



# Ivani: Smart Tagging System

2014-2015



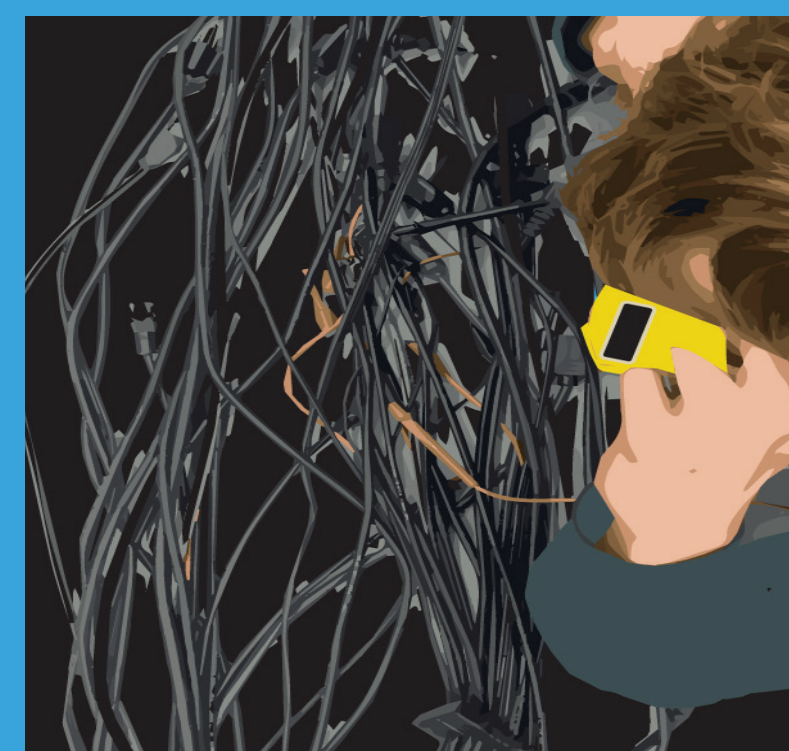
## ? Background

**Problem:** Lack of documentation is currently one of the largest problems facing electricians and leads to longer maintenance times and potential costly errors for building owners.

**Our Solution:** We designed a **smart tagging system** to help electricians and building owners track important information about electrical components such as the operating characteristics of the component, what the component is attached to, and the maintenance history of the component.

Our design makes it simple to implement new data types in future iterations such as the approximate GPS coordinates of a tag.

## 🔍 Identifying Problems



Before

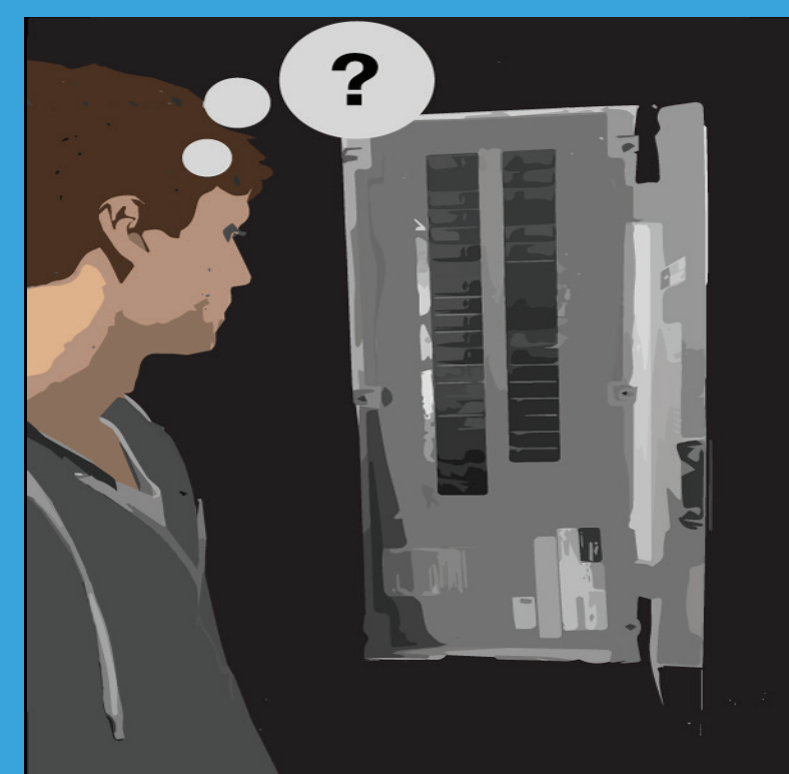
Lack of documentation makes understanding a building's electrical system difficult and tracking down the origin of the problem a lengthy and potentially expensive process.



