PEGA

POC PRODUCT GUIDEBOOK
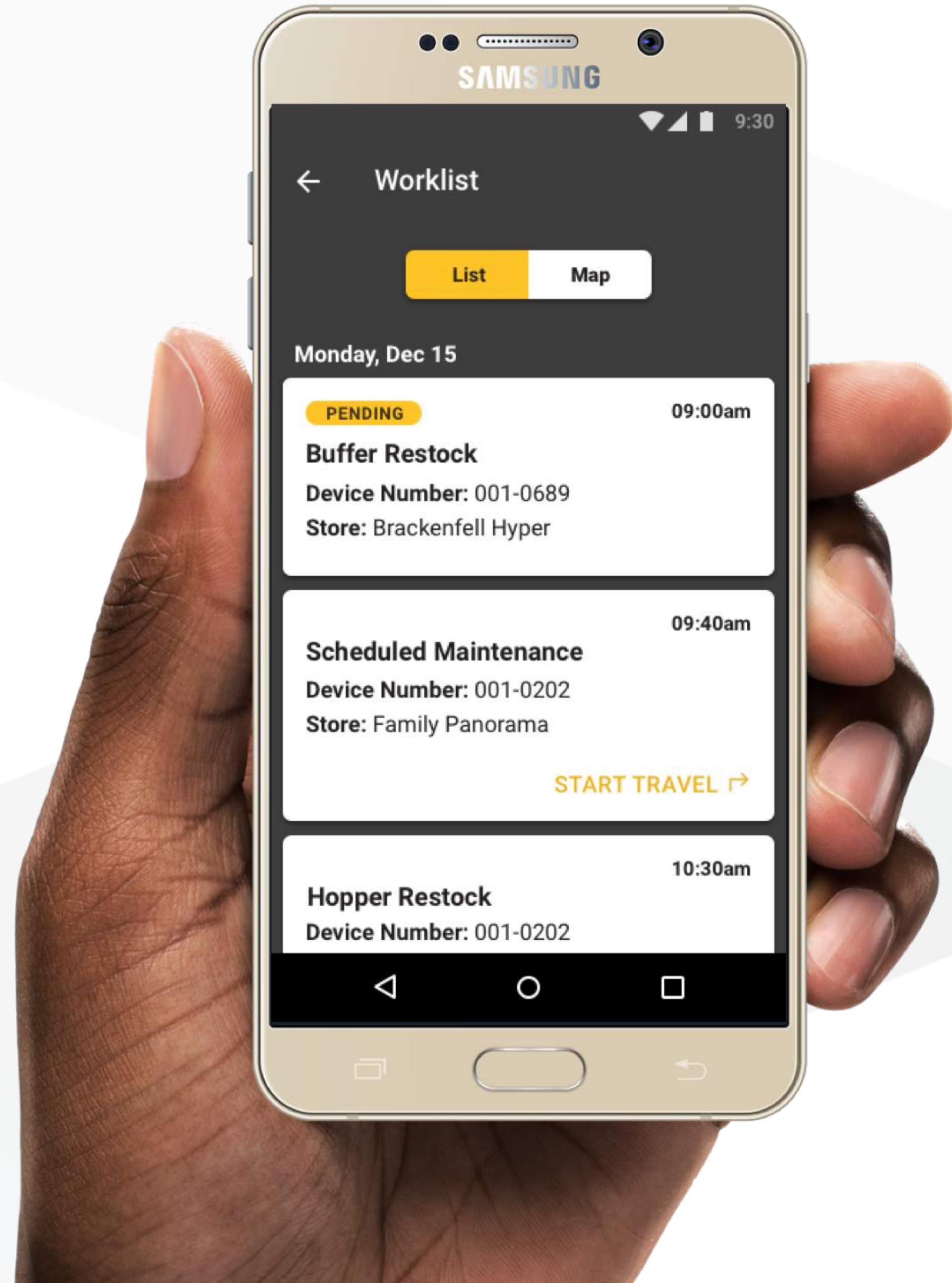
TymeDigital
by **Commonwealth**Bank SA

accenture

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BACKGROUND

- When the Kiosk was introduced in South Africa, very limited management tooling was rolled out alongside – in essence, an off-the-shelf mobile device management suite.

- The tooling, whilst intermittently providing some time delayed status reporting (tablet only) is a poor fit being generic and geared towards policy management of BYOD instances. It lacks real time monitoring and an ability to comprehensively manage device remotely.

- Consequently, the kiosk management and maintenance is very reactive and manual with reliance being placed on stores/customer to report device outages / issues negatively impacting device availability and customer services.

- Similarly, due to an inability to perform even superficial maintenance remotely, all device interventions require a physical visit. This puts a big burden on a small team of field agents and creates a very expensive maintenance cycle and prolonged downtime when more remote kiosks are in need of maintenance.

- With our stated desire to delight the customer, a stable fleet of devices that can be attended to 24/7 remotely and always be available to service customers requires a comprehensive monitoring capability, coupled with self healing (AI), reliable remote management and automation of installation, card and consumable stock ordering and replenishment.

01 Kiosk Install

- Automation of kiosk availability, scheduling / assignment to location, arranging & tracking of delivery

- Automated appointment scheduling for installation team (based on tracking data)

02 Kiosk Maintenance

- Ad hoc repair - Automated identification, case creation (incl. scheduling of technician) and full activity tracking

- Consumable stock replenishment - Automated identification, case creation (incl. scheduling of technician) and full activity tracking

- Scheduled maintenance – Automated case creation and scheduling of technician

03 Bluetooth Lock/Unlock Device

- Central management of dual lock mechanism: manual combination lock + Bluetooth auto lock

- Geo-sensing capability for added security

04 Card Stock Management

- Monitor card stock level and assess next best action (automated card stock ordering)

- Auto create restocking cases and track case to completion

05 MIS / KPIs

- All activities tracked/recorded with dashboards

- Automated / scheduled reports on activity

"How can we leverage Pega's Field Services Application to build a prototype that validates key technical concepts (Bluetooth lock/unlock, cardstock management, kiosk maintenance, kiosk install)?"

01 IOT to Monitor Peripheral Devices
(Maintenance, Stock Management)

- Card holder / Tumbler (lock)
- Camera/Tablet
- Printer/Scanner
- Fingerprint Reader
- Router / Raspberry PI, etc.

02 Pega Field Service Mobile App
(All Use Cases)
Build a Pega Mobile Case Management app for use by field technicians to perform field activity whilst providing the central ability to optimize scheduling of agents, full tracking of activity (time and geo-location) and comprehensive reporting and performance management.

03 Pega Decisioning
Pega decisioning / next best action /AI to monitor IOT data and pro-actively respond to anomalies (attempt to self heal, create case for remote technician, schedule in field technician).

04 Pega Case Management / Dashboards / Reporting

- Desktop case management for remote technicians with full control over all components/peripherals

- Tracking and reporting of activity

05 Bluetooth Kiosk Unlock / Lock

Build capability to remotely lock/unlocking a kiosk device (via on-board Raspberry Pi device) from within a Pega Case (maintenance activity requiring physical access).

PEGA CUSTOMER SERVICE

Pega Field Service

Account overview

Basic functionality
in common

Account overview

Contact details

Contact details

CSR prompts (script)

CSR prompts (script)

Customer value widget

Customer value widget

Intelligent guidance (NBA)

Scheduling & dispatch

Co-Browse

**Advanced
customer service
features**

**Core
field service
features**

Automated assignment

Live chat

Management dashboard

Social engagement

Integrated mobile app

Knowledge management

Mobile offline, barcode scan, signature
capture, push notifications, & more
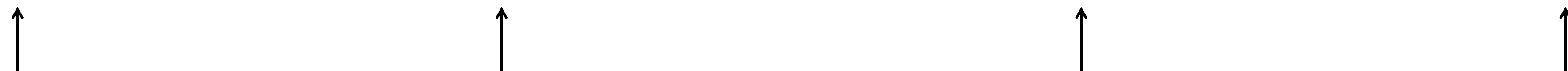
IOT Layer

BLUEPRINT

PRODUCT ARCHITECTURE

Goal:

To organize functionality into a coherent, intuitive blueprint that serves as the structural foundation for the product.

Deliverables:

1. Process Flow Design
2. Wireframes

PROCESS FLOW

Process flows serve as the initial visualization of the entire user experience. Here, all actors are identified, and the stage is set for more detailed wireframes.

The process flow validates the overall product architecture and provides a sense of project scope.

Feeback on Routing options
- First call resolution
- Route to MDM
- Route to Field Agent

Reference
- Tyme Digital Generation 3 Kiosk Diagnostic Quick Reference Guide

Examples
- Restart peripherals remotely
- Update firmware

Design
- Sometimes may need to call store personnel or the in-store agent to physically reboot the kiosk

MDM engineer accepts assignment and reviews case info

Conduct remote diagnostics and record diagnosis

Attempt remote fix ?

