



# Orro

Supporting the pivot with mobile  
and IoT development

[www.toopllox.com](http://www.toopllox.com)





Tooploox supported Orro in their pivot from a consumer-oriented lighting system to a professionally-installed whole smart home system accessible from smart switches installed in the home and from iOS and Android companion apps; new elements were also incorporated into Orro's existing human-centric lighting system. Orro now provides an industry-leading unified solution so professionals can meet the demand for advanced smart home systems at a mainstream price.

According to the [MarketsAndMarkets report](#), the smart home products market will be worth up to \$135.3 billion by 2025. Yet the development of IoT devices comes with multiple challenges - from identifying the needs behind the product through device and companion app development to finding a market niche to fill.



# The client

Orro is a California-based company that delivers human-centric, wellness-driven, intelligent lighting systems. Now, the company provides a unified smart-home system that integrates its lighting system with other smart home products including thermostats, doorbells, locks, and more all designed to make people's lives easier while at home.

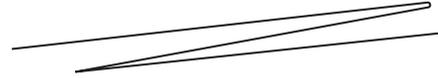
The initial product - the Orro One - is an Android-based device made up of a retina-quality display and an array of sensors in a form-factor that replaces a standard light switch. What makes it different is that the user can manipulate the lighting in multiple ways - from light intensity to the ability to remotely switch it on or off by using the companion app. Also, the device learns the patterns of the user's behavior, for example automatically increasing the light level in the mornings or switching the light on when the user is about to come home from work.

The company has been backed by venture capital firms including Xplorer Capital, Moderne Ventures, Menlo Ventures and Amazon's Alexa Fund.

By the time Orro started working with Tooploox, the company was at the doorstep of pivoting to gain new clients and explore a more profitable model.



# The challenge



At the moment the partnership between Orro and Toopllox was forged, the smart lighting company was focused on the consumer market. The company provided the Android-based Orro One and an iOS companion app.

Orro decided to do a slight pivot - from focusing solely on the consumer market to designing a system for professional home builders, electricians, and installers. By unifying smart living experiences around a home's lighting control system, Orro provides professionals with a single smart home solution, accessible via touch or voice – without having to install and configure additional hardware.

While the iOS-only companion app was enough for the consumer market, professionals installing Orro in their projects had to ensure that the future inhabitants of their spaces would be able to use all of Orro's features regardless of phone OS.

This required the company to implement several changes - with building the Android companion app from scratch being the key challenge. And that's where Toopllox entered, offering support.



# Our work



The Tooploox team was tasked with the two overall goals to deliver during the cooperation - build an Android companion app from scratch matching current iOS functionality and implement a shared, expanded feature set on both the iOS and Android companion apps.

## Android app MVP and further development

The Tooploox team was involved in the full process of Android app development. Initially, the goal was to mirror the iOS app with Android - Orro started with an MVP version that was composed of only the basic features.“



*“After our initial conversation, I could tell that Tooploox had a lot of experience building mobile apps — they knew the latest best practices, technologies, architecture, and even processes around team organization and development. Tooploox was the first company we talked to, provided the best feeling, and delivered beyond our expectations.”*

**ALLEN SCHOBBER** - Head of Software at Orro



One of the challenges in the development process was the fact that the whole logic of the UX design was focused on iOS, and the goal of the Android team was to mirror the app. Thus, the team had to manipulate the available options to make them fit to the Android environment. As an example, iOS lacks the “back button”, which is an essential element of Android navigation.

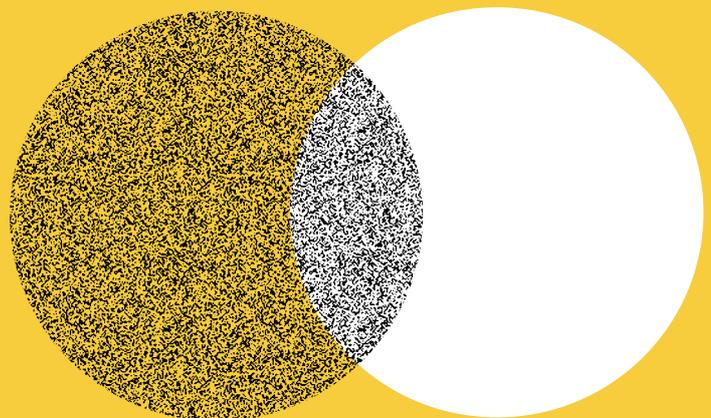
Orro now enjoys a fresh Android companion app, developed and implemented with the latest best-practices that will provide a solid foundation for further development in the near future.

## Implementing shared logic

With the introduction of the Android app, Orro decided to provide shared logic to both iOS and Android with the aim to define a single protocol to communicate with the switch.

A single implementation of communication logic was delivered by the Orro team as an SDK using Kotlin Multiplatform Mobile technology. The Tooploox team was tasked with implementing it into both the iOS and Android apps.

While the Android app is brand-new, the iOS app required several tweaks and improvements, mainly due to the technical debt accumulated through its development time.

