

Patient Monitoring & Care Systems

INTRODUCTION

The genesis of patient monitoring & care systems in the mid-1960's. one of the first and most successful systems was the technicon medical information system(TMIS), begun in 1965 as a collaborative project between Lockheed and El camino hospital in mountain view California.

The patient monitoring project is the combination of hardware & software project. This project is a working model which incorporates sensors to measure parameters like body temperature, heart beat rate & motion and transfer it to the computer so that the patient's health condition can be analyzed by doctors in any part of the hospital. Thus, it reduces the doctor's workload and also gives accurate results. A micro-controller board is used for analyzing the inputs from the patient and any abnormality felt by the patient causes the monitoring system to give an alarm. Also all the process parameters within an interval selectable by the user are recorded online. This is very useful for future analysis and review of patient's health condition.

A monitoring system configured to display physiological information related to a patient; and a user input device in communication with the monitor, wherein the user input devices configured to cause the monitor to display a help screen compromising video.

For more versatile medical applications, this project can be improvised, by incorporating blood pressure monitoring systems, dental sensors and annunciation systems, thereby making it useful in hospitals as a very efficient and dedicated patient care system. This paper proposes the use of small webcam as sensors for recording movement, the way sensors are used. Specifically, it could be used as a simple navigation and monitoring system for patient movement in medical wards, where knowledge of patient location and movement could provide instant assistance. Experiments and discussions in this paper highlight how a successful

implementation is possible, and emphasize the flexibility of such an implementation in a low cost medical environment.

This worksheet is an introduction on how to handle images in Matlab. When working with images in Matlab, there are many things to keep in mind such as loading an image, using the right format, saving the data as different data types, how to display an image, conversion between different image formats, etc. This worksheet presents some of the commands designed for these operations. Most of these commands require you to have the *Image processing tool box* installed with Matlab. To find out if it is installed, type `ver` at the Matlab prompt. This gives you a list of what tool boxes that are installed on your system.

CHAPTER: - 2

2.1 HARDWARE REQUIREMENT

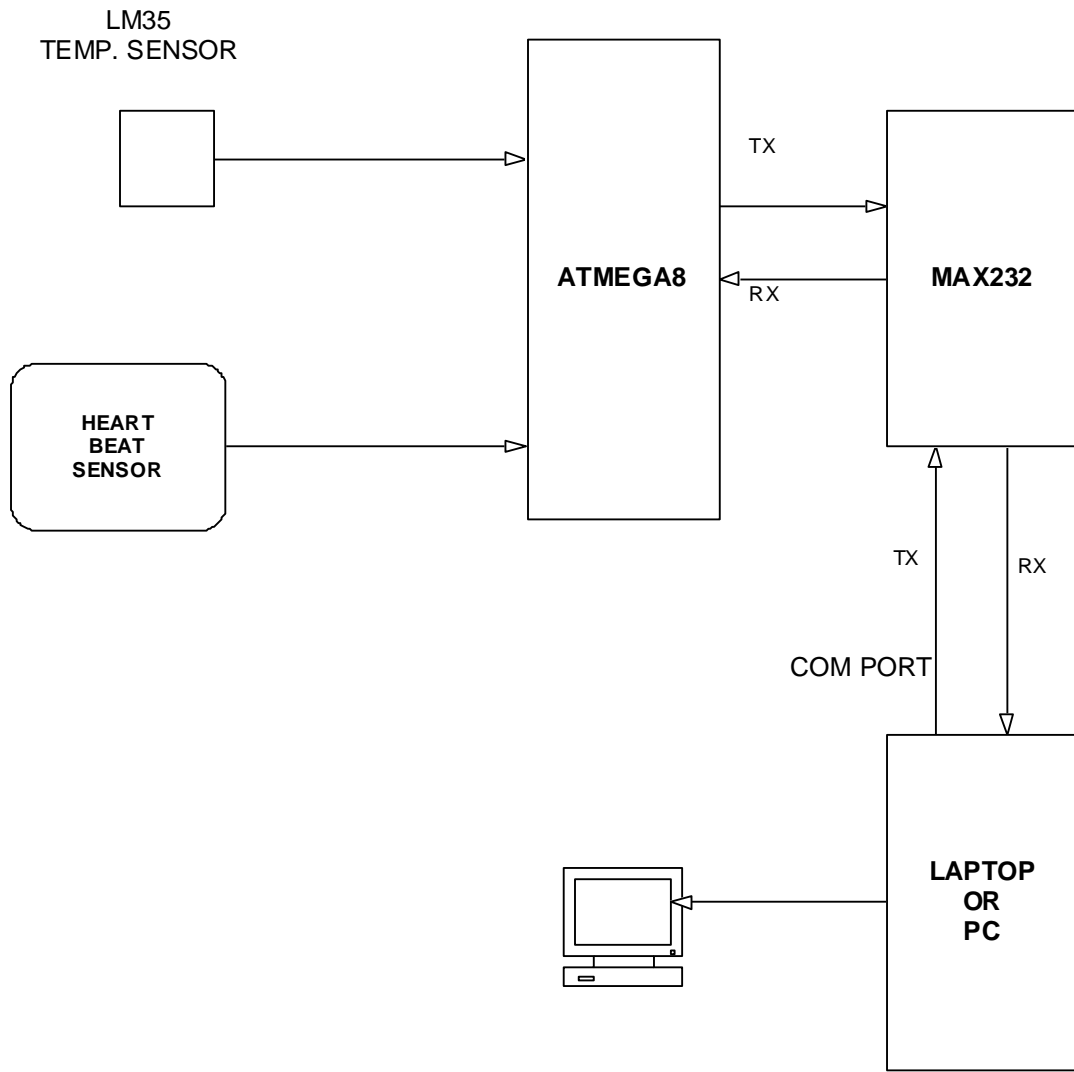


FIG:-1 HARDWARE REQUIREMENT

- 1)Micro- controller (ATMEGA 8)
- 2)Heart beat sensor
- 3)LM 35 (Temperature sensor)
- 4)MAX 232
- 5)LAPTOP OR PC

The regulated power supply is combination of three components.

- 1)Full-wave rectifier
- 2)A capacitor filter C
- 3)IC 7805 voltage regulator

The rectifier converts the transformer secondary AC voltage into pulsating voltage. The pulsating DC voltage is applied to the capacitor filter. This filter reduces the pulsations in the rectifier DC output voltage. Finally IC 7805 voltage regulator performs two functions firstly it reduces the filtered output voltage. Secondly, it keeps the output (V_{out}) nearly constant whether the load current changes or there is change in the input AC voltage.