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Drive your dreams

Group 23

# TEAM

## 01 Development Team

- GUI Development
- .....

## 02 Model Team

- Image Recognition Model Development
- .....

## 03 Dataset Team

- Dataset Development
- .....

## 04 Backend Team

- Integration and Backend Development

Front End Team

Khyati Bhuva

201801119

(Group Leader)

## Compare Page

Compares two cars selected

.....

## Contact Us

Collect the details of user for feedback

.....

## Image Database

Images of Cars collected manually

Front End Team

Palak Verma  
201801161

## Filter Page

Display filtered cars according filters chosen by user

.....

## Image Database

Images of Cars collected manually

Front End Team

Deep Malani  
201801184

## Home Page

Welcome page with parallax effect

Recognizes the uploaded image of the car and recommends similar cars

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## Image Database

Images of Cars collected manually

Database Team

Mohil Khimani

201801416

## Car Database

Manually collected the database of Cars from scratch

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## Image Database

Images of Cars collected manually

---

Database Team

Vishal Patel  
201801436

## Car Database

Manually collected the database of cars from scratch

.....

## Queries

Created firestore database in the firebase

.....

## Image Database

Images of cars collected manually

# Model Team

**Swapnil Dholा**  
201801163

## Model Designing

Designing the machine learning model

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## Data Augmentation

Creating different image data augmentations for  
model

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## Evaluation

Evaluation of the model using different types of  
images.

# Model Team

Siddharth  
Chauhan  
201801196

## Model Designing

Designing the machine learning model

## Model Improvement

Improving the model using different hyper-parameters

## Model Validation

Validation of the model using feature extraction

# Integration Team

Nisarg Patel

201801013

## Home page and Filter page.

Implemented the backend for Home page, Filter page and Contact Us page functionality.

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## Image dataset integration

Refining image dataset and integration of backend with it.

.....

## Database Integration

Designing schema & creating database.

Integration Team

Ajay Vala

201801414

## Compare page functionality

Developing functionality for compare page.

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## Data set refinement

Refining the dataset and consistency of database.

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## Routing page

Linking of template and html files with the compare page.

Integration Team

Shabbir Murtaza

201801428

## Recommendation Functionality

Implemented recommendation feature on the home page

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## Routing

Linking the HTML pages to the backend

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## Making Pages Dynamic

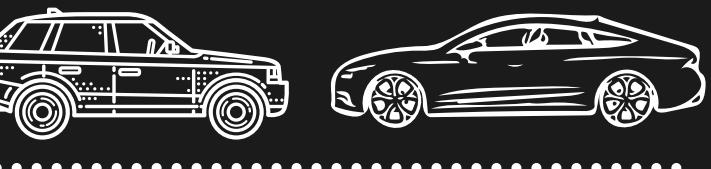
Making the static HTML pages dynamic

# Objectives



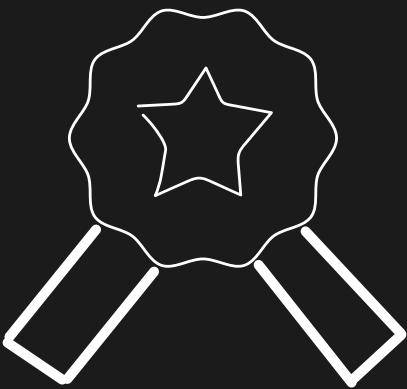
01 .....  
Image Recognition

Upload image and recognise  
the make and model of car.



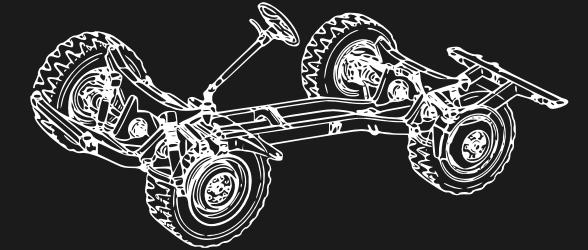
03 .....  
Compare Cars

Compare a pair of cars  
selected.



