Project Report

1. INTRODUCTION

1.1 Overview

This is the project on topic Visualization of Electric Vehicle charge and Range Analysis. A vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source and have an electric motor instead of an internal combustion engine,

The Electric Vehicle (EV) is not new, but it has been receiving significantly more attention in recent years. Advances in both EV analytics and battery technologies have led to increased automotive to hardware alone. The modern mechatronic vehicle marries electrical storage and propulsion systems with electronic sensors, controls, and actuators. Integrated closely with software, secure data transfer, and data analytics, to form a comprehensive transportation solution. Advances in all these areas have contributed to the overall rise of EV's, but the common thread that runs through all these elements is data analytics.

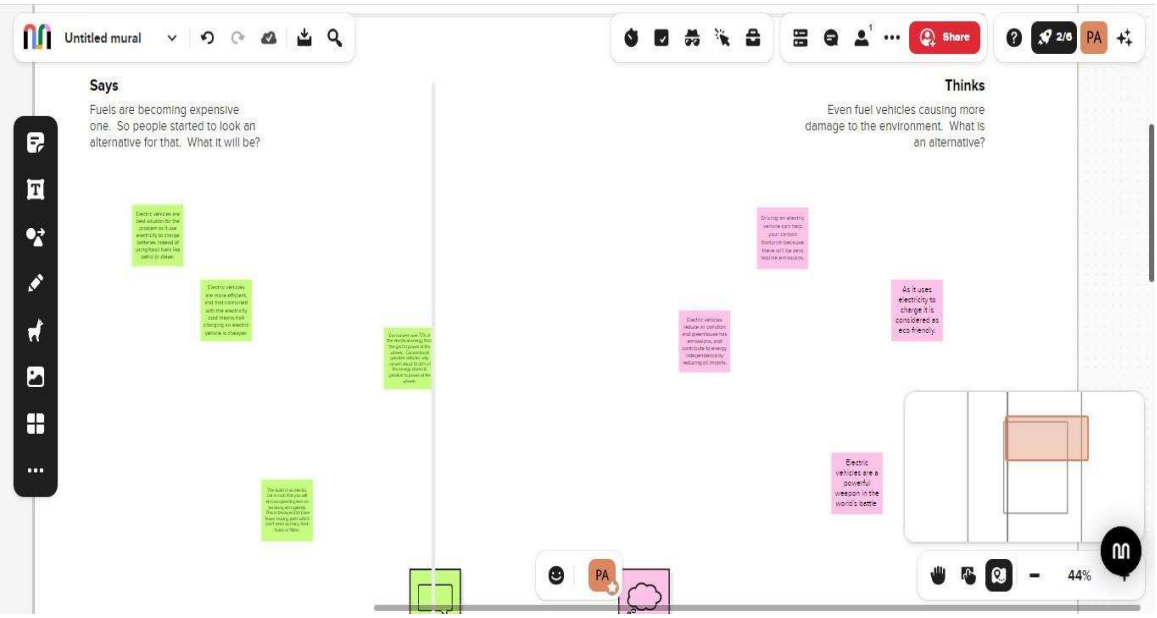
The new EV's are combined Electrical storage and propulsion systems with electronic sensors, controls, and actuators, integrated closely with software, secure data transfer to form a comprehensive transportation solution.

