# **Check vehicle Prototype**

## **Introduction**

This system utilizes cutting-edge image recognition technology to extract text from a vehicle's license plate, and then searches a database to determine if the vehicle is registered. If the vehicle is not found in the database, it is deemed unregistered. This system is designed to be fast, efficient, and easy to use, making it the perfect solution for any organization that needs to check the registration status of vehicles quickly and accurately. With its powerful capabilities, this system is sure to revolutionize the way we manage and track vehicle registration.

## **Description of the Prototype**

The prototype check vehicle system is a powerful tool that utilizes the latest in image recognition technology to extract text from a vehicle's license plate. The extracted text is then used to search a database to determine if the vehicle is registered or not.

The system is built using Power Apps, AI Builder and SharePoint List for database, which provides a user-friendly interface and robust capabilities for image recognition. Optionally, the project utilizes Azure File to store the data, allowing for increased scalability, availability, and security for a big mount of data.

This system is designed to be highly efficient and able to process multiple vehicles in a short period of time. It can easily be integrated with existing databases and systems, making it a versatile solution for any organization that needs to check the registration status of vehicles.

The system has the capability for manually enter the license plate number in case the image recognition failed. This fallback option makes the system more versatile and able to adapt to different scenarios, such as when the image is not clear or when the license plate is obscured.

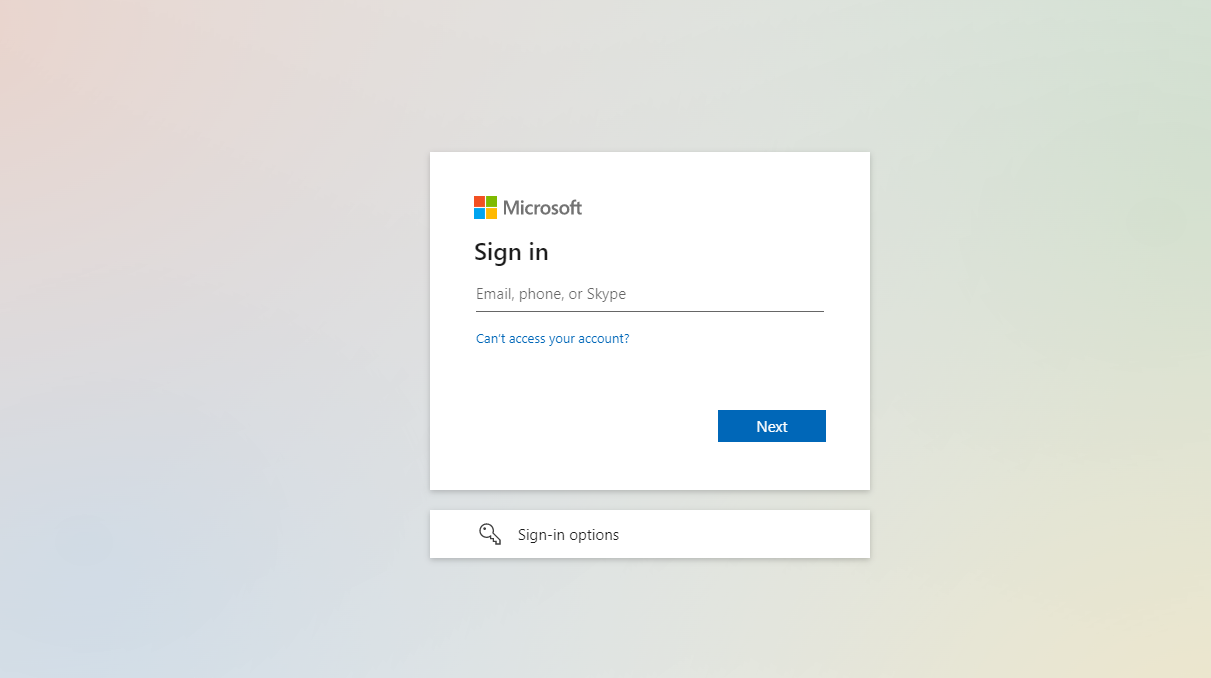
This feature is especially useful in environments such as parking lots or traffic control, where the conditions may not always be optimal for image recognition. Additionally, it provides a way to validate the information entered by the user in case of failure of the image recognition.

Overall, the prototype check vehicle system is a powerful and innovative solution that can revolutionize the way we manage and track vehicle registration. It is fast, efficient, accurate and secure, making it the perfect choice for any organization looking to streamline their vehicle registration process.

## **Using of the Prototype (Apps)**

Here are the general steps to use a prototype vehicle check system using image recognition and Power Apps.

