

# Carnegie Mellon University Rwanda



## Inspiring Innovators

**Bruce H. Krogh**

Professor of Electrical and Computer Engineering  
Director, Carnegie Mellon University in Rwanda

# Carnegie Mellon University

Pittsburgh, Pennsylvania, USA

## ***U.S. News & World Report 2014 Rankings***

#1 Computer Science

#1 Information System Mgmt.

#1 Multimedia Communications

#3 Computer Engineering

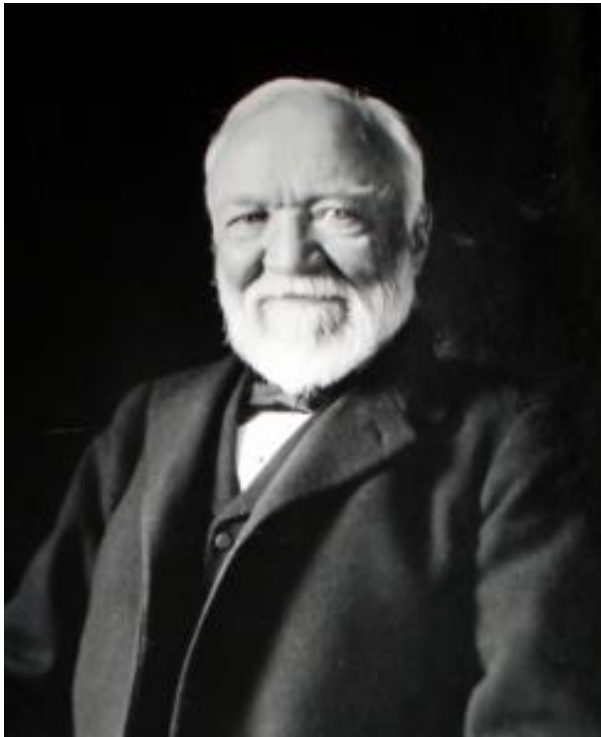
#5 Engineering College

**Home to 18 Nobel Laureates**

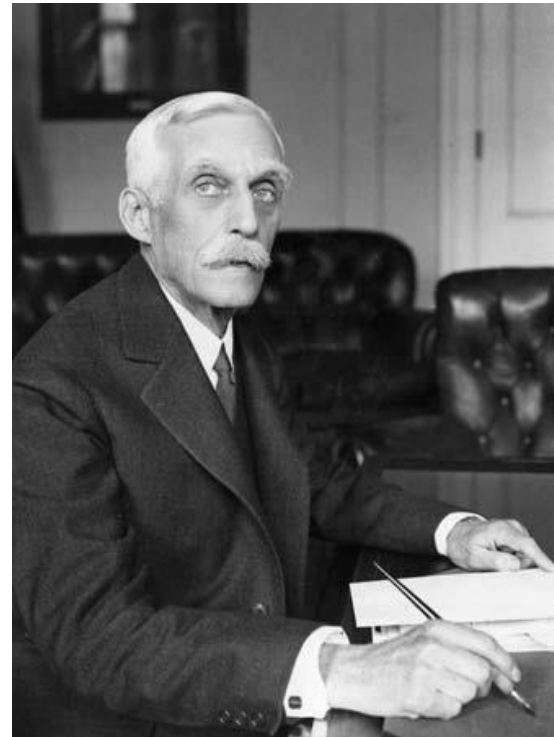


# Carnegie Mellon University

Founded 1900: **Carnegie** Institute of Technology  
Merged 1967: **Mellon** Institute of Industrial Research



**Andrew Carnegie**  
1835-1919



**Andrew Mellon**  
1855-1937

# Carnegie Mellon's Global Presence





# Carnegie Mellon's Global Presence

**Carnegie Mellon University**  
Rwanda



# Carnegie Mellon Rwanda Campus



## Temporary Location

### Telecom House

- CMU-R floors 4-5
- Rwanda National Data Center (hosting our servers)
- control center for the national fiber optic network
- several ICT companies
- kLab innovation hub



## Future Location

### Kigali Technology Park

- 15 hectares reserved for CMU-R
- African Development Bank funding for campus design and construction
- Completion date: July 2016

**Carnegie Mellon University  
Rwanda**





**MS in Information Technology**

**MS in Electrical & Computer  
Engineering**



# Internships

IBM Research

ZTE中兴

VISA

Microsoft

BSC broadband  
systems  
corporation

Marriott

comza

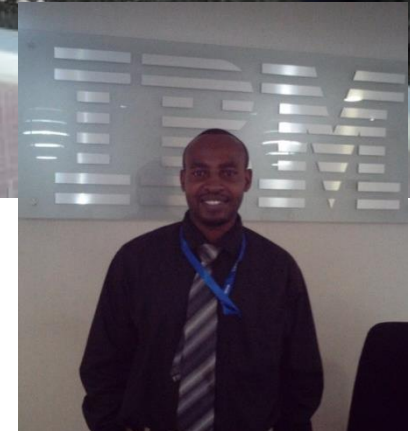
WSA

MFS AFRICA



General Electric

RDB RWANDA  
DEVELOPMENT BOARD







# Innovate

/i-no-vayt/

def: Improve something with a new idea or procedure, or produce a product using a new and better way.

# Carnegie Mellon University

## Inspiring Innovators

### Artificial Intelligence



**Logic Theorist  
language**

December 1955

Allen Newell



Herb Simon



Twitter **Hashtags**  
**#InnovationAfrica2014**

Aug. 23, 2007

Chris Messina

### Autonomous Cars



**Java Programming  
Language**

1994

James Gosling



Red Whittaker



DARPA 2007 Urban Challenge  
First place, November 3, 2007



Raj Rajkumar



**Emoticons**

**: - )**

Sept. 19, 1982

Scott Fahlman



Andy Bechtolsheim

**Sun**  
microsystems

February 1982



Vinod Khosla

**Lycos**  
**Search Engine**

1994

Michael