



Styling Of A SUV Coupe Car Model

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Abstract: In India, Sports Utility Vehicle (SUV) segment has become the largest selling vehicle body type in the Indian market. In recent years the sub-segment of SUV called Crossover SUV either CUV or Coupe SUV are getting popular in their segment range. People are inclined more towards compact vehicles that can also be economical. People who love to go for long drive adventures drive prefer Sports Utility Vehicle or Coupe SUV with their friends and families. Aim of this project is to bring up a concept of Coupe Sports Utility Vehicle for Indian market. In this project, with the help of primary and secondary research, literature survey, questionnaire face to face interview. With the help of these all data and information generated a concept and, in the concept, chosen a one concept for final 3D model and scale down physical model.

Index Terms – SUV Coupe, Indian vehicle, styling, Design and Development

I. INTRODUCTION

A coupe SUV is a type of sport utility vehicle. A coupe or coupé is a passenger car with two doors that are similar to those of fastbacks or kammbacks and have a sloping roofline at the rear. The term car was first applied to horse-drawn carriages for two travellers without back confronting seats. It was cut shorter than usual. The term car was first applied to horse-drawn carriages for two travellers without back confronting seats. It was cut shorter than usual.

The Berline, a horse-drawn carriage, was the inspiration for the coupe body style. The car rendition of the berlin was presented in the 18th century as an abbreviated ("cut") variant with no back confronting seat. In most cases, a coupe's front passenger compartment had a fixed glass window. The coupe was considered an ideal vehicle for women to use to go shopping or to make social visits.

Despite having four side doors for passenger egress to the seats and rear hatches for cargo area access, some SUVs or crossovers with sloping rear rooflines are marketed as "coupe crossover SUVs" or "coupe SUVs." Although the term "Coupe" itself is supposed to refer to a passenger car with a sloping or rear roofline and two or three doors, traditional two-door SUVs such like certain models of Toyota RAV4 and Jeep Wrangler are never considered by such terms, and every coupe SUV by definition except for the Range Rover Evoque Coupe is equipped with five doors. The body style notably gained criticism as some see it as less attractive and less practical than normal crossovers, since the low rooflines reduces cargo space and rear passenger headroom.

The BMW X6 is generally considered the first coupe SUV. It was based on the BMW X5 and has been marketed as a "Sports Activity Coupe" (SAC), as opposed to standard BMW crossover, which are called "Sports Activity Vehicles: (SAVs). Introduced in 2008, the X6's styling generated some controversy upon its introduction, as it had less cargo space and higher price. Mercedes Benz followed suit in 2015 with GLE

Class Coupe while Audi released the coupe version of their Q5 crossover with the "Sportback" and the Q8 in 2018.

II. METHODOLOGY

- Research on Coupe SUV Vehicle and its trends in India.
- Study on Design and Development of the Coupe SUV in India
- Ethnography research and Questionnaire survey has been done through Face-to-Face interviews.

Ideation and Concept Generation

Concepts are created by taking age group 20-40 who use vehicles more and thereby facing issues on driving, or travelling. The analysis has been made on the shapes, interior colors and comfort travelling. As per the ethnography research, user's unmet needs are identified. And from preferred vehicles, Audi is selected as benchmarked product for exterior and interior concept generation.

