, Sant'Erasmo, and Giudecca is displayed, showing sensor locations marked with red dots. A legend at the top left of the map indicates three types of sensors: Temperature, Humidity, and Particulates. Below the map is a legend for the map itself. The footer contains links for "Venice Citizen Science Platform", "Projects", "Community", "About", "Help", "Calendar", "Register", "Settings", and social media icons for Facebook and Instagram.

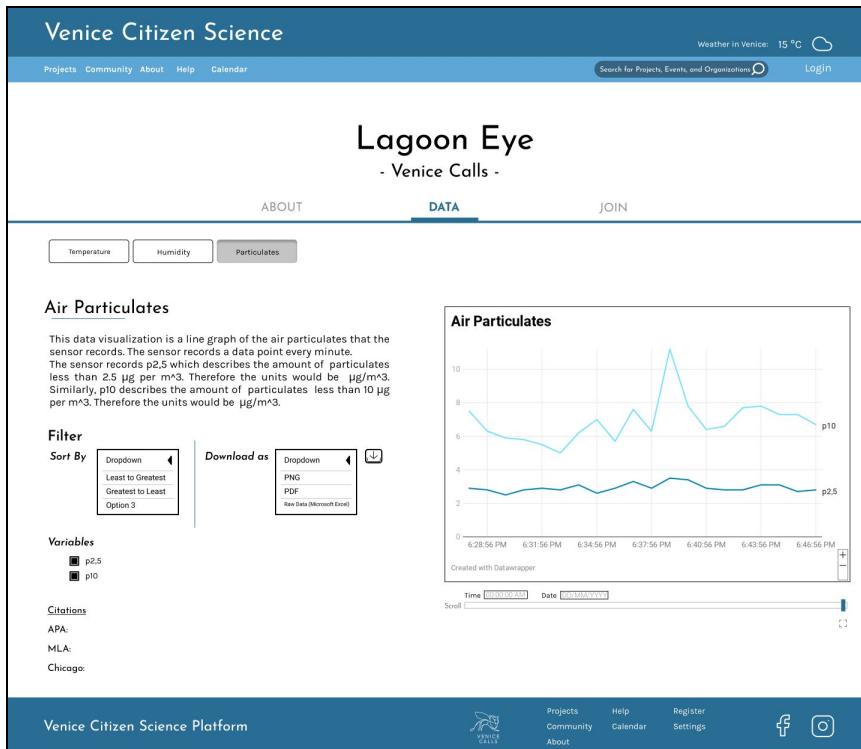
Project “Lagoon Eye” Data Page: Temperature Database

The screenshot shows the same Venice Citizen Science Platform interface as the previous one, but the "DATA" tab is active. In the center, there's a line graph titled "Temperature (°C)" showing temperature data over time. The y-axis ranges from 29.6 to 31.4 degrees Celsius, and the x-axis shows dates from June 27, 2016, to June 28, 2016. The graph shows a steady upward trend. To the left of the graph, there's a section titled "Temperature (°C)" with a description explaining it's a line graph of temperature records every minute. Below this are "Filter" and "Download as" options. The "Filter" section includes dropdown menus for "Sort By" (Dropdown, Least to Greatest, Greatest to Least, Option 3) and "Download as" (Dropdown, PNG, PDF, Raw Data (Microsoft Excel)). The "Download as" section also includes a "Raw Data (Microsoft Excel)" link. The footer is identical to the first screenshot, with links for "Venice Citizen Science Platform", "Projects", "Community", "About", "Help", "Calendar", "Register", "Settings", and social media icons.

Project “Lagoon Eye” Data Page: Humidity Database



Project “Lagoon Eye” Data Page: Particulates Database



Project “Lagoon Eye” Join Page

The screenshot shows the Venice Citizen Science Platform's "Join" page for the "Lagoon Eye" project. At the top, there's a header with the platform's logo, weather information (15°C), a search bar, and a login link. Below the header, the project title "Lagoon Eye" and subtitle "- Venice Calls -" are displayed. A navigation bar with links for "ABOUT", "DATA", and "JOIN" is present, where "JOIN" is underlined. The main content area is titled "How" and contains instructions for joining, mentioning the submission of an address and sensor setup. There are two input fields: one for "Address" and one for "JOIN OUR NEWSLETTER". At the bottom, there's a footer with the platform's name, social media links (Facebook and Instagram), and a "Logout" button.

Organization “Venice Calls” Page

The screenshot shows the Venice Citizen Science Platform's organization page for "Venice Calls". The header is identical to the previous screenshot. The main content area features a large image of a person wearing a "VENICE CALLS" t-shirt. Below the image, there are sections for "Mission" and "Projects". The "Mission" section includes a paragraph about the organization's role in creating and supporting projects for a sustainable city. The "Projects" section lists two projects: "Clean Up - Venice Calls -" and "Lagoon Eye - Venice Calls -". Each project has a thumbnail image, a brief description, and social media sharing icons. The footer is identical to the other screenshots, featuring the platform's name, social media links, and a "Logout" button.

Organization “SerenDPT” Page

The screenshot shows the SerenDPT organization page on the Venice Citizen Science Platform. At the top, there's a header bar with the platform's logo and navigation links for Projects, Community, About, Help, and Calendar. The weather in Venice is listed as 15 °C with a cloud icon. A search bar and a login link are also present. The main content area features the SerenDPT logo (a red stylized shape with "SerenDPT" text) and a section titled "Mission" with a brief description. Below that is a "Projects" section featuring a thumbnail for "Commerce Post-COVID - SerenDPT -". The footer contains the Venice Citizen Science Platform logo, navigation links for Projects, Community, Help, Calendar, Register, and Settings, and social media icons for Facebook and Instagram.

