Progressive Enhancement of Driving License

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Abstract;- **Digitalization has profoundly enhanced the technology curve. As the world is progressing towards digital era it's no longer necessary to carry a wallet. Digital transactions and money-transfer apps make it much easier to survive without carrying cash or card. Project 'ID' is one such idea where the driving license in the wallets could be substituted with a digital form of license which abolishes the need for wallet. The project envisions the digital driver's license as a mobile application that does more than simply provide a digital ID for verifying driver's privileges. It provides a variety of services and functions which would widely benefit the nation. The project helps identify the vehicles whose documents expire. It facilitates individuals to showcase their electronic identity even without an internet connection. It sets up reminders for expiry of certificates such as PUC. The project would be a progressive web app with an aim to enhance the driving license and keep track of vehicle and the driver. The project helps to resolve major problems of our country such as pollution and corruption.**

Keywords;- **Digitalization, Electronic Identity, PUC- Pollution under control, Progressive web app.**

I. INTRODUCTION

Technology has taken a tectonic shift in our everyday lives. Smartphones have become the new wallets, say, the digital wallets which replaces the need for wallets. Individual's driver license is one of the key documents that people keep in their purse or wallet. The driver license is not only the identifying document that allows people to drive a vehicle, but has also become a key document for other types of authentication such as at banks, retail outlets, air travel, etc. The idea arose from Digital India campaign and concerns such as vehicular pollution. According to article 115 Emission of smoke, vapour, etc. from motor vehicles: (7) After the expiry of a period of one year from the date on which the motor vehicle was first registered, every such vehicle shall carry a valid 'Pollution under control' certificate issued by an agency authorised for this purpose by the State Government. The validity of the certificate shall be for six months and the certificate shall always be carried in the vehicle and produced on demand by the officers referred to in sub-rule (1) of rule 116. Documents such as PUC could be managed efficiently with this project. The project works on a technology called 'progressive web app'. Wherein the driving license will be progressively enhanced to a digital driving license. The core idea behind using this technology is to take advantage of the service workers which helps us to retain information even without internet connection. The application provides the following services and functionality

● Driver's License / ID

● Driving record

● Vehicle Record and Registrations

● Services

    1) Reminders

    2) Complaint box

II. RELATED WORKS

Several states in US have begun the process of exploring an electronic license. MorphoTrust is a company that makes most drivers licenses. The Iowa license, developed by Morpho Trust uses a 3D¬like photo or digital watermark for validation. A quick screen swipe flips the license to its back, revealing a bar code and the class of the license.

In India DigiLocker is an existing online locker facility available for Android OS, the app lets you upload and save all your government-issued documents including PAN card, Aadhar Card, college certificates, property documents and more online. The driving license and vehicle registration papers can be uploaded and presented to officers when required. With this integration, users will no longer need to carry around their original documents all the time. The traffic police and other law enforcement agencies will have the required apps for spot verification of the documents.

III. METHOD

The project will be a progressive web app. Progressive web apps are just web applications designed to be mobile friendly. It'll start out just like any other web app, browser will invite the user to install the app to their home screens. PWA's can also benefit with push notifications, like any other native apps. To begin the process of obtaining a digital driver's license the user must first access the website. Upload the required documents such as driving license, vehicle documents, pollution certificate and insurance certificate. The users will be authenticated using aadhar card which will be linked with the driving license. With this done, the website could be pinned to the home screen. Which makes it look and feel like an app.

The application includes:

1)   Service workers

2)   Web manifest

3)   Application shell.

IV. RESULTS AND DISCUSSION

Progressive web app technology is best suited for the project. As per requirements it fulfils the following objectives to qualify as a progressive web app.Progressive – Work for every user on all browsers.
Responsive – Operate seamlessly across all form factors.
Connectivity independent – Work offline or on low quality network connections.
App-like – App-style interactions and navigation.
 Fresh – Always up-to-date.
 Secure – Served only via HTTPS.
Discoverable – Are identifiable as "applications," allowing search engine discovery.

Re-engageable – Make user re-engagement easy through features like push notifications. Installable – Allow users to easily "keep" apps they find most useful on their home screen. Linkable – Easily share via URL with no app store installations required.

V. CONCLUSION

The road ahead will soon lead to the digital version of driver's license where things get transparent and corruptions gets eradicated. The digital driving license could be easily accessed as a website and can be pinned as an app to the home screen after uploading the necessary documents.

Reminders will be popped out as push notifications whenever the document needs to be renewed.

VI. FUTURE WORK

The future enhancement would be to include biometric– a thumbprint or facial image to securely lock the app. The application should also include the capability to remotely deactivate or remove the digital license if the device is lost or stolen. The project aims to develop a government portal for bringing the defaulters in front of justice.

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