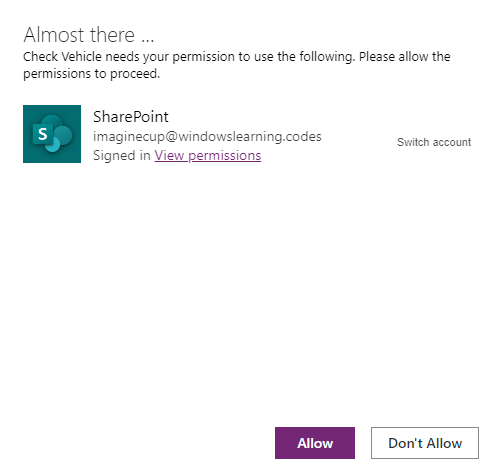
Copy this link and past it to your browser : [Power Apps](https://apps.powerapps.com/play/e/default-d235b41c-5ee9-4c60-bcff-d68fe3bff6a0/a/0758f323-44d8-4482-80bf-97d77ffbe149?tenantId=d235b41c-5ee9-4c60-bcff-d68fe3bff6a0&source=portal)



Sign in with account for access: [imaginecup@windowslearning.codes](mailto:imaginecup@windowslearning.codes) type this password: Prototype@2023

Once you are connected you will be redirect to power apps stui

can access to the apps, but you need to allow access to the SharePoint database to view data already registered.



After you can navigate through different menus.

Once you have connected to the application, you can get an overview of the home menu, which contains tree bouton.

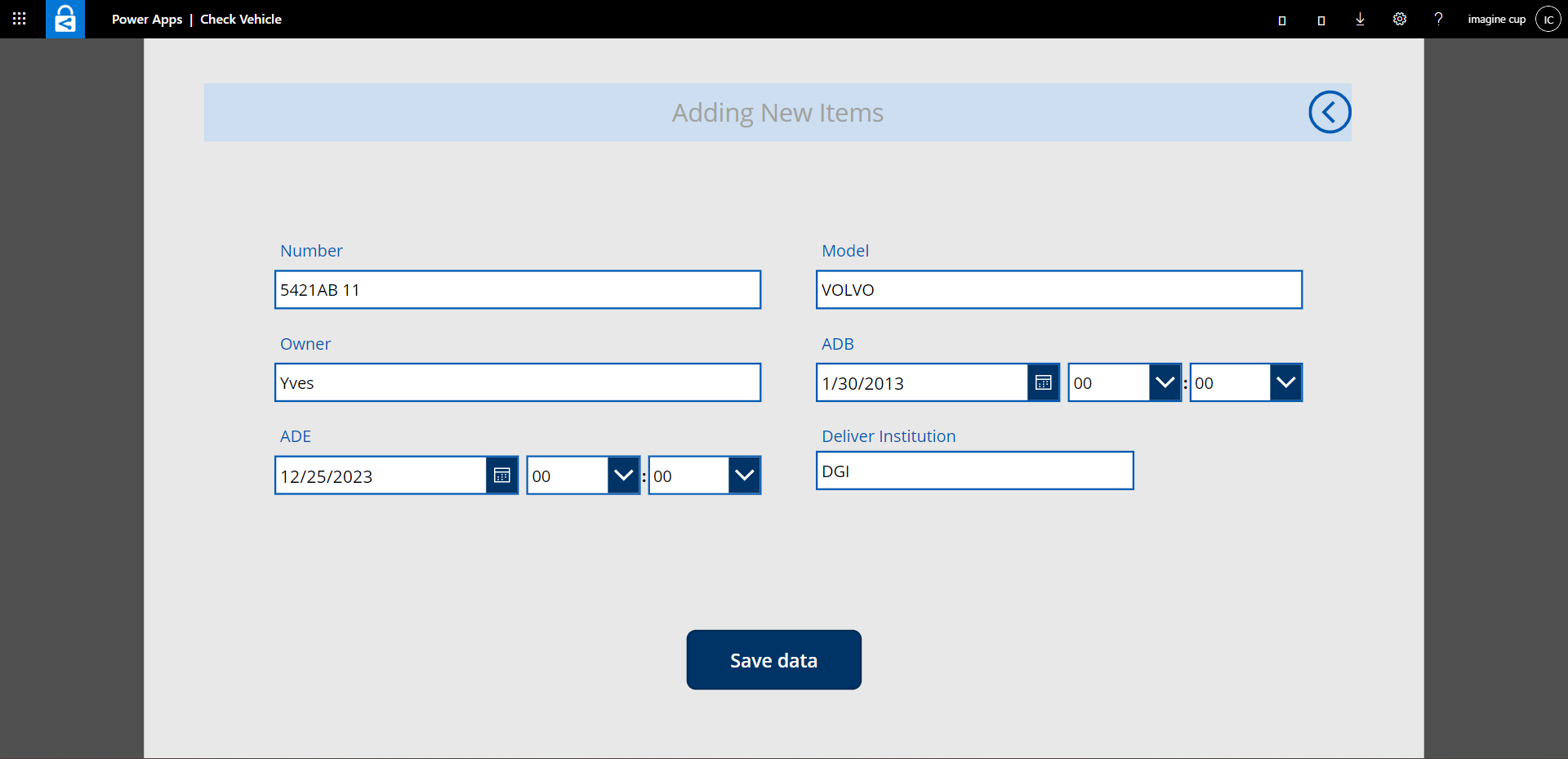


## **Fill form**

**A picture containing timeline

Description automatically generated**

the first bouton it is the **fill form,** this bouton will help you to register new items



## **Check Vehicle Processing**

**Check Vehicle Processing** is the form that uses an OCR system to process images of license plates and extracts the license plate number.