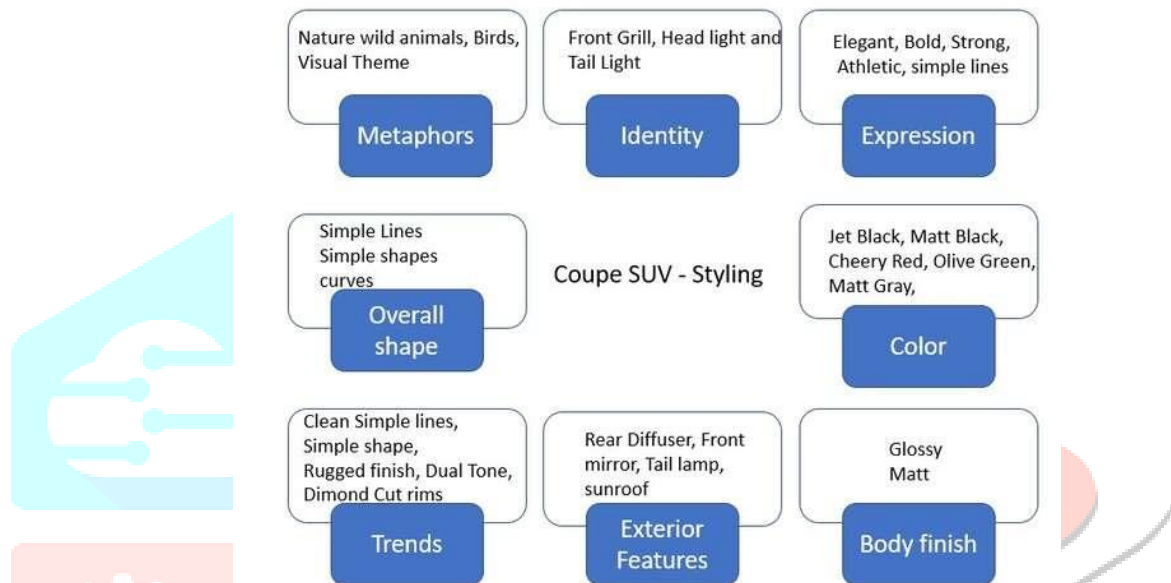


Figure 1 Mind Mapping

Exterior - Styling consideration

The Explanation how to achieve a good Stance in a vehicle for greater stability. Factors considered at the time of concept generated.

1. Wheel size and Position
2. Overhangs
3. Cabin position
4. Tumble home
5. Tuck-under
6. Relationship of pillars to wheel
7. Aerodynamic

With the help of Design boards, concepts have been generated for Indian targeted customer. Concepts are generated with selected features and lines extracted from the board images. Concepts are developed through manual or digital sketches.

Exterior – Concept Generation

Concept 1: A solid and bold exterior design, the waist line is bold and clear line with shows the bulk body of the design. The sloping rear roofline are clear roof lines. Front portion and grill parts is curved and bold design. This concept has longitudinal powertrain with high ground clearance for off-road and bad weather driving. The designed to complemented with long travel, good articulation and aggressive tires.

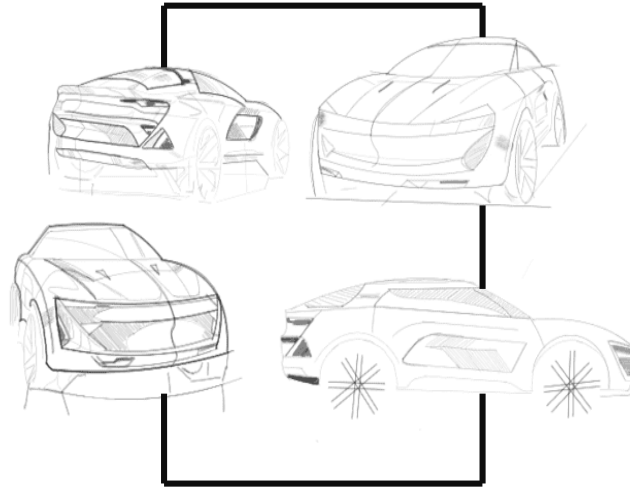


Figure 2 Concept 1

Concept 2: This design of concept clear contour and athletic front grill and sporty design, this concept has more boot space, designed for bold look and stylist sporty coupe. The design concept combines sportiness and everyday usability. An athletic design and captivates at first glance and it designed on dynamism on every trip. The Concept consider the interior space, occupant package and tier envelopes are usually generous in lager bold body design and the riding comfort.

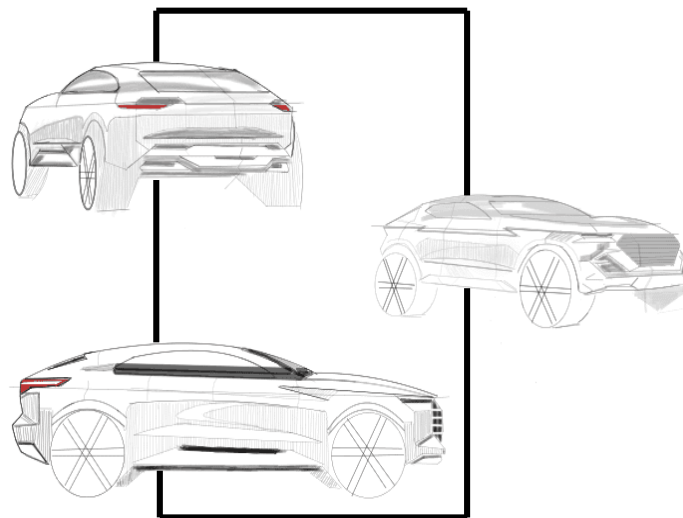


Figure 3 Concept 2

Concept 3: This concept combines the aesthetic and emotional appeal of a coupe design enhance the sporty and bold design. The large single-frame octagonal design and the side air inlets dominated the front of the sporty Coupe SUV. The characteristic of the rear includes the flowing, sloping roof line, the low rear window and the sharply contoured rear lights.