Yes

Invoke IOT utility to attempt remote fix

Route to Workgroup
"Get Next Work"

Assign to MDM Support Team

Case Status = "Pending – Remote Diagnosis"

Case Status = "Pending – Remote Fix"

CARD STOCK MANAGEMENT

Level 1 Conceptual Process Model – Kiosk Field Service Hopper Card Restock (Happy Path)

Case Stages: Case Initiation → Case Assignment → Unlock Kiosk → Verify Card Count and Batch Serial Number → Restock Hopper → Wrap Up

Field Agents (Area Managers / Store Agents)

- Area Manager reviews assignment on worklist
- Store agent reviews assignment on worklist
- Confirms assignment
- Date Confirmed? — travel
- Arrived? — Yes
- No — Direct Routing — Push notification to Area Manager
- Create a subcase for "Bluetooth Unlock"
- Kiosk Opened? — Yes
- Field Agent manually count cards in hopper
- Enter card count to verify against card count in DB
- Inform agent on clearing card count checkpoint
- Scan barcode to read serial number of the new batch of card to be loaded to hopper. Submit serial number to server for verification.
- Inform agent on clearing batch serial number checkpoint
- Physically restock hopper
- Hopper Restocked? — Yes
- All other maintenance tasks completed? — Yes
- Close the "Bluetooth Unlock" subcase

Pega (Field Service Application)

- **Create a Hopper Restocking Case**
  - Kiosk ID
  - Kiosk Serial Number
  - Card Batch Identifier (Serial Number)
  - Due Date defaults to the Next Day
  - Status = "Pending - Assignment"
- Retrieve store agent and area manager information
- Store Agent Exists? — Yes
- Direct routing — Push notification to store agent
- Assign to store agent on duty or the next agent coming to site
- Yes
- Case Status = "Pending - Travel"
- Case Status = "Pending – Restock Hopper"
- Invoke WS02 call to read current hopper card count from DB
- Hopper card counts match? — Yes
- Scanned SN matches batch SN in master case? — Yes
- Invoke WS02 call to update batch serial number in device DB
- Update both Hopper Card and Buffer Card Count (add/subtract the number of full batch to existing card count)
- Case Status = "Resolved – Completed"
- END

WS02 (SOR)

- **Note:** For POC purpose, the SOR stays inside Pega using simulated data as WS02 is unavailable yet.
- START
- D&I DB — Hopper Replenishment Level Trigger fired
- Query DB on agent/kiosk association
- D&I DB
- Compare store agent shifts with case creation tme
- D&I DB
- Read hopper card count from DB
- D&I DB
- **Notes:** If there is a discrepancy, enter a note using structured inputs to kick off investigation. The restocking will proceed either way. Hold off further design for now as this is not happy path
- Remove batch SN from buffer Add batch serial SN to hopper
- D&I DB
- Update hopper card count to full stock level
- D&I DB

KIOSK INSTALL

Level 1 Conceptual Process Model – Kiosk Field Service Install Kiosk (Happy Path)

| Case Stages | Case Initiation | Device Shipping and Appointment Confirmation | Device Installation | Wrap Up |

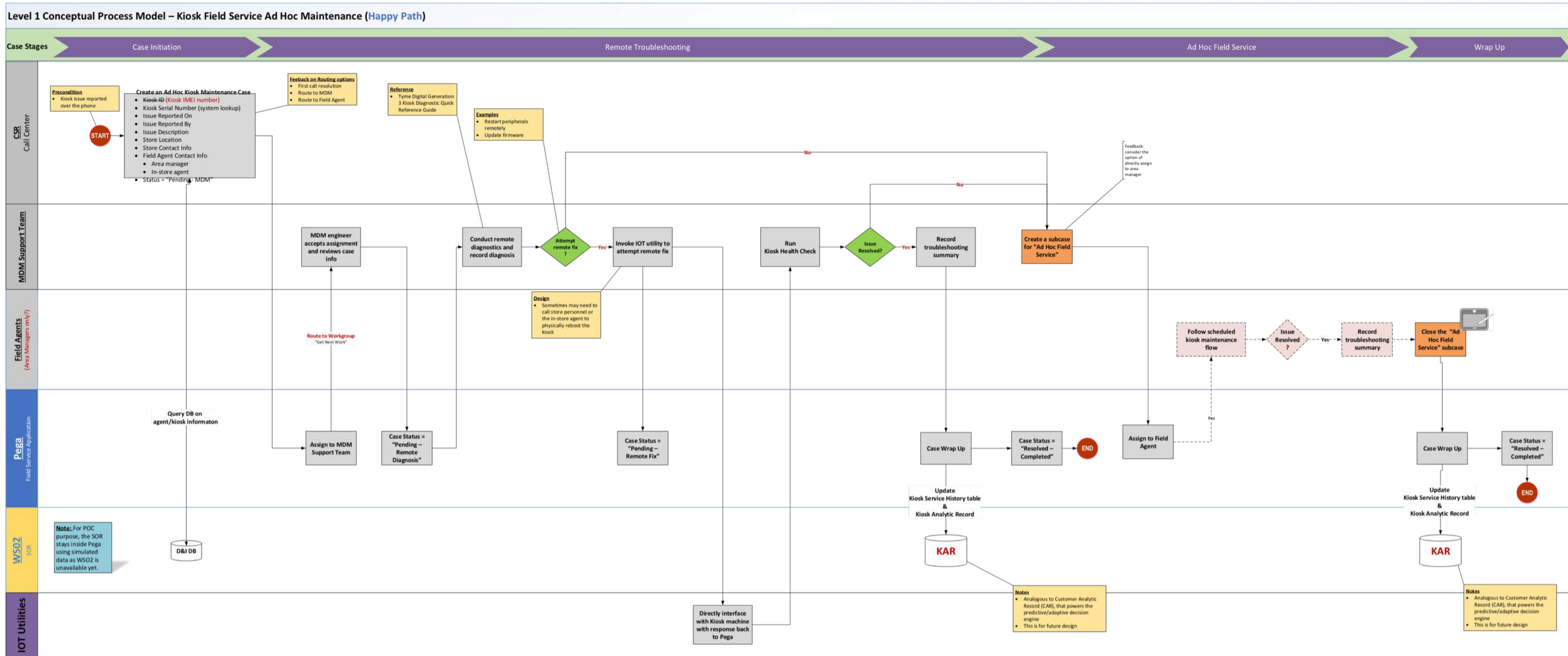# KIOSK ROUTINE MAINTENANCE

Level 1 Conceptual Process Model – Kiosk Field Service Routine Maintenance (Happy Path)
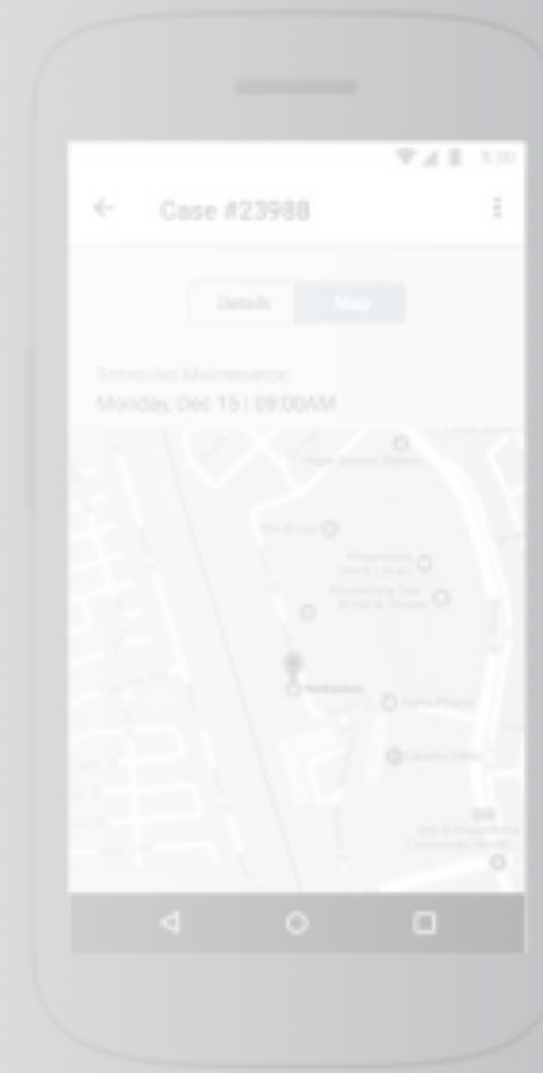
Case Stages	Auto Case Initiation	Appointment Confirmation	Travel	Perform Maintenance Services	Wrap Up

Regional Manager

Requirement
- Regional manager should have full access to area manager WB, and the ability to re-assign work item as needed

MDM Engineer

Revise
- Routine maintenance should not require unlocking BT to open the device
- Full product design, incorporate alternate path for situations where the device needs to be opened due to some issue
- Full product design, consider the scenario where device/peripheral needs to be replaced ... prioritize more critical maintenance over the routine tasks

Field Agents (Area Managers only? Yes)

Notes
- Stored in Pega DB data tables
- Lists maintenance service task names, service frequency, last service performance info, next service date, service appointment date (which triggers the appointment scheduling event)
- <Feedback: all-in-one checklist style maintenance package>

Email notification (investigate the Pega Notification Framework)

Question
- Any preparation or dependency checkpoint before travel?
- <feedback> not at this point

Area Manager reviews assignment on worklist

Accept Assignment / propose new time / escalate to regional manager for reassignment

Appointment Confirmed? — travel — Arrived? — Yes — Review service checklist and work instructions — Need BT Unlock? — Yes — Create a subcase for "Bluetooth Unlock" — Kiosk Unlocked? — Yes — Field Agent perform maintenance services — Kiosk Closed/Locked? — Yes — Close the "Bluetooth Unlock" subcase — Field Agent perform maintenance services (no need for unlock) — All other maintenance tasks completed? — Yes — Enter service notes and summary

Notify service completion

No Escalation to Regional

Pega — Field Service Application

START — Kiosk Routine Maintenance Schedule Trigger

(Auto) Create a Routine Maintenance Case
- Kiosk ID
- Kiosk Serial Number
- Expected Service Date
- Store Location
- Store Contact Info
- Maintenance Tasks (just a single line item)
  - Service type/name
  - Work Instruction (i.e. checklist)
  - Service History (Last Time)
- Case created one week ahead
- Status = "Pending - Appointment Acceptance"

Retrieve area manager information

Direct Routing Push notification to Area Manager

Case Status = "Pending - Travel"

Case Status = "Pending – Field Services"

Case Status = "Pending – Maintenance with Kiosk/ device Unlocked"

Case Status = "Pending – Maintenance with Kiosk/ device Locked"

Reset scheduling trigger for the next regular service appointment

Update Maintenance Schedule Table and Service History table

Case Wrap Up

Case Status = "Resolved – Completed" — **END**

Query DB on agent/kiosk association

WSO2 — SOR

Note: For POC purpose, the SOR stays inside Pega using simulated data as WSO2 is unavailable yet.

