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Sri Lankan invention scores at international science fair

"The Mr. Padmasiri's award winning idea: A lightweight, portable microscope powered by today's most common piece of technology; the mobile phone

By Jagdish Hathiramani

O' Level student Chandula Padmasiri of Ananda College counts Sir Arthur C. Clarke as a role model and dreams of being an inventor after he finishes his exams this year.

But, unlike others across the world who share his dream, he has already shown that he has what it takes to possibly turn what was once a hobby into a lucrative future. This is because Mr. Padmasiri recently walked away with a cash prize amounting to US$ 1,000 at the Intel International Science and Engineering Fair (ISEF) in Reno, USA, one of few dozen awarded from more than 1,500 high school students across over 50 countries.

Mr. Padmasiri's award winning idea: A lightweight, portable microscope powered by today's most common piece of technology; the mobile phone. He explains: "By fixing this device onto your camera phone, you can view magnified images of the specimen inserted into the device directly through the camera mode of the phone... You just have to insert a sample into the device using a glass slide, strap it onto your phone so that it aligns with your phone's camera and switch on an LED in the device using a switch in the device. Then once you go to the camera mode of the phone you will be able to see an image of the sample that you inserted into the device. You can use the focus knob of the device to focus the image and you can also use the digital zoom of the phone to obtain a magnification of more than 600x... All in all, the device is small and portable, is cheap (took me about Rs. 500 to make), has a magnification of more than 600x and you can use it to capture images and videos of the specimen you view".

More interestingly, this idea was not the planned objective but instead the result of seizing an opportunity which presented itself. "I first started out the project trying to make a cheap microscope. It didn't really involve a mobile phone. When we used microscopes at school for the first time, I just realised how important it is to students who study biology. But it is a common fact that most students don't get to use microscopes for their studies because they are only available in laboratories as they are expensive. Even though you buy one it is very hard to use them because they are large and heavy. So I thought of making a microscope that's cheap and portable so that it can be used by students for studies. When I went to experimentation stage, it was clear to me that if I could fix a device that magnifies specimen directly in front of the camera of a phone, I could obtain images straight away on the phone's screen," says Mr. Padmasiri.

The outcome: A prototype, currently pending patents, which might one day change the makeup of laboratories, and even classrooms, all over the world. And how did he get here? "My philosophy for scientific discovery is to be inquisitive about every new thing you come across", says Mr. Padmasiri. **(JH)**