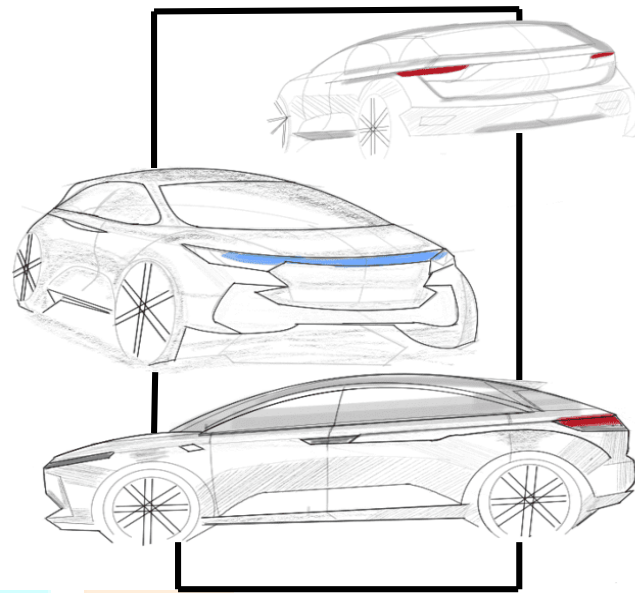


Figure 4 concept 3

Concept 4: The concept of design intensifies the striking look from the front, the dynamic presence and typically focused expression to sporty, tight surfaces and iconic highlights on ample surface in the vehicle extend around the central icon characteristic radiator grill. Create an incomparable feeling of liberty that is intensified further by sporty details. Simple and bold design character that immediately expresses the urge for daily adventures.

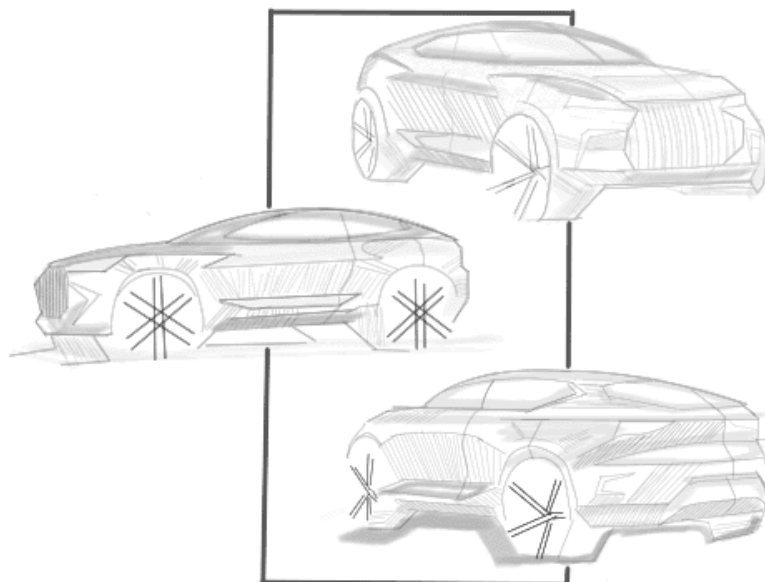


Figure 5 concept 4

Concept 5: The design of the concept, the main objective for this concept design are high performance and slick design. Uncompromised powertrain, body structures and aerodynamics. Customers of extreme, high performance sports coupe SUV occupant the interior space, refinement, speed, handling and a prestigious are high priorities. The occupant package offering the feeling of security, a strong image and flexibility, while being able to accommodate 5 passengers. The majorities to have longitudinal powertrain with AWD and high

ground clearance for off-road and bad weather driving. This is complemented by suspension systems with long travel and adventures drive, good articular and aggressive tires. The design dynamically expresses the theme of rugged and slick design through the key concept of powerful, advanced, luxurious, and urban sophistication. Its unique to the eye to a sharp slid and sloping roofline that exudes a feeling of movement. To set high on the back portion and diffuser for advanced aerodynamic to express a feeling of wild width and power.