Log In Page

The screenshot shows the log in page for the Venice Citizen Science Platform. The header is identical to the organization page, with the Venice Citizen Science logo, navigation links, weather information, a search bar, and a login link. The main content area is titled "Log in to Venice Citizen Science" and includes fields for "Email" and "Password", a "Log in with your email" button, and links for "Don't have an account? Register" and "Forgot your password?". Below these are four social media log in options: "Continue with Facebook", "Sign in with Google", "Sign in with Microsoft", and "Sign in with Twitter". The footer is identical to the organization page, with the Venice Citizen Science Platform logo, navigation links, and social media icons.

Register A New User Page

The screenshot shows the 'Register' page of the Venice Citizen Science Platform. At the top, there are input fields for 'Email' and 'Password', followed by a green button labeled 'Register with your email'. Below these are four social media sign-in options: 'Continue with Facebook', 'Sign in with Google', 'Sign in with Microsoft', and 'Sign in with Twitter'. The bottom of the page features a dark blue footer bar with the platform's name, navigation links for Projects, Community, Help, Register, and Settings, and social media icons for Facebook and Instagram.

Account Confirmation Sent Page

The screenshot shows the 'Email Confirmation Pending' page. It displays a message stating 'You should receive an email to confirm your account shortly'. The bottom of the page features a dark blue footer bar with the platform's name, navigation links for Projects, Community, Help, Register, and Settings, and social media icons for Facebook and Instagram.

Password Reset Page

The screenshot shows the 'Password Reset' page of the Venice Citizen Science website. At the top, there is a header bar with the site's name, a weather widget showing 15 °C and a cloud icon, and a search bar. Below the header, the main content area has a title 'Password Reset' and a form field asking 'Please enter the email address associated with your account'. A green button labeled 'Request password reset' is at the bottom of the form. At the very bottom of the page is a footer bar with links for the platform, projects, community, help, register, settings, and social media (Facebook and Instagram).

Password Reset Request Sent Page

The screenshot shows the 'Password Reset Request Sent' page. It features a header bar identical to the previous page. The main content area displays the message 'Password Reset Request Sent' and a sub-message 'You should receive an email to reset your password shortly'. The footer bar at the bottom contains the same navigation links as the other pages.

Appendix G - The Application: Logged In View

All the frames in Appendix E also exist in this appendix. The only difference is the header and footer, seen below. Only frames not related to the Visitor View will be featured in Appendix F.

Header For Logged In

The screenshot shows the top navigation bar of the Venice Citizen Science application. At the top left is the logo "Venice Citizen Science". To the right, the text "Logged in as: Olive Pool (Venice Calls)" is displayed, followed by "Weather in Venice: 15 °C" and a small cloud icon. A search bar labeled "Search for Projects, Events, and Organizations" is next to the account dropdown menu, which includes options like "Profile", "Settings", and "Log Out". Below the search bar, there are links for "Projects", "Community", "About", "Help", and "Calendar".

Footer For Logged In

The screenshot shows the bottom navigation bar of the application. It features the "Venice Citizen Science Platform" logo on the left. In the center, there are links for "Projects", "Community", "About", "Help", "Calendar", "Profile", "Settings", and "Log Out". On the far right, there are social media icons for Facebook and Instagram.

Default User Profile Page 1

The screenshot shows the user profile page for "Olive Pool". The top header is identical to the one above. The main content area displays the user's profile picture, name "Olive Pool", and two tabs: "Projects Contributed To" and "Projects Following". Under "Projects Contributed To", there is a table with columns "Name" and "Date", showing a single entry: "None". On the left side of the profile area, there are buttons for "Message" and "Edit Profile". The bottom navigation bar is identical to the one in the header screenshot.

Default User Profile Page 2

This screenshot shows the user profile page for 'Olive Pool' on the Venice Citizen Science Platform. At the top, there's a placeholder profile picture and a 'Message' button. Below it, there's a 'Edit Profile' button. The main area displays the user's name ('Olive Pool'), which is also the project they are contributing to. There are tabs for 'Projects Contributed To' (which is active) and 'Projects Following'. Underneath, there's a 'Name' field set to 'None' and an 'Organizer' field which is empty. On the right side, a vertical sidebar menu includes 'Profile', 'Settings', and 'Log Out'. The bottom navigation bar includes links for Projects, Community, Help, Calendar, Profile, Settings, and Log Out, along with social media icons for Facebook and Instagram.

Default Edit User Profile Page

This screenshot shows the 'Edit Profile' page for 'Olive Pool'. The page has a title 'Edit Profile' at the top. It features a 'Profile Picture' section with a placeholder image and an 'Upload Photo' button. Below that is a 'Name' field with the placeholder 'Click to Enter Text'. Under 'About', there's a text area for a bio, with the instruction 'Write a brief description about yourself, what kind of projects are you interested in? Why have you joined our platform?' and a note to 'Click "enter" for a new line'. The 'Projects Contributed To' section lists 'Clean Up: Bosco dell'Ossifino' with a date '09/18/2020'. A search dropdown shows results for 'Clean Up', 'Commerce Post-COVID', and 'Manila Clams for Science'. At the bottom are 'Save' and 'Discard Changes' buttons. The bottom navigation bar is identical to the previous screenshot.