The OCR system is designed to automatically read and extract the license plate number from images of license plates. It uses AI Builder and OCR technology to process the images and extract the information.

Break it down into steps: The process can be broken down into the following steps:

Step 1: Click on the form “**Check Vehicle Processing**” at the home form.

Graphical user interface

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For this account [imaginecup@windowslearning.codes](mailto:imaginecup@windowslearning.codes) you will need to enable AI Builder for 30 days of trial so that Optical Recognition work.

This is a step:

Here are the steps to enable AI Builder in Power Apps:

1. Go to the Power Apps portal (<https://make.powerapps.com/> ) and sign in with your Microsoft account.
2. Click on the menu icon in the top left corner and select AI Builder.
3. Select the AI model you want to create, such as Object Detection, Text Recognition or Form Processing.

Graphical user interface, application

Description automatically generated

1. Follow the wizard to create your AI model. This includes uploading training data, fine-tuning the model, and testing it.
2. Once you have created your AI model, you can use it in your Power Apps by adding an AI Builder component to your app's canvas.
3. After you can download image test in this OneDrive link for getting access: [Test Pictures](https://1drv.ms/u/s!AvyOMnEiSiOovxsTlcFuQV8TW5Jn?e=iQXE2W)

Step 2: The user uploads an image of a license plate to the system.

Graphical user interface, application, Teams

Description automatically generated

Step 3: The OCR system uses AI Builder to analyze the image and extract the license plate number.

