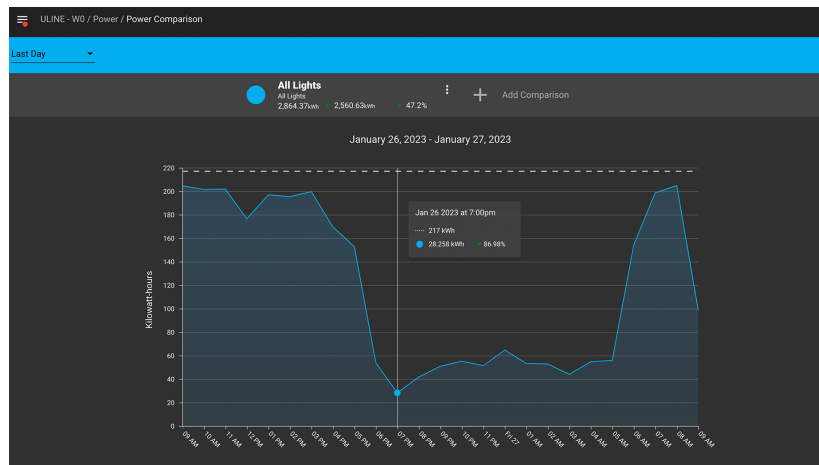


# UX Lighting controls

## Introduction:

ULINE, a shipping materials company and the number one provider to Amazon.com, needed to automate lighting for their flagship warehouse and meet some of the most stringent energy regulations in the world. They also wanted to maintain their company policy for having the brightest and safest warehouses in the industry. Lastly they needed the solution to be cost-efficient. What emerged was a collaboration between ULINE, Cree Lighting and Synapse Wireless, a company that provides IoT hardware and software solutions. Together they embarked on a journey to redefine the warehouse lighting landscape.



Example of energy reporting interface

## Problem Statement:

ULINE faced the challenge of innovating their warehouse lighting to meet green energy regulations, ensure safety, and reduce costs, seeking a wireless solution that several traditional vendors failed to provide during extensive testing.

## Users & Audience:

The end users ranged from shift managers preparing for the start and end of a shift, to facilities teams with wireless tablets providing routine maintenance, and warehouse managers optimizing energy usage, emphasizing diverse needs within ULINE's operational complexity.

## Roles & Responsibilities:

Synapse Wireless engineers introduced Simply Snap to ULINE executives, impressing key decision-makers within 15 minutes. Through custom designs, animations, and prototypes, the UX team secured approval for a build-out that included millions in lighting and controls.

## Scope & Constraints:

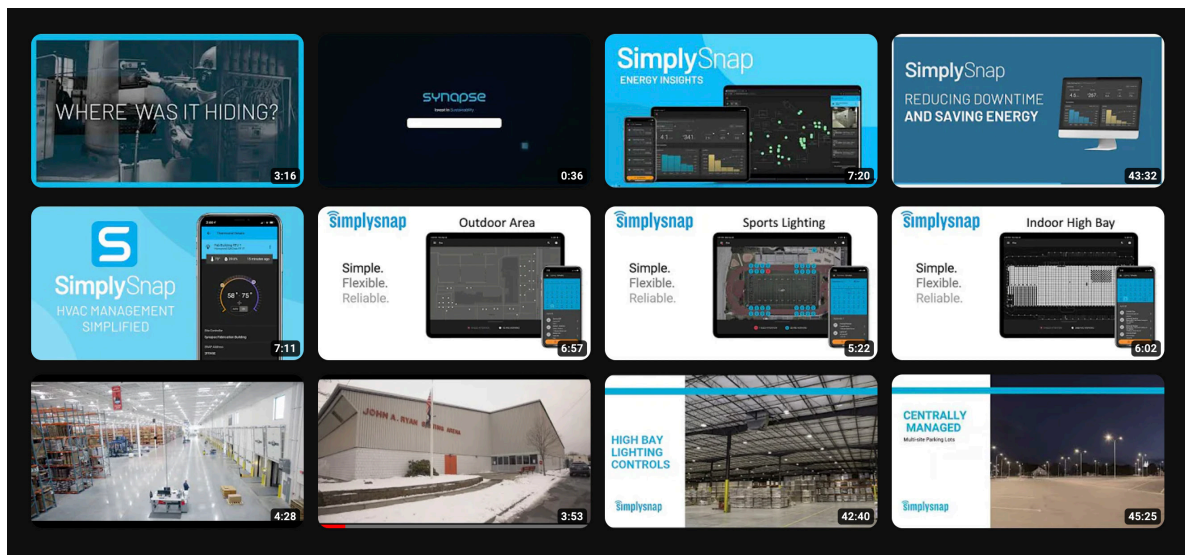
The project navigated budget constraints and a tight timeline during the construction phase, with UX playing a pivotal role in effective communication and customization during all phases from testing, to installation to commissioning and daily use.