02 .....  
Recommendation

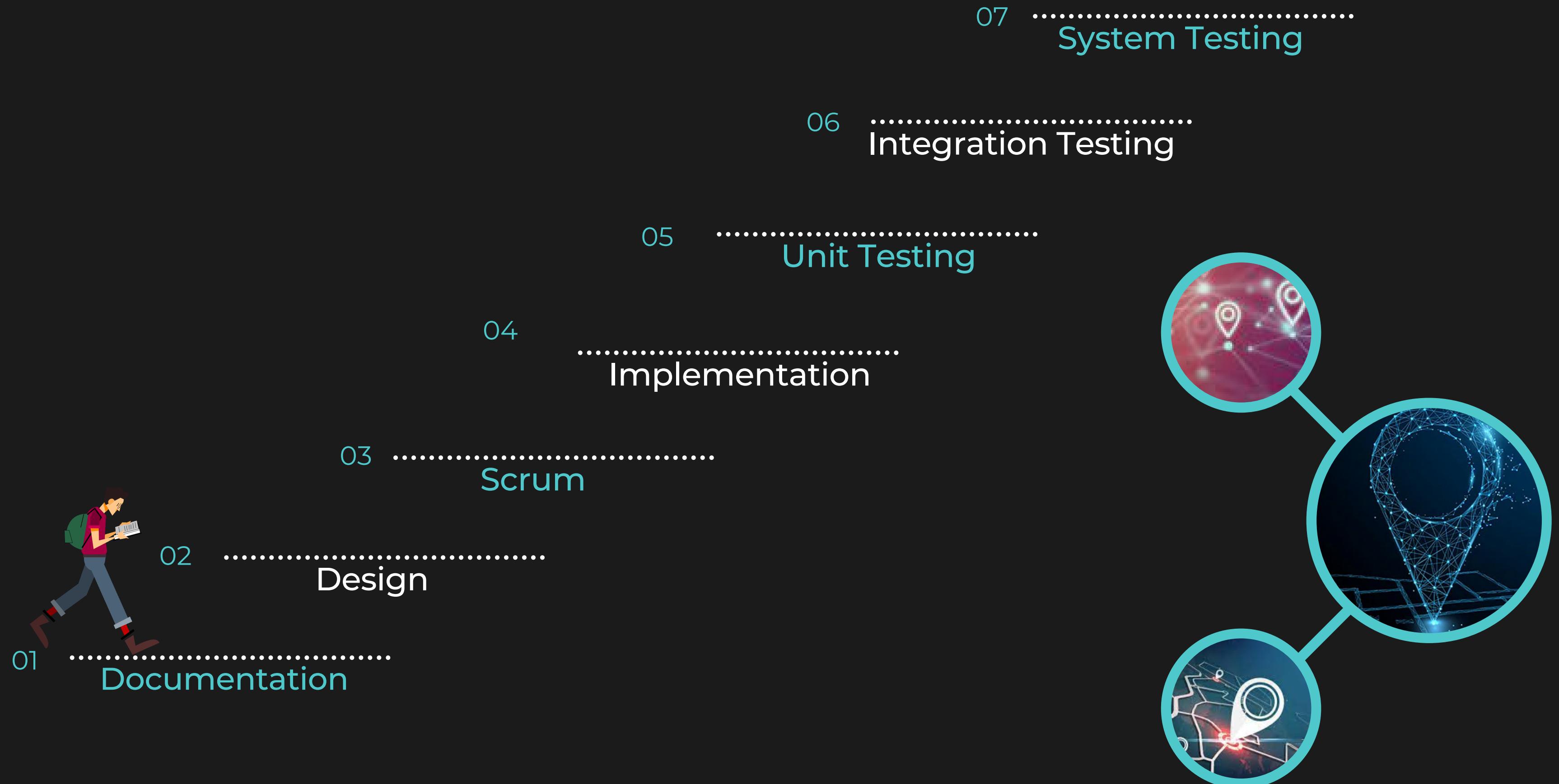
Recommend cars based on  
user's uploaded image.