Graphical user interface, application

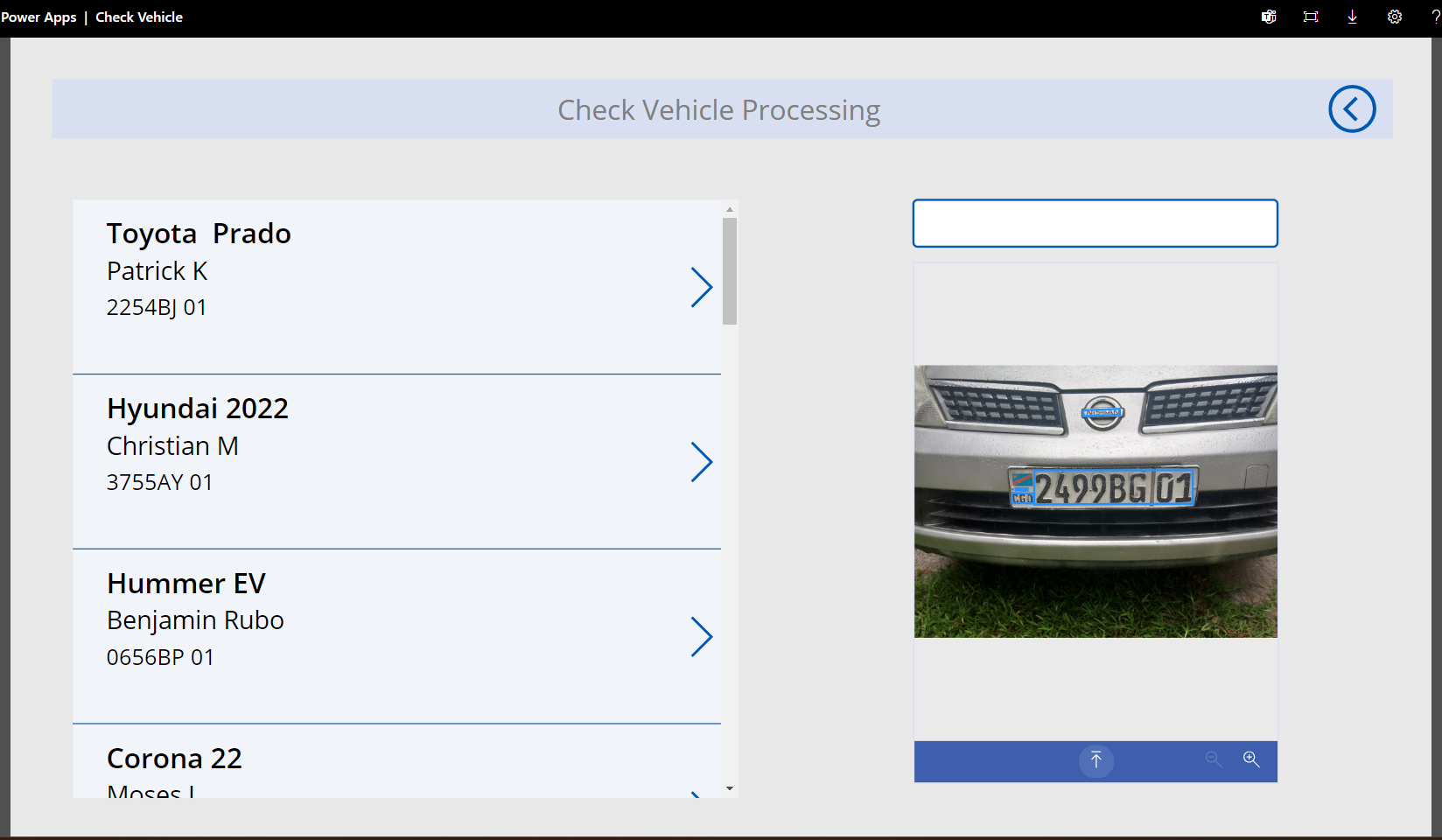
Description automatically generated

Step 3: The extracted license plate number is then sent to a database for storage and future reference.

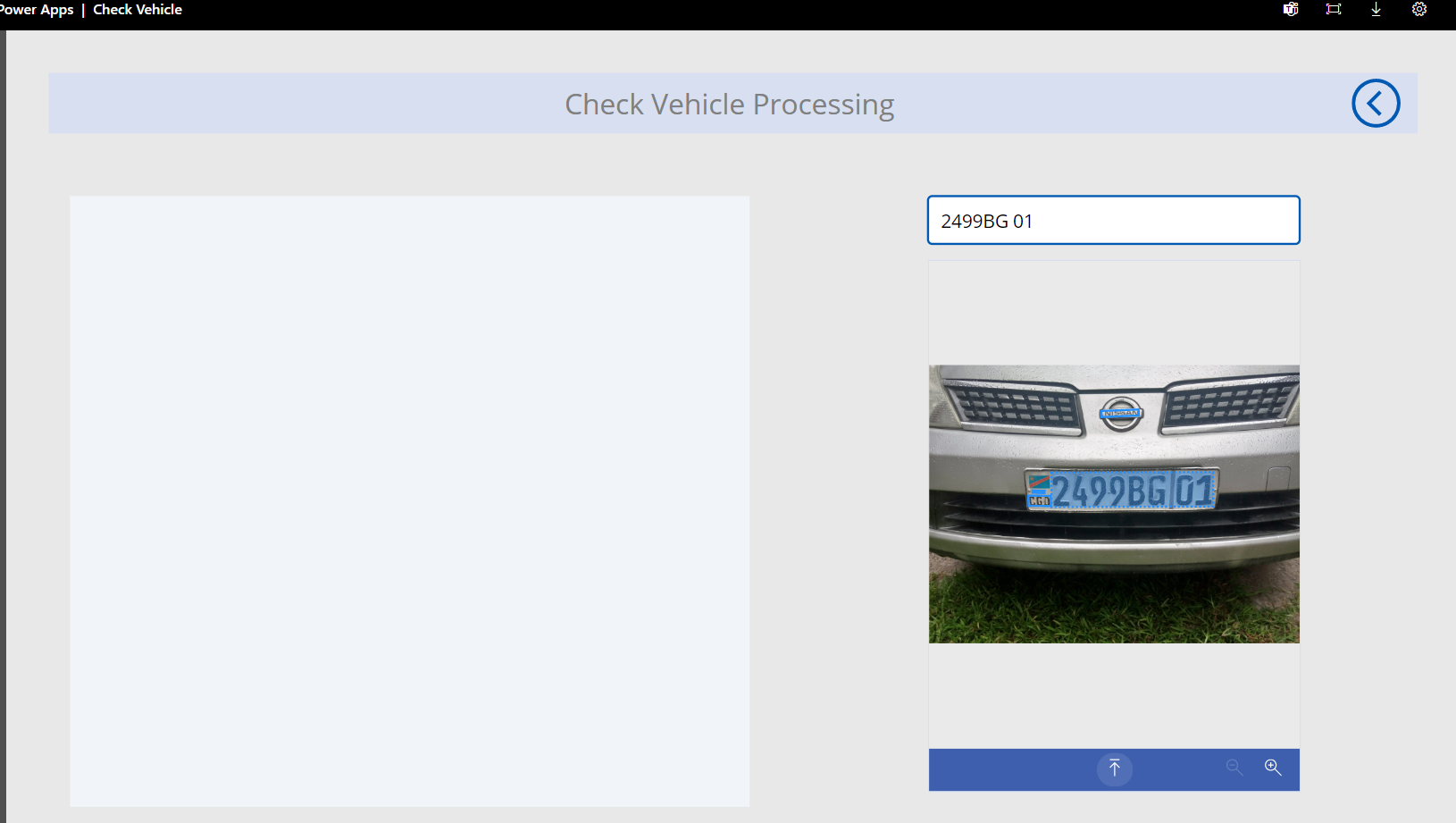
Graphical user interface, application

Description automatically generated

After selecting we now see the result of search, it means that vehicle is registered late now trying with a different picture.



