Project I Description

Project Name: Low Cost Telemedicine Enabled Incubator for Refugees

Sponsor: **UNICEF – LAU**

Team Size: **4 MEE Students**

1 team

Project Overview
Lebanon is currently a category three emergency level (highest category) for the UNICEF. Over half a million child is in need of help. LAU is teaming up with UNICEF to generate technological solutions that helps supporting the refugees. This project requires the design, manufacturing and on-site testing of a low cost Incubator for 27weeks and more premature babies. The Incubator should be easy to operate by non-medical personnel and is telemedicine enabled. The incubator should be able to control the humidity and the temperature of the air. The telemedicine module should monitor the temperature of the baby, the heart rate, blood oxygen, breathing rate, and should be able to take photos and record the lung sounds. The data will be transmitted periodically using any available internet connection such as wifi or 3G. The whole cost of the system should be less than $500. The Incubator should be manufactures and field tested.

Project Areas and Majors needed	
Design (1 MEE Student)	Instrumentation and Control (3 MEE Student)

Project Deliverables
Design and Build an incubator with the following functions: • Control the humidity and the temperature of the air. • Monitors and record the temperature of the baby, the heart rate, blood oxygen, and breathing rate, • Equipped with camera and microphone to take photos and record the lung sounds • Transmit data using internet to medical doctors abroad. • The whole system should cost less than $500. • Field testing of the system.