D&I DB

Notes
- Reset next service appointment date for successfully completed service items, based on defined service frequency.
- Update service history master table
- Full product design, consider capability to allow appointment optimization

KIOSK REPAIR MAINTENANCE

Level 1 Conceptual Process Model – Kiosk Field Service Ad Hoc Maintenance (Happy Path)

Case Stages: Case Initiation | Remote Troubleshooting | Ad Hoc Field Service | Wrap Up

CSR / Call Center

Precondition
- Kiosk issue reported over the phone

START

Create an Ad Hoc Kiosk Maintenance Case
- Kiosk ID (Kiosk IMEI number)
- Kiosk Serial Number (system lookup)
- Issue Reported On
- Issue Reported By
- Issue Description
- Store Location
- Store Contact Info
- Field Agent Contact Info
  - Area manager
  - In-store agent
- Status = "Pending - MDM"

Feedback on Routing options
- First call resolution
- Route to MDM
- Route to Field Agent

Reference
- Tyme Digital Generation 3 Kiosk Diagnostic Quick Reference Guide

Examples
- Restart peripherals remotely
- Update firmware

Feedback: consider the option of directly assign to area manager

MDM Support Team

MDM engineer accepts assignment and reviews case info

Conduct remote diagnostics and record diagnosis

Attempt remote fix ? — Yes →

Invoke IOT utility to attempt remote fix

Run Kiosk Health Check

Issue Resolved? — Yes →

Record troubleshooting summary

Create a subcase for "Ad Hoc Field Service"

No / No

Design
- Sometimes may need to call store personnel or the in-store agent to physically reboot the kiosk

Field Agents (Area Managers only?)

Route to Workgroup "Get Next Work"

Follow scheduled kiosk maintenance flow

Issue Resolved ? — Yes →

Record troubleshooting summary

Close the "Ad Hoc Field Service" subcase

Pega / Field Service Application

Query DB on agent/kiosk information

Assign to MDM Support Team

Case Status = "Pending – Remote Diagnosis"