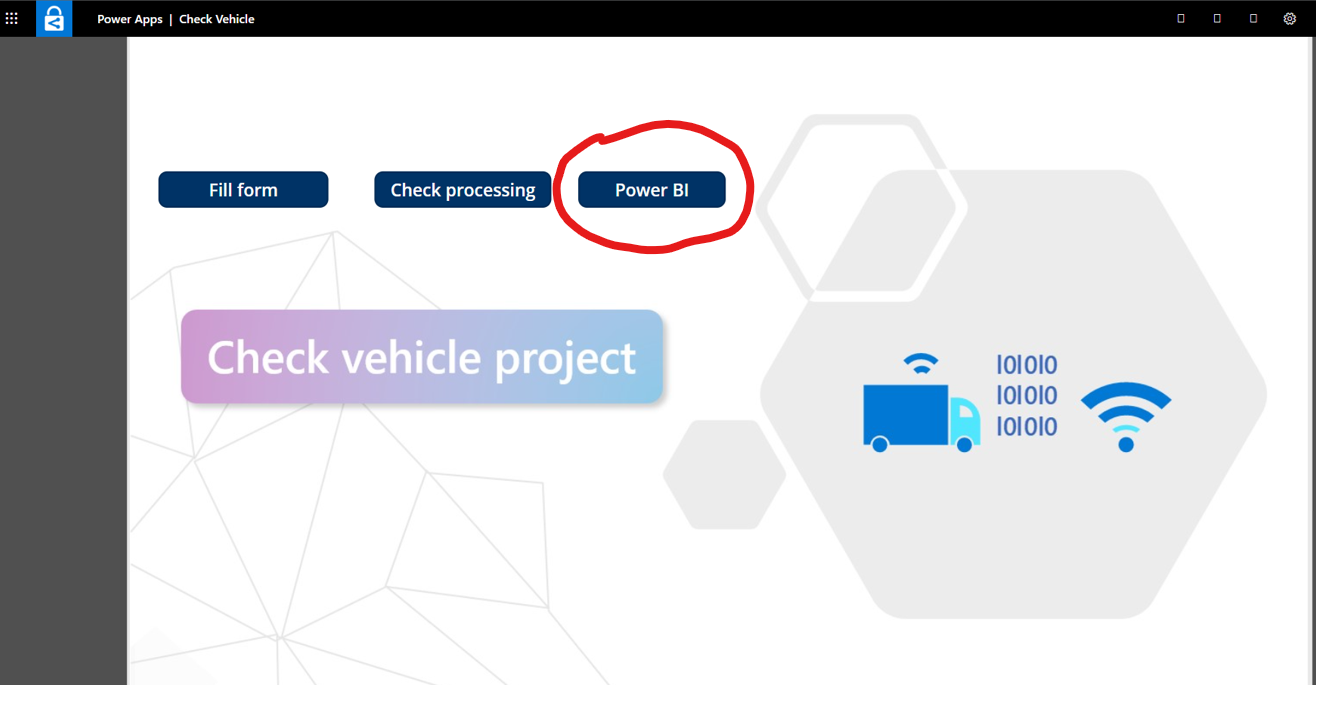
Late try a search to see if it is registered.