After

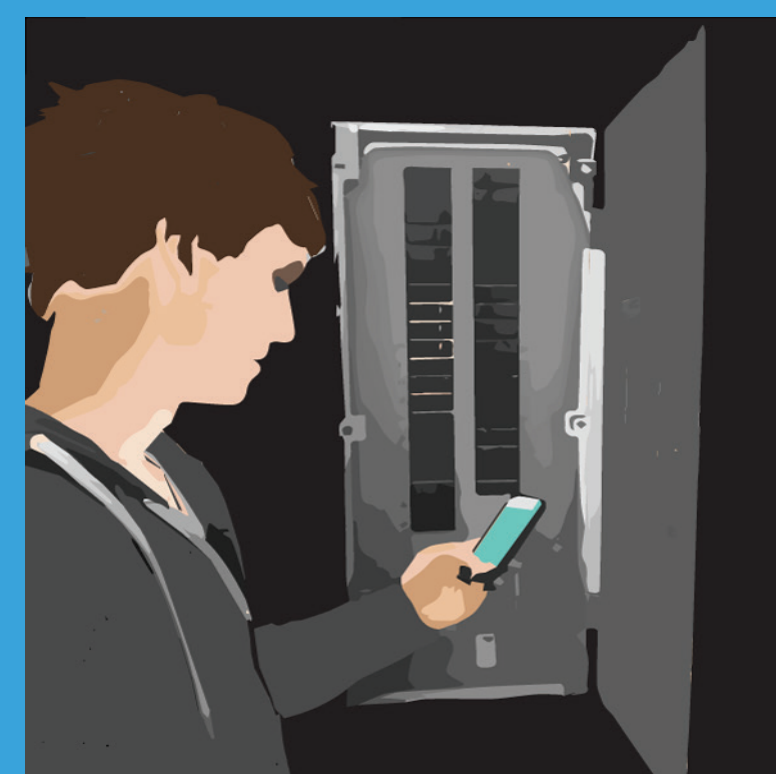
Electricians have access to simple, electronic documentation of a system on their smart devices, giving them insight into the system and speeding up the debugging process.

## ⚠️ Improving Safety



Before

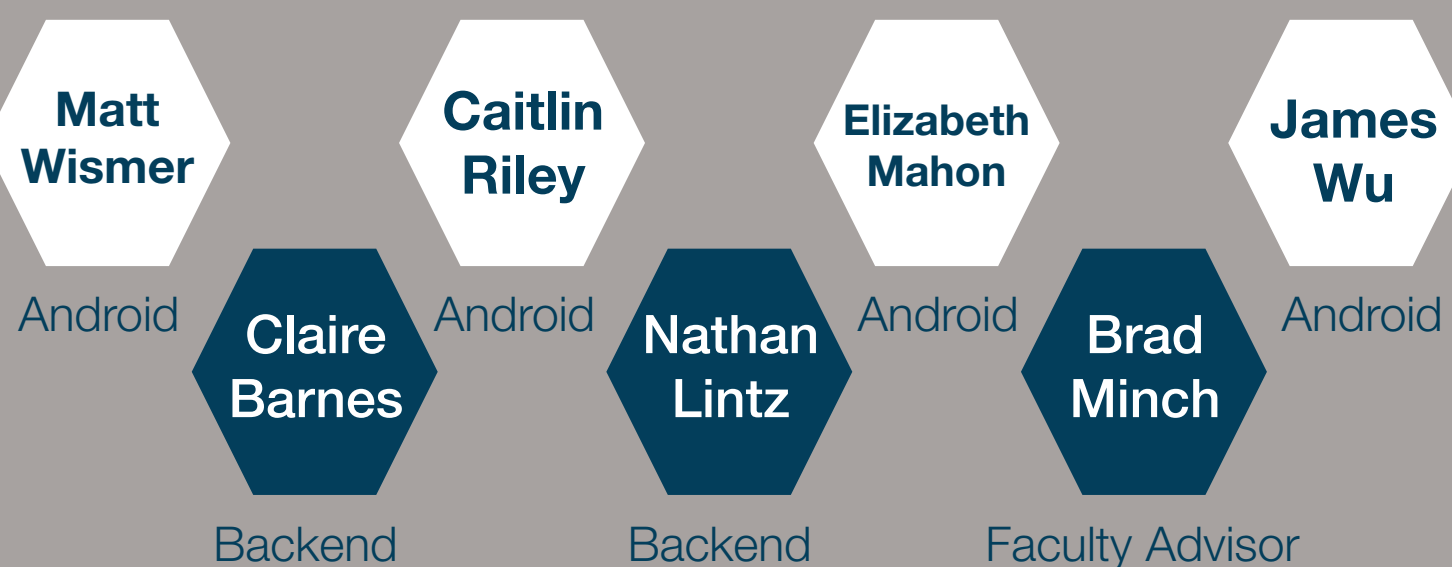
Finding and shutting off a component's power source can be difficult and time-consuming without accurate documentation, but is critical in ensuring the electrician's safety.



