

Design and Development of Modular Cot for Pediatric Patients



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Abstract:

Health care in clinics and hospitals has largely been improving the quality of life for Pediatric patients including hospital staff. The design of a pediatric patient bed has been an efficient alternative in hospital health care to meet the needs of Pediatric patient, because it reduces risks, increase the bed density and resulting in reduction of equipment costs.

The design of pediatric patient bed started by means of literature review to know its evolution from earlier to the present generation. Market study was carried out to know the present competitors available in the market with cost analysis of the existing product. Ethnography study was done to observe the needs, the importance of the existing product and to address the design gaps in the existing products and user needs through questionnaires. The feedback was taken from different users and hospital staff, concept generation and design execution was done by the implementation of design methodologies like Quality Function Deployment, Mind mapping, Product Design Specification.

By using different methodologies 5 concepts were generated, Alias and Solid works software used to create concepts and detail. Using Pugh matrix selection method the final concept was selected. The final output is a Pediatric patient bed which gives multiple options to the patient and hospital staff. It helps to reduce children mortality rate, increase hospital bed density, ease of use, cleaning and serviceability. It further improves rural Pediatric patient treatment quality with cost-effective solution. It has safe and hazard free side supports, back rest, comfort and safety features for the patient. The mobility feature (lockable casters) provides ease of shifting the patient from one place to other. Accessories are provided for drip stand, storage space and seating arrangement for doctor and patient attenders. This study addressed the **development** of a cost effective, healthy and hazard free hospital bed. Validation of the prototype was carried out and the results were found satisfactory.



Modified final concept

Prototype