## What Happened:

Using the Simply Snap platform Synapse designed a wireless mesh network that became the backbone of the lighting system and also allowed for integration with other systems. The collaborative effort unfolded through a meticulously crafted UX profile, employing custom designs, animations, and prototypes to communicate key components and milestones to ULINE. Previous work in warehouse and industrial settings informed the potential needs for ULINE. The result was a tailored software suite meeting operational demands, extending beyond lighting into energy management, scheduling and predictive maintenance.

## What we did:

A modern LED lighting installation using products from Cree Lighting formed the backbone for Synapse connecting wireless nodes and control modules and their Simply Snap hub facilitating the mesh network environment. Working in conjunction with the lead UX designer for Synapse we addressed ULINE's unique challenges for control and methods of interfacing with the system. Custom UX designs, animations, and prototypes facilitated communication, resulting in a tailored software suite. The components adapted to various devices resolved ULINE's diverse needs from maintenance to reporting. The mesh network's expandability integrated lighting controls with automation, predictive maintenance, environmental monitoring, and supply tracking. Each of these functions had been implemented before for other clients, but the ULINE project represented a much higher scale in terms of network size and density. The lead UX designer used new designs and a robust library of well-implemented software components with corresponding hardware to create interfaces for various control situations; lighting, scheduling, energy tracking, energy usage management, supply usage, etc.



*Video and animation make up a significant part of the UX process for SimplySnap including case studies, example usage, prototyping new features and stakeholder communication, providing direct links between the client and their potential software interfaces and hardware solutions.*

Much of the process of dealing with ULINE had been developed with previous clients. For example part of the UX pipeline had been honed with a company called Amerex, managing a large industrial warehouse with a complex product line (fire extinguishers). The designs, animations and video leveraged to solve the problems of previous clients provided insight into how to address ULINE's needs.

As the construction phase commenced, the UX team embarked on a journey of additional designs extending the existing library based on requirements from ULINE. After installation UX Researchers and Designers encountered a diverse set of users with different needs for access and use of the system, requiring the designs to be tailored for each ULINE team or to build custom components as needed. The components were bundled into an applications compatible with multiple devices depending on need such as kiosks for maintenance and mechanical rooms, tablets and phones for remote management, alerts, and diagnostics, and desktops or laptops for reporting and planning.

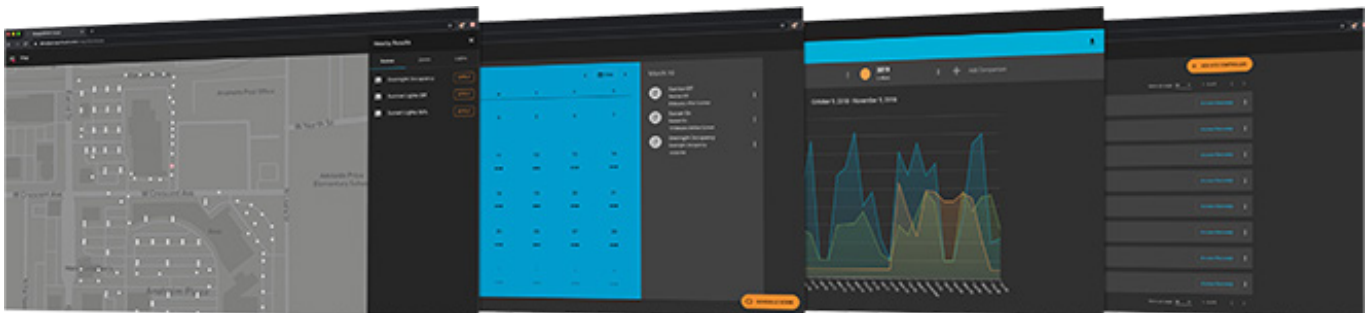


*Simply Snap leverages a robust library of both hardware and software solutions, building on previous success*

ULINE's operational complexity, characterized by a range of processes spanning from raw goods delivery to final packing and shipping, mandated continual support from their facilities team. Their tablets served as tools to locate and identify malfunctioning lights, fixtures and equipment, while warehouse managers harnessed the system to optimize energy usage and reduce costs using automated scheduling. The expandability of the mesh network established by the lighting system extended its capabilities far beyond illumination control, enabling integration with other warehouse functions, including automation, predictive maintenance, environmental monitoring, and supply tracking, while providing a seamless user experience at a diverse intersection of software and hardware.

## **Conclusion:**

The culmination of this innovative venture yielded not just a solution to ULINE's lighting control needs but a comprehensive Synapse software suite. Tablets became indispensable tools for maintenance, while automated scheduling optimized energy efficiency. The success echoed beyond illumination, transforming the mesh network into a hub for automation, predictive maintenance, environmental monitoring, and supply tracking—a testament to the power of the interface of software and hardware in reshaping warehouse functionalities.



*The current success of SimplySnap in the context of the ULINE project lies in extensibility of the product, rapid prototyping within the confines of the existing software and previous UX innovations for other clients, and innovation specific to ULINE's business.*