After

Scanning a component tag will immediately show what breaker it is connected to so that the electrician can shut it off and ensure safety.

## 👥 The Team

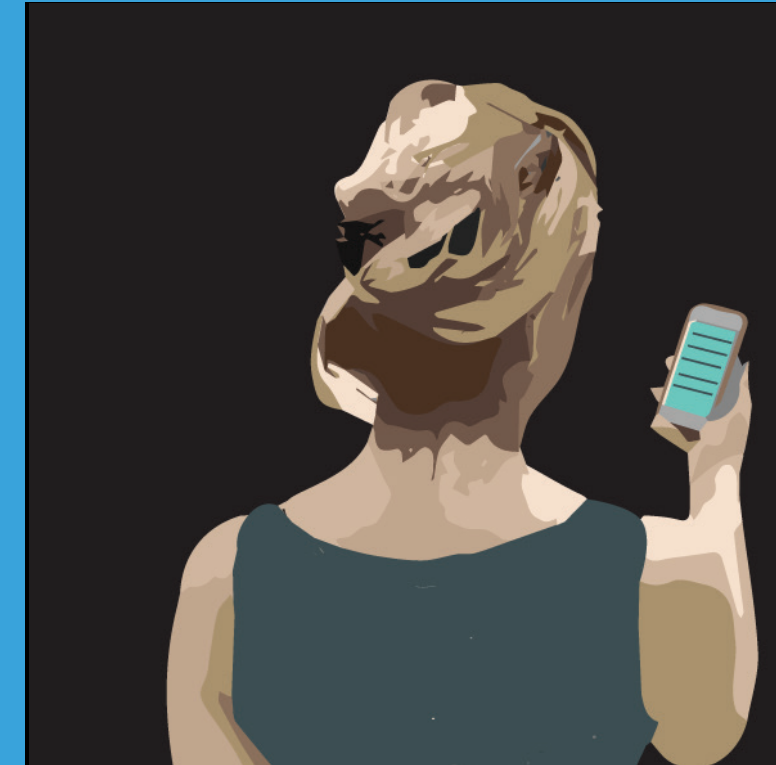


## 📝 Simplifying Documentation



Before

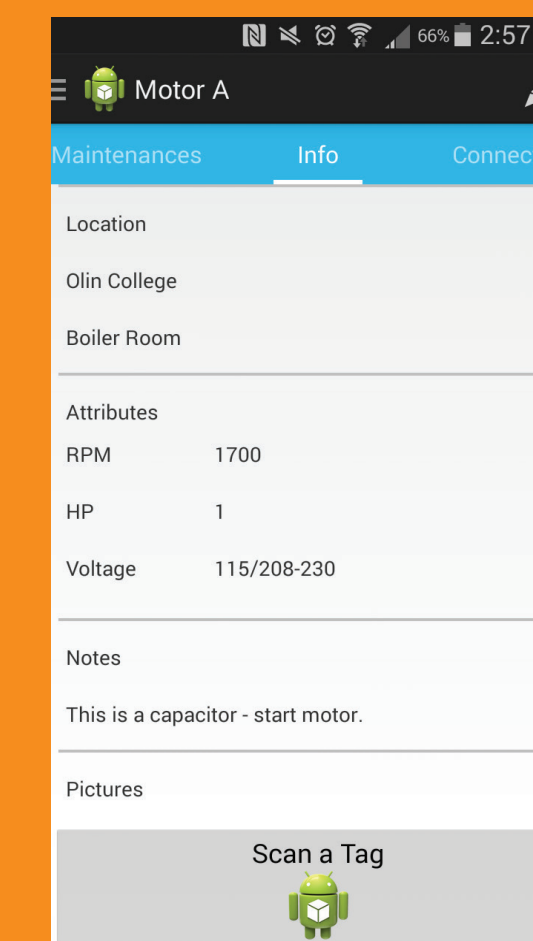
Electricians rarely document the work they do because it takes too much time, but this leaves out-of-date as-builts and incomplete maintenance records.



