IOT-BASED PULMONARY TUBERCULOSIS DIAGNOSTICS SYSTEM

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Estimated TB incidence rates, 2014
Global distribution of estimated TB incidence by rate and absolute number in 2014
Screening of Lung diseases

- Variety of lung diseases that have the similar symptoms and sign – pneumonia, lung cancer and pulmonary tuberculosis
  - Coughing for more than 2 weeks
  - Loss of appetite
  - Loss of weight

- Different manifestation of Pulmonary Tuberculosis
  - COPD
  - Emphysema
Lung tissue infected with pneumonia

**Figure 1.1** Visual of chest radiograph of pneumonia infected lung [2]

Lung tissue infected with PTB

**Figure 1.2** Example of chest radiograph showing PTB infected lung (snowflakes) [2]

Lung tissue infected with cancer

**Figure 1.3** Example of chest radiograph showing lung cancer [2]

**Figure 1.4** Example of normal lung of an healthy individual [2]
Implementation

1. Mobile Device for Data Capturing
2. Image Database dedicated for automated TB screening
3. Manifestation Annotation System
4. Computational models for TB manifestation categorization

Servers in the cloud

For example

teamplay is a network that brings together healthcare professionals and patients in order to advance medicine and human health
Call for Collaborations

- Ethical Committee approval for each country
- Database sharing for lung X-ray
- IoT platform for DICOM images
- Radiologist/Pulmonary Expert

Cloud platform

- Cambodia
- Vietnam
- Malaysia
- Indonesia
- Japan

PROF. NGO QUYNH THU
DR. THAN QUANG KHOAT
HUST

24/11/16 NMN
Our Related Research in Lung Disease Discrimination


THANK YOU

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