TOUCH IOT WITH SAP LEONARDO PROTOTYPE CHALLENGE

TICKET VENDING MACHINE
Ticket vending machines are a means of purchasing tickets for public transport. Although ticket purchases via mobile app are on the rise, there will still be a place for physical vending machines. Mobile app usage always requires app installation and user registration which is not something a casual user does when they’re about to get onboard. On trams, it is not possible to purchase tickets from the conductor.

While there is at least one of these machines conveniently located at just about every stop, they are of questionable reliability. Just when you thought you can quickly buy a ticket, it is either out of service or currently doesn’t accept the mode of payment you wanted to use.

But while it is immediately clear to the hurried public transport user that the machine is not working properly, the company doesn’t know about it until either a user calls in to report it or a maintenance technician notices it on a regular maintenance visit, so fixing the problem takes time and means lost revenue. There has to be a better way!
Figure 1: A typical RNV ticket vending machine

Figure 2: Buy a ticket before getting on the tram!

Figure 3: All too often, these machines are out of service
Persona

Stefan
Maintenance Manager
“I know my team is great. But how do I know where they’re needed most?”

About
- 45, married, 13 years of machine maintenance experience
- Being the person in charge of creating schedules of vending machines to visit for his staff
- Mostly desk-bound
- I work with the Head of Engineering, Technicians, and Admins

Responsibilities
- I am responsible for the maintenance of all 435 ticket vending machines in and around Heidelberg.
- I create maintenance schedules for my staff of 3 technicians.
- I modify schedules if I get notification from customer service about customer-reported issues

Needs
- I need to know the status of the machines.
- I need the ability to diagnose and possibly fix problems remotely.
- I need to know the cash stock level.
- I need to know the paper stock level.

Main Goals
- Sending technicians exactly to where they’re needed
- Maintenance exactly when it’s needed rather than according to fixed schedule

Pain Points
- Doesn’t have an overview of machines.
- Doesn’t get timely notifications about issues.
- Sending technicians on untargeted maintenance tours is time consuming.
- Need the ability to remotely control machines.
Point of View (PoV)

Point of View

As a **Maintenance Manager**

I need a way to **Know the status of all ticket vending machines**

so that **I know where to send my technicians for maintenance.**
## User Experience Journey

<table>
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<tr>
<th>ACTIONS</th>
<th>MINDSET</th>
<th>FEELING</th>
<th>TOUCH POINTS</th>
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</table>
| - Arrive at desk  
- Open inbox  
Look for messages from customer service | “Any customer-reported issues?”  
“Why does the card reader break all the time?” | 😊 | • Email  
• Customer Service Specialist |
| - Open Maintenance Excel File | “Did I update it last time?”  
“How can I sort by geographical location?” | 😊 | • Excel file |
| - Create schedule | “If only I could mark them on a map…”  
“Whatsoever I do… it’s just best guess anyway” | 😞 | • Excel file |
| - Print schedule  
- Give to technicians at staff meeting | “Printing… it’s 2017!”  
“Why can’t I send it to their phones?” | 😞 | • Schedule (print)  
• Technicians |
| - Work at desk  
- Receive phone calls by customer service | “Thanks to our reliable customers, we know where to go from time to time” | 😞 | • Phone  
• Customer Service Specialist |
| - Call technician to add machine to schedule | “We know there’s something wrong, so it’s our priority to go there first.” | 😞 | • Phone  
• Technician |
Prototype