Case Status = "Pending – Remote Fix"

Case Wrap Up

Case Status = "Resolved – Completed"

END

Assign to Field Agent

Yes

Case Wrap Up

Case Status = "Resolved – Completed"

END

Update Kiosk Service History table & Kiosk Analytic Record

Update Kiosk Service History table & Kiosk Analytic Record

WS02 / SOR

Note: For POC purpose, the SOR stays inside Pega using simulated data as WSO2 is unavailable yet.

D&I DB

KAR

KAR

IOT Utilities

Directly interface with Kiosk machine with response back to Pega

Notes
- Analogous to Customer Analytic Record (CAR), that powers the predictive/adaptive decision engine
- This is for future design

Notes
- Analogous to Customer Analytic Record (CAR), that powers the predictive/adaptive decision engine
- This is for future design

WIREFRAMES

Wireframes are the backbone of an interface's design, providing the initial structure upon which the product's visual design is based.

4. Scroll View

5. The Manager may tab between the case detail view and the map view.
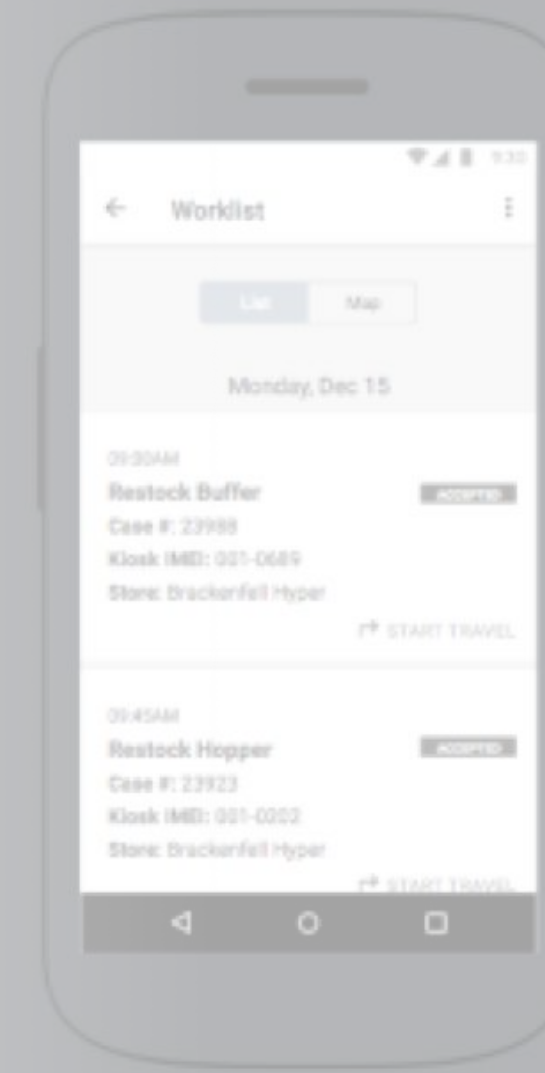
6. Once the Area Manager has accepted the work, the status of the case changes from "pending" to "accepted."
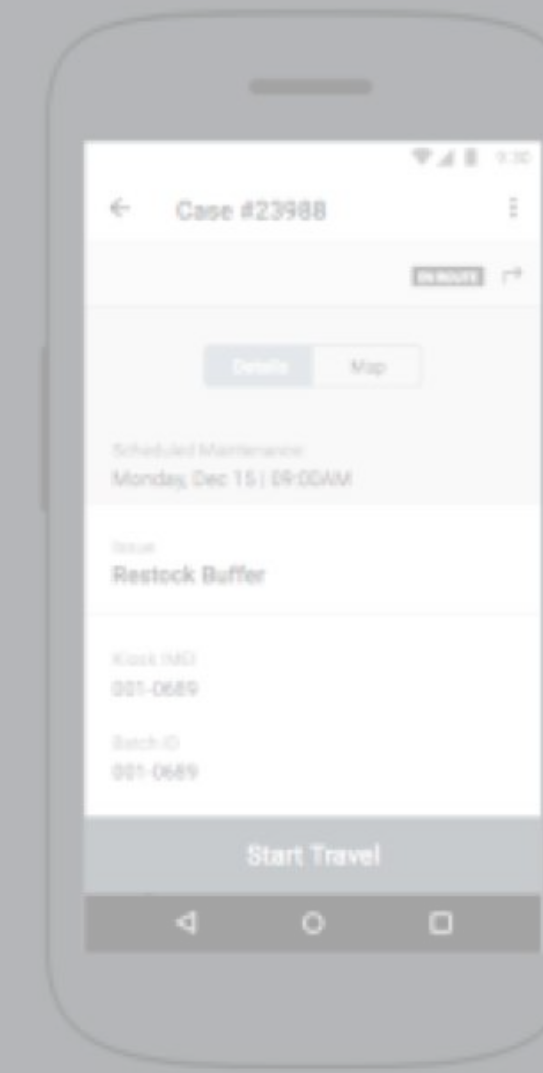
7. The Area manager can tap "Start Travel" to get directions to the location via Google Maps.
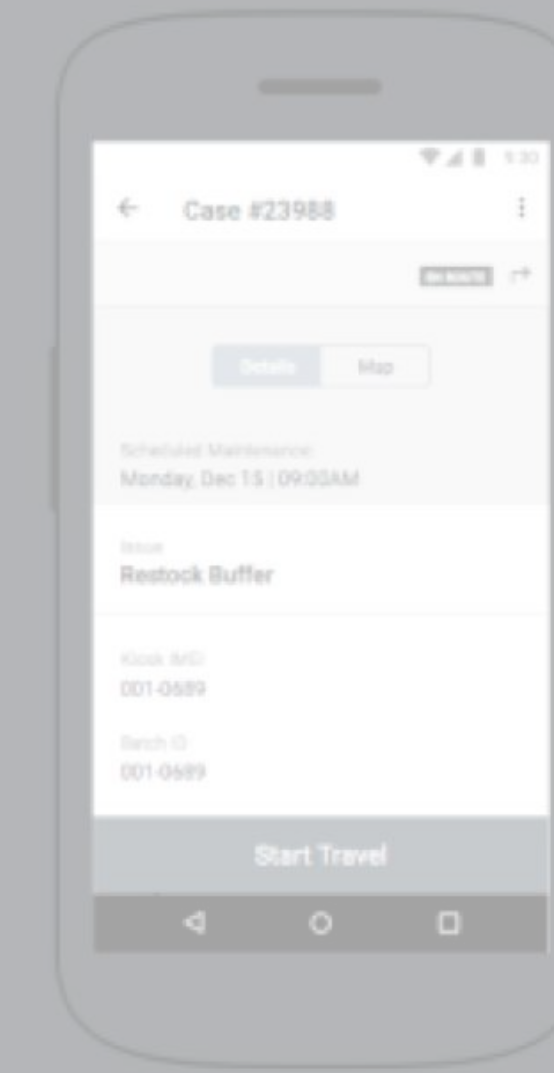
8. When the Manager arrives at the kiosk and is ready to begin work, they tap "Start Work."
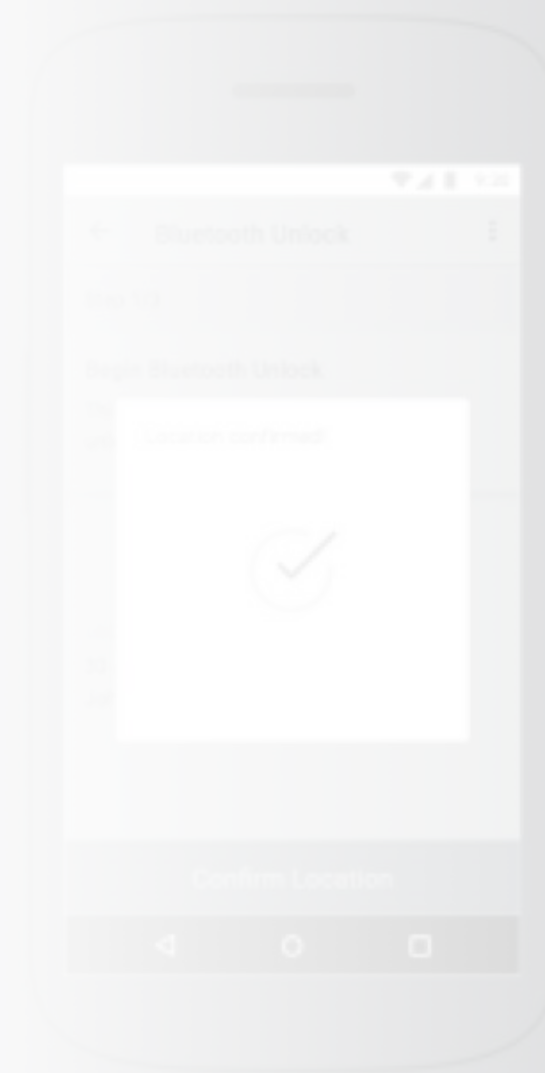
16. The Manager is notified when
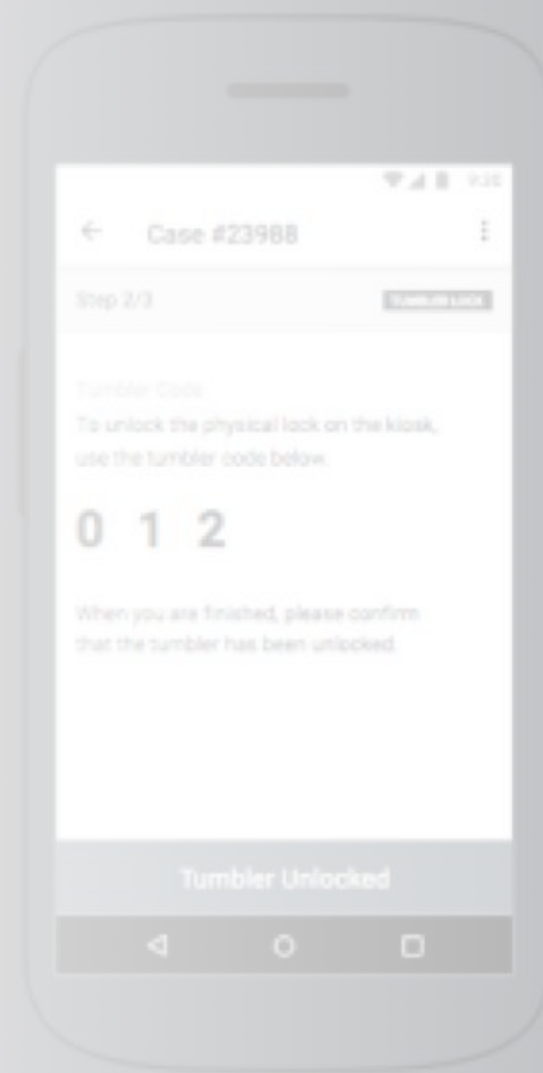
17. Pega sends the tumbler code, and the Manager is asked to
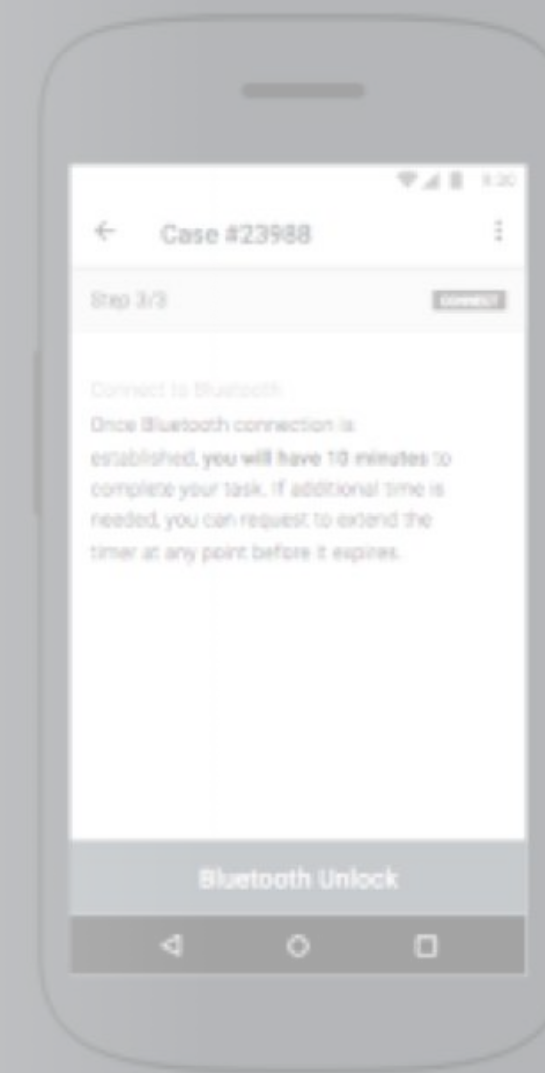
18. Before Pega sends BT unlock, the Area Manager must confirm
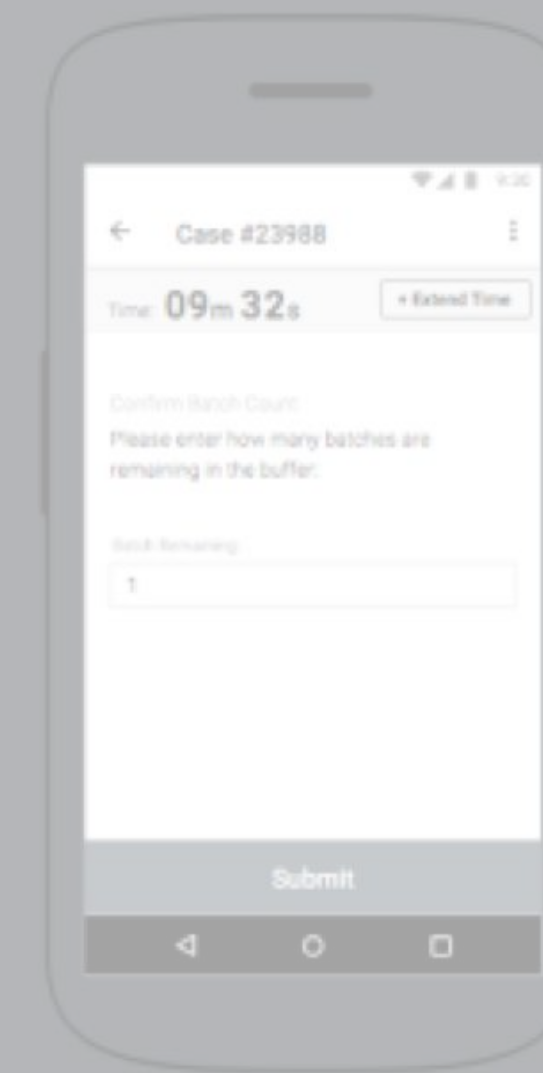
19. Pega unlocks the kiosk and the countdown timer begins
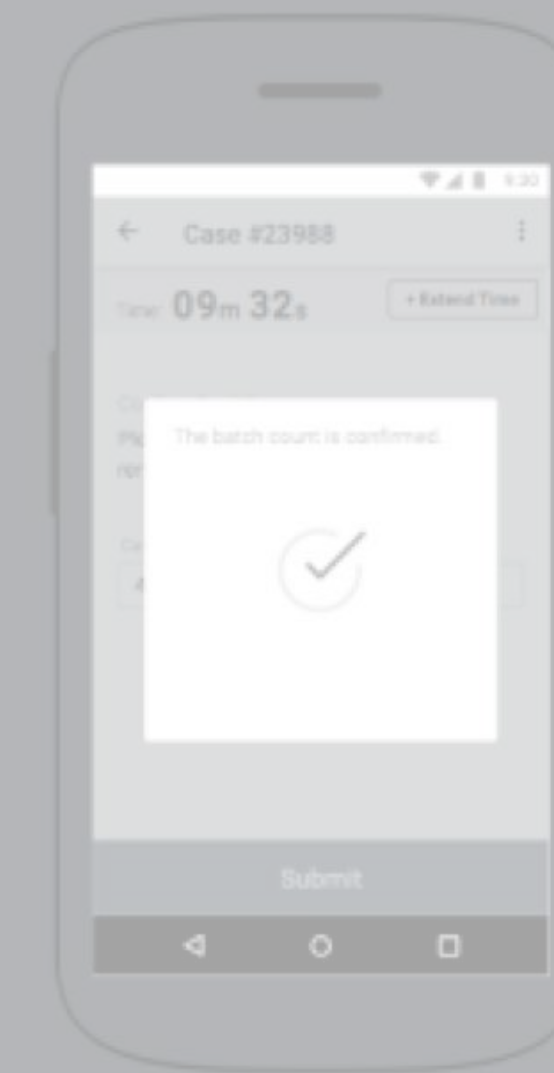
20. The system informs the Agent when the batch count has been verified

