



清华大学 110周年校庆
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TSINGHUA UNIVERSITY



TSINGHUA GLOBAL
SUMMER SCHOOL
GSS 2021

SUSTAINABLE
DEVELOPMENT GOALS

A Data Enabled Journey to Elevate Global Health

by Health Pioneers

HEALTH
PIONEERS



Health Pioneers



Paritosh Umesan (India)((Team Leader)
Deakin University, Australia
MBA (Global)



Shou-Kai Cheng
Columbia University, USA,
Master of Quantitative Methods (Data Science)



Muthukkumarasamy Mohanapiriyam (Australia)
The Australian National University
Bachelor of Actuarial Studies & Bachelor of
Applied Data Analytics



Saad Tareq AlKharji (United Arab Emirates)
Khalifa University, UAE
Bachelor of Computer Engineering



Waheed Moses Audu (Nigeria)
University of the Witwatersrand, South Africa



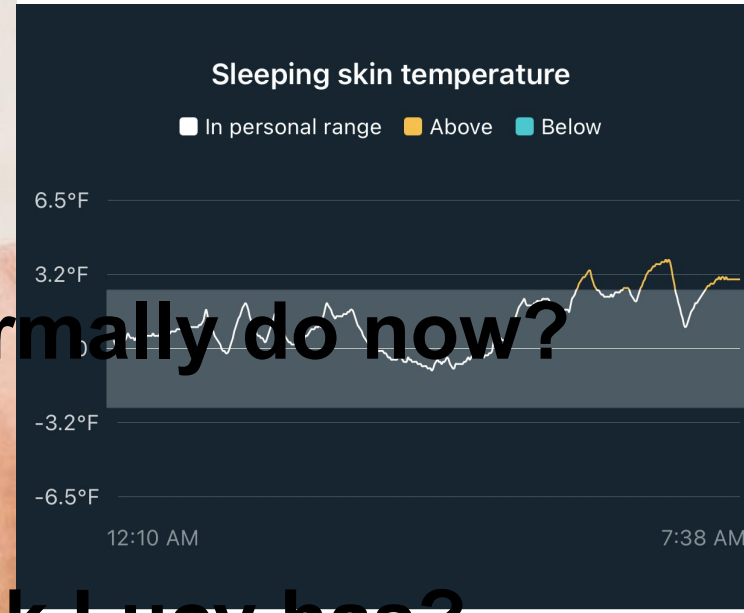
Alsawidi Hussam Mohammed (Yemen)
Shandong University, China

Scenario: A dreadful start to Lucy's Monday



What would you normally do now?

What do you think Lucy has?



Sleeping Skin Temperature

+1.2°F

18%
Above

82%
In personal range

Weakness

Lucy's Hiking Group





Did you guess Melioidosis - a disease with **50% mortality rate**?

Lucy's story, though fictional, is (unfortunately) loosely based around a true story...



CDC probes how people contracted a dangerous infection found in the tropics – without leaving the U.S.