Filled In Edit User Profile Page

The screenshot shows the 'Edit Profile' page for a user named 'Olive Pool'. The page includes fields for 'Profile Picture' (with a placeholder image of a person), 'Name' (Olive Pool), and 'About' (Hello! My name is Olive I was born and raised in Venice and love our home.). Below these are sections for 'Projects Contributed To' and 'Organizations'. Under 'Projects Contributed To', there are two entries: 'Clean Up: Bosco dell' Ostellino' (Date: 09/19/2020) and 'Clean Up: Island of Sant' Erasmo' (Date: 09/29/2020). A search bar for 'Type to Search' shows results for 'Clean Up', 'Commerce Post-COVID', and 'Manila Clams for Science'. At the bottom are 'Save' and 'Discard Changes' buttons. The top right shows the user is logged in as 'Olive Pool (Venice Calls)' with a weather update of '15 °C'. The bottom navigation bar includes links for Projects, Community, Help, Calendar, Profile, Settings, and Log Out.

Edited User Profile Page 1

The screenshot shows the user profile page for 'Olive Pool'. The profile picture is now a clear photo of a woman with glasses. The 'Name' field is also filled with 'Olive Pool'. The 'About' section contains the same text as the previous screenshot. The 'Projects Contributed To' section has been updated to show only the 'Island of Sant' Erasmo' entry from the previous screenshot. The 'Organizations' section is visible but empty. The bottom navigation bar includes links for Projects, Community, Help, Calendar, Profile, Settings, and Log Out.

Edited User Profile Page 2

The screenshot shows the Venice Citizen Science Platform's user profile page for a user named Olive Pool. At the top, there is a header bar with links for Projects, Community, About, Help, and Calendar. On the right side of the header, it says "Logged in as: Olive Pool (Venice Calls)" and "Weather in Venice: 15 °C". Below the header is a search bar and an account dropdown menu with options for Profile, Settings, and Log Out. The main content area features a profile picture of a woman with glasses, a bio message, and a link to edit the profile. There are tabs for "Projects Contributed To" and "Organizations", with "Organizations" being active. A box for "Venice Calls Affiliate" is shown, along with a "CREATE NEW ORGANIZATION" button. At the bottom, there is a footer bar with links for Projects, Community, About, Help, Calendar, Profile, Settings, and Log Out, along with social media icons for Facebook and Instagram.

Edit Project About Page

The screenshot shows the Venice Citizen Science Platform's project about page for a project called "Clean Up" hosted by "Venice Calls". At the top, there is a header bar with links for Projects, Community, About, Help, and Calendar. On the right side of the header, it says "Logged in as: Olive Pool (Venice Calls)" and "Weather in Venice: 15 °C". Below the header is a search bar and an account dropdown menu with options for Profile, Settings, and Log Out. The main content area features the project title "Clean Up" and subtitle "- Venice Calls -". There are tabs for "ABOUT", "DATA", and "JOIN", with "ABOUT" being active. A graphic shows a scale with a pile of plastic bags labeled "500 KG of plastic collected so far". To the right, there is a section titled "About Clean Up" with an "Edit" button. It contains text about the project's purpose to clean up plastic waste in the lagoon. Below this, there is a section titled "Organizer" with contact information: "CONTACT INFORMATION: info.venicecalls@gmail.com". At the bottom, there is a footer bar with links for Projects, Community, About, Help, Calendar, Profile, Settings, and Log Out, along with social media icons for Facebook and Instagram.

Edit Project About Confirm Page

Clean Up
- Venice Calls -

ABOUT **DATA** **JOIN**

About Clean Up **Confirm**

Clean Up is a project hosted by Venice Calls. The lagoon has a lot of plastic waste, therefore Venice Calls conducts clean ups every month to help combat this problem. The plastic is sorted and weighed in order to learn more about this challenge that is facing Venice.

So far, volunteers have collected as much as 500 kg of plastic in the lagoon, making it a much safer place for humans and for wild life.

Organizer
CONTACT INFORMATION: info.venicecalls@gmail.com

Venice Citizen Science Platform Projects Community Help Calendar Register Settings

Edit Project Data Page

Clean Up: Island of Sant' Erasmo
- Venice Calls -

ABOUT **DATA** **JOIN**

Pollution by Mass **Edit About**

This data visualization is a bar chart of all the types of pollution collected on the Island of Sant' Erasmo and those types in kilograms. The largest mass of pollution collected was hard plastic at 35.0 kg. The second largest was plastic bottles at 20.0 kg. The lowest mass of pollution collected was grids at 0 kg.

Filter
Sort By: Dropdown
Least to Greatest
Greatest to Least
Option 3

Download as: Dropdown
PNG
PDF
Raw Data (Microsoft Excel)

Pollution by Mass (kg)

Pollution Type	Mass (kg)
Hard plastic	35
Plastic bottles	20
Glass bottles	17
Polystyrene	8.5
Paper	5
Sponges	3
Fabrics	3
Networks	2
Cans	2
Caps	2
Shoes	1
Plastic for food	1
Bags	1
Cork stoppers	0.5
Lighters	0.3
Grids	0

Venice Citizen Science Platform Projects Community Help Profile Settings Log Out

All project data pages will have the same two buttons of “Edit About” and “Upload New Data” and they will be in the same positions regardless of project/data set. The other example project frames will not be included in this appendix.