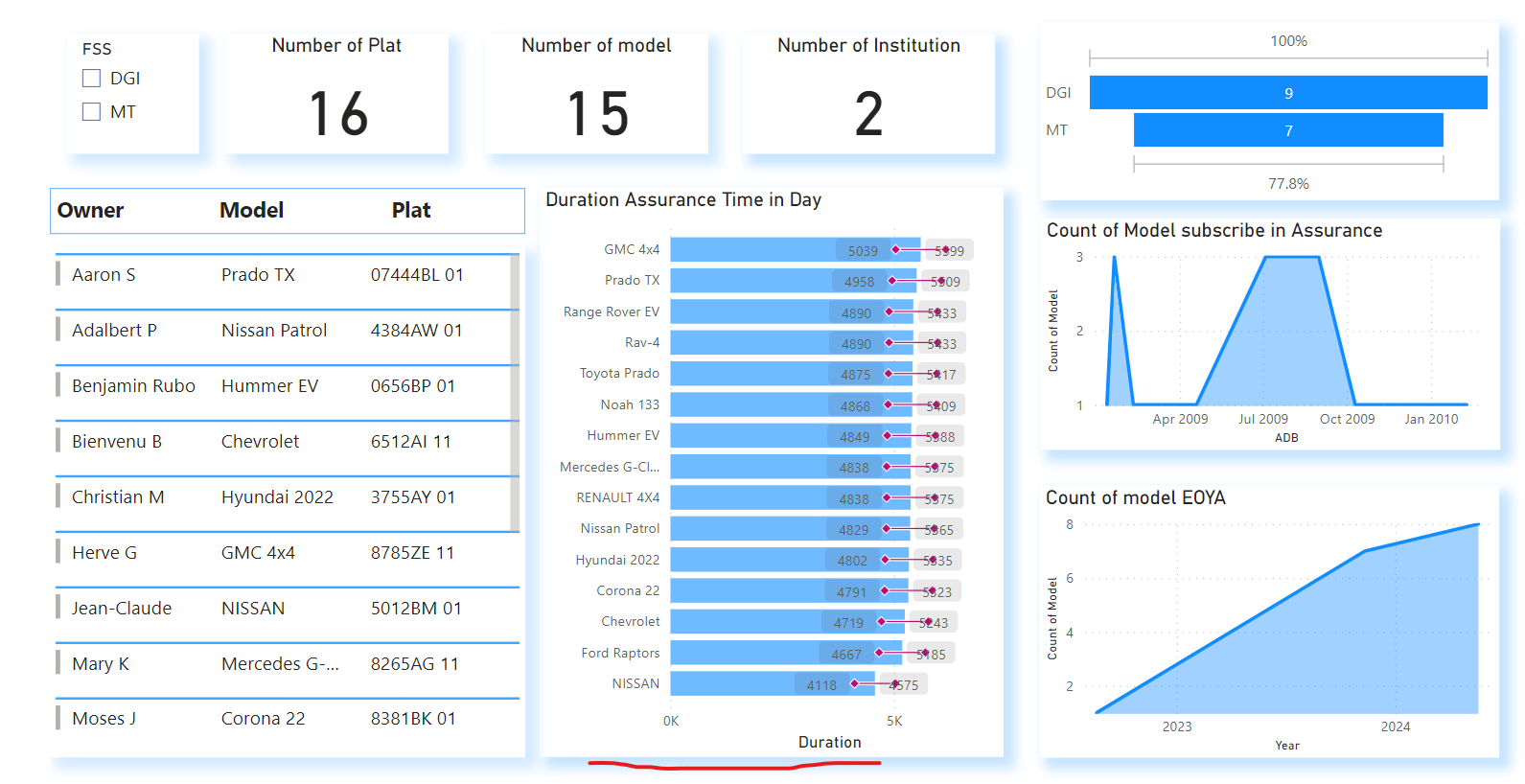
It is not registered. “***Now we can take different disposition according to the driver according to the situation.”***

REMARQUE : In case the image is not visible at the text input, you can type manually the registration plate matriculation.