The melioidosis cases in the United States have no obvious source

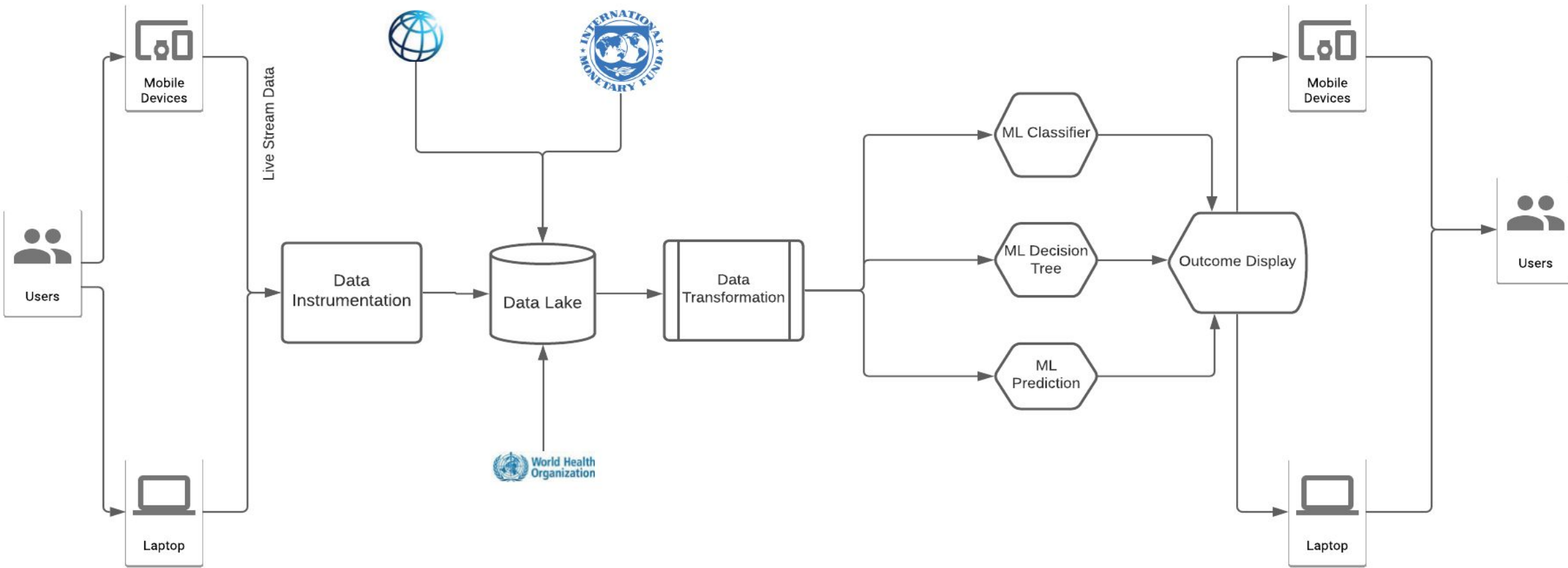
What is Melioidosis? CDC Investigates 3 Cases of Rare Bacterial Infection in the US

There's a worrying medical mystery unfolding across the USA. In Kansas, Minnesota, and Texas, a rare and potentially fatal disease has left two people hospitalized – and one dead.

CDC Warns Doctors About a Mystery Bacterial Outbreak With No Clear Origin



Solution Design



Comparative Analysis

	Personal Notification	Location Based Data	Real Time Feed/Analysis	ML Prediction	Personalized Recommendation	Smart Sensor Data
Africa	✗	✓	✗	✗	✗	✗
Asia	✓	✓	✓	✗	✗	✗
Europe	✓	✓	✓	✗	✗	✗
Australia	✓	✓	✗	✗	✗	✗
USA	✓	✓	✗	✗	✗	✗
Health Go! by Health Pioneers	✓	✓	✓	✓	✓	✓

Success Metrics & Threats

Success Metrics

- Monthly Active Users (MAU)
- Daily Active Users (DAU)
- Monthly Active Organizations (MAO)

SDG Success Metrics

- Life expectancy
- Wellbeing

Threats to your SDG Innovation

- Over reliance on recommendations alone and not consulting Doctors when needed.
- Unwarranted use of data to classify people based on their health state.

SUSTAINABLE DEVELOPMENT GOALS



Global Cooperation



SUSTAINABLE DEVELOPMENT GOALS



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Australian
National
University



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Khalifa University



Thanks for Listening!



Annexure



Summary



In this presentation, a motivation to improve the prevention of health outbreaks and more generally personalised health is provided. The major drawbacks of the current methods used by countries are inadequate data, timely data, and any form of advanced analysis or forward looking prediction. The proposed solution is an end-user incentivized approach to collect data from frequently used home and mobile sensor devices and analyse it in real-time. The incentives are but are not limited to personalized health care services and updates on government health policy through network service providers. COVID-19 has highlighted to individuals in sharing data to improve community health outcomes hence our solution is made more viable than ever before. Machine learning tools can then be used to analyse the data for informed decision-making both automatically for real time feedback back to individuals and for longer term policy our outbreaks by health officials. The challenges will however rest on the ability of individuals to take responsibility in providing accurate information where necessary, the accuracy of sensor based devices in taking real-time measurements and the management of accumulated data over a long period. These challenges can be categorized into human and equipment factors. Continuing education and technological advancements will therefore remain the key drivers for global health care.