After

Electricians just document work through their smart device, making it easy to give managers an accessible, continuous, and up-to-date maintenance history.

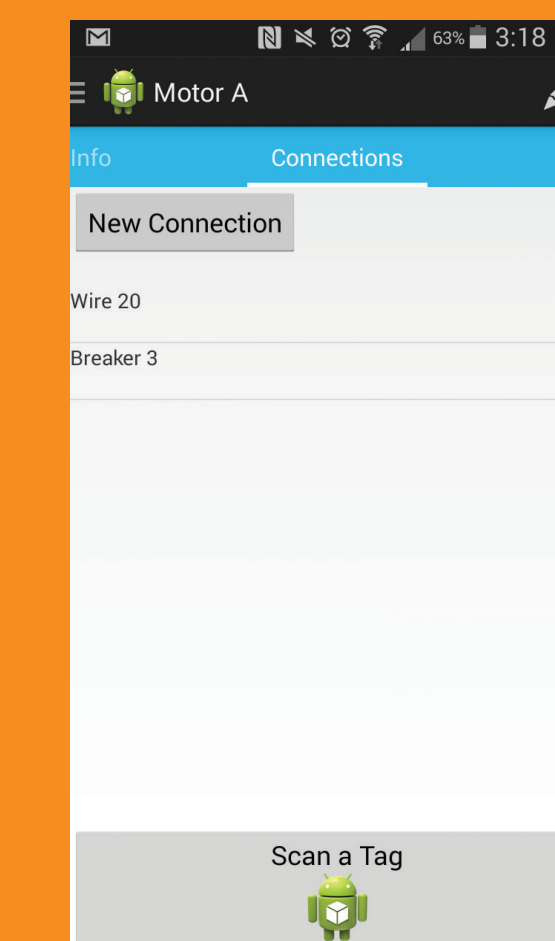
## 🤖 Android



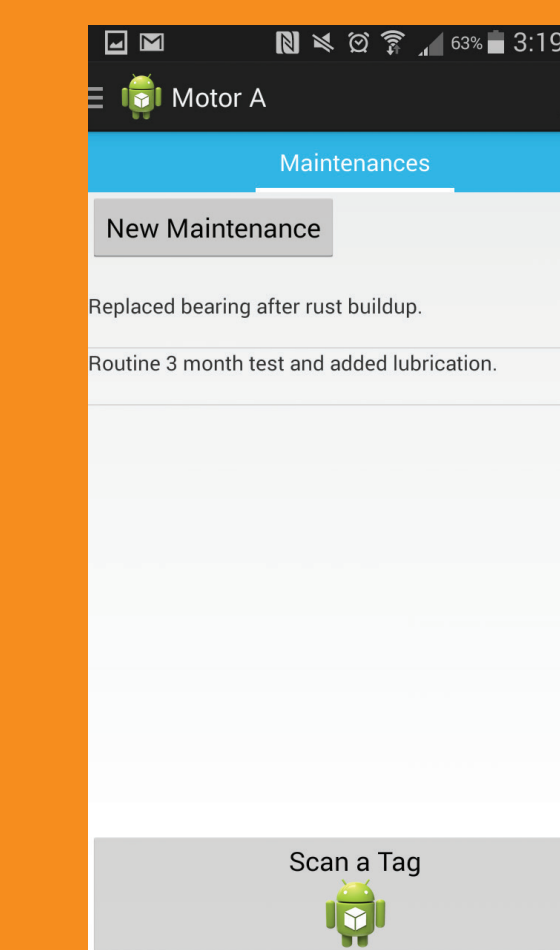
Component Profile

Electricians can scan a tag and immediately see any vital information about the attached component that will help them while they are performing a maintenance.

Through our tag connection system, users can see what a component is electrically connected to making tasks like shutting off the right breaker or tracking where a problem originates much faster and easier.



Connection Viewer



Maintenance Tracker

Through our maintenance tracking system, Electricians can easily document the work they do, when, on what component, notes about what the work was, and they can take pictures to give a visual record of the work they did.