WORKLIST

The Worklist screen is the home screen of the app. Here, the service agent can review upcoming work cases in chronological order, viewing the top level information for each case.
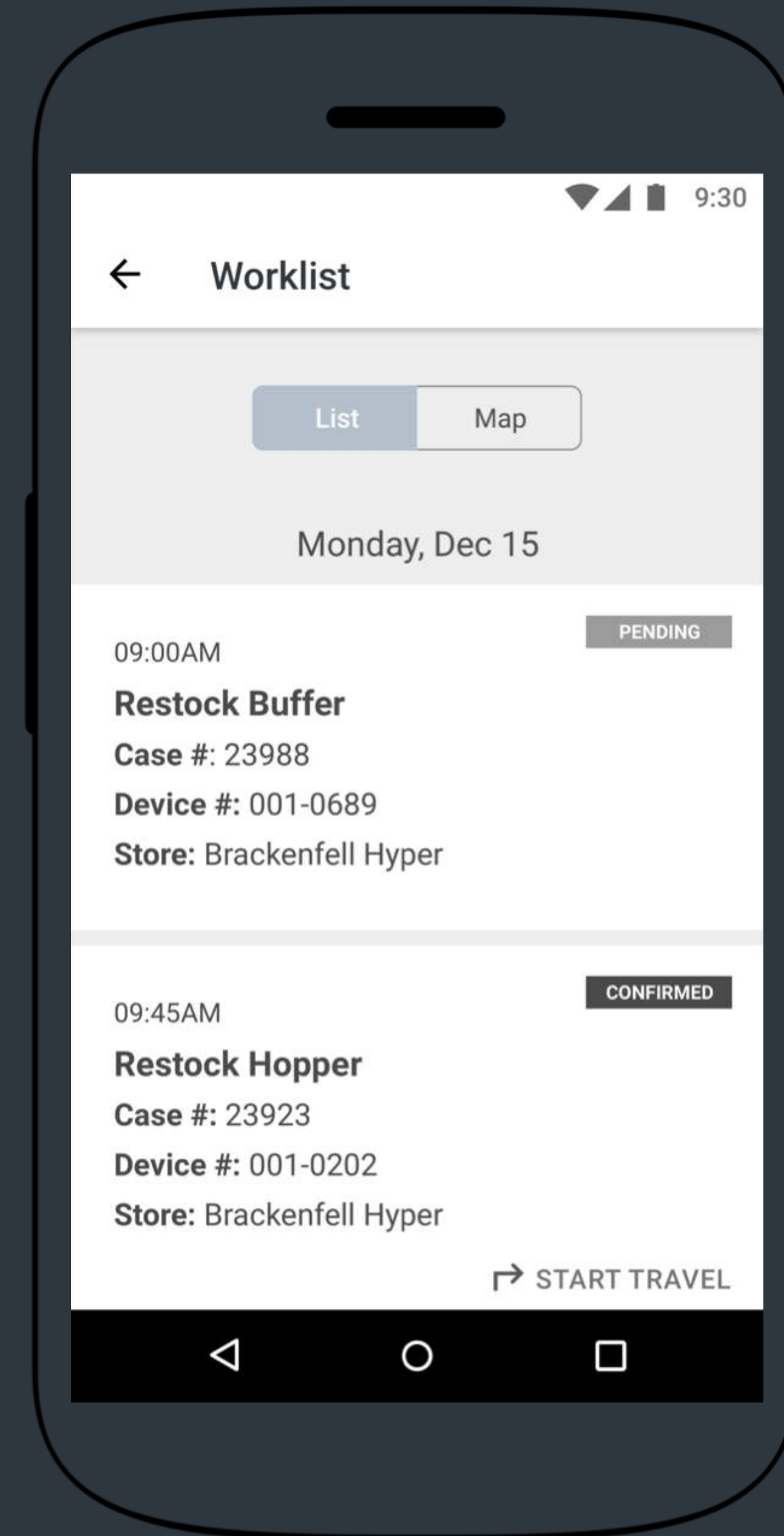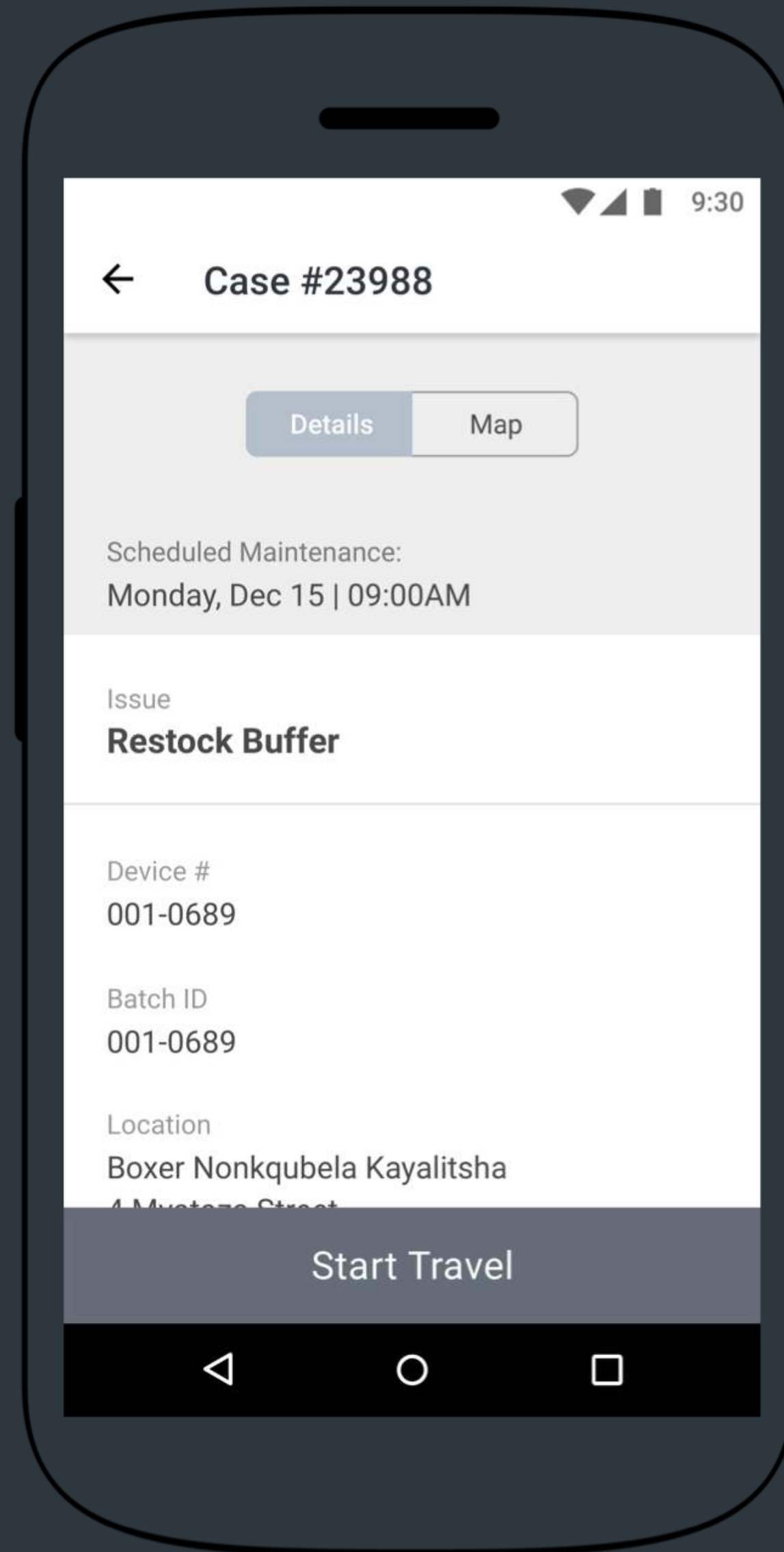
CASE DETAILS

The service agent can tap on any case in their worklist to view specific information about that case. Here they are able to view the case location on a map, review important case details, and opt to begin their travel to the work site.

BLUETOOTH UNLOCK

In order to open the kiosk, the user must go through the a Bluetooth unlock process, where their correct location is verified.

Maintenance Steps

Step 4
Check if the kiosk is plugged into a working plug

Step 5
Before leaving the store, make sure that the kiosk is properly closed

Step 6
Change the tumbler lock code

CHANGE TUMBLER CODE

Maintenance Complete
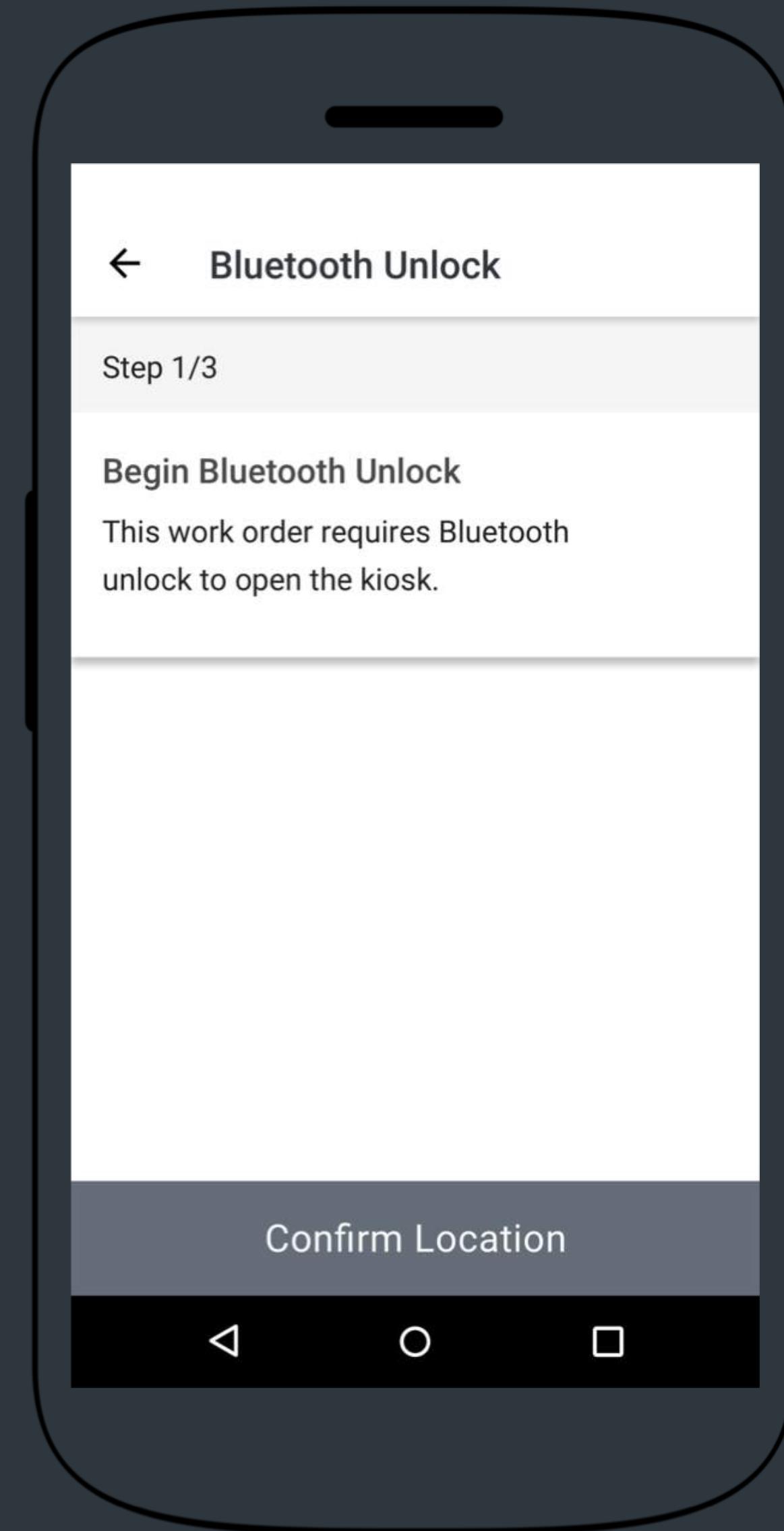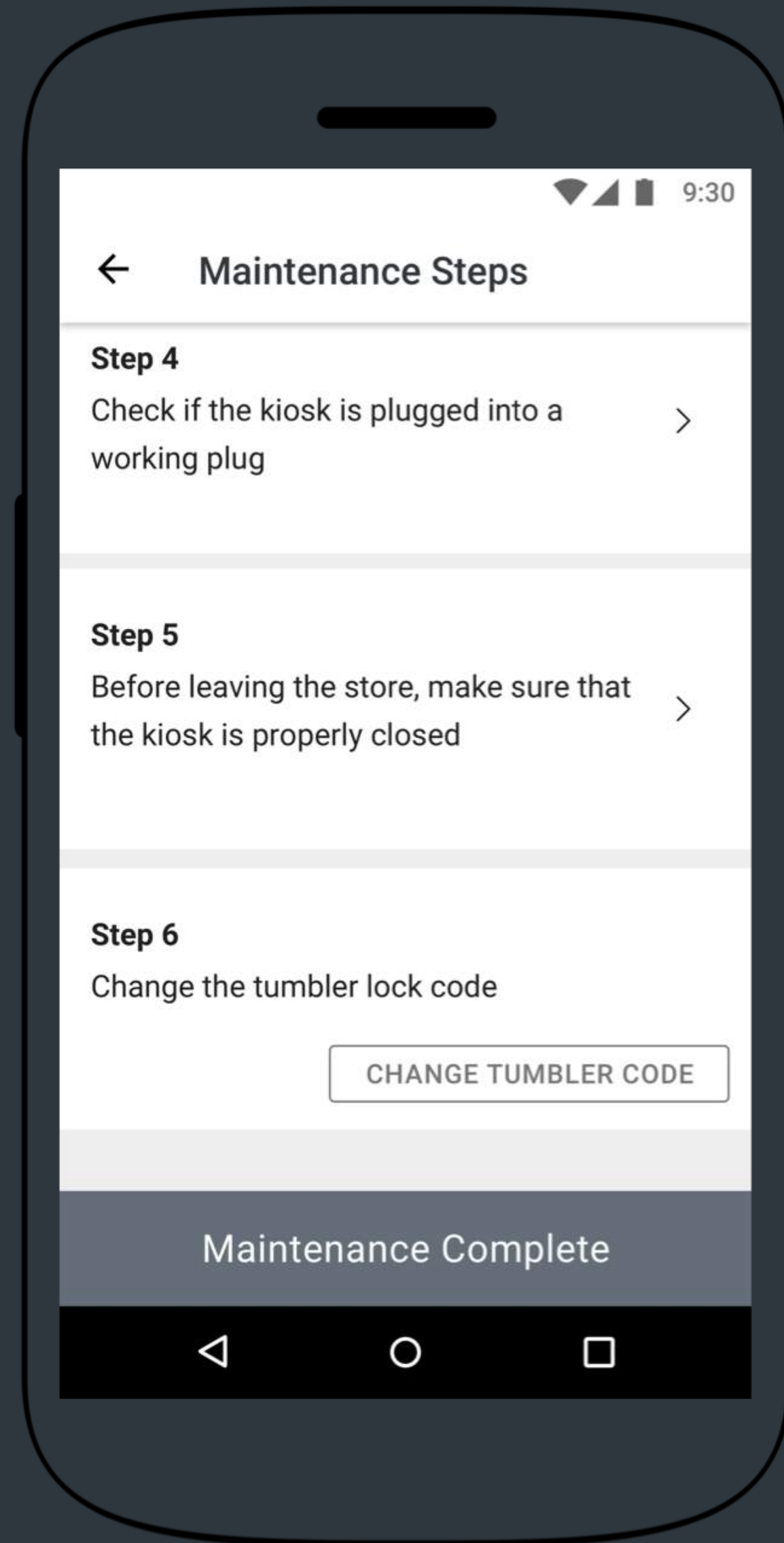
STEP-BY-STEP INSTRUCTIONS

