



Go Wireless NZ



Orana Wildlife Park

Set within an 80 hectare area, 15 minutes drive from Christchurch Airport Orana Wildlife Park provides amazing opportunities for people to connect with wildlife. We get you up close and personal with the animals.

Te Mātāpuna Mātātahi Children's University

Available in Australia, New Zealand, Asia and Africa, Children's University is an innovative program that engages children and young people in exciting, out-of-school learning opportunities to increase their chances for educational achievement and rewards them for taking responsibility for their own learning.

Problem:

On occasion, mobility barriers, economics, or geography can prevent members of the community from enjoying the services Orana Wildlife Park provides live streaming, in partnership with Children's University, is the ideal tool to provide lifelong learning and engage with a wider audience.

Solution:

A cost-effective, simple to integrate UniFi surveillance system that allows for clear remote observation of the animals real-time with the benefit of audio and night vision control.

Requirements:

4 x UVC-G3-BULLET

3 x US-8-60W

4 x Loco 5AC

CAT6 cable, RJ45 plugs,
Cable tester from GoWiFi.

Results:

An exciting way CU members engage in science through technology, learning about animals, possibly inspiring future studies in biology, zoology, and other science-related fields.



Using Technology for Good

How Orana Wildlife Park and Children's University are Inspiring Future Studies in Zoology and Biology.



“This project has allowed children to observe live animal behaviours from home, breaking down barriers that may have impacted them from visiting in person. These activities also proved valuable for CU members being able to observe the animals during Covid-19 restrictions.”

Jack Swannell - Learning Co-Ordinator for [Te Mātāpuna Mātātahi Children's University](https://www.childrens.org.au).

About the business partnership

As a charitable trust, Orana Wildlife Trust places great emphasis on delivering quality education and supporting all sectors of our community. Often, mobility barriers, economics, or geography can prevent members of the community from enjoying the services we provide. Live-streaming is the ideal tool to widen our reach and engage with more community members. Te Mātāpuna Mātātahi Children's University (CU), encourages 7 to 14-year-olds to engage in exciting and innovative learning activities and experiences outside of the classroom, fostering their aspirations for higher education and encouraging lifelong learning. Collaborating using technology to deliver quality educational experiences in a student-centric learning framework was a perfect partnership to achieve our Conservation, Education, Recreation and Research mission.

Te Whare Wānanga o Waitaha | The University of Canterbury and Te Whare Wanaka o Aoraki | Lincoln University are working in partnership to deliver CU in the Canterbury region.

What has the deployment accomplished and why it was successful for the client/end-user?

Not all children can afford to visit wildlife parks, and many do not interact with farm life in their daily lives. This deployment has allowed CU members to view streamed footage of porcupine, meerkat, spider monkey enclosures and the who aviary from the comfort of their home, making it accessible to those who may not otherwise be able to do so in person. Online activities were created so that children can critically observe the animals living in Aotearoa New Zealand, and about how we interact with wildlife and domesticated animals. These activities have proved popular with children from Aotearoa New Zealand and Australia.

"The Animal Observation project is an exciting way CU members engage in science through technology, learning about animals, possibly inspiring future studies in biology, zoology, and other science-related fields," Explains Jack Swannell (Jack), Learning Co-Ordinator of CU.