Edit Project Join Page

The screenshot shows the Venice Citizen Science platform interface. At the top, a blue header bar displays the website name "Venice Citizen Science". On the right side of the header, there are user account details: "Logged in as: Olive Pool (Venice Calls)", "Weather in Venice: 15 °C", and a search bar labeled "Search for Projects, Events, and Organizations". Below the header, a navigation menu includes links for "Projects", "Community", "About", "Help", and "Calendar". To the right of the menu is an "Account" dropdown menu with options: "Profile", "Settings", and "Log Out".

The main content area features a large title "Clean Up" with a subtitle "- Venice Calls -". Below the title, there are three tabs: "ABOUT", "DATA", and "JOIN", with "JOIN" being the active tab, indicated by a blue underline and a blue background.

Under the "JOIN" tab, there is a section titled "Events" with a sub-section "ADD EVENT". Below this, two event entries are listed:

Event Name	Date	Action Buttons
Island of Sant' Erasmo	29-09-2020	SHOW Edit Event
Bosco dell'Osellino	19-09-2020	HIDE Edit Event

Below the events section, there is a heading "Add Images" followed by a "Image Description" input field. The input field contains a rich text editor toolbar and the text "Pictures taken during the Clean Up: Island of Sant' Erasmo. See more on our Instagram @venice.calls".

Three image attachments are listed below the description:

Image File	Action
image1.jpeg	CHANGE PICTURE
image2.jpeg	CHANGE PICTURE
image3.jpeg	CHANGE PICTURE

At the bottom of the page, a dark blue footer bar contains the text "Venice Citizen Science Platform" on the left, a logo in the center, and links for "Projects", "Community", "About", "Help", "Calendar", "Profile", "Settings", and "Log Out" on the right, along with social media icons for Facebook and Instagram.

Edit Event Join Page

The screenshot shows the Venice Citizen Science Platform interface. At the top, a blue header bar displays "Venice Citizen Science". On the right side of the header, it says "Logged in as: Olive Pool (Venice Calls)" and "Weather in Venice: 15 °C". There is a search bar for "Projects, Events, and Organizations" and an "Account" dropdown menu with options: Profile, Settings, and Log Out. The main content area features a title "Clean Up: Island of Sant' Erasmo" and a subtitle "- Plastic Free Venice Project -". Below the title, there are four input fields: "Date" (29/09/2020) with a checked checkbox; "Start Time" (10:30) with AM/PM checkboxes; "End Time" (01:30) with AM/PM checkboxes; and "Location" (30141 Venezia VE). A section titled "Add Images" follows, containing an "Image Description" text area with a rich text editor toolbar and placeholder text: "Pictures taken during the Clean Up: Island of Sant' Erasmo. See more on our Instagram @venice.calls". Below this, three image thumbnails are listed: "image1.jpeg" (with a "CHANGE PICTURE" button), "image2.jpeg" (with a "CHANGE PICTURE" button), and "image3.jpeg" (with a "CHANGE PICTURE" button). At the bottom of the page, a dark blue footer bar contains the text "Venice Citizen Science Platform" and links to "Projects", "Community", "About", "Help", "Calendar", "Profile", "Settings", and "Log Out". It also includes social media icons for Facebook and Instagram.

Project Creation Page: Step 1

The screenshot shows the 'PROJECT CREATION (1/6)' step. At the top, there's a note: 'You may pause your progress at any point and it will automatically be saved for future reference.' Below this, the 'Title of Project: About' section contains text: 'Time to take the first step into creating and setting up your project! First, give your project a catchy name! Make it short and sweet: you want the name to be simple to remember but still descriptive enough to be interesting.' It also includes a note about naming: 'For example, consider "Lagoon Eye": it has two words and evokes a sense of mystery! What is the "eye"? How would it be watching the Venetian lagoon? The lagoon itself might be compelling enough to draw viewers to check out the project!' A large text input field is labeled 'Click to Enter Text'. To the right, a 'Next >>' button is visible. The bottom navigation bar includes links for Projects, Community, Help, Calendar, Profile, Settings, and Log Out.

Project Creation Page: Step 2

The screenshot shows the 'PROJECT CREATION (2/6)' step. It features a note: 'You may pause your progress at any point and it will automatically be saved for future reference.' The 'Type of Project: About' section contains text: 'Now is the time to categorize your project! All projects are organized by UNESCO Sustainable Development Goals. Please read about the goals at <https://sdgs.un.org/goals> and then select which goal you think your project falls under. You can pick up to three goals!' It also includes a note: 'What if I'm not sure if my project fits under the goal I chose? No problem. Before public viewing, your project will undergo a revision by our team for accuracy and missing information.' Below this, a list of Sustainable Development Goals is provided, each with a checkbox and an icon:

Sustainable Development Goals (you can select up to three goals)	
<input type="checkbox"/> No Poverty	<input type="checkbox"/> Industry, Innovation, & Infrastructure
<input type="checkbox"/> Zero Hunger	<input type="checkbox"/> Reduced Inequalities
<input type="checkbox"/> Good Health & Well-Being	<input type="checkbox"/> Sustainable Cities & Communities
<input type="checkbox"/> Quality Education	<input type="checkbox"/> Responsible Consumption & Production
<input type="checkbox"/> Gender Equality	<input type="checkbox"/> Climate Action
<input type="checkbox"/> Clean Water & Sanitation	<input type="checkbox"/> Life Below Water
<input type="checkbox"/> Affordable & Clean Energy	<input type="checkbox"/> Life On Land
<input type="checkbox"/> Decent Work & Economic Growth	<input type="checkbox"/> Peace, Justice, & Strong Institutions
	<input type="checkbox"/> Partnerships For The Goals

At the bottom, a 'Last <<' button is on the left, and a 'Next >>' button is on the right. The bottom navigation bar includes links for Projects, Community, Help, Calendar, Profile, Settings, and Log Out.