For routine maintenance or specific repairs, the app provides step-by-step instructions to guide the user through their task. This will help to standardize workflow across all kiosks in different geographic locations.

CASE SUMMARY & KIOSK CONDITION

When a service agent has completed their work, they may mark a case as closed. During this step, they have the option to log any aesthetic damage on the kiosk. This will allow Tyme Digital to address surface damage in a timely manner so that kiosks are always looking their best.
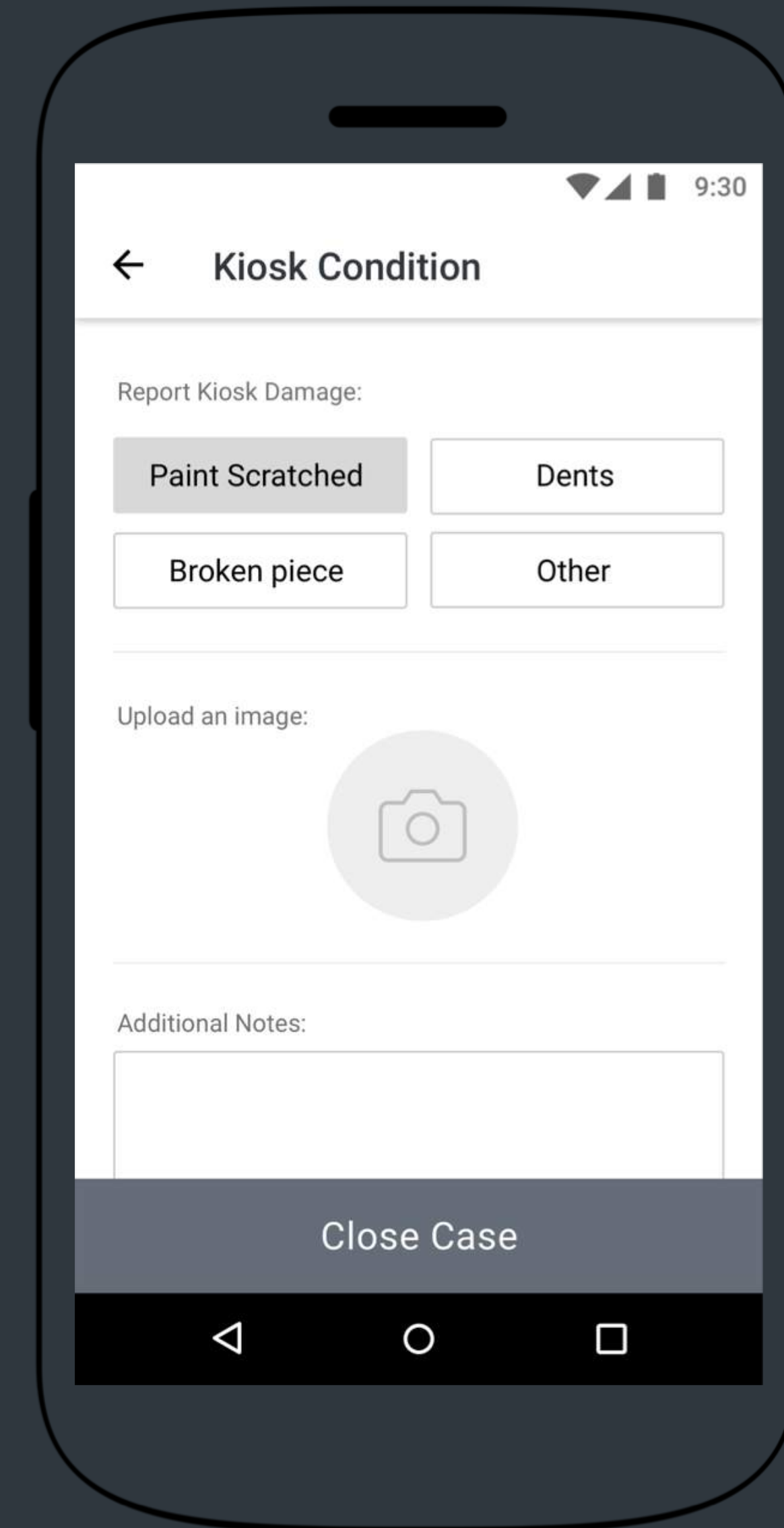
LOOK & FEEL

VISUAL DIRECTION

Goal:

To craft and define the polished, aesthetic attributes of the project, where beauty equals functionality.

Deliverables:

