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Patent Search

Invention Title	DESIGN OF BLUETOOTH-CONTROLLED MOTORIZED ABDOMEN SCAN EQUIPMENT
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Abstract:

An ultrasound transducer, also called a probe, is a device that produces sound waves that bounce off body tissues and make echoes, normal applications are for checking kidney, liver. One of the main applications is in medical diagnosis, where the doctors use the ultrasound probe for mainly pregnant ladies, while using it, they have to hold the probe tightly and depending upon the pressure required the doctor has to apply the force with their hand; it becomes difficult for the doctor. This method is followed across the world. So, we came up with a setup, where a robotic arm holds the ultrasonic probe tightly, and we use the sliding mechanism to move the setup from head to toe. It can also vary the pressure depending upon the persons. The robotic arm moves horizontally and vertically motion. This setup is placed beside the patient's bed. This is fully remote controlled. It is highly efficient. It is fully motorized. This setup consists of high torque motors to move the probe to the exact location on the body of the patient. This is Bluetooth controlled and can easily connect to the doctor's phone. This equipment is portable, easily operated and highly durable. This equipment is designed with light weight aluminum material. This setup consists of five motors and consumes dc power supply. This equipment is cost efficient, not used across the world and is fully motorized which can reduce physical stress to the doctors.

Complete Specification

Description:Field of the Invention:

The current invention relates to Abdomen Scan equipment, more specifically, to Motorized Ultrasound scan equipment controlled by Mobile Bluetooth.

Description of the Related Art:

Diagnostic sonography or ultrasonography are other names for medical ultrasound. It's a form of imaging technology. Internal body structures including tendons and blood arteries can be visualized with this method. One common goal of this type of research is tracing the origin of various diseases. Ultrasonography examinations of pregnant women are commonly performed in a practice known as obstetric ultrasonography.

Ultrasound transducers, also known as probes, are used to create echoes from sound waves by passing them through a patient's body. The transducer also acts as a receiver, picking up echoes and transmitting them to a computer where they are processed to produce a sonogram. In every ultrasound transducer, a piezoelectric crystal serves as the primary element. It has the ability to send and receive ultrasonic waves. In the medical imaging sector, the same piezoelectric substance has been used for almost 40 years. There was a time before recent years when this was true. Then, developments in ultrasound probe technology and a new kind of crystal material were available. As a result, the visual quality was vastly enhanced.

During the process of ultrasound scanning, doctors have to hold the probe tightly and apply force towards the patient's scanning region through probe. Doctors have to adjust the pressure by hand with respect to scanning region. This may lead discomfort to the doctor. To overcome the above-mentioned problem faced by doctors/sonographers we have designed a setup, where a robotic arm holds the ultrasonic probe tightly, which provides required pressure.

Proposed Model:

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