OPEN SAP
IMAGINE IOT
PROTOTYPE CHALLENGE

STORY

SUMMARY
The local police force wants to improve effectiveness of their parking control force to increase revenue and reduce illegal parking.

STORYLINE
The city Megapolis is a medieval town in central Europe and has grown significantly in recent years. As a consequence there are too many cars and not enough parking spaces. Many people park their cars without buying parking tickets or on premises reserved for residents in the streets that are far too narrow for so many cars. The local police force is trying their best to quickly respond to the cars parked wrongly, but recent budget cuts has left the force understaffed and the ways are very long. Thus the police is searching for a way to be notified in real time about wrongly parked cars, so an officer can be sent directly to the location to ticket the wrong-doer before he/she can move their car away again. If the ticketing rate is increased, the police budget will be stocked up and the parking offenders will learn a valuable lesson, ultimately tidying up the city of Megapolis.

The desired solution will report parking offenders in real time by scanning the license plate and checking whether a parking ticket was bought through an app or not. If no ticket was bought within 3 minutes, an alarm will appear on a smartphone carried by nearby police officers. In the solutions app the precise location of the offending car will be marked, allowing the officers to quickly move towards their target using personal transportation (e.g. Segways) and ticket the offender swiftly. While on-site, the officers have the chance to react to special situations, like the use of an archaic paper ticket machine or medical emergencies. After checking the legitimacy of the offense, the ticketing is done by simply tapping “approve” on the smartphone, setting into motion an automated process where the registered owner of the car will receive the ticket with payment instructions by mail.
PERSONA

NAME:
Officer Jenny

“If only I would find parking offenders.”

JOB TITLE:
Parking Control Unit (PCU) Officer

BACKGROUND:
30 years old, single, police officer, 3 years’ working experience in parking control, can’t walk that long due to knee injury, people person, bit of an underachiever, often has to do extra hours to catch up on paper-work.

JOB RESPONSIBILITIES:
- Walk the streets in a designated part of Megapolis
- Check car by car for parking offenders
- Document offending cars by taking photos and writing down the exact time, location and a short description of the scene
- Putting the collected tickets into the central computer system so the tickets can be mailed to the offenders

MAIN GOALS:
- Fulfil the necessary quota of tickets to avoid conflict with her boss
- Avoid extra hours to spend more time with her friends
- Be target-oriented instead of checking every car in the street for potential offenders

NEEDS:
- I need to know where parking offenders are, instead of wasting time on legitimate parkers
- I need to move faster between targets
- I need to do the bureaucratic things faster

PAIN POINTS:
- Checking every car in every street
- Poor ratio of tickets/cars checked
- Lot of time spent on paperwork
- Injured knee makes walking long hours painful

STAKEHOLDERS:
- PCU partner
- PCU chief
- Mayor
- The residents of Megapolis

COMPETENCIES:

* Picture taken from openSAP Imagine IoT Prototype Challenge Template
**Point of View**

With my injured knee, I need to know where parking offenders are, so I don't have to walk from car to car all day.

As a people person, I need move fast between targets, so I can fulfil my quota quickly and can chat to my colleague without bad conscience.

As a field-work oriented person, I need to do paper-work faster, so I can reduce extra hours and go home on time.

**User Experience**

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>Arriving in street</th>
<th>Checking 1(^{st}) car</th>
<th>Walking to 2(^{nd}) car</th>
<th>Checking 2(^{nd}) car</th>
<th>Walking to 3(^{rd}) car and checking it</th>
</tr>
</thead>
<tbody>
<tr>
<td>MINDSET</td>
<td>“Urgh, so many cars!”</td>
<td>“Ha! No ticket! I got you, Mister!”</td>
<td>“Why does it have to be so cold today?”</td>
<td>“Who parks like that? I wish I could give them a fine, but they have a proper ticket.”</td>
<td>“HA! Finally! You get a fine for not having a ticket!”</td>
</tr>
<tr>
<td>FEELINGS</td>
<td>🚫</td>
<td>🚫</td>
<td>🚫</td>
<td>🚫</td>
<td>🚫</td>
</tr>
<tr>
<td>TOUCHPOINTS</td>
<td>Street</td>
<td>Car</td>
<td>Street</td>
<td>Car</td>
<td>Street Car</td>
</tr>
<tr>
<td>ACTIONS</td>
<td>MINDSET</td>
<td>FEELINGS</td>
<td>TOUCHPOINTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>----------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Taking out ticket block and pen | “I wish my hands were not so numb from the cold. It is difficult to write like this...” | 😞 | Pen
| Writing down license plate, date and time, location and scene description | “This documentation is so tedious...” | 😞 | Ticket Block
| Pasting ticket to car | “Why is this camera never working? ...Ah, finally.” | 😊 | Pen
| Putting block and pen away | “Unbelievable! I checked like 50 cars and only 2 had no ticket...I still need 28 more and it is already so late!” | 😞 | Ticket Block
| Taking camera out to take evidence pictures | “Yawn, I'm tired and my knee hurts from all the walking.” | 😞 | Pen
| Putting camera away | "It is almost time to go home, but I still have to put in all the reports into the system....extra hours again, I guess.” | 😞 | Ticket Block
| Checking the rest of the street | “Thank you soooo much, Jared! You were always my favourite colleague! I wonder if should ask him out some time?” | 😊 | Street
| Checking other streets until the daily quote is met | | | Police Station
| A nice colleague offers to take over Jenny’s ticket and put them into the system | | | Computer
| Jared | | | Jared
First, I would like to present you some mock-up screenshots with explanations. Afterwards I will present the same screenshots in context to each other, explaining how the app should work. All map screenshots have been taken from Google Maps.
EPILOGUE

As a consequence of now knowing exactly where a parking offender is, Officer Jenny's productivity has skyrocketed. In fact, her whole unit is doing so well that they were able to stock up the budget and equip the officers with personal transportation (Segways) allowing them for even faster travel between locations. Additionally, as all information is synchronized through the IoT, the amount of paperwork has dropped dramatically. All fines are sent out automatically after approval so Jenny does not have to pull extra hours, typing in all the information into the police computer system.