1. Mockups
2. Styleguide

LOOK & FEEL

The app UI draws directly from the Tyme Digital brand color palette. Yellow is used strategically, emphasizing important calls to action and other tappable elements. While the app is a utility app, that doesn't mean it can't have it's own distinct personality. Delighters in the form of custom pictograms lend visual interest to the experience.
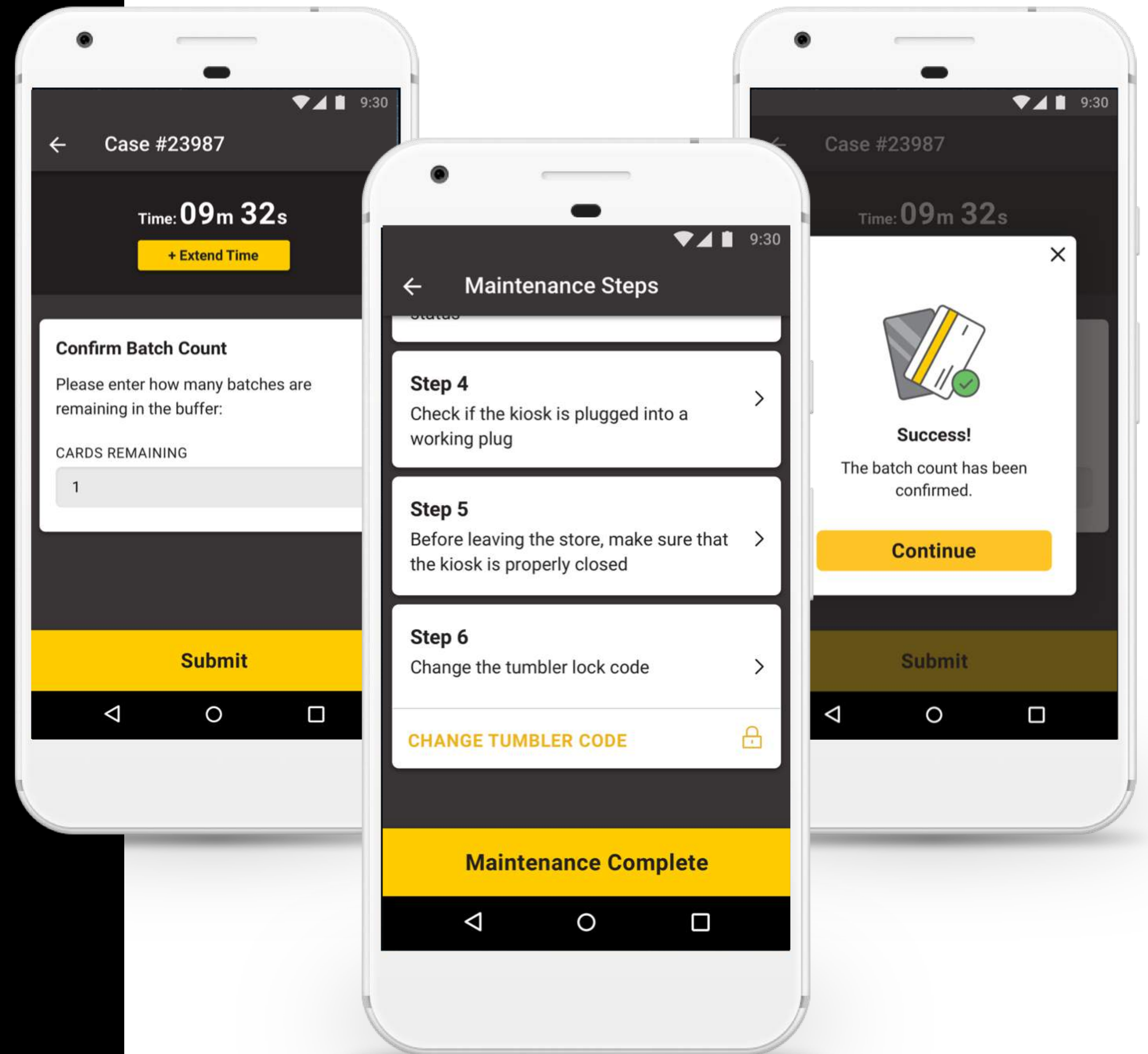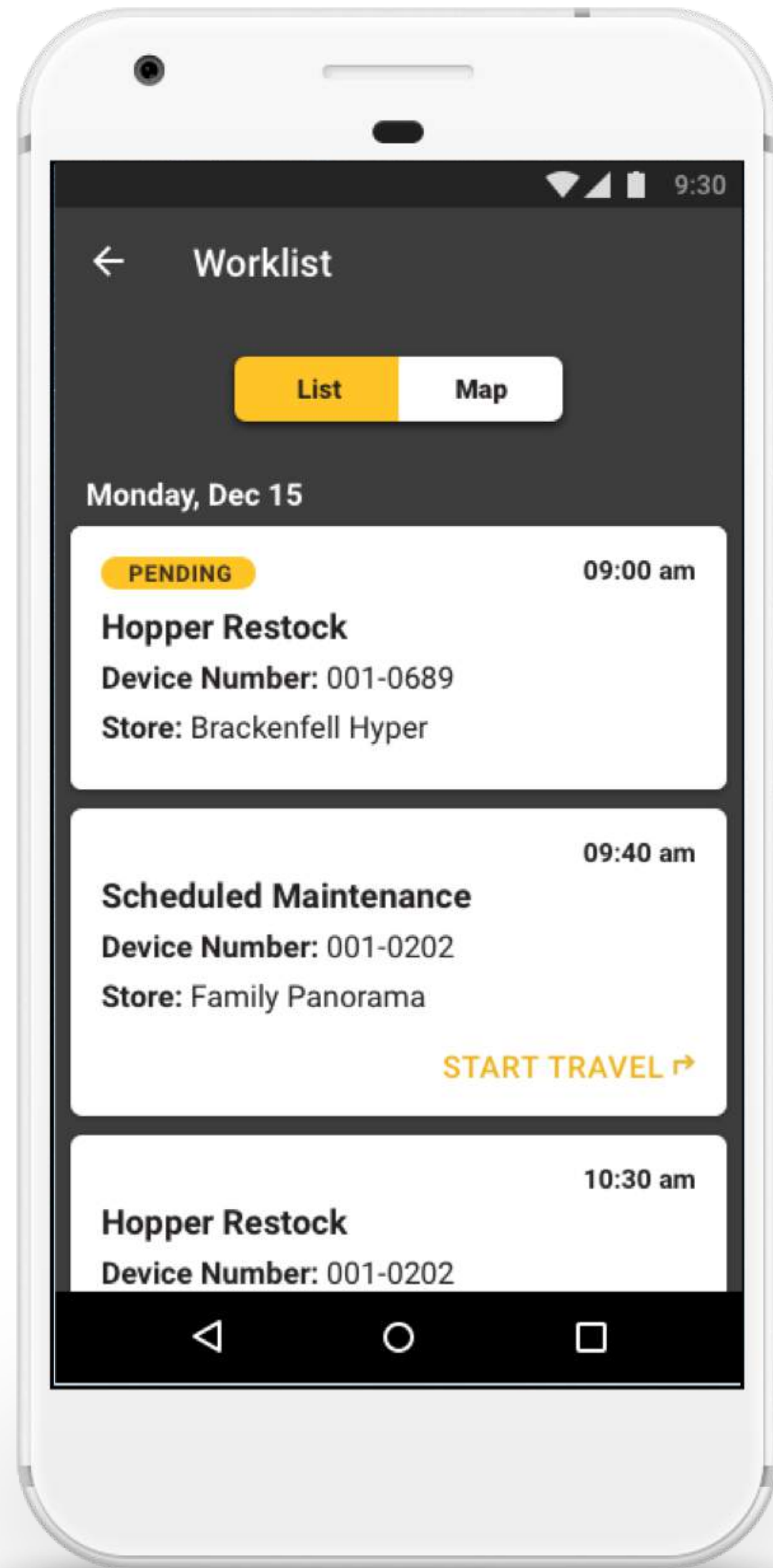
Worklist Screen
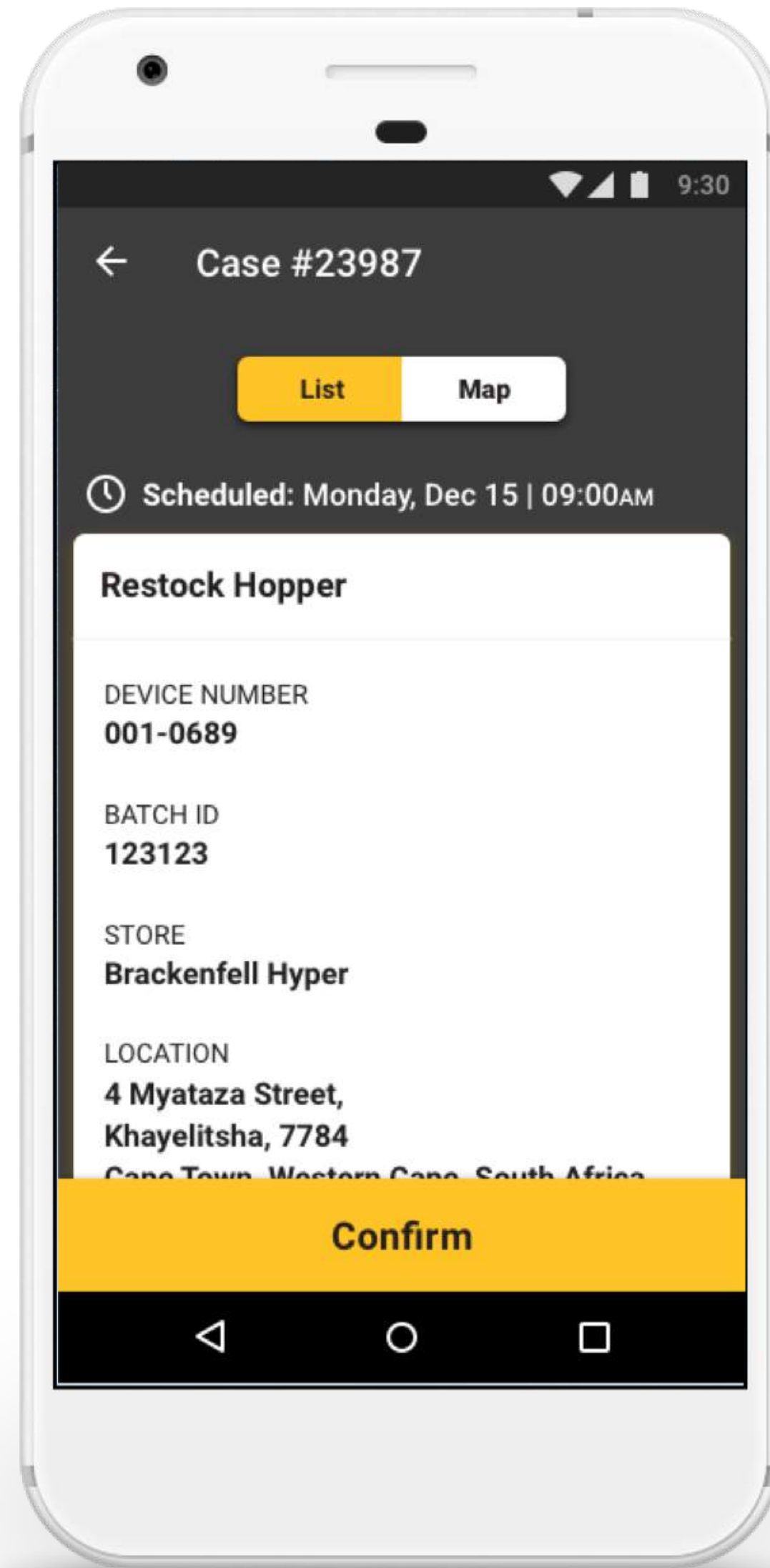
Case Details Screen
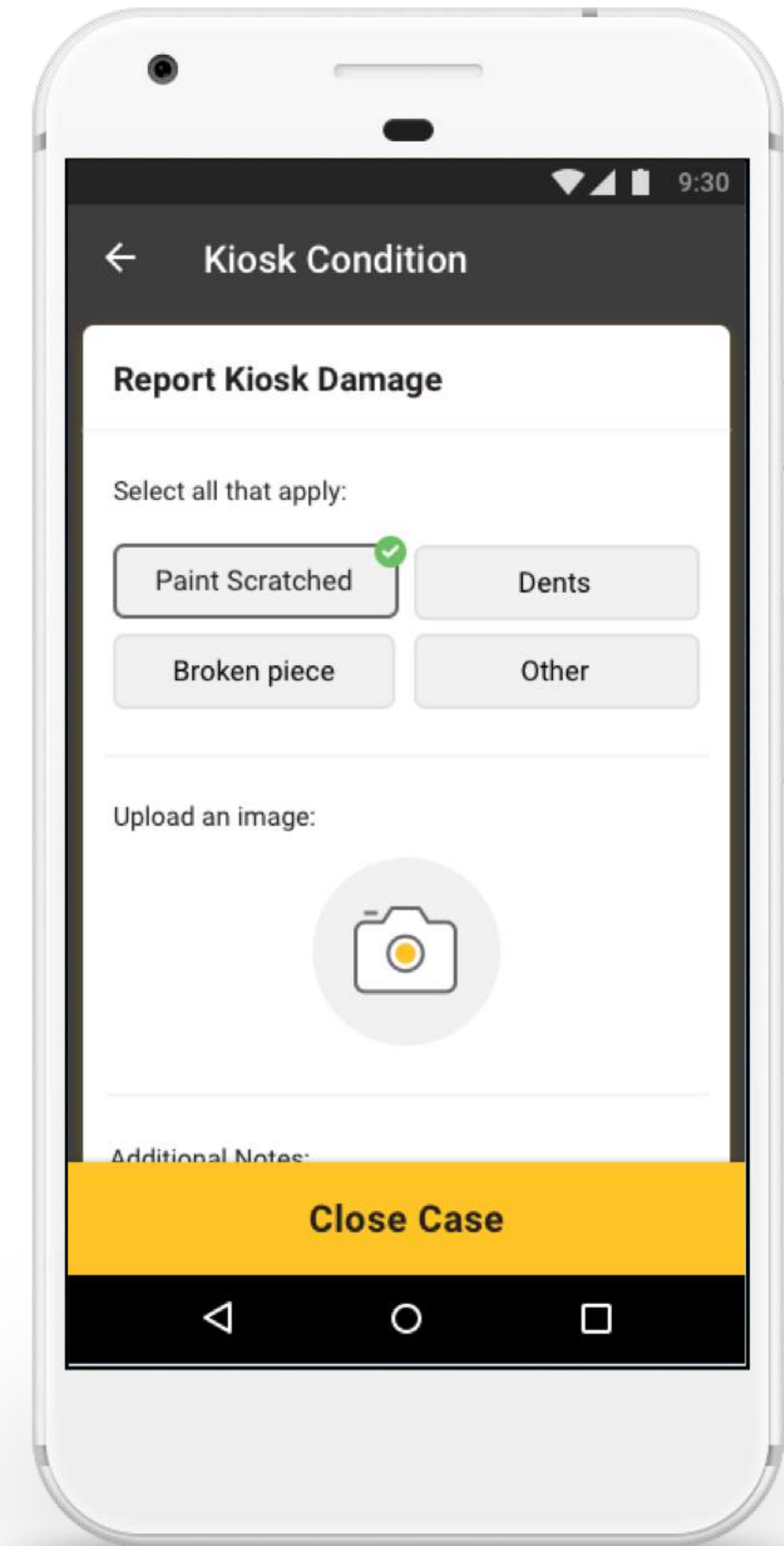
Report Damage Screen

