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ENHANCING QUALITY RESEARCH &
INNOVATION
for
SOCIETAL
DEVELOPMENT

P-346   **A Capacitive Micromachined Ultrasonic Transducer**

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A Capacitive Micro-machined Ultrasonic Transducer (cMUT) is presented. It is a new type of transducer that can be used to transmit and receive ultrasonic signals in medical scanners and a variety of other applications. The behavior of cMUT is investigated based on a proposed model of an equivalent circuit by which the characteristics are predicted. The simulation is carried out using microwave office simulator. The various elements of equivalent circuit and the signals produced by the cMUT are discussed and the results are shown in the following sections.

P-349   **Thermal Noise Generator and Injector Circuit for Data Encryption**

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We know that particles in a gas randomly vibrate with an energy that is proportional to their temperature, so do free electrons in a resistive element.
This project is about designing a circuit capable of noise generation. The noise, then using another circuit, generated is then injected into a normal clock signal for displaying an element of noise infection.
The design for the noise generator is derived from what is in recent IEEE publications, while the measurement procedure is adapted and based on a method given another IEEE publication.
The sampled data on noise is then used to measure capacitance, the parameter of the noise generator circuit..

P-355   **Guardian - Prayer Aids for Visually Impaired,**
                               Make Your Pray Easier....

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Guardian device is prayer aid that designed for visually impaired or blind ppl, to perform prayer or other duties. It is because, nowadays there are many ppl that suffer from minor to variour serious vision disability which make diffeculties for those who are independance living. Most common vision problem is praying. Therefore, this device is designed to solve thoes problems. There are three function; Azan alert, Qiblat compass and electronic beards. The systems used are GPS which is well known about navigator and world clock. Moreover, digital counter systen eases you to count number of zikkrullah to be more precise and with no worry

P-356   **Position-based QoS Multicast Routing Protocol**

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Recently, the necessity of applications where many users have to interact in a close manner over mobile Ad-Hoc networks gains high popularity. Multicast communication is essential in this type of applications to reduce the overhead of group communication. For group-oriented multimedia applications Quality of Service (QoS) provision is a basic requirement, which makes an efficient QoS multicast routing protocol a very important issue. This paper proposes a location-based QoS multicast routing protocol via cooperation between Network and MAC layers. Along with this protocol, a location and