

PRODUCT GALLERY – 2007

Engineers and technologists should relate intimately to the society they live in and sincerely take efforts to solve the problems the society faces by technical means if possible. Products are the fruits of such efforts. As part of this course, the students were asked to meet the members of the society at large and get to know the problems the members of the society faced. Then they were asked to solve a particular problem by developing a product that is functional and affordable. The successful products developed by the student teams are given below:

DIGITAL AUTOMETER

The Product

The drivers of the autorickshaws used to employ the analog autometers in the near past. But these can not be easily recalibrated whenever the tariff rates change. Due to the fluctuations of the price of fuel, the tariff changes quite often. Also, the government of Tamilnadu has mandated that only the electronic autometers should be used. Hence, there was a need for inexpensive autometers which the team decided to fulfill.



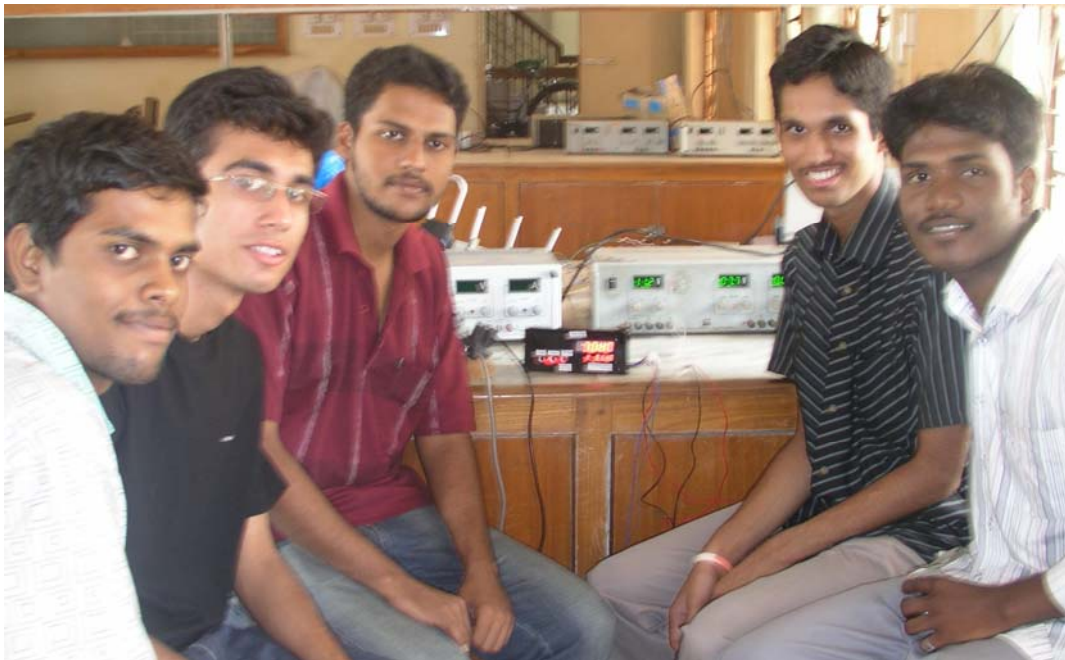
Customer Display Unit



Wheel Tachometer Unit

The estimated market price of this autometer is Rs. 1500. This is much lower than the ones currently available in the market.

The Team



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WATER FLOW DETECTOR

The Product

In these days of water scarcity, water supply from the public authorities is a much awaited event. But, in towns and cities this water supply is unpredictable. Most often than not the water supply is made during the odd hours of the day or night. One has to be alert to notice the water flowing out of the supply tap. Otherwise, the precious water flows down the drain. The team found that there is a need for an inexpensive, but robust device to alert the water flow in the water tap. At the same time the device should not raise an alarm when leakage water flows out. The team decided to develop a product to satisfy this need and at the same time to prevent the wastage of drinking water.

This water flow detector will not alert anybody if a small seepage flow is there. But, once the flow exceeds a threshold flow rate, it will raise an alarm.



Only when it is acknowledged, the alarm will stop. Similarly, when the water flow falls below a threshold flow, the alarm is again generated. This informs the user that the water flow has stopped. The market price of this product is estimated to be about Rs. 120.