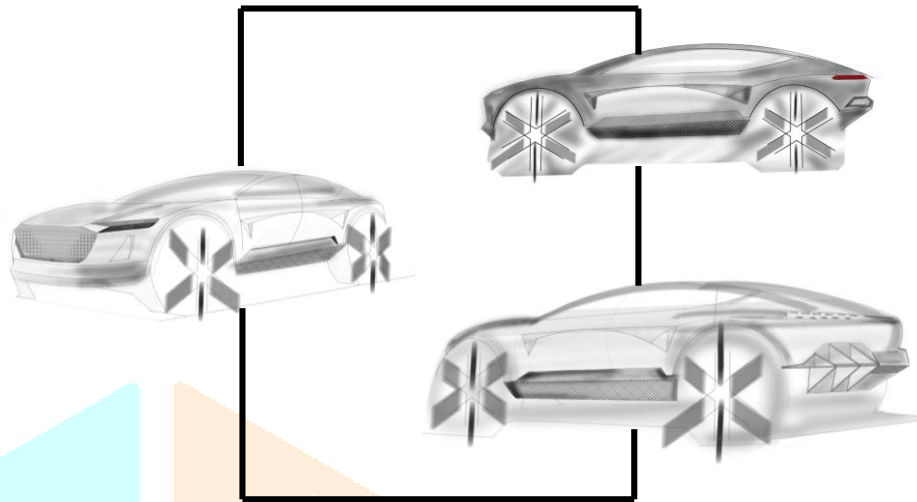


Figure 6 Concept 5

Concept Detailing

The final concept has been generated in Autodesk Alias software. The development of the concept detailing of the 3D models and the detailing of the surfacing stages.

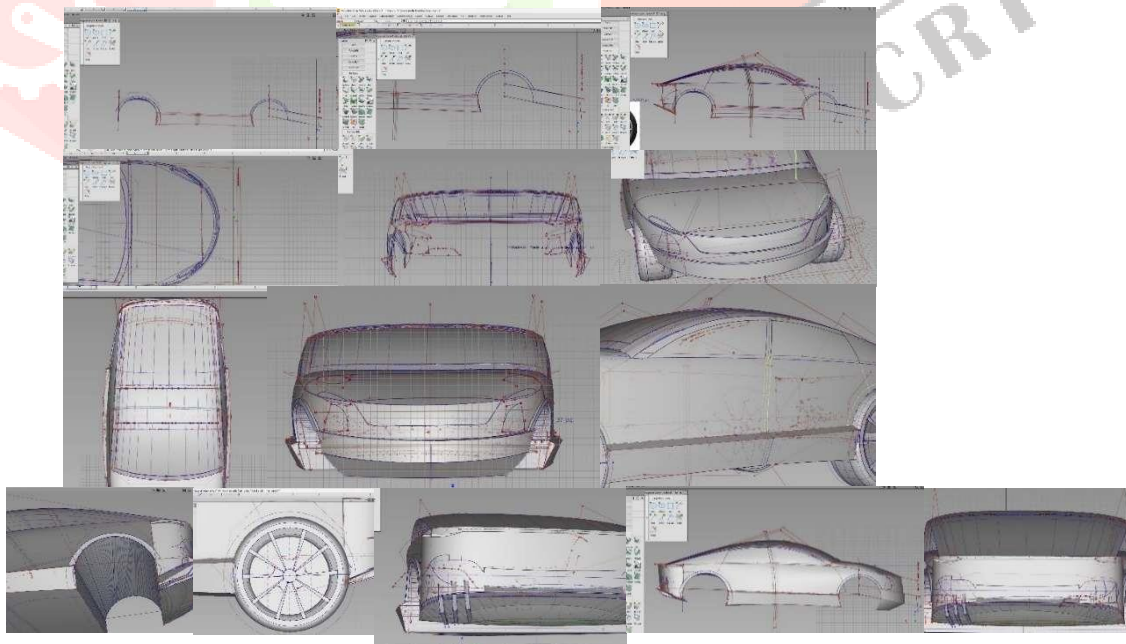


Figure 7 Wire Frame of the 3D Model

The final concept has been generated in Autodesk Alias software. The development of the concept detailing of the 3D models and the detailing of the surfacing with diagnostic shades.