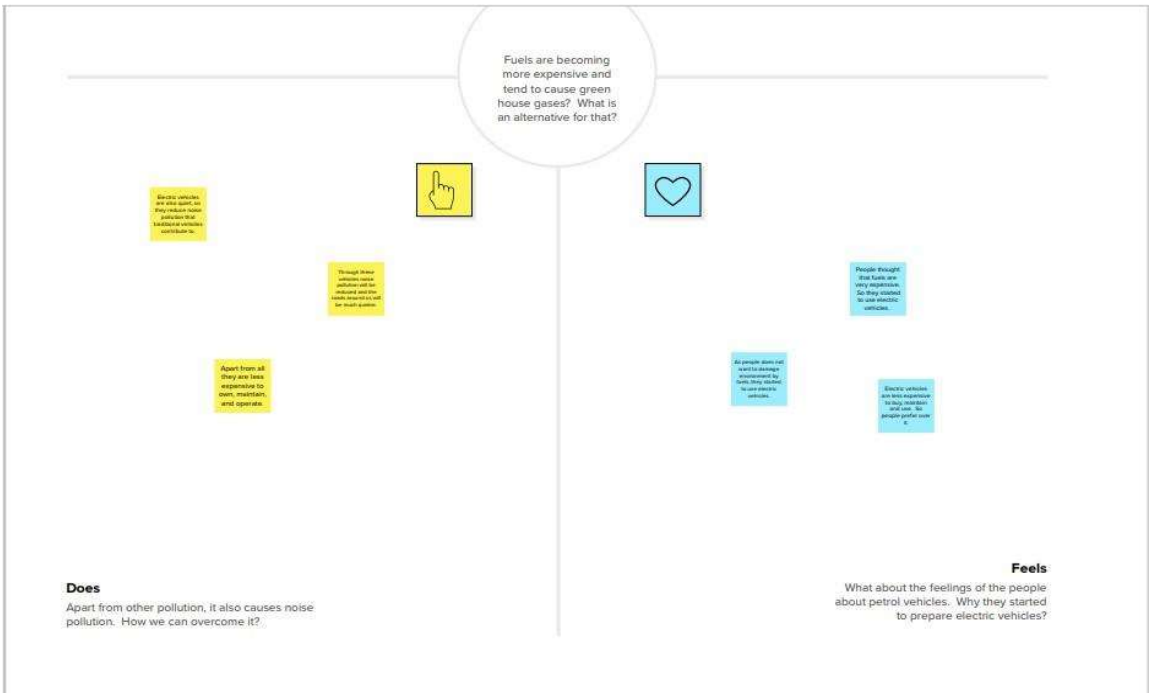
1.2 Purpose

The purpose of these Electric Vehicle is reliability, affordability, driving range, range prediction, charging station availability, overall trip time and especially convenience of long range travel and comfort under all ambient conditions and traffic situations.

