

## Parking Aids for a City Car



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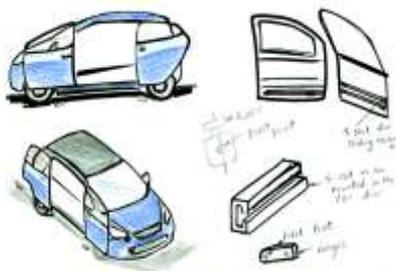
**Keywords:** Visibility, Ingress and Egress, Split Door, Parking Aids

**Abstract:**

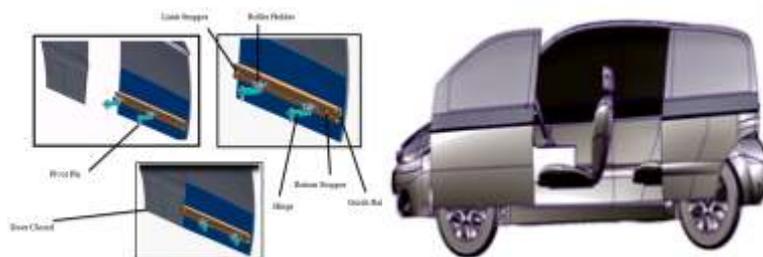
The area of parking space in the city is constantly reducing with continual increase in number of vehicles over the past decade. Parking and driving around the city has become a pain staking job for the drivers and the commuters. The problems are still greater when trying to move the car out of the parking spot which typically results in binges and dents onto a car as a result of insufficient visibility. The problems that arise due to insufficient parking space are difficulty in ingress and egress and poor visibility of the surrounding. As a result the driver has to tackle a tight clearance with poor visibility in order to park the car which also leads to ingress and egress problem of the driver. Parking aids can be implemented in city cars to ease the burden of drivers while parking in the city.

Gemba study was carried out to understand the parking problem of the drivers in the city. Quality Function Deployment (QFD) and Product Design Specification (PDS) were generated based on Gemba and literature study. The parking aids such as cameras, sensors and split door concepts are found to be an efficient solution to the parking problems, hence the parking aids has been focused and incorporated into the design. The hinged door sliding mechanism was implemented in the design to ensure quick ingress and egress of the driver in a confined space. The multi view display system was installed in the interior of the final design to provide the overall view of the surrounding from the images received from the surrounding cameras.

Incorporating the parking aids in a city car will enhance the drivers' visibility in confined parking scenario as the blind spots which basically cause hindrance to the driver are eliminated. The parking sensors and the camera will ensure a safe and convenient way to tackle the parking problem in the city, while the split door concept will improve the ingress and egress problem faced by the driver.



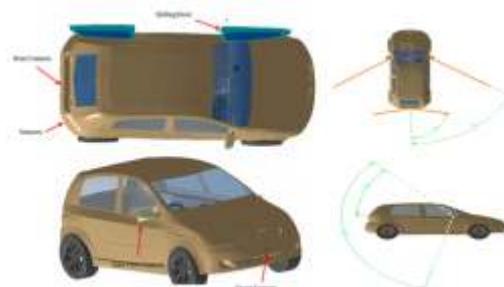
**Final concept**



**Modeling of the final concept**



**Final mock up model with sliding door mechanism**



**Camera location to improve the field of view**