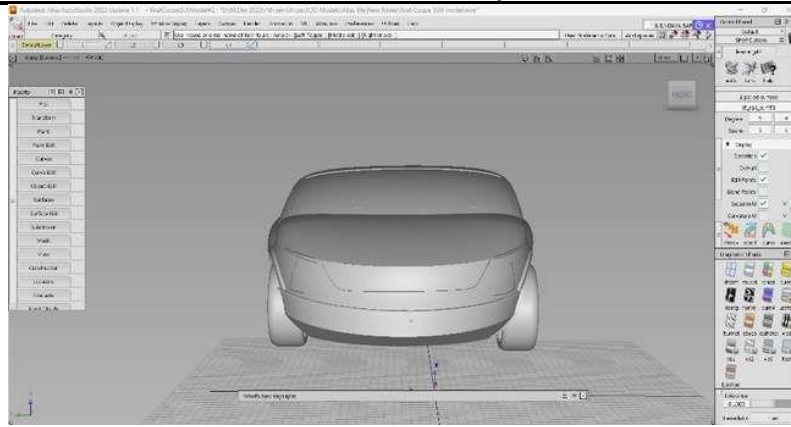


Figure 8 Alias 3D Model

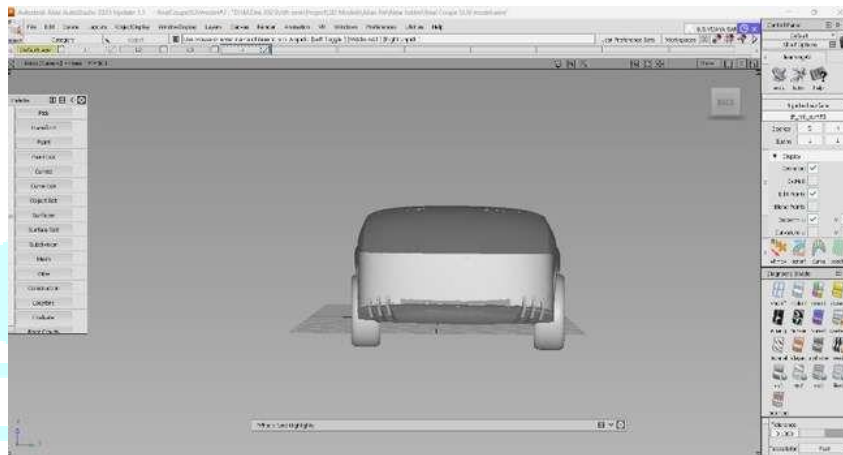


Figure 9 Alias 3D Model

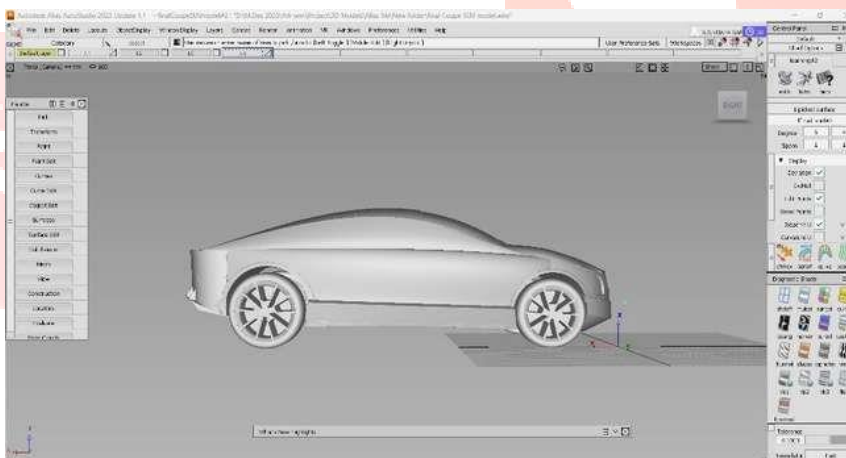


Figure 10 Alias 3D Model

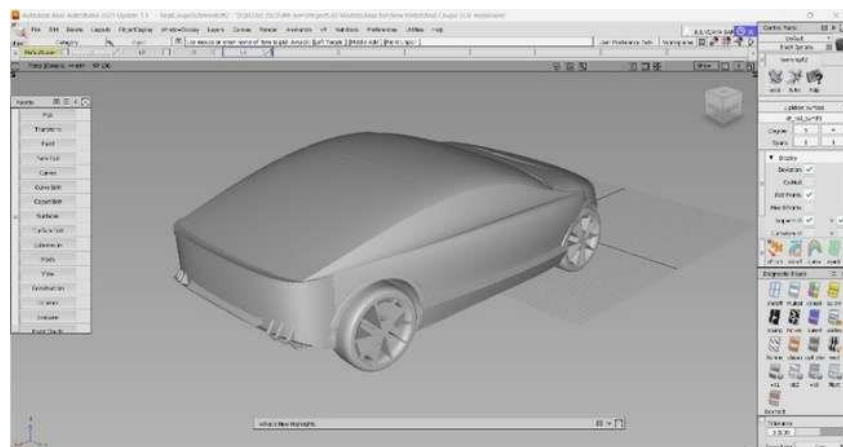


Figure 11 Alias 3D Model

Concept Model Render

The rendering phase, performed here on Keyshot 11 software is used to have realistic images of the final product.

