



Detection of Water Contamination

The importance of drinking water need not be mentioned. Contaminated drinking water can result in many health risks : bacteria resulting in illnesses such as hepatitis or cholera; a component of gasoline, benzene, is known to be a carcinogen; lead causes kidney, liver, and nerve damage as well as pregnancy risks.

Contamination of groundwater with arsenic, iron, manganese and bacteria is a concern particularly in West Bengal and north-eastern states. Analysis of water samples from these areas indicates contamination well beyond acceptable limits set by the World Health Organization (WHO).

Due to lack of availability of water purifiers, drinking water is not purified in rural areas and communities are not aware about the harmful impurities they are consuming every day. Majority of the people in metropolitans consume packaged **CAN** water of 20 litres/5 litres, but recently it has been observed that unprocessed water is being filled in CANS by some of the dealers for better profits.

It is not practical for the government to regularly check upon drinking water in all communities of rural areas and metropolitan cities. A portable device to detect water contamination will make it easy to identify areas needing attention from the authorities.

Design an easy-to-use & affordable (possibly used by the common man) portable device which detects and reports the extent of harmful contaminants in our drinking water with results considerably close to accurate values. Participants are expected to come up with a working prototype (in a later phase of Dhiti). The device can be digital/non-digital, but should be cost-effective.

Timeline

Idea Proposal (give a link to the Idea Proposal section)	January 10 th , 2016
Mentorship Kicks off! (give a link to the Mentorship section)	20 th January OR As soon as your idea is selected (whichever is earlier).
Submission of final report	7 th February, 2016
Presentation in Apogee, technical festival of BITS Pilani (give a link to the Presentation section)	February 25 th – 28 th , 2016
Implementation Phase (give a link to the Implementation section)	Based on the preferences of the organization (if providing an internship) and student