

Design and Development of an Adjustable Hospital Bed



**Aaron Abraham
Kallukalam**

aaronkallukalam@gmail.com
Ph. No: 0 78291 23141

Student's Name	Aaron Abraham Kallukalam	PD (FT-2012)
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Academic Supervisor(s)	Chiranjith Barui and Srinivasa
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Industrial Supervisor(s)	
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Abstract:

Now a days health care system in our country is growing at a great speed. Instead of hospital we renamed it as health care institution. Specialized staff and equipment provide treatment to the patient. Hospitals provide care to inpatients and to those who stay for a long time. In such a situation specially designed hospital bed are necessary for the hospitalized patients, which can help them in one form or other. Hospital beds with special features are helpful for both patients and the health care workers. It can provide comfort and well-being for the patients and convenience for the latter. Adjustable height for the entire bed, the head and the feet, adjustable side rails, and electronic buttons to operate both the bed and other nearby electronic devices are some of the characteristic features of these types of beds.

Hospital beds are used in different settings like hospitals, nursing homes, assisted living facilities, OP clinics, and also in home health care. Modern hospital beds have most of the traditional requirements of the patient. Even though these beds concentrate on luxurious facility, it can create negative emotions in patients and make them feels isolated. These issues called for a detailed study for the project. The main aim of the project was to reduce the cost, to maintain all the features such as food table, removable side rails integrated into a single design and to provide a traditional look for the product.

Here the research has to be done among doctors, nurses, and patients. Research includes product study, market study, literature review, questionnaire survey, user study, ethnographic research. Quality Function Deployment (QFD) was done considering the customer and technical voice obtained as a result of the research. Detailed Product Design Specification (PDS) was created. Three concepts were generated using the prepared PDS. Using the weight ranking method, a final concept was selected which satisfied the QFD and PDS requirement. User feedback and validation was conducted and the result was satisfactory.



Various concepts of adjustable hospital bed



Final Product



Final selected concepts