

Design and Development of Rear Car Seat with Provision for Rotation



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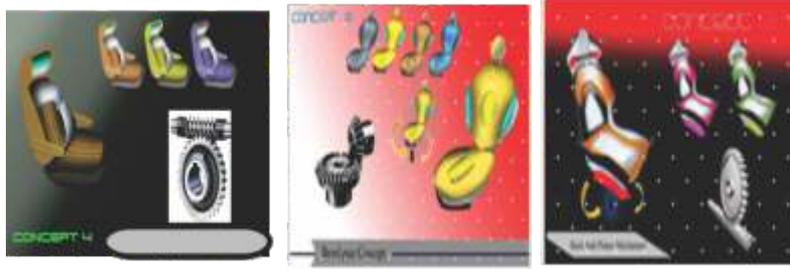
Keywords: Car Seat, Rotating Car Seat, Mechanism

Abstract:

The cars are designed to run primarily on roads, to have seating for one to eight people, to be constructed principally for the transport of people rather than goods. Car seat plays an important role in car interior design which provides comfort while travelling. Many old age or handicapped people will face difficulties while getting in or out of the car.

The big discrepancy or difficulty felt was in the getting in/out from the car. This aspect was studied in this project, to arrive at a solution for their day to day commuting problem in the car. This project was aimed to design and developed a rear car seat with provision for rotation by considering ergonomics and functionality.

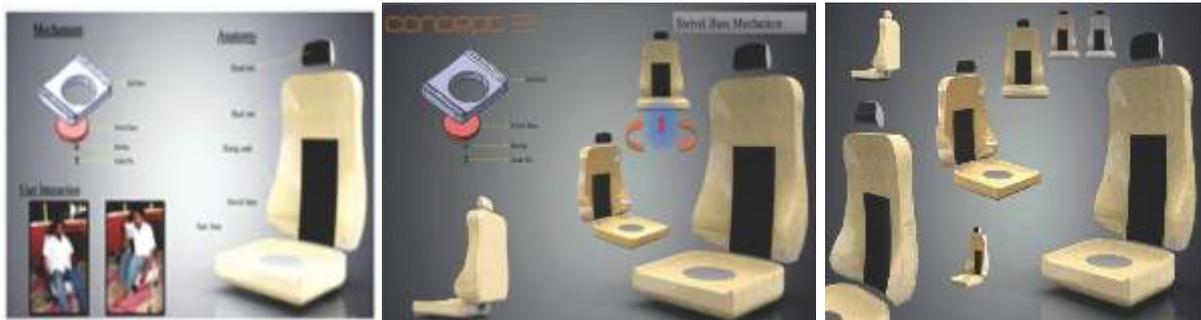
The project was initiated with data collection by using various research survey methods like literature review, market study, mental models, and image analysis. The ethnography and questionnaires survey helped to collect data by directly conversely with the users, to understand about their requirement in the car seat design with the ergonomic and comfort aspect in the car design. Quality Function Deployment (QFD) is generated by changing customer voice to technical voice. The Product Design Specification (PDS) is generated with the help of Quality Function Deployment (QFD). The Product Design Specification (PDS) lead to generation of various concepts fulfilling the requirements of customers. The final concept was selected by using the weight ranking method. The selected concept was further developed and rendered using digital modeling tool such as CATIA, Alias, Photoshop, Key shot and others. A 1:1 working model of the final concept was fabricated for design evaluation, validation and feedback. The design evaluated in the user group and the feedback was positive and satisfactory.



Various concept of rear car seat with rotation



Final Concept



Product features