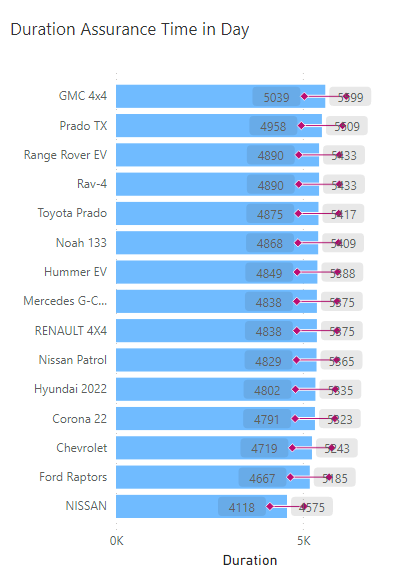
## **Power BI bouton**

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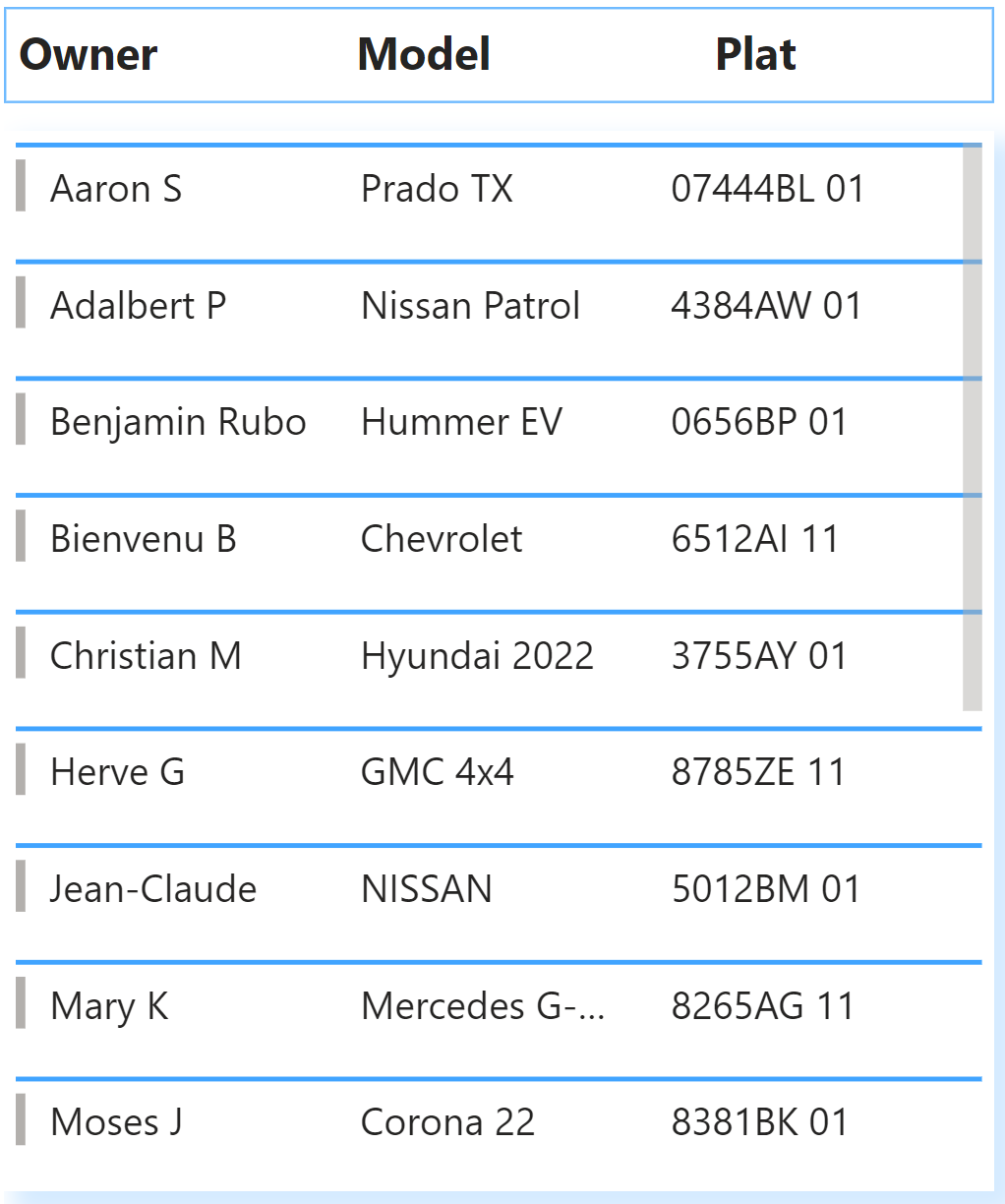
This will allow you open a new window for viewing a report for vehicles registered and assurances.



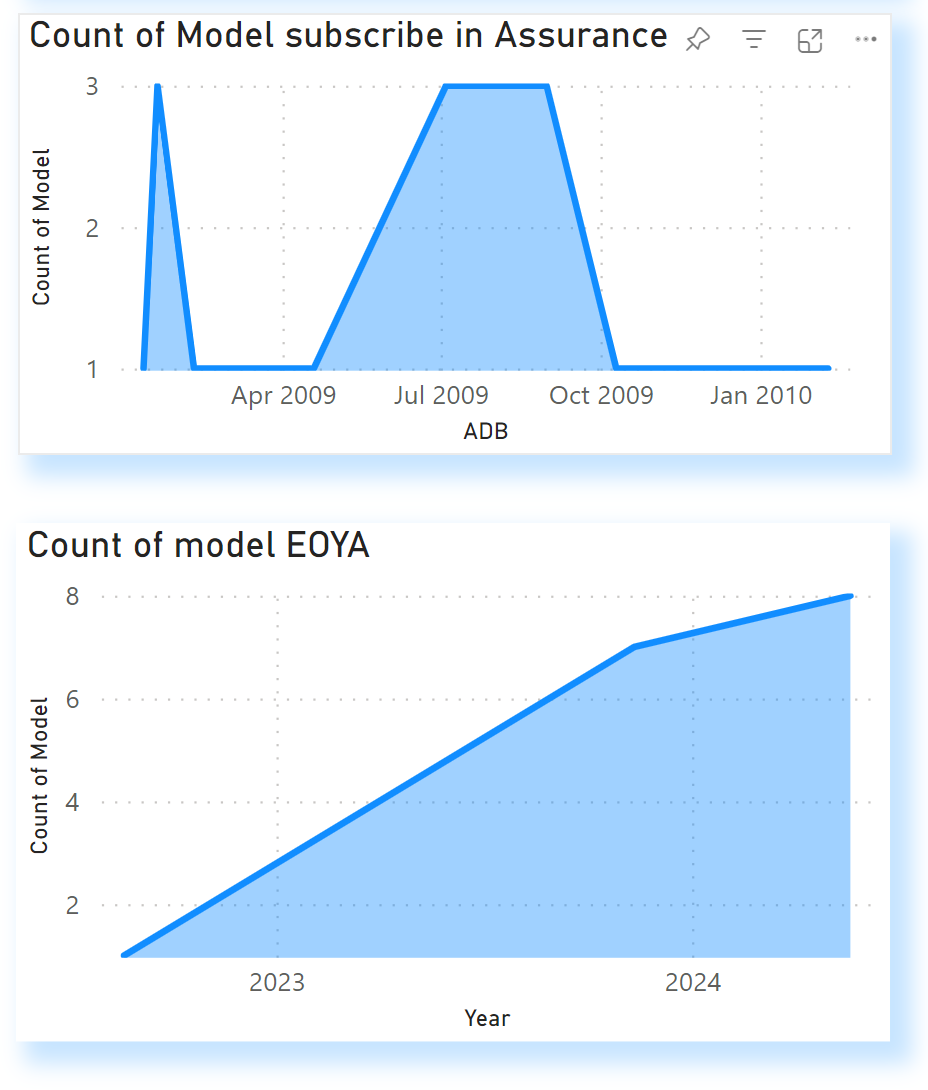
Let dive in details. The **duration assurance time in day** it is a graphic that represents cars models with the assurance durations in day, it’s begin with largest number until the smallest number.