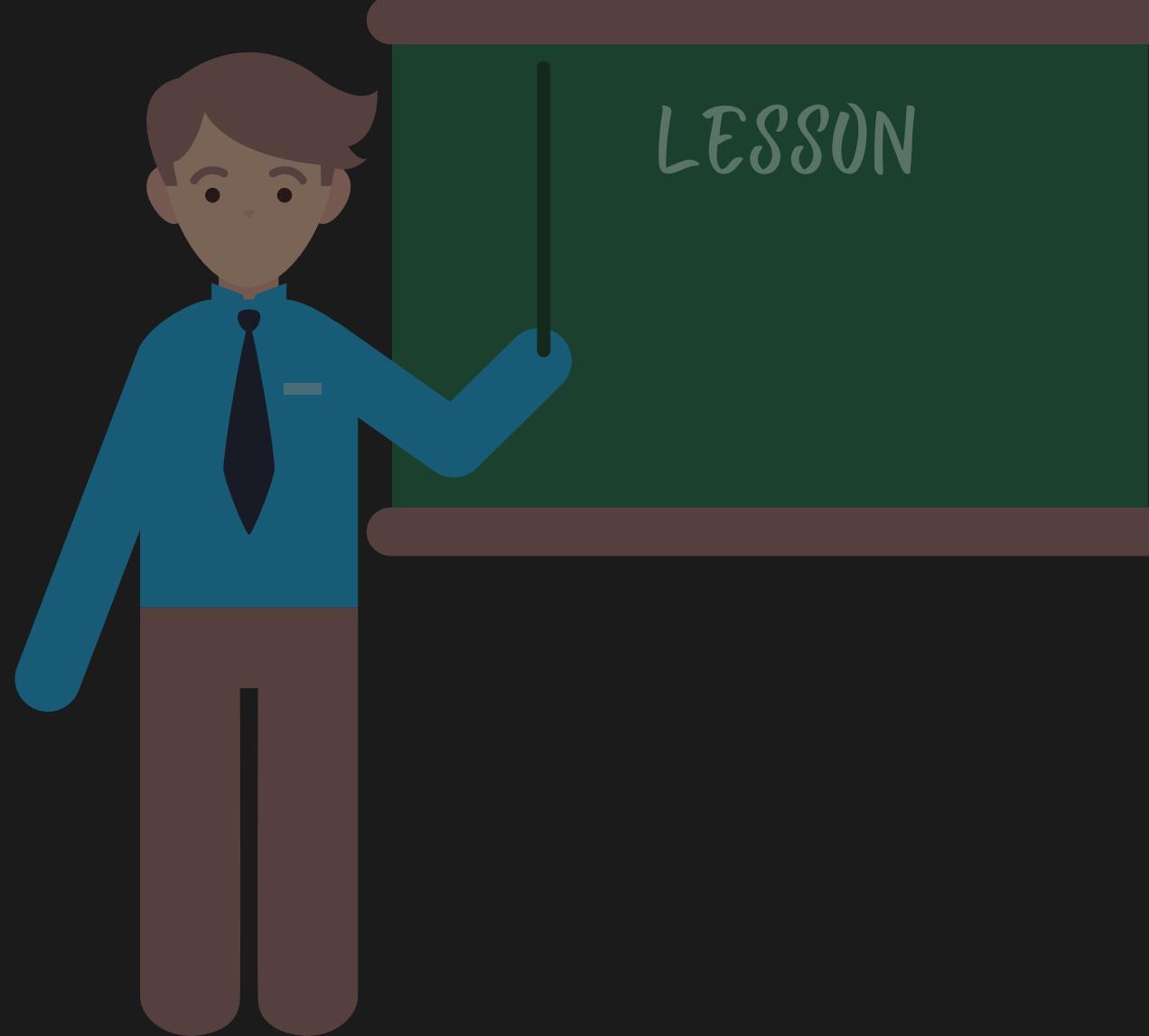
04 .....  
Filter Cars

Find your own cars using  
customised filters.

# Milestones



# Lessons Learnt



- We obtained exposure in working in different types of previously unfamiliar domains that helped us in improving our hard skillsets and tech stack, thereby improving the overall software development process.

- We had the prospect of applying our conceptual knowledge to a practical scenario which helped us in better understanding of the theoretical concepts.

- Helped us in improving important soft skillsets like team work, completing milestones within the assigned time period, coming up with innovative solutions to the challenges and many more such important soft skills.

# Achievements



- GUI is user friendly, functional and easy to use.
- Model is predicting car image with 96% Accuracy
- Backend is working smoothly in real time
- Database was integrated from scratch

# Mistakes

Some issues we reflected on



## FIREBASE DATABASE

We lost quite some time in choosing best database for our system while exploring available options.

## ACCURACY PROBLEMS

Fall in accuracy due to error in how names of cars were read and processed.

## ISSUES IN DATA AGGREGATION

Incorrect results were produced due to error while combining data.

## GUI REFINEMENT

We couldn't incorporate a navigation feature, which could have made user experience more pleasing.