Project Creation Page: Step 3

The screenshot shows the 'PROJECT CREATION (3/6)' section of the Venice Citizen Science platform. At the top, a message states: 'You may pause your progress at any point and it will automatically be saved for future reference.' On the right, a sidebar menu includes 'Profile', 'Settings', and 'Log Out'. The main content area is divided into three sections: 'Mission Statement', 'Brief History', and 'Citizen Impact', each with a text input field labeled 'Click to Enter Text'. Below these is a large text input field for 'Citizen Impact' with the placeholder 'Select "Enter" to skip to the... write on a new line.'. Navigation buttons 'Last <<' and 'Next >>' are at the bottom, along with a progress bar.

PROJECT CREATION (3/6)

You may pause your progress at any point and it will automatically be saved for future reference.

Background of Project: About

How and why was the project created? What is the project's goal? This will be what makes or breaks someone from joining your project! You have to convince them this project is working to a good and/or interesting cause and how their efforts will help the project.

This section has been broken into three parts - Mission Statement, Brief History, and Citizen Impact - however, it will appear as one section under the 'About' tab in the project page.

Mission Statement
Begin it with the mission statement of the project: 2-3 sentences about what the end goal of the project is.

Brief History
Then, a brief history. In a short paragraph (~5 sentences) describe how the project was formed. What inspired you to create this project?

Citizen Impact
Finally, finish with the citizen impact! This is what will decide it for the volunteer. They want to know their time and energy is being used and they want to know how it is being used. So describe what the data gathered will be used for! Also say why they are important. Why did you choose citizen science over doing it yourself? Once you have some data, you can edit the project "about" section to describe the project's impact thus far.

Click to Enter Text

Click to Enter Text

Click to Enter Text
Select "Enter" to skip to the... write on a new line.

<< Last

Next >>

Venice Citizen Science Platform

VENICE CALLS

Projects
Community
About
Help
Calendar

Profile
Settings
Log Out

Project Creation Page: Step 4

The screenshot shows the 'PROJECT CREATION (4/6)' step of the project creation process. At the top, a note says: 'You may pause your progress at any point and it will automatically be saved for future reference.' Below this, the section title 'Classify Your Project' is displayed. A descriptive text asks: 'What type of project is it? Please choose one. This platform defines three main types of citizen science projects.' Three options are listed with examples:

- Classification** - When citizens organize data, usually in the form of photos.
ex. Counting the number of a species in a photo or identifying objects in a photo
- Data Collection** - When citizens physically collect data.
ex. Taking photos of observations, collecting pollution that will be weighed and categorized
- Instrumentation** - When citizens host sensors that record data.
ex. Hosting a sensor that records air pollution in the form of air particulates

At the bottom of the page, there are navigation links: 'Last <<' and '>> Next'. The footer includes the 'Venice Citizen Science Platform' logo and links to 'Projects', 'Community', 'About', 'Help', 'Calendar', 'Profile', 'Settings', and 'Log Out', along with social media icons for Facebook and Instagram.

Project Creation Page: Step 5

The screenshot shows the 'PROJECT CREATION (5/6)' step of the project creation process. A note at the top states: 'You may pause your progress at any point and it will automatically be saved for future reference.' Below this, the section title 'Involvement: JOIN - HOW' is shown. A descriptive text asks: 'What will your volunteers be doing? Do they need to go to a physical location? Are they organizing data online? Are they hosting an instrument that collects data in the environment? You need to explain this so volunteers know what is required of them. Get them prepared! Tell them what they should wear and bring.' A large text input field is provided for this information, with the placeholder 'Click to Enter Text'.

At the bottom of the page, there are navigation links: '<< Last' and '>> Next'. The footer includes the 'Venice Citizen Science Platform' logo and links to 'Projects', 'Community', 'About', 'Help', 'Calendar', 'Profile', 'Settings', and 'Log Out', along with social media icons for Facebook and Instagram.

Project Creation Page: Step 6

The screenshot shows the 'PROJECT CREATION (6/6)' step of the project creation process. At the top, a message states: 'You may pause your progress at any point and it will automatically be saved for future reference.' Below this, a section titled 'Time and Place: Join - When and Where' contains fields for Date (DD/MM/YYYY), Start Time (0000 AM/PM), End Time (00:00 AM/PM), and Location (30141 Venezia VE). A 'Publish' button is located on the right. Navigation links include '<< Last' and a progress bar. The bottom navigation bar includes links for Projects, Community, About, Help, Calendar, Profile, Settings, and Log Out.

Event Creation Page

The screenshot shows the 'EVENT CREATION' page. It includes fields for 'Title of Event' (with placeholder 'Click to Enter Text'), 'Project' (dropdown menu showing 'Plastic Free Venice', 'Graffiti Clean Up', and 'Air Pollution Research'), 'Type of Event' (dropdown menu showing 'Pollution', 'Research', and 'Collection'), and a large 'Description of the Event' text area with placeholder 'Click to Enter Text'. A 'SUBMIT' button is at the bottom. The bottom navigation bar includes links for Projects, Community, About, Help, Calendar, Register, Settings, and social media icons for Facebook and Instagram.

