READY FOR SUBMISSION

TOUCH IOT WITH SAP LEONARDO

PROTOTYPE CHALLENGE
Background (Need): Joseph is a senior Police officer. He started receiving huge volume of car theft complaints in the recent past from multiple localities of nearby cities in his jurisdiction of control. This made Joseph to think of a car security system which can provide and/or send useful information about the theft to understand the situation clearly and to trace the involved (thief) and to successfully close the complaint and make residents happy. Joseph gave this requirement to an IT technical team and they came up with the below IOT solution.

What is accomplished (Achieve/Solution): When car door is opened, with the help of connected switch sensor our system will identify that door, then spy camera will tilt to that side immediately and record the person’s face and that footage or snapshot will be saved in database of the raspberry pi and that picture is further uploaded to Gmail drive and user will get a mail with attachment of that footage, also this detail is uploaded in cloud with via. suitable protocol, connectivity and security (example Nebulaboard / Sap IOT support) and stored in Cloud server (example CoAPWorks / Sap IOT cloud support ) for further data processing and publishing in our client portal view page (custom built as per user requirement).

Technology: This IOT initiative is an efficient automotive security system which can be implemented for anti-theft using an embedded system integrated with Global Positioning System (GPS) and Global System for Mobile Communication (GSM).

User Group: This proposed Prototype is an attempt to design and develop a smart anti-theft system which can give the exact time of the theft, physical location of the vehicle at the time of theft and at present and also the footage/picture of the person who entered the vehicle, etc., This IOT idea and prototype shall be used in all type of private and public vehicles and will be of greater value addition to our society and to any size of ‘Transportation and Fleet’ owners.
Joseph
Police Officer

I want residents to provide maximum information about the incident (car theft) and not only the complaint.

About

• 27 years of public service experience.
• Chief of Crime branch police team of this state.
• I am responsible for crime control & law and order situation of my state.
• I report to Chief Minister of this state.

Responsibilities

• I am responsible for controlling the crime in my state.
• I am responsible for controlling the car theft in my state.
• I spend more than half of my time in going rounds of the city, but I also do work in my office, on the computer.

Needs

• I always need additional information on each car theft case registered. It becomes hard to work on these cases without any clue.
• I need to know more detailed information about the time and location of the theft at the soonest possible before the culprit (thief) travels far away from our location.

Main Goals

• Being the person who makes the final decision, I have to keep the balance between improving the efficiency of my team and our working comfort.
• Better management of actual time spent in working on each crime, car theft case.

Pain Points

• Can’t able to progress the car theft cases, because we don’t have a start point for these complaints.
• The car theft cases has only very high level information and don’t have required detail to start the investigation.
• Need to have detailed information on the car theft incident to catch the thief and close the cases soon.
**User Experience Journey Template – filled**

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>MINDSET</th>
<th>FEELING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive car theft complaint from car owner</td>
<td>Oh my god, another car theft!</td>
<td>😞</td>
</tr>
<tr>
<td>Assign the task to local area police team</td>
<td>I know, I know... the local team will be unhappy to take this assignment because it has very little or no clue.</td>
<td>😞</td>
</tr>
<tr>
<td>Start enquiry with car owner to get additional information</td>
<td>Car owner will not have any clue except for that his/her car is missing. Same old story.</td>
<td>😞</td>
</tr>
<tr>
<td>Start enquiry with people around the place of theft to get additional information</td>
<td>People in that vicinity will not have any clue. They will say “I don’t know” as usual. Same old story.</td>
<td>😞</td>
</tr>
<tr>
<td>Progress the search process with little information</td>
<td>Can’t do anything special...Do the repetitive steps of informing the near-by police centers about the missing car registration number/model and color.</td>
<td>😞</td>
</tr>
<tr>
<td>Failed to spot the thief, in most cases.</td>
<td>I am going to fail again. How will I give status report to my chief!!!</td>
<td>😞</td>
</tr>
</tbody>
</table>

**As a Chief Police Officer**

I need a way to get most precise information of the car theft to start the investigation and to catch the thief at the earliest possible so that residents of this state can live happily without fear of car theft and in future this solution can be implemented worldwide and no one dare to involve in a car theft any further.

**TOUCH POINTS**

Prototype

Prototype screens for an IoT application to solve your PoV

Goal of Prototype Challenge
The goal of this prototype is to show the possibility of having an Advanced Car theft security system. An efficient automotive security system is designed and will be implemented for anti-theft using an embedded system integrated with Global Positioning System (GPS) and Global System for Mobile Communication (GSM).

This proposed work is an attempt to design and develop a smart anti-theft system that uses GPS and GSM system to prevent theft and to provide precise information such as

(a) Get a snapshot picture of the person entered the car.
(b) Determine the exact time of theft.
(c) Determine the direction of the car travelled from then.
(d) Determine the exact present location of the car.

Mockup
This mockup contains the below topics.
- Introduction / Working
- Block Diagram / Flow Chart
- Hardware / Software requirement
- End user application / Prototype
- Conclusion

Introduction
These day’s vehicle robbery cases are higher than any other time, it has gotten to be fundamental to give a vehicle a superb security with the main solid hostile to burglary gadget. This vehicle security framework guarantees the best to ensure your vehicle being traced at the earliest like never before.

Working
When the car door is opened or car is snooped by a thief, then with the help of connected switch sensor the system identify the door then spy camera will tilt to that side immediately and record the culprit’s face and that footage or snapshot will be saved in database of the raspberry pi and that picture is further uploaded to Gmail drive and user will get a mail attached with that picture/snapshot. This snapshot/picture captured is uploaded in cloud (example. Via Nebula board and CoAPWorks / SAP Cloud). This is the most important and required evidence of this incident and can be submitted to police along with the complaint. This helps police to trace the culprit at the earliest like never before.

Block Diagram
Software requirement
Currently Python is a widely used high-level programming language which can be used or any other similar language can be used.

End User Application (Build Template)
Thanks to SAP ‘Connected Things’. Really wonderful thing and saves time.
I have put in the relevant content into the template below.
I have altered almost all the content in the picture to accommodate most precise information of this prototype.
Prototype model
I have started building this prototype into a working model to take this idea/initiative to the next level with the help of Open SAP’s support.

Conclusion

Police can use the footage taken during the theft and other specific & relevant information like time of theft and direction and position of the car etc., submitted with the compliant to take necessary actions quickly. This system will also be the key factor to recognize which places of city is being exposed to crimes. By using this system we can easily minimize the crime level to large extent and will be very useful for any size of “Transportation & Fleet” owners.