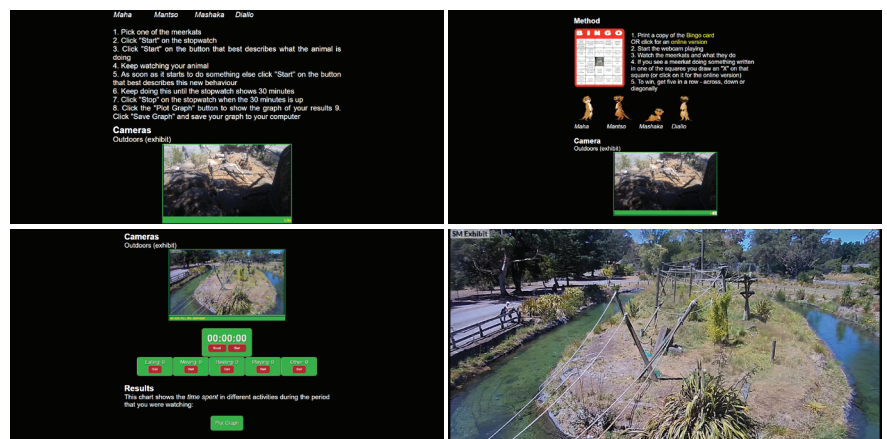
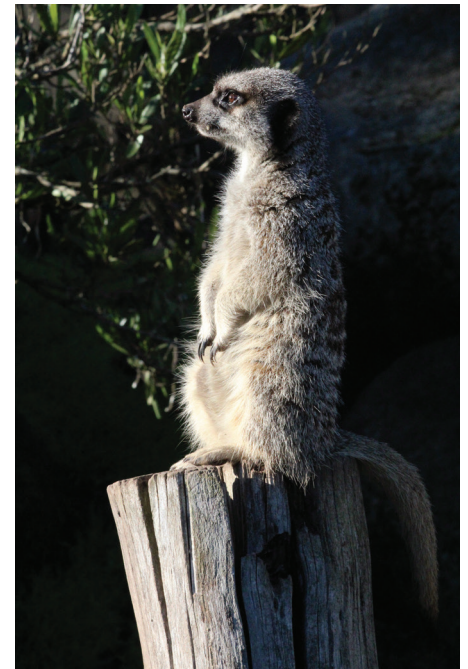
The students at Childrens University have private access via a membership portal. With limited and selective access to these resources, Toby can send hyperlinks in emails to teachers, hand out printed QR Codes to students/visitors and periodically embed the camera view in the main Orana website (www.oranawildlifepark.co.nz).

Were comparable products from other brands considered or used previously? If so, what products/brands?

Toby Johnson (Toby), Engagement and IT Manager of Orana Wildlife Park reviewed the following requirements of the project;

- The deployment must continue to stream, and the end-user may not have exceptional internet access, so lower resolution is better, 1080p is, therefore, more than sufficient (rather than 4k).
- The deployment must surpass the limitations inherent in the deployment sites (concerning maintaining animal containment) requiring lightweight cameras to avoid needing structural modifications that disrupt the animals or violate containment.
- Integration is vital. Several sites are at the far end of Orana's wireless backbone; devices need to "play nicely" with airMAX and UniFi.

"Staged deployments of other legacy brands were less successful overall when testing against Ubiquiti," Toby explains. "This was due to; the curvature of the footage displayed, the loss of a larger view area when corrected and connection issues. UniFi excelled when combining the ease of adding a camera to an existing UniFi Protect deployment for monitoring, alerts, upgrades and reboot capabilities - the UVC G3 camera was ideal!"



UC Online Observation

Tell us about the deployment between the cameras and the server?

“The cameras aim to make a zoo experience accessible to everyone despite the technological literacy, geography or economic barriers, so a browser compatible stream was the optimal choice,” Explains Toby. “Ant Media Server (AMS) is an easy deployment on an Ubuntu VM (Hyper-V) with a shallow resource footprint. AMS pulls an RTSP stream from UniFi Protect and redistributes this in WebRTC format. This is then easily inserted into existing webpages via an HTML <iframe> element which does not require a large amount of technical knowledge to achieve and is compatible with most website Content Management Systems including WordPress.



UniFi camera installation

Are there any unique attributes of the deployment?

“From my perspective” suggests Toby, “deploying equipment owned by another organisation (CU) into Orana’s infrastructure was a unique occurrence! However, this was easily implemented via the UniFi SDN Controller and enabled ownership documentation of adopted devices within the controller.”

What business problems are you solving with the product and what benefits have you realised?

“This project has allowed children to observe live animal behaviours from home, breaking down barriers that may have impacted them from visiting in person,” describes Jack. “These activities also proved valuable for CU members being able to observe the animals during Covid-19 restrictions.”

The global awareness of Orana’s work in this environment has led to establishing a commercial partnership with a Canadian firm, delivering subscription-based access to PTZ cameras and keeper/animal interactions. This is available over Twitch <http://zoolife.me/meerkats> and <http://zoolife.me/spidermonkeys>”

Recommendations for others considering the product:

“We recommend these products for the cost/return ratio, and the UVC G3 cameras, in particular, are ideal for small to medium size organisations looking to do a similar solution,” concludes Toby.

Acknowledgements

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