

MECHATRONICS BOOK SERIES

CONTROL AND INTELLIGENT SYSTEMS

Momoh Jimoh E. Salami
Abiodun Musa Aibinu
Yasir Mohd Mustafah



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INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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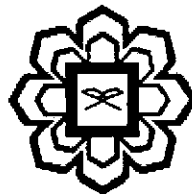
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Chapter 27

Development of Smart Baby Chair

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27.1 Introduction

During the past years, baby chair has been designed for various purposes. Among which is to facilitate the feeding process as the baby can sit properly while the baby is being fed. According to several studies, design of baby chair which exists in Malaysia is more static. At this time, most of the baby chair design in Malaysia is made only to feed the baby without any additional features and special specifications. Somehow, the latest technology shows that the manufacturers are using stainless steel and PVC in making the baby chair and also adding a comfortable cushion. Due to limitation of technology and competition from imported products, Malaysian manufacturers keep producing the old style of baby chair which have no special features and specifications. Thus, this project is aimed at designing an intelligent system that will help parents in handling their babies as it is well equipped with special characteristics and features.

The main objective of this project is to design a smart baby chair which has additional features compared to the traditional chair which are: To design a smart and multipurpose baby chair that integrates both mechanical and electronic; to evaluate the existing baby chair system in terms of operation, features and materials; To apply necessary control strategy to the baby chair system; To enhance skill in using animation software such as 3d max, CATIA and SketchUp for displaying motion control animation of the system; To evaluate the performance of the prototype. Smart baby chair is designed with the idea of providing a space for the baby with many purposes and not only for feeding time. It is expected to make them comfortable, providing entertainment system, support a good posture for feeding, sitting and resting and it also suitable for the baby during his or her growing process.

Mainly, baby chair produced in Malaysia is made of light wood, stainless steel and PVC as in Figure 27.1. It is a simple design which is static and most of its link is fixed. It is a high chair that is designed to facilitate parents in feeding their baby. Usually a food tray is attached at the chair and it is made to be adjusted. From an observation, it is found that some of the chairs are not comfortable enough for a baby and its does not support for a good posture ("Baby chair", 2007).