Organization Creation Page

Venice Citizen Science

Logged in as: Olive Pool (Venice Calls)
Weather in Venice: 15 °C ☀

Projects Community About Help Calendar Search for Projects, Events, and Organizations Account ▾

Organization Creation Steps

Title of Organization:

Organization Mission

Contact Information (leave blank if unavailable)

Email:

Phone Number:

Organization Website:

SUBMIT Cancel

Venice Citizen Science Platform Projects Help Profile
Community Calendar Settings Log Out  

Organization “Venice Calls” Page

Venice Citizen Science

Logged in as: Olive Pool (Venice Calls)
Weather in Venice: 15 °C ☀

Projects Community About Help Calendar Search for Projects, Events, and Organizations Account ▾

Venice Calls

[Edit Organization Info](#)



Mission

Venice Calls wants to give its contribution to creating and supporting new projects with all those realities that pursue a sustainable city model: economically, socially and environmentally. We believe that Venice increasingly represents a meeting and starting point for a society capable of facing the challenges of the 21st century on a global level. The destiny of Venice is united with the destiny of the Earth.

Projects

[Create New Project](#)

Email: info.venicecalls@gmail.com
Website: <https://www.venicecalls.com/>

Clean Up - Venice Calls - 
Clean Up is a program in Venice where we pick up plastic and other debris, categorize it, weigh it, and record where it was picked up.


Lagoon Eye - Venice Calls - 
The Lagoon Eye project monitors air pollution, temperature, and other data sets to learn more about the impacts of climate change.


Venice Citizen Science Platform Projects Help Profile
Community Calendar Settings Log Out  

Appendix H - The Application: Mobile View

The Home Page

Venice Citizen Science

Explore citizen science projects that have occurred in Venice, Italy

Featured Projects

Plastic Free Venice
Clean Up is a program in Venice where we pick up plastic and other debris, categorize it, weigh it, and record where it was picked up.
[Explore Project](#)

Commerce after COVID
This project, in collaboration with WPI, analyzes the impacts of COVID-19 on businesses in Venice.
[Explore Project](#)

Our Mission

Our mission is to increase the communication of science in Venice by visualizing citizen science data and increasing participation in citizen science data

View Current Projects
Join Current Projects
Visualize Project Data
Create New Projects

Venice Citizen Science Platform

Projects Help Register

Community Calendar Log In

About

VENICE CALLS

f o

Navigation Bar

Venice Citizen Science

Search for Data, Projects, Events, and Organizations

Projects

Community

About

Help

Calendar

Log In

The About Page

This screenshot shows the 'About' page of the Venice Citizen Science website. At the top, there's a blue header bar with the text 'Venice Citizen Science' and a three-line menu icon. Below the header, the main title 'About Venice Citizen Science' is displayed in bold. Underneath it, a section titled 'Our Goal' contains text about increasing science value in the Venetian community through diverse citizen science projects. Another section, 'How', discusses the positive impacts of increased communication among the Venetian community. A final section at the bottom explains how having a platform can benefit the international science community.

About Venice Citizen Science

Our Goal

In order to increase the value of science in the Venetian community, we aim to host a diverse set of citizen science projects that address multiple challenges that Venice is facing.

How

Increasing the communication of science among the Venetian community can have many positive impacts. Not only can it increase science literacy among the community, but that can also translate into support for science based policies that will positively affect the living environment in the long run.

Having a platform to host Venetian citizen science projects can also have a positive effect abroad. The international science community and journalists can have access to the data visualizations and the data collected in these projects to learn more about the Venetian community.

Get Involved Page

This screenshot shows the 'Get Involved' page of the Venice Citizen Science website. It features a blue header bar with the text 'Venice Citizen Science' and a three-line menu icon. The main title 'Get Involved' is prominently displayed. Below it, a section titled 'For Organizations:' lists several ways for organizations to participate, including starting or adding a project, providing observations, and downloading datasets. Another section, 'For Scientists:', provides information on analyzing raw data available for download.

Get Involved

For Organizations:

- [Start or Add a Project to Our Site](#)
 - Use the project creation page and fill out the steps to add an existing project or create a new one. Our platform will help to invite the Venetian community, or anyone willing to volunteer, to participate!
- [Provide a collection of observations](#)
 - Provide a collection of the data that participants have provided on our site.
- [Download and share to VCSP](#)
 - Upload datasets relative to the projects and please do not hesitate to be active with participants in the VCSP discussion board!

For Scientists:

- [Feel free to analyze raw data](#)
 - Organizations will upload datasets that can be looked at under the data tab in the "View Current Projects" section on the homepage. This raw data is available for downloads in order to help you with your research!

The Help Page

Venice Citizen Science

Need Help?

Listed below are some general questions asked by first-time users of our platform.

How do I cite the platform and/or data on the platform?

- When referring to the Venice Citizen Science platform in general please include the vcs.com URL somewhere in the article along with the access date.
- For specific projects or data sets, please include the:

- Project Name/Title of Data Set
- Project Organizer as the author
- vcs.com URL
- Date of Access

How do I download/upload data?

- Any user can download data by clicking the "View Current Projects" button on the homepage. This button will take you to an organized list of projects that we have on our platform and if you click on a specific project, the "Data" tab will take you to the raw data of the project where it can be downloaded. As for uploading data,

The Project Discovery Page

Venice Citizen Science

Projects

Clean Up
- Venice Calls -
Clean Up is a program in Venice where we pick up plastic and other debris, categorize it, weigh it, and record where it was picked up.

Commerce Post-COVID
- SerenDPT -
This project, in collaboration with WPI, analyzes the impacts of COVID-19 on businesses in Venice.

Lagoon Eye
- Venice Calls -
The Lagoon Eye project monitors air pollution, temperature, and other data sets to learn more about the impacts of climate change.

