

Design and Development of Low Cost Knock Down Fruit Selling Stall



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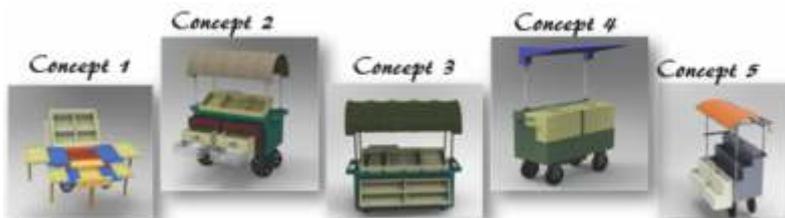
Keywords: 360 Degree Driving Wheel, Knock Down Mechanism

Abstract:

Low cost knock down fruit selling stalls are one of the major required outdoor furniture in a developing country like India, if we are looking into Indian market area, majority of the people are using low cost fruit stalls for doing their business. The project is aimed at conducting research on people who are using fruit stall, people who are closely associated with them and to develop a low cost knock down fruit selling stall. Main focus of the project will be reducing the current difficulties which are faced by the people who are using the fruit selling stall. The outcome of the project is to develop a standard design of knock down fruit selling stall focusing on functionality, ergonomics and aesthetics.

Design process started with a primary research and an identified need of fruit sellers and fruit shop owners. Need for a low cost fruit stall which can simplify the current difficulties in usability and function of the product. Data collection was carried out by adopting methodologies such as literature review, product study, market study and product environment study. Trend study was carried out to understand the trends in similar products over a period of time. Stake holders were interviewed in ethnography and personal interviews to understand their needs and desires. Ergonomic study was conducted for deciding product parameters and user interface. Quality Functional Deployment (QFD) and Product Design specification (PDS) were generated based upon data analysis. Concepts were generated with respect to the derived PDS and shortlisted by participatory method. Various issues and needs identified through data collection have been addressed in developed concepts. Final concept was selected by weighted ranking method.

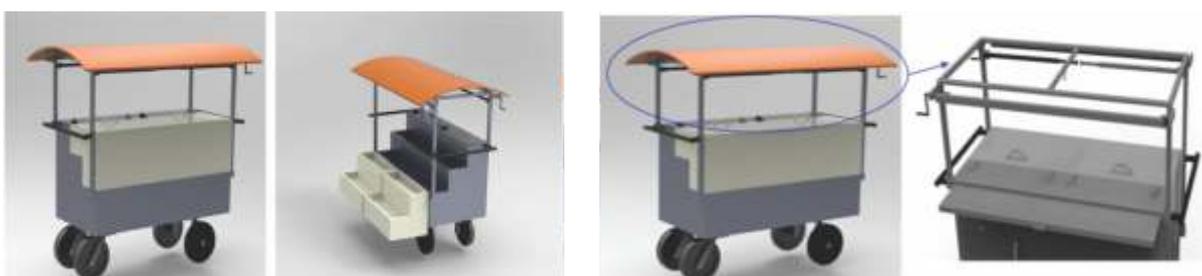
A 1:2 working model has been made to validate the final concept and feedback was collected from the users. Major user needs such as 360 degree driving wheels, knock down facility and rain protection and ergonomics were satisfied by the final design. User response on final design was positive and satisfying.



Various concepts of fruit selling stall



Final product



Final selected concept