

**Working prototypes of technology innovations in Healthcare Diagnostics
showcased at WeSchool**

***ReDx (Redesigning Diagnostics) Camp 2016 – a joint initiative of Camera Culture
Group, MIT Media Lab and WeSchool takes a step ahead***

Mumbai January 22, 2016: Prin. L. N. Welingkar Institute of Management Development & Research (WeSchool) and Camera Culture Group, MIT Media Lab, USA organized a Prototype Exhibition and Open House of Redefining Diagnostics (ReDx), MIT REDX HEALTH TECH CAMP 2016 at WeSchool campus.

The exhibition is an outcome of the intensive seven-day ReDx (Redesigning Diagnostics) workshop by MIT Media lab held at WeSchool in 2015 that had brought together nearly hundred students, clinicians, entrepreneurs, and investors to address the most critical healthcare issues in India. Out of these convenient, affordable and do-it-yourself devices, the most promising projects were selected for continuing development at WeSchool campus. WeSchool is currently hosting a visual health diagnostic-focused innovation centre in collaboration with MIT Media Lab. Innovators use the space, under the close guidance and mentorship with researchers and others to develop prototypes for different healthcare solutions that will have a wide reaching impact in improving the quality of healthcare practices the world over.

Congratulating the teams of innovators and researchers in the collaborative project, **Prof Dr Uday Salunkhe, Group, WeSchool said**, “ReDx 2016 is another milestone in our collaborative journey towards creating innovations that aim to provide healthcare solutions for people across the globe. This convergence of design thinking, technology and empathy has created a wonderful platform for stakeholders from diverse streams to get together to design the much needed healthcare diagnostic devices which will have immense social value and impact in the times to come. During ReDx, WeSchool students have helped transform potentially high impact ideas sourced from health researchers and doctors and transformed them into working prototypes and executable business solutions and we are looking forward to taking them ahead.”

Varun Vartak, WeSchool student from the Healthcare Program who was part of the team that was developing **ARAM Apnea Rest Analysis Mask** , shared his experience ,” ReDx gave us an opportunity to experience the journey from ideation to execution and understand the responsibility of being able to make a positive change in society through collective effort . We now truly believe that it is possible to transform India and “We” can make it happen.”

While unfolding the journey of the workshop, the noted Innovator, **Prof Dr Ramesh Raskar, Associate Professor, MIT Media Lab said**, “ReDx, a platform focused on Healthcare challenges, is a joint venture going on in parallel in USA and India. We have

been working together with a number of stakeholders | for innovating solutions for billions and the synergy with WeSchool enables us in not only creating healthcare technologies but health innovators .We are working together towards our mission of enabling young minds to discover innovative solutions with the application of rethinking, engineering, design towards building executable business solutions.”

The Prototypes displayed at the Open-House MIT REDX HEALTH TECH CAMP 2016 are:

1. **Apnea Rest Analysis Mask (ARAM)** - a wearable device for home-monitoring of Obstructive Sleep Apnea (OSA).The device is currently being iterated at REDX Innovation Lab, Mumbai and being validated at a renowned hospital in Mumbai for its efficiency and user experience.
2. **Cardio24**: Cardio24 is a web-platform based diagnostic tool built around continuous ECG monitoring devices to screen for cardiovascular diseases. The platform has been developed with its algorithm validated against the data from gold-standard diagnostic systems. Recently, it has been made open-source for researchers, developers, clinicians and the community to iterate and further improve the algorithm.
3. **SkinSpect**: Differential diagnosis of skin conditions using fluorescent spectroscopy of skin. The device comprises of a mobile-phone clip-on and a spectrometer that collects valuable information from within the skin lesions. The device is currently being validated in clinical studies at a renowned hospital in Mumbai to identify skin conditions that the device can reliably diagnose.
4. **LightEar**: A novel device to image conditions and infections of the outer ear using a mechanically stable form factor. Currently the device is in use at a renowned hospital in Mumbai to collect data about various ear infections. This information can be used to create an annotated database that with the help of machine learning can help distinguish between various ear conditions.
5. **SenseCam**: SenseCam is a real time camera based emotion detection system. It is real time, non-invasive, privacy preserving system which will be able to detect emotions, HRV (heart rate variability), stress and other human vitals. Aiding Autistic children learn making emotions, helping physically challenged people express their needs through emotions, to monitor patients in hospitals and saving nurse’s time.
6. **Anterior segment imaging device**: a portable device which creates a 3D reconstruction of the anterior segment of the human eye.

7. **Portable pupilometer:** A novel portable binocular device to quantify and measure pupillary and neurological responses to light stimuli. The device automates and standardizes the 'swinging flashlight test' as an objective method to quantify papillary responses.

8. **iLabelit:** iLabelit is a gamified web-based application to crowd source annotations for retinal images. This would be used to train machine learning algorithms for automated screening of retinal pathologies.

9. **EpiMetrics:** EpiMetrics is an analytics based system built to detect impending epidemic disease outbreaks in real time. The system detects fast spreading diseases in a particular location and creates a map to illustrate the growth. EpiMetrics' unique data visualization dashboard enables users to monitor disease outbreaks with greater clarity and accuracy.