STYLEGUIDE

The purpose of a style guide is to provide a reference point moving forward for modifying or including new design elements within Tyme Digital's Field Services application. The recommendations within are aimed at providing a consistent user experience based on both User Experience best practices and the formal Tyme Digital branding guidelines.

05
ICONOGRAPHY

Icons are visual cues used to represent features, functionality, or content. Icons are meant to be simple, visual elements that are recognized and understood immediately. All of the icons in the app should look as if they were meant to be part of a set or family, using the same line-weight, color scheme, and rounded edges.

ICONS

ILLUSTRATIONS

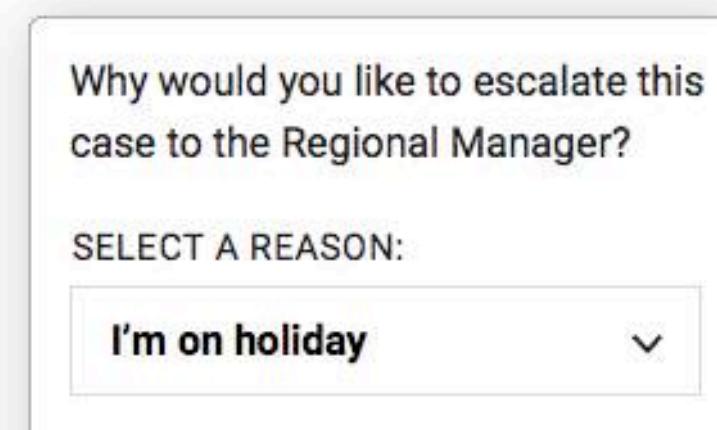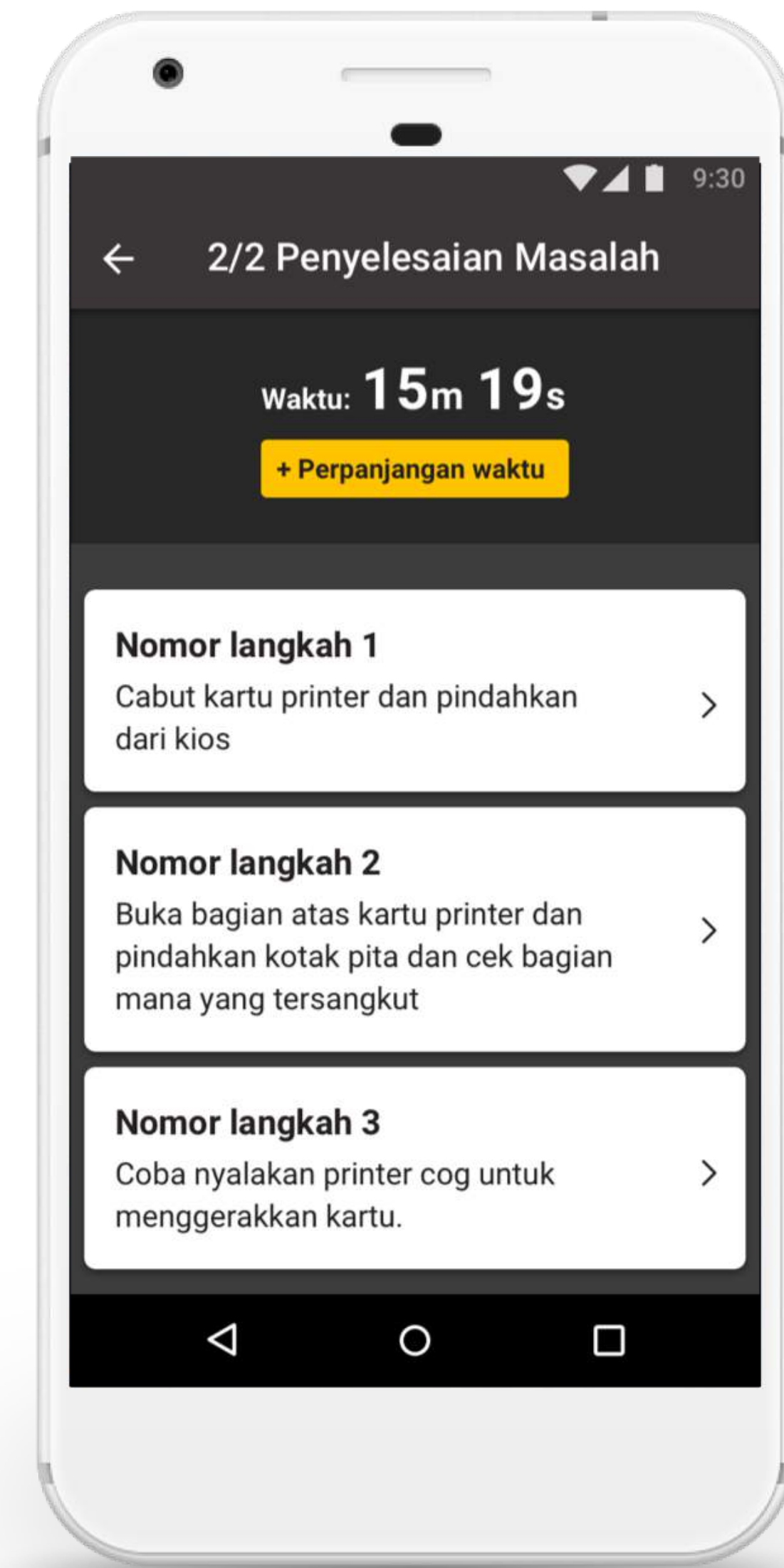SERIAL # CONFIRMED   LOCATION CONFIRMED   CARD COUNT CONFIRMED   TAKE PHOTO

06
MODALS

A modal should be used only when you want to interrupt a user's current task to catch the user's full attention to something more important. Modals are meant to grab the user's attention and halt all other actions until a message is dealt with or dismissed. Users cannot interact with your application until the modal is closed, and so modals should be used sparingly.

Why would you like to escalate this case to the Regional Manager?

SELECT A REASON:

I'm on holiday

Do you need to open another issue relating to this device?

NO   YES
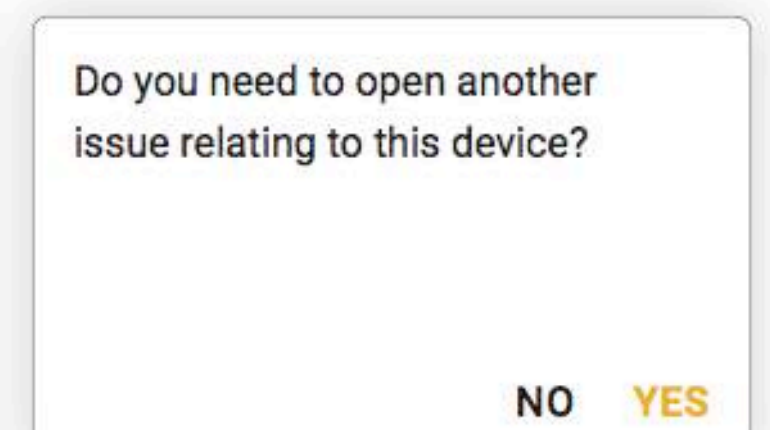
LOCALIZATION

Because Tyme Digital will roll out kiosks in several different locations throughout the globe, the app has been designed with localization in mind. The Pega platform is flexible and can support languages other than English -- in this case, Indonesian Bahasa.