



NATURE CONSERVATION

“Eco-Tech Rangers” - Group #1

Members of Eco-Tech Rangers

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BACKGROUND

Sea Turtle preservation has always been a cause for concern, in Jamaica and the wider Caribbean. We have an innovative solution to preserve the turtles and possibly other animal life as well.

- JAMAICAN CORAL REEF HABITATS HAVE DECREASED BY MORE THAN 90% SINCE 1980, HAWKSBILL TURTLES SUPPORT THE RECOVERY OF CORAL REEFS, WITH DWINDLING NUMBERS OF HAWKSBILL, CORAL ARE OUTCOMPETED BY SOFT SPONGES. THIS IS A REVOLVING DOOR,
- SEA TURTLES IN THE WIDER CARIBBEAN REGION (WCR) HAVE DECLINED BY OVER 97 PERCENT SINCE PRECOLONIAL TIMES.
- IN 2019, TOURISM WAS 29.1% OF JAMAICA'S GDP. ECOTOURISM IS THE BOOMING INTEREST OF TOURISTS. SANDALS NOTEDLY RAISED MORE THAN \$8 MILLION USD FOR TURTLE CONSERVATION IN 2022.
- IN 2020 JSPCA REPORTS 10 FOLD SPIKE IN REPORTS OF STRAY ANIMALS AFTER ST. ANN DOG MAULING TRAGEDY.
- FERAL CATS AND DOGS ARE ONE OF THE MOST DESTRUCTIVE FORCES ON TURTLE POPULATION GLOBALLY DUE TO HUMAN CIVILIZATION NEAR COASTS,

Photo credit: Demi Walker. 'Oracabessa Bay Sea Turtle Project', 2021.



VISION

We want to provide simple, tangible, and transferrable solutions, services and products towards protecting native and endangered species for which a major aspect of this is being done by animals, specifically dogs and cats.

Which will be done through detail-oriented innovation, design, outreach and community engagement.

Targeting the root of the problem via both product development and reporting enterprise collaboration, consultation and conservation/havens.

Photo credit: Demi Walker. 'Oracabessa Bay Sea Turtle Project', 2021.



Customer

- Concerned and Impacted Citizens
- Institutions and Companies interested in Eco-Tourism
- Pet Owners
- Parents
- Families
- Environmentalists
- Technology Industry



PROBLEM STATEMENT

Sea Turtle conservation in Jamaica does not have the attention it deserves, one of the biggest problems is the infrastructure to protect them is severely lacking if not non-existent. Every turtle counts! The damage caused by predators such as invasive pets and strays such as cats and dogs are some of the main disruptors to the continuous growth and life cycle of the native and endangered species population, one mainly being the nesting sites.



SOLUTIONS

Electronic Pet Collars



Jamaican Sea Turtle Conservation Initiative

Your Name

Location

Email or Phone Number

Description of Animal

Description of Animal

Choose a file... Screen Shot 2017-07-29 at 1...

Lets get to know the predators



Dogs

Isn't my dog cute? Yes...but he wants to come out of the yard. Your cute dog may wander into a turtle conservation site and cut short the opportunities for helping the turtle population thrive. We have a solution that will make you as a pet owner feel more secure about your pet even if they leave the yard.



Cats

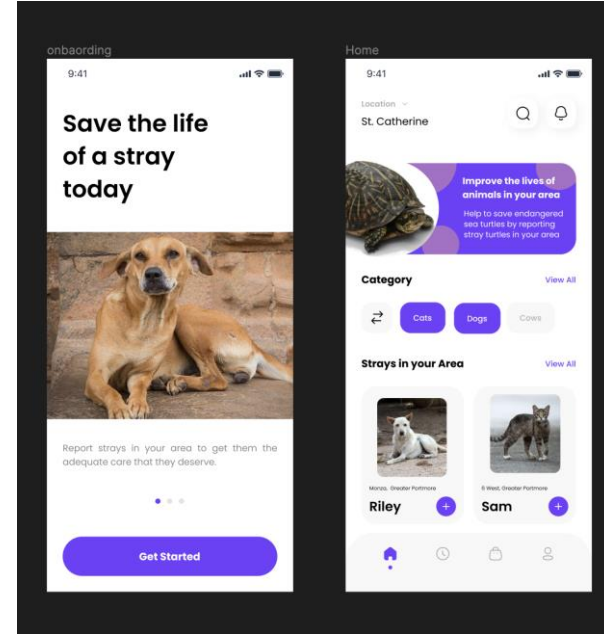
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Mongoose