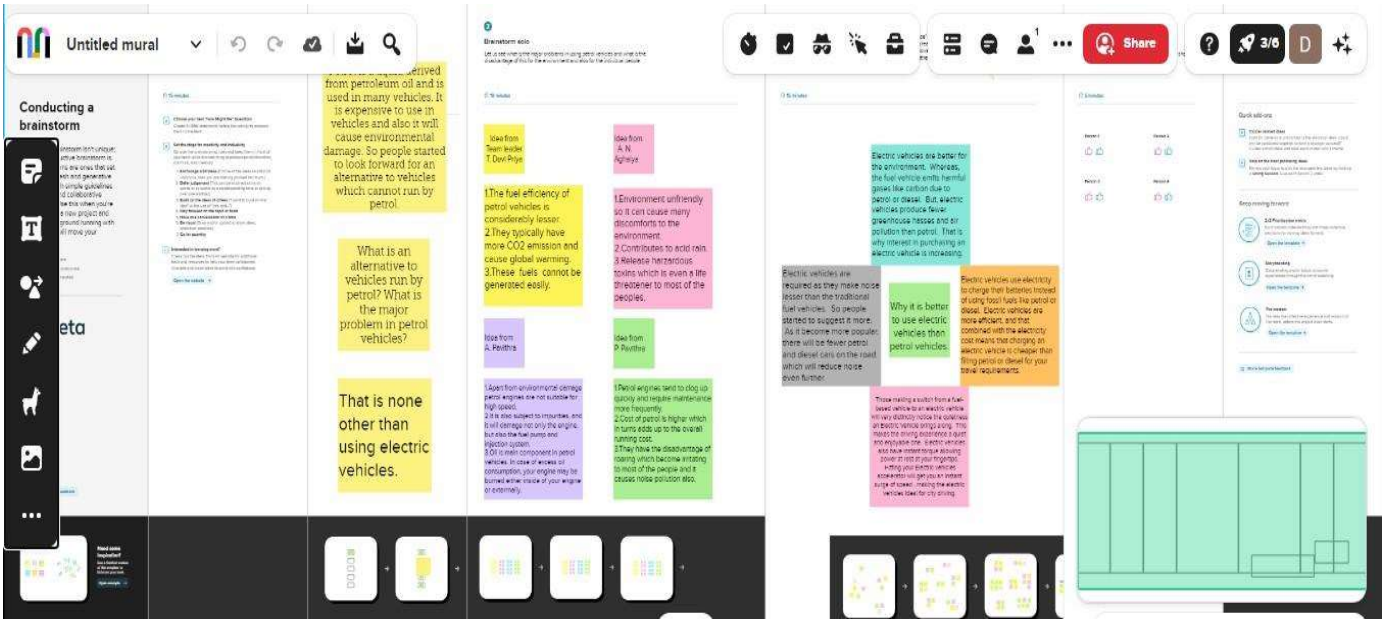
2. Problem Definition & Design Thinking

2.1 Empathy Map



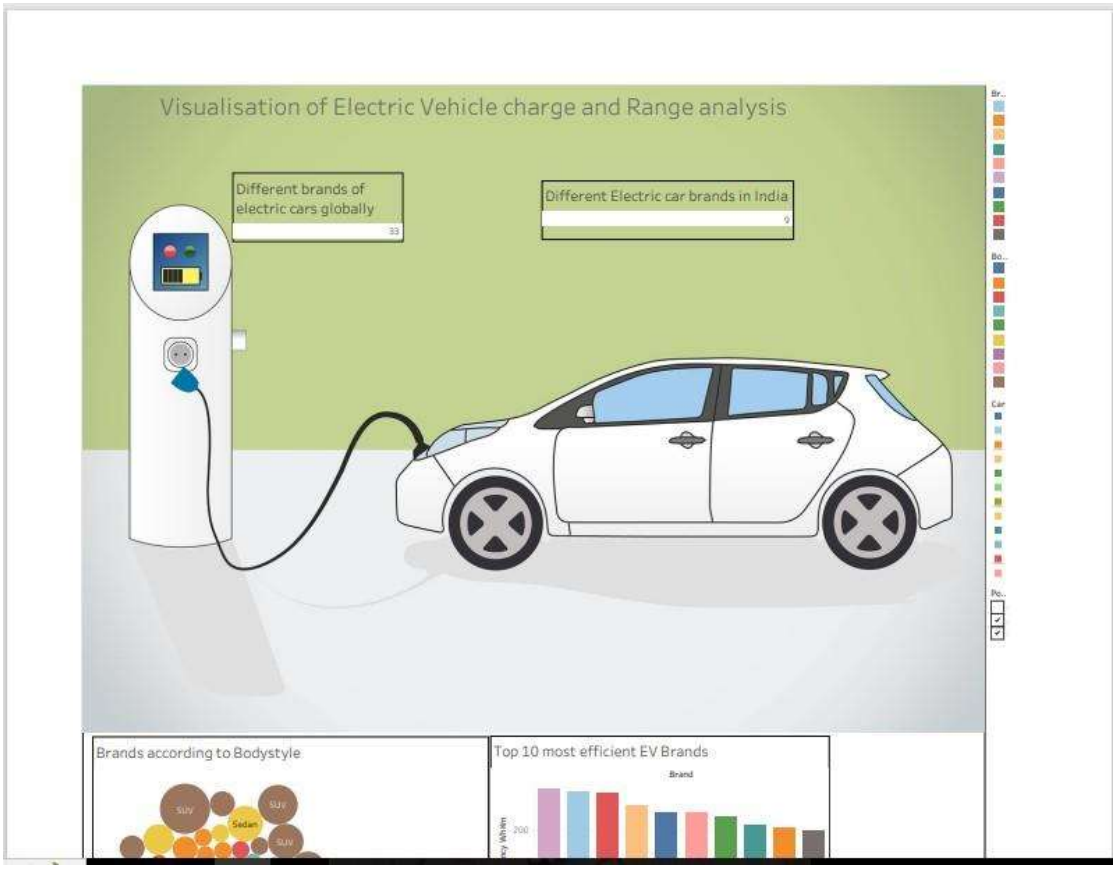


2.2 Ideation & brainstorming map



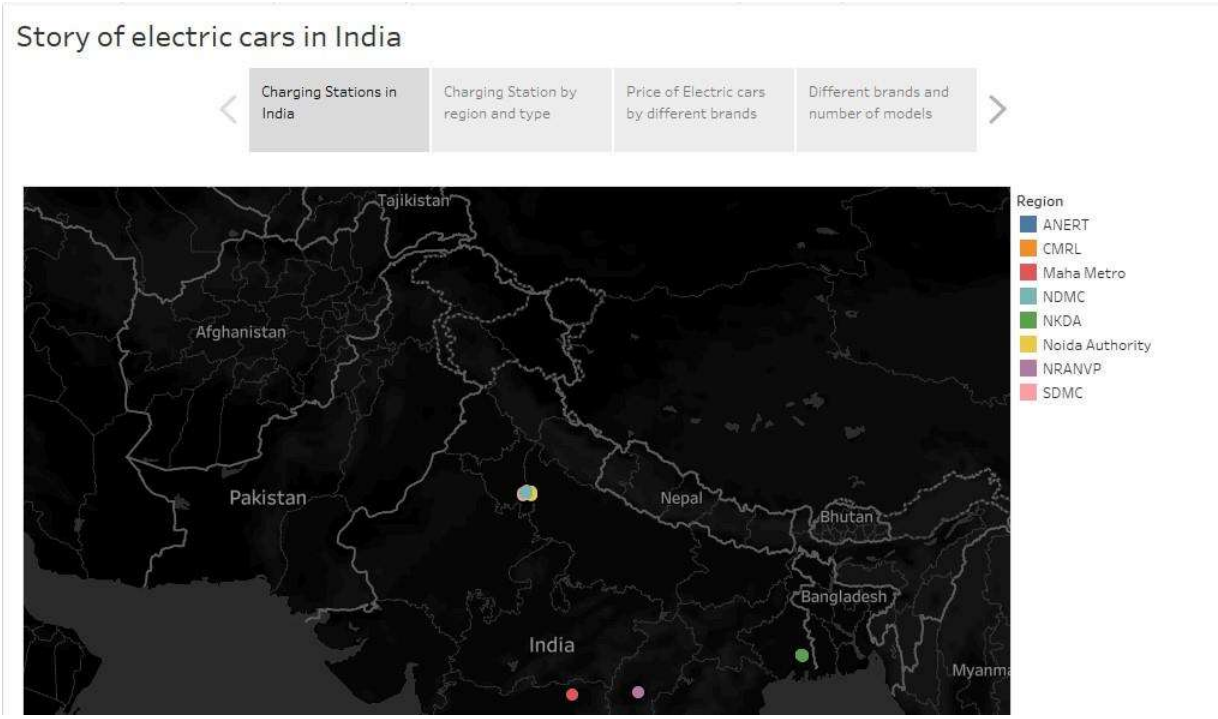
3. RESULT

