Teams 4 - WOLVES
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Theme: **Security satellite tracking for public and private service**

A. Problem

At present, car security is deficient, which is why there have been countless thefts lately. For these reasons, the development of a satellite monitoring and tracking application has been proposed to guarantee security in order to reduce thefts of these. In order to understand how this application works, we must understand how a GPS works and relate it to existing applications.

B. Overview

The existing security measures in mobility apps currently do not guarantee 100% to their users, therefore the development of software that uses different functions and is applied to mobility apps will help us find the solution to this problem giving us greater security for users and people who provide the service.
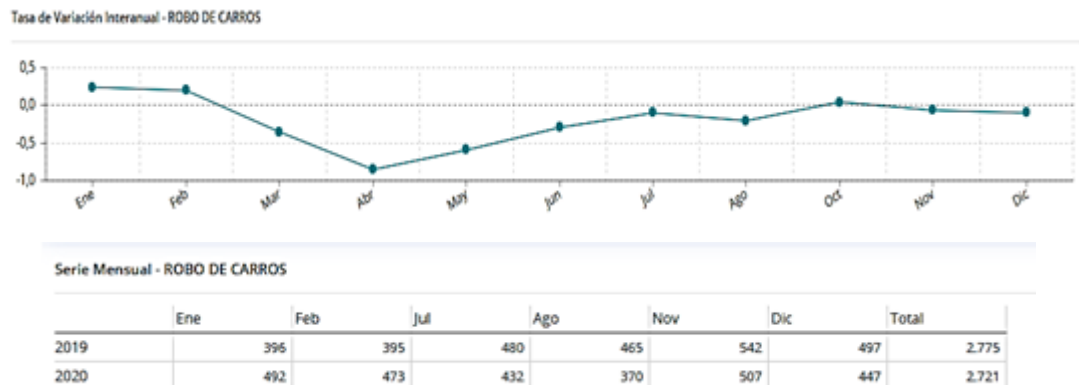
- Real-time monitoring of the travel path that applies to any device regardless of its low or high signal level and that this is not lost.
- The connection with the video surveillance cameras installed in the vehicle are synchronized with the application in real time.
- Verification of the data and photo of the vehicle owner, the driver and his history of previous trips. And vice versa for the user with the data and the respective photo.
- The facial recognition when opening the application of both the user and the driver will be the same established in the data of both persons in the application.
- Full audio recording while traveling from point A to point B.
- Emergency button option that is linked to the police, this option must be used by both the driver and the user.
- Immediate alert when a deviation from the route is detected, addressing the user and driver with a verification code for both and in this way guaranteeing that both agree with this event.

- Communication between the different drivers that provide the service so that they can help each other and support each other.

Then the software will be in charge of receiving all this information and will proceed to accept in the case that all the established parameters are met or deny the trip in case they are not met, for the safety of the user and the driver.

C. Background

Between 2019 and 2020, in Ecuador, the percentage of thefts from public vehicles like buses, cabs and private vehicles has increased from 31.6% to 48% according to figures from the Ministry of Government. That positions vehicle theft as one of the biggest problems we have in our current society, and the most viable way to solve this is through technology and the development of specialized software.

Tasa de Variación Interanual - ROBO DE CARROS

Serie Mensual - ROBO DE CARROS

	Ene	Feb	Jul	Ago	Nov	Dic	Total
2019	396	395	480	465	542	497	2.775
2020	492	473	432	370	507	447	2.721

Different measures have been taken by the authorities and by the general public, but none stopped this problem. Many of the private vehicles have tracking services administered by car dealerships for a monthly fee. Also public transportation services such as "Uber", "InDrive", etc. have developed tracking systems for their service units, but despite all these possible solutions, the problem persists since it is not easy to access an application or service that meets 100% the needs of all users.

Nowadays there are many applications that guarantee the safety of vehicles, but for the most part these systems have been deceived by criminals by causing the theft of the vehicle or its parts (car memorandum, headlights, tires); thus giving the initiative to create or reform the satellite monitoring application.

Within this initiative, a company called HyperMovilidad has been created, it is a company specialized in developing telematics technology and new business models through the Internet of Things (IoT) for the transport, security, logistics, insurance,

Fintech industry; One of the services offered by this company is HyperCar, in the private sector it supports us:

- Vehicle control
- Satellite tracking
- Remote door opening
- Locking and unlocking the motor
- Panic button
- Radar alerts
- Notifications of entering and leaving the city
- Online location: your vehicle on the map and share the location via SMS, WhatsApp or Facebook.
- Preventive Lock - Lock your car's ignition.
- Measures excessive speed, acceleration, and sudden braking.
- Share your location and routes so they know you are safe.
- With travel history it generates a detailed file of all trips with very precise streets and speeds of each minute traveled.
- Restrictions apply, door opening is only available on vehicles with a central locking system.

And another of its services is HYPERTAXI

- Taxi Request
- Order Request
- Racing History
- Driver And Taxi Rating
- Share Route In The Taxi
- Favorite Addresses
- Panic Button With Emergency Contacts