Venice Citizen Science Platform

Projects Help Register
Community Calendar Log In
About

Project Filter Options

Venice Citizen Science

STATUS
 Active
 Completed

CATEGORY

- No Poverty
- Zero Hunger
- Good Health & Well-Being
- Quality Education
- Gender Equality
- Clean Water & Sanitation
- Affordable & Clean Energy
- Decent Work & Economic Growth
- Industry, Innovation, & Infrastructure
- Reduced Inequalities
- Sustainable Cities & Communities
- Responsible Consumption & Production

Project“Clean Up” About Page

Clean Up
- Venice Calls -

ABOUT DATA JOIN

500 KG
of plastic collected so far

About Clean Up

Clean Up is a project hosted by Venice Calls. The lagoon has a lot fo plastic waste, therefore Venice Calls conducts

Project“Clean Up” Data Discovery Page

Clean Up
- Venice Calls -

ABOUT DATA JOIN

Filter

The Clean Up Project collects a lot of waste. We count and measure that waste in hopes we can determine the source(s) of waste. Explore and download our data below!

Pollution by Mass (kg)
- Sant' Erasmo -

Type	Amount (kg)
Polythene	1.01
Plastic bottle	0.44
Caps	0.13
Hard plastic	0.13
Beats	0.09
Plastic free food	0.07
Glass bottles	0.05
Cans	0.04
Fabrics	0.03
Cardboard	0.03
Lighters	0.02
Thins	0.01
Stringers	0.01
Others	0.01
Networks	0.01

Bar Graph 29/09/2020

Project “Clean Up” Data Filter Options

Clean Up
- Venice Calls -

ABOUT DATA JOIN

Sort By

- Most Recent
- Least Recent
- Option 3

Filter

Graph Type

- Map
- Scatterplot
- Bar Graph

Event “Bosco” Pollution Mass Page

Venice Citizen Science ≡

Clean Up: Bosco dell’Osellino
- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

[Pollution by Mass \(kg\)](#) [Pollution Types](#) [Location Map](#)

Pollution by Mass

This data visualization is a bar chart of all the types of pollution collected at the island of Bosco dell’Osellino and the mass of those types in kilograms. The largest mass of pollution collected was hard plastic at 35.0 kg. The second largest was plastic bottles at 20.0 kg. The lowest mass of pollution collected was grids at 0 kg.

History 2020

Pollution by Mass (kg)

Type	Mass (kg)
Plastic Cans and Glass	24
Indifferentized	15
Paper	1

Created with Datawrapper

Event “Bosco” Pollution Type Page

Venice Citizen Science ≡

Clean Up: Bosco dell’Osellino
- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

[Pollution by Mass \(kg\)](#) [Pollution Types](#) [Location Map](#)

Pollution by Type

This data visualization is a bar chart of all the types of pollution collected at the island of Sant’ Erasmo and how many of each type were gathered. Polystyrene was the most collected at 1,161 pieces, and grids were least collected at 1 piece.

History 2020

Pollution Types

Type	Count
Bags	1,161
Pieces of Paper/Cardboard	91
Cigarette Butts	66
Plastic Bottles	64
Glass Bottles	37
Tobacco (of which 7 in plastic)	34
Cans	37
Caps	37
Fabrics	16
Glasses	14

Event “Bosco” Location Map

Venice Citizen Science ≡

Clean Up: Bosco dell’Osellino
- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

[Pollution by Mass \(kg\)](#) [Pollution Types](#) [Location Map](#)

Pollution by Location

This data visualization is a map of where all the pollution that’s collected at Bosco dell’Osellino and how many of each type were gathered. Polystyrene was the most collected at 1,161 pieces, and grids were least collected at 1 piece.

Event “Bosco” Join Page

Venice Citizen Science ≡

Clean Up: Bosco dell’Osellino
- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

When

September 19, 2020
10:30 am - 1:30 pm

Where

Via Amerigo Vespucci, 223,
30173 Venezia VE, Italy
[Directions via Google Maps](#)

Event “Sant’ Erasmo” Pollution Mass

Venice Citizen Science ≡

Clean Up: Island of Sant’ Erasmo
- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

[Pollution by Mass \(kg\)](#) [Pollution Types](#)

Pollution by Mass

This data visualization is a bar chart of all the types of pollution collected at the island of Sant’ Erasmo and the mass of those types in kilograms. The largest mass of pollution collected was hard plastic at 35.0 kg. The second largest was plastic bottles at 20.0 kg. The lowest mass of pollution collected was grids at 0 kg.

History 2020

Pollution Type	Mass (kg)
Hard plastic	35.0
Plastic Bottles	20.0
Glass bottles	17.0
Polystyrene	6.5
Paper	5.0
Grids	0.0

Event “Sant’ Erasmo” Pollution Types

Venice Citizen Science ≡

Clean Up: Island of Sant’ Erasmo
- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

[Pollution by Mass \(kg\)](#) [Pollution Types](#)

Pollution by Type

This data visualization is a bar chart of all the types of pollution collected at the island of Sant’ Erasmo and how many of each type were gathered. Polystyrene was the most collected at 1,161 pieces, and grids were least collected at 1 piece.