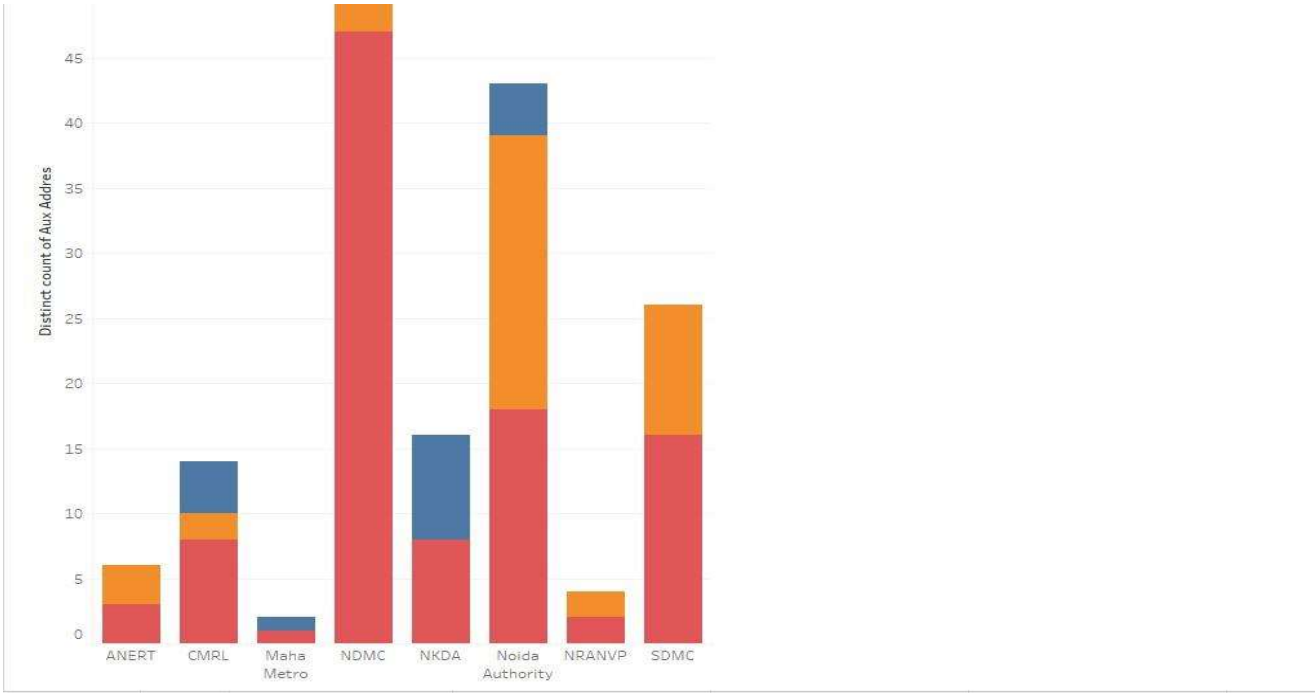
Dashboard



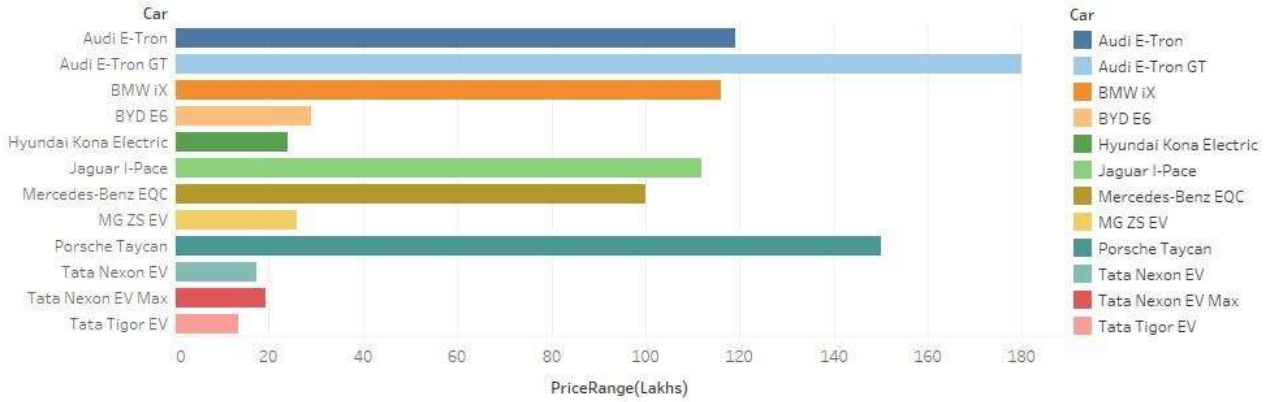

Brands according to Bodystyle
SUV
Sedan
Top 10 most efficient EV Brands
Brand
Max. Efficiency Wh/km
Brain filtered by PowerTrain type
Different EV cars in India
Audi E-Tron
BYD E6
MG ZS EV
Porsche Taycan
Audi E-Tron GT
Hyundai Kona Electric
Tata Nexon EV
Tata Tigor EV
BMW iX
Jaguar I-Pace
Tata Nexon EV Max
Top speed for different Brands
Brand
Max. Top Speed km/h