[](https://app.powerbi.com/MobileRedirect.html?action=OpenReport&reportObjectId=fd609238-2eb3-42ed-9c86-6364fdc98c01&ctid=d235b41c-5ee9-4c60-bcff-d68fe3bff6a0&reportPage=ReportSection&pbi_source=copyvisualimage)

The multiple row card represents the data as a table, which contains information about owner, model, and plat information.



This graphics shows information about data insurance; the first show the number of model vehicle register in different period. The second show last date of ending assurance in different period.

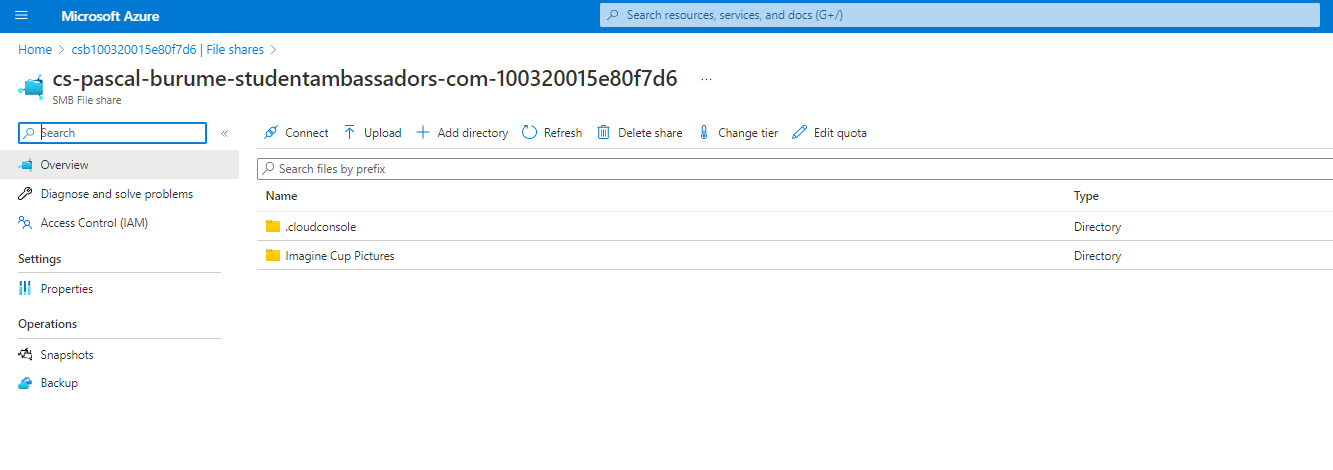


You can visualize in this link to : <https://app.powerbi.com/view?r=eyJrIjoiNzI4ZDliZTUtMTgyYy00NWE3LTlkYjUtMDhlYjdmZjkyY2M0IiwidCI6ImQyMzViNDFjLTVlZTktNGM2MC1iY2ZmLWQ2OGZlM2JmZjZhMCIsImMiOjN9>

**Azure file share**

This option is optional for big mount of data that allow scalability, flexibility and availability for storing data unstructured data. (Didn’t implement in this prototype)

In the capture, you can see picture of imagine cup pictures folder, which contains images of vehicles.



You can find video tutorial on this link to: <https://youtu.be/ZI-nEyO02UM>