# Project OWL

## Field Test 3 Puerto Rico | Report

DECEMBER 13TH - 20TH, 2019

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The third field deployment in Puerto Rico of Project OWL focused on a return, expansion, and upgrade to the island DuckLinks. This report details strategy, conclusions, and outlook forward as a result of the deployment.

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# Field Test 3 Puerto Rico | Report
# Overview

The objective of Puerto Rico 3 was to improve and expand Project OWL networks on the ground of solar-powered DuckLink devices. The devices brought for this December 2019 deployment were the most robust, long-lasting, and well designed Ducks built to date. Similar to previous deployments through 2019, Project OWL focused to improve the 1) efficiency of deployment and 2) network performance to minimize transmission errors.

The results of this deployment were positive. Project OWL continued an optimized deployment schedule from PR2, deploying a Duck in a minute or two once at location. The network continued to operate at 95%+ performance. Most importantly, Project OWL has expanded the network in Puerto Rico to nearly 30 Ducks across 5 locations, expanded our open source community to 300+ over 18 time zones, and are preparing to release an enterprise-ready cloud-based OWL Data Management System.

**This report details Field Test 3: Puerto Rico in sections:**

# Puerto Rico: Mayagüez Region


*Student deployment team on rooftops at University of Puerto Rico, Mayagüez*

Project OWL chose to return to the University of Puerto Rico, Mayagüez for several reasons. Foremost is the community that has developed around this technology solution. Project OWL works daily with a group of 20+ students and administrators to continue improving, updating, and expanding the OWL network on the ground.

Surprisingly, in early January 2020 numerous earthquakes struck the island. While internet and electrical grids across the island went down, the networks deployed by Project OWL continue to operate powered by the sun.

# Puerto Rico: Five Regions



*Mayagüez installation team, December 15th 2019*

During the December 2019 trip, Project OWL returned to familiar locations to improve, expand, and support our networks already on the ground. These locations included Isabela, San Juan, and Bayamon. In San Juan, Project OWL supported the previous deployment of several DuckLinks on the rooftops of Polytechnic University of Puerto Rico. In Bayamon, already-deployed Ducks were updated as well as the installation of a command center to watch Duck activity at Engine-4, a technological co-working space for innovators in Puerto Rico.

Project OWL will continue to visit and support these locations. For the first time, network connectivity was expanded to Humacao on the east coast. Project OWL expects to return to Humacao in spring 2020 to support and improve network connectivity on the ground.

# Total Deployed DuckLinks

## 27 DuckLinks

*A DuckLink is installed in Humacao, PR*

**Nearly 30 Ducks in Puerto Rico**

To date, nearly 30 Ducks are permanently sitting on the island of Puerto Rico. While this particular deployment included the addition of more Ducks, much of the work was spent improving and optimizing Ducks on the ground. With such a new, innovative technology, several issues have occurred as we left the Ducks “quacking” for weeks or months on end. Project OWL, the UPRM development team, and our open source community around the world is working diligently to solve these issues to push the Ducks to be more robust, longer lasting, and less prone to errors in the heat and sunlight.

**Project OWL will Return**

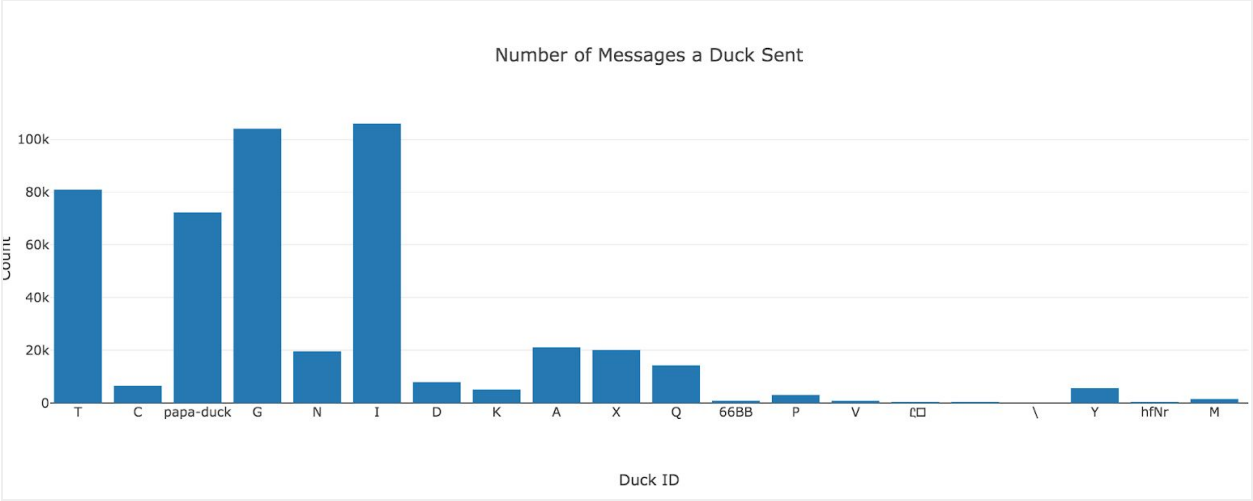
Project OWL expects to return to the island in Spring 2020. This will continue to improve and expand the network, but will primarily focus on expansion of the network in Humacao.

# Datapoints Collected

**400,000+**
recorded in database

Field Test 3: Puerto Rico was the most significant deployment of Project OWL hardware and software technology to date. This deployment expanded and improved the hardware necessary to operate the network, but the most significant improvement relates to the software component.

Project OWL software enables the Ducks to function properly and provide value to local communities. The more data that can be accumulated and shared, the more organization whereabouts and logistics that are able to be facilitated. With this in mind, Project OWL generated more data than any previous deployment by nearly 10x - a total of over 400,000 data points were added to the database during the Puerto Rico 3 deployment.




*Distribution of Puerto Rico network transmissions separated by DuckLink device*

# Challenges & Moving Forward

Field Test III Puerto Rico was a success.  In total, nearly 30 Ducklink devices were serviced, improved, replaced, or deployed on the island to bring connectivity to the people, places, and things we care about most.

To further improve our network and better understand the effects of natural disasters, Project OWL is always looking to capture and transmit more information about these events.  In total, an order of magnitude more data was acquired during this deployment than all previous deployments combined and this datastream grows at a rapid pace to this day.

Project OWL continued to work on deployment efficiency, minimizing network error, and provide software that is more accessible and capable than ever before.  This was not the first deployment to the island and will certainly not be the last.  Project OWL is resolutely committed to providing connectivity and is working harder than ever before to make this a reality.  Stay tuned for future deployments and updates from the team.

Bryan Knouse, Co-Founder