History 2020

Pollution Type	Count
Polystyrene	1,161
Plastic Bottles	444
Caps	423
Hard plastic	398
Bags	260
Plastic for food	179
Glass bottles	62
Cans	44
Fabrics	36

Event “Sant’ Erasmo” Join Page

Venice Citizen Science ≡

Clean Up: Island of Sant’ Erasmo
- Venice Calls -

[BACK TO PROJECT](#) [DATA](#) [JOIN](#)

When

September 29, 2020
10:30 am - 1:30 pm

Where

30141 Venezia VE
[Directions via Google Maps](#)

Event “Clean Up” Join Events Page

Venice Citizen Science ≡

Clean Up
- Venice Calls -

ABOUT **DATA** **JOIN**

Events

The Clean Up Project holds events all over Venice to collect plastic waste and catalog it. Below you can see where we've cleaned up and even sign up to help out!

Has Data **No Data Yet**

Sant' Erasmo
- Venice Calls -



Event “Clean Up” Join Events Page

Venice Citizen Science ≡

Clean Up
- Venice Calls -

ABOUT **DATA** **JOIN**

Events

The Clean Up Project holds events all over Venice to collect plastic waste and catalog it. Below you can see where we've cleaned up and even sign up to help out!

Has Data **No Data Yet**

Alberoni - Lido
- Venice Calls -



Project “Commerce” About Page

Venice Citizen Science ≡

Commerce Post-COVID
- SerenDPT -

ABOUT **DATA** **JOIN**



About Commerce Post-COVID

Commerce Post-COVID is a citizen science project looking to explore the affects and opportunities the COVID-19 Pandemic has brought for Venice's economy. We work by identifying how Venice can shift its economic dependance from tourism to more sustainable sources

Project “Lagoon Eye” About Page

Venice Citizen Science ≡

Lagoon Eye
- Venice Calls -

ABOUT DATA JOIN



About Lagoon Eye

Lagoon Eye is a project to map air pollution, temperature, and sun light all over Venice, Italy. Participants can build sensors from scratch or be sent a pre-built sensor to install outside. Participants offer their wireless internet

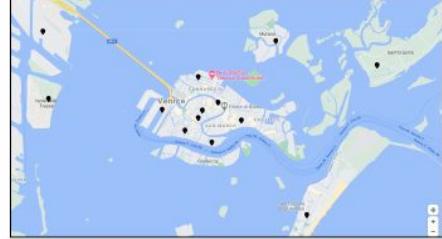
Project “Lagoon Eye” Data Page

Venice Citizen Science ≡

Lagoon Eye
- Venice Calls -

ABOUT **DATA** JOIN

[Location Map](#) [Tempurature \(°C\)](#)



Download as Dropdown PNG PDF

Project “Lagoon Eye” Join Page

Venice Citizen Science ≡

Lagoon Eye
- Venice Calls -

ABOUT DATA **JOIN**

How

Joining is easy! Simply submit your address below and a sensor will be shipped premade! Instructions on how to connect to the internet will be included, and once those are done, it will begin to stream data.

Address:

123 Cranberry St, Venice , Italy

Mail Me a Sensor!

Join The Lagoon Eye Newsletter for Updates:

Project “Venice Call” Organizer Page

Venice Citizen Science ☰

Venice Calls



Email:
info.venicecalls@gmail.com

Website:
<https://www.venicecalls.com/>

Mission

Venice Calls wants to give its contribution to creating and supporting new projects with all those realities that pursue a sustainable city model: economically, socially and

Project “SerenDPT” Organizer Page

Venice Citizen Science ☰

SerenDPT



Email:
contacts@serendpt.net

Website:
<https://serendpt.net/en>

Mission

Founded in 2017, SerenDPT is a Benefit Corporation with a clear mission: create high profile job in Venice by developing Made in Venice tech products, in order to solve some of the city's problems in

Community Discussions Page

Venice Citizen Science ☰

Community Discussions

Discussions about the platform and projects can be found on our Facebook group. Click [here](#) to view that group!

Login Page

Venice Citizen Science 

Log in to Venice Citizen Science

Email

Password

Login with your email

Don't have an account? [Register](#)
[Forgot your password?](#)

 Continue with Facebook

 Sign in with Google

 Sign in with Microsoft

 Sign in with Twitter

Venice Citizen Science Platform

Projects Help Register

Community Calendar Log In

About


VENICE CALLS

User Registration Page

Venice Citizen Science 

Register

First and last name

Email

Password

Password again

Register with your email

 Continue with Facebook

 Sign in with Google

 Sign in with Microsoft

 Sign in with Twitter

Venice Citizen Science Platform

Projects Help Register

Community Calendar Log In

About


VENICE CALLS

Request Password Reset Page

Venice Citizen Science 

Password Reset

Please enter the email address associated with your account

Request Password Reset

Venice Citizen Science Platform

Projects Help Register

Community Calendar Log In

About

 VENICE CALLS

Request Sent Page

Venice Citizen Science 

Password Reset Request Sent

You should receive an email to reset your password shortly

Venice Citizen Science Platform

Projects Help Register

Community Calendar Log In

About

 VENICE CALLS

User Registration Confirmation Page

The screenshot shows a mobile-optimized web page for the Venice Citizen Science Platform. At the top, a teal header bar displays the text "Venice Citizen Science" on the left and a three-line menu icon on the right. Below this, a white content area has a dark teal header that reads "Email Confirmation Pending". A message in the center of this area says "You should receive an email to confirm your account shortly". At the bottom of the page, a dark teal footer bar contains the text "Venice Citizen Science Platform" followed by several links: "Projects", "Help", "Register", "Community", "Calendar", "Log In", and "About". To the right of the "About" link is a small logo featuring a stylized bird or wing above the text "VENICE CALLS". At the very bottom of the footer are icons for Facebook and Instagram.