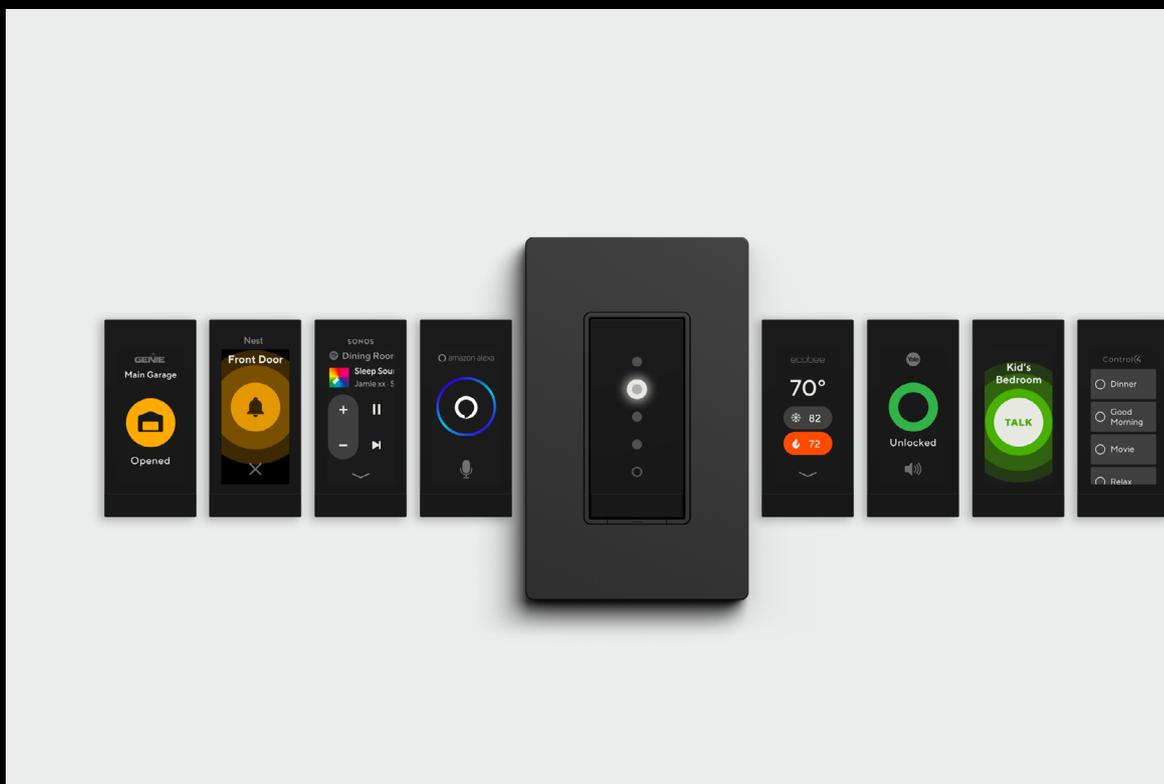


# The Solution

The current Orro mobile apps, both for iOS and Android, deliver the same functionality and operate using a similar interface. Also, both applications use a shared communication logic and, with that, both the development and maintenance are significantly easier.

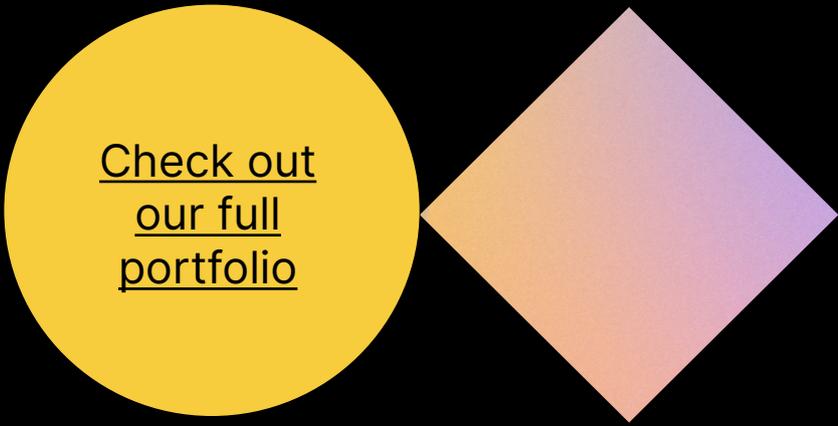
**With the Tooploox specialists fully incorporated into Orro's team, our engineers support the company not only with coding and task execution, but also with ideation and suggestions regarding new features, as well as in solving the existing problems.**

Both teams are ready to implement new features in an agile and effective way and support Orro's goal of delivering the best smart switch and intelligent home appliance integrator possible.



# Final thoughts and lessons learned

- ➔ This project is proof that UX design is crucial in IoT - the user is interacting with an unusual device and needs to be informed at all times about what's going on.
- ➔ The IoT device is a challenge when it comes to communication and there is no one-size-fits-all.
- ➔ Using IoT devices forces a clear and reliable architecture, which further benefits the rest of the project.



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