The Team



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TEMPERATURE REGULATOR FOR SOLAR WATER HEATER

THE PRODUCT

Solar water heaters supply very hot scalding water when the sun is shining brightly and cold water when the sun is not shining. The problem was to provide hand-hot warm water for the catering industry to clean the greasy utensils. The water should neither be too hot nor cold whether the sun is shining or not. The solar water heaters are generally put on the roofs of the buildings and are not easily accessible. So the temperature controller to be used should not be dependent on the electricity and practically be maintenance-free.



The green plastic pipe supplies cold water. The galvanized steel pipe supplies hot water. The brass valve in between is the tempering valve. The warm water flows out of the blue tap. Here the hot water is directly supplied from the solar water heater. In domestic and commercial installations, the hot water is supplied from an insulated hot water tank which stores the hot water from the solar heater.

The team took this challenge from a nearby catering institute and gave a simple and robust solution. They incorporated a special valve called a 'tempering valve' in the hot water outlet. This valve mixes the right quantity of cold water to the hot water to bring the out-flowing water to the required temperature. So the very hot water can be stored in an insulated tank and warm water can be supplied even when the sun is not shining.



The cost of this tempering valve, which is imported, is about Rs. 1000.

The Team



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CURRENCY NOTE COUNTER

The Product

With the Indian economy growing day by day, the number of high value transactions also have increased tremendously. In many of these transactions, counting the currency notes is a drudgery. Hence the currency note counters have gained in popularity. But the team found that the currency note counters in the market are quite expensive. They decided to design a currency counter that could be sold at a reasonably low price. The currency counter they have designed costs Rs. 3076.



The Team



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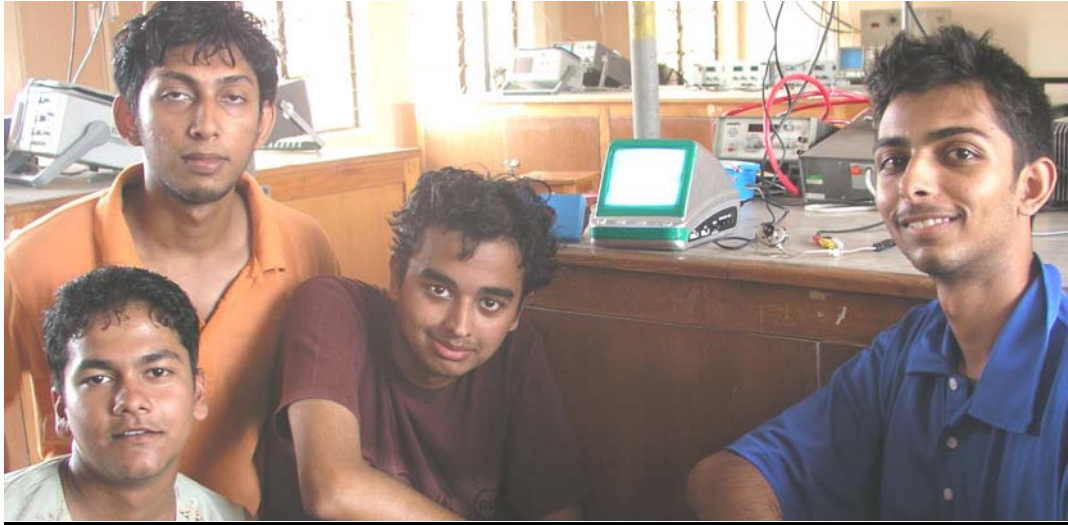
IMAGE BASED SECURITY SYSTEM

The Product

The urban landscape is changing even in small towns with many multi-storey apartment blocks coming up. While these flats provide adequate accommodation, they also isolate families from their neighbours. Occupants may not know the persons who are going to enter their apartment block if adequate security arrangements are not made. The team found that this is an acute problem if old people and individuals are present in their flats. The team found that there is a large and growing market for an image-based security system which they designed. The cost of their security system with inexpensive third party components is Rs. 1300.



The Team



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| 5. | Stalin, M | IC10446 |