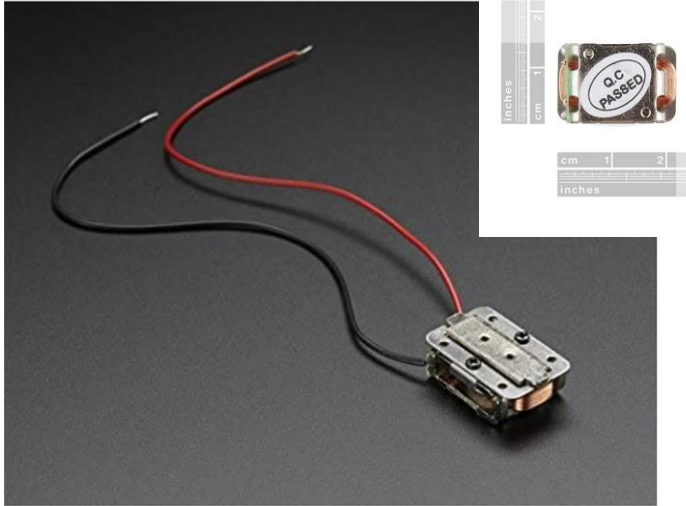
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Jamaica Stray Animal Registry



Electronic Pet Collar

Small Surface Bone Conductor
Transducer Exciter with Wires 8 Ohm 1
Watt



- The exciter will be situated inside the collar, transmitting harmless noxious vibrations transcutaneously to the dog's auricles.
- This technology must be accompanied by behaviour training for your pet.
- A training and education program for dog owners is also vital to the initiative.

SOLUTION * - Jamaica Eco Tech Hub



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The Core Hub of the Solution

Features:

- Registration of all the shelters in Jamaica
- Integrated System for all user types (Communication, reporting of need, etc.)
- A notification will be sent
 - Whichever shelter can take the animal
 - What the distance is to get the animal
 - Anybody can offer a ride to pick up and drop off animal
- Community building

SOLUTION * - Jamaica Eco Tech Hub



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Features (cont'd):

- Volunteers through the platform
 - Schools have mandatory programs
- Practicality
- Fund-Raising / Events
- Map of Stray Animals for admin
 - AI to consolidate information
- Provide Online Mini-Courses with optional certification for interested parties across various industries and interest groups (Tourists, Students, Fishermen, Animal Protection Groups)

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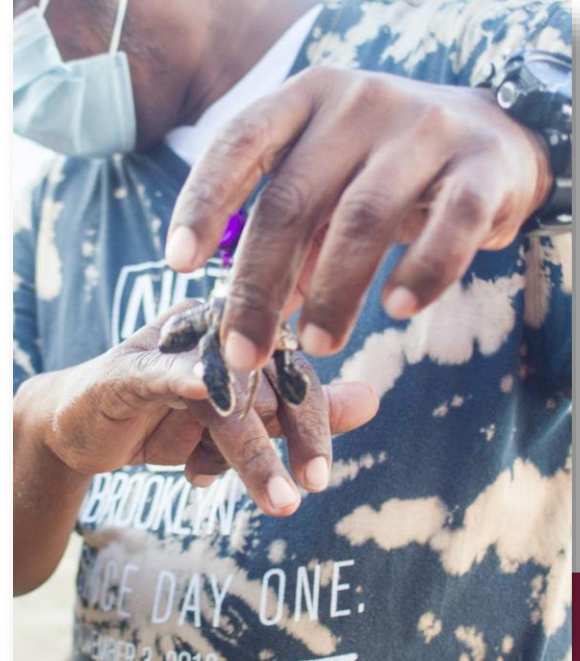
Features (cont'd):