# Ratings of Software Artifacts



4.5/5

# Home Page

As our model is giving 95% accuracy which is quite good but there is always a scope for improvement.



Welcome!

SELECT FIRST CAR

SELECT FIRST CAR

Select Model: Car

\*Required field

Select Model: Car

\*Required field

Submit

4.5/5

# Compare Page

We provided few of the specifications of the models for comparison but more detailed information about the models can be included for better comparison.

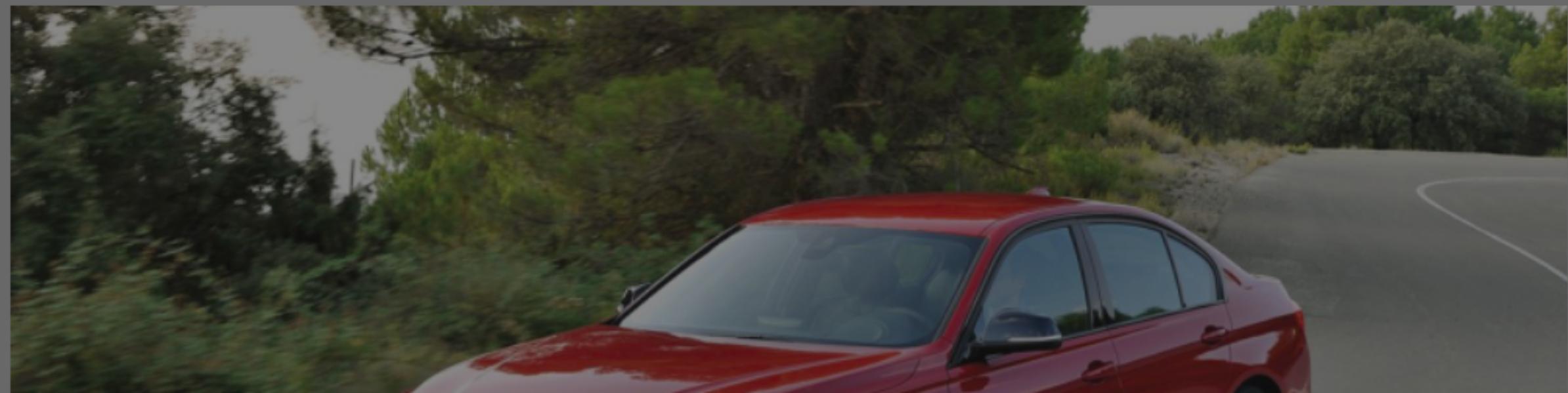
## Filtered Cars

## Filter Page

The page works well when some filters are selected but when there are no filters selected, the car display section remains empty.

- Ford
- GMC
- Honda
- Hyundai
- Jaguar

- Jeep
- Lamborghini
- Mercedes
- Nissan
- Rolls-Royce
- Suzuki



- Name: BMW 1 Series Convertible 2012
- Price: 3219300
- Type: Sedan
- Company: BMW
- Engine: 300
- Gear: Automatic
- Seater: 4
- Fuel: Both
- Country: Germany

- Name: BMW 3 Series Sedan 2012
- Price: 3740520
- Type: Sedan
- Company: BMW
- Engine: 240
- Gear: Automatic
- Seater: 5
- Fuel: Both

# Contact US

WE WOULD LOVE TO HEAR FROM YOU!

4.5/5

quired field

quired field

ed field

ed field

g ..

Lamborghini

The functionality implemented works well but the feedback and the data entered by the user is not getting stored in any database.

# Product Rating

9/10

HOME COMPARE FILTER CONTACT US

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DAIICT

Improvements which can be done:

- 1) Model Accuracy can be improved.
- 2) Vehicle database could be expanded.



Welcome!

## TEAM MEMBERS

Group 23

- |                      |           |
|----------------------|-----------|
| 1. Nisarg Patel      | 201801013 |
| 2. Khyati Bhuva      | 201801119 |
| 3. Palak Verma       | 201801161 |
| 4. Swapnil Dholia    | 201801163 |
| 5. Deep Malani       | 201801184 |
| 6. Siddharth Chauhan | 201801196 |
| 7. Ajay Vala         | 201801414 |
| 8. Mohil Khimani     | 201801416 |
| 9. Shabbir Murtaza   | 201801428 |
| 10. Vishal Patel     | 201801436 |