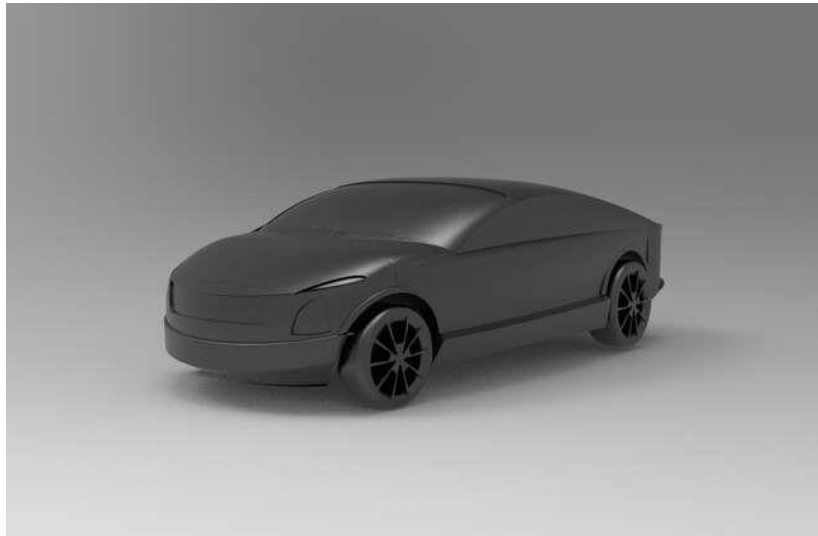


Figure 12 Keyshot Render

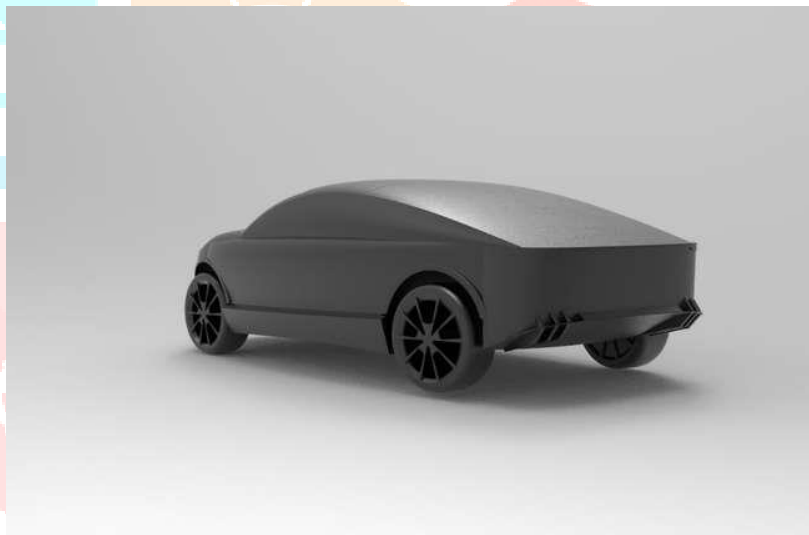


Figure 13 Keyshot Render



Figure 14 keyshot Render

III. RESULTS AND DISCUSSION

This project was intended to describe the aesthetic design and development of an IC engine innovative Coupe SUV. Starting from the preliminary analysis, research and questionnaire face-to-face interview. This project has given opportunity to explore in the styling of a Coupe SUV for Indian market and given emphasis on aesthetic, ergonomics, functionality and aerodynamics.

IV. CONCLUSION

This project was intended to describe the aesthetic development of an IC engine and innovative Coupe SUV. Starting from the preliminary research and analysis, the main customer was highlighted the few problems and issues with the existing coupe SUV and through the aesthetic exterior and interior design.

According to the data collection and analysis of the research part, some problems, issues were collected, and with the help of a theme board and brainstorming on those bases some ideas for the model have been developed and the development of a Coupe SUV with the help of secondary survey data and user centred design approached, they were converted into sketches, created five total proposals for the aesthetic configure concept digital sketches and the selected concept has been done 3D model in Autodesk Alias software of the new Coupe SUV.

V. ACKNOWLEDGMENT

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