- Report Animals
 - Take picture of the animal
 - Add GPS location of the animal
 - Describe the condition of the animal.
 - Provide contact information for the reporter

COLLABORATION

- Tourism Enhancement Fund (TEF)
- Montego Bay Animal Haven (MBAH)
- Jamaica Society for the Prevention of Cruelty to Animals (JSPCA)
- National Environment and Planning Agency (NEPA)
- Jamaica Conservation and Development Trust (JCDDT)
- Oracabessa Bay Fish Sanctuary – Turtle Conservation Project
- Environmentalists and Anglers/Fishermen

Photo credit: Demi Walker. 'Oracabessa Bay Sea Turtle Project', 2021.



PASSION (EMPATHY)*

Hotels have a vested interest in the eco-touristic value of turtle conservation , turtles are a majestic animal, their protection enhances the reputation and images of enterprises, enabling them to meet social expectations and ecological innovation compensation.

Fishermen and marine related professions, and by extension humanity, may understand that without turtles there is no coral reef, without reefs there is no food web leading to no food on the dinner plate.

Pet owners want to protect their precious pets and the environment, with increasing social and legal responsibility under pet ownership, it will be imperative for pet owners to prevent damages to turtle nests by their animals.


Communities at large have a growing concern for stray animals, the danger they pose to their own livelihood and safety.

Education and research institutions can rely on our Hub to understand the impact of human activity and change on turtle population.

Paired with the aforementioned collaborations we would reach out to public media groups (e.g. TVJ) to assist in the impact of the educational facet of the project/campaign, as well as with marketing the collar as a product. The product itself will be made of 80%+ biodegradable materials as well as be ergonomic in design.

PROOF OF CONCEPT*

Beyond conducting surveys we could produce a number of product prototypes and beta groups for testing and expand on that research by issuing questionnaires. We would want to pursue/collect the following data:

- Interviews with professionals working in conservation, followed up by feedback on any statistical improvements of the issue.
 - Input from the public, during field visits to areas most affected, presenting existing market research & then prompting them on what they think of the approach.
 - Identify the needs of institutions havens and sanctuaries in order to
- 

PROOF OF CONCEPT*

- Conduct research in the areas of need for the potential institution and haven collaborators.
- Interview managers and stakeholder from institutions havens and sanctuaries to identify the needs that are being faced so that mutual benefits can be determined.



COSTS*

Development of Collars	\$13.80 USD
Mini and certified training on environmental courses	\$200 USD
RFID Transponder, Receive and Transmitter	\$25 USD
Web Application and Mobile App Creation	\$1000 USD
Training Program for people who will install collars	\$50 USD per person
15% of Funds garnered from collar sales will be reinserted into the project to both assist institutions, communities and support development of conservations, sanctuaries and business development.	


OPPORTUNITIES & RISKS

Opportunities:

- Helps with the Tourism Sector
- Improve the Quality of Life of Stray Animals
- we can help not only the Sea Turtle Conservation efforts but provide haven for Jamaica's endemic species such as the Jamaican iguana, another prey of invasive species.
- Provide support for underprivileged and underfunded shelters, sanctuary and havens



RISKS

- Under-subscription from stakeholders
 - Low participation from volunteers
 - Animal Rights Activist might push back against the collars.
 - Companies with vested interest in the same goals with larger funds.
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PLAN B

Governmental Mandate to restrict individuals, companies and institutions from housing animals within a certain distance from the coastal reefs.

We could redirect our focus from animal access control and more so towards humane tech solutions for population control of stray domesticated mammals (dogs, cats), :

- Exploring what innovations could be immediately applicable in helping to streamline spay/neuter clinics and initiatives.



SUSTAINABLE DEVELOPMENT GOALS (SDG) ALIGNED TO*

9. Industry, Innovation and Infrastructure.

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

10. Reducing inequalities

Reduce inequality within and among countries.

11. Sustainable Cities and Communities

Make cities and human settlements inclusive, safe, resilient and sustainable



SUSTAINABLE DEVELOPMENT GOALS (SDG) ALIGNED TO*

14. Life under the sea

Conserve and sustainably use the oceans, seas and marine resources for sustainable development

15. Life on Land

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

