

'Blood lab' inside a mobile phone could detect cancer

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Plans to design a smart phone app that can detect leukaemia will be among the innovations presented by Northumbria University researchers at the Centre for Life this weekend.

Worawut Srisukkhram, a PhD student at Northumbria University, Newcastle, is in the early stages of an 'e-health technology' project aimed at developing a mobile phone app that can examine blood sample images and diagnose cancer.

It would work by taking a magnified image of a blood slide via a microscopic lens attached to the smart phone, which the app would then be able to screen for evidence of leukaemia – a [blood cancer](#).

Worawut will present his idea at Maker Faire UK at Newcastle's Centre for Life on 26 and 27 April. Fellow Northumbria colleagues will also exhibit, including demonstrations of 3D printing, targeted drug delivery and an app that helps research the effect of the Himalayan Balsam plant on British bees.

Northumbria University is a main sponsor of Maker Faire UK. Billed as the greatest show-and-tell on Earth, it is a two-day celebration across the spectrum of science, engineering, art, performance and craft. A family-friendly gathering of tech enthusiasts, crafters, hobbyists, engineers, artists and more, the event aims to inspire and enthuse people of all ages.

Once created, Worawut's smart phone app could be used for initial

diagnosis of people living in remote rural areas in developing countries, enabling rural doctors to analyse blood samples and refer patients to the city hospitals for treatment or further investigation.

Worawut said: "Creating a phone app that can perform this screening role would be a low cost and efficient solution to detect leukaemia in remote and resource-poor regions."

In 2012, approximately 352,000 children and adults around the world developed some form of leukaemia with a similar number dying from the cancer.

Once his project is complete, Worawut hopes it will help to prevent unnecessary deaths from the disease caused by delayed diagnosis and treatment due to poverty or living in remote areas far away from large hospitals and laboratories.

Professor Stephen Todryk, Chair of Immunology at Northumbria University, is one of Worawut's PhD supervisors. He said: "Worawut's work will marry advanced and popular technologies to help combat an important disease – blood cancer. Through such improved diagnosis many lives may be saved."

Worawut added: "Our aim is to use the high-performance and technology of [smart phones](#) to help in health care. Doctors working in [remote areas](#) could use the technology to screen patients in their community and refer those with an abnormal result to the larger medical facilities."

Provided by Northumbria University

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