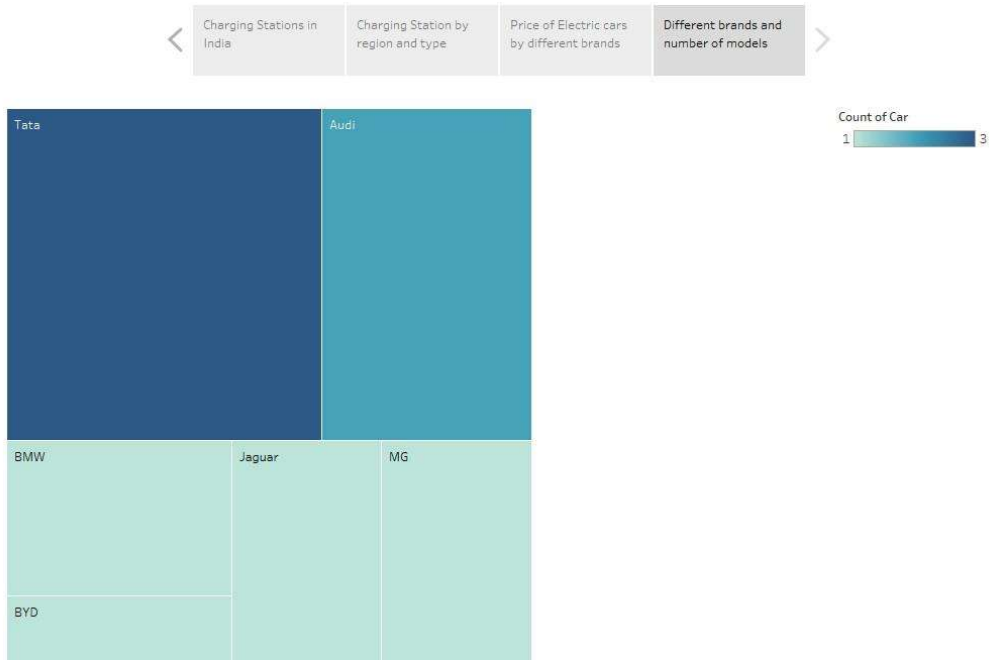
Story


Story of electric cars in India
Charging Stations in India
Charging Station by region and type
Price of Electric cars by different brands
Different brands and number of models
Tajikistan
Afghanistan
Pakistan
Nepal
Bhutan
Bangladesh
India
Region
ANERT
CMRL
Maha Metro
NDMC
NKDA
Noida Authority
NRANVP
SDMC



Charging Stations in India | Charging Station by region and type | Price of Electric cars by different brands | Different brands and number of models





4. ADVANTAGES & DISADVANTAGES

Advantages

- ★ Electric vehicles do not utilize fuel for combustion, so there is no emission and they are eco friendly.
- ★ As they run on electricity which is a renewable power unlike normal vehicles which run on fuel.
- ★ The produce less noise and smoother in motion.
- ★ They are cost effective as electricity is less expensive than fuels.
- ★ As they run on electricity they require low maintenance.

Disadvantages

- ◊ Electric vehicles continue to be quite expensive.
- ◊ Charging stations are limited, so it can interrupt the journey.
- ◊ It takes some time to recharging other than fuel vehicles.
- ◊ Currently there aren't many electric cars models so it provide limited options.
- ◊ It has only shorter driving range than other vehicles.

5. APPLICATIONS

- For electric cars to become the vehicle of choice and reduce pollution from fossil fuel combustion, its main application is preventing global warming and pollution.
- Using more energy efficient vehicles like electric vehicles support the U.S. economy and helps diversify the U.S. transportation fleet.
- It is mainly useful in rural areas. Its low durability of electrical batteries and the long time to recharge reduce the likelihood of electric tractors having significance in the market.
- Agricultural tractor is one of the main agricultural inputs. If it works under the electricity it will be more benefit to the farmers.

6. CONCLUSION

Thus electric vehicles are vehicles which are known to work under electric charge and it works without fuels. So even it has some of the disadvantages, it is best to use Electric Vehicles over other fuel vehicles. So it will save money as well as our environment.

7. FUTURE SCOPE

The Economic Survey 2023 predicts that India's domestic electric vehicle market will see a 49 percent compound annual growth rate between 2022 and 2030, with 10 million annual salles by 2030. Additionally, the electric vehicle industry is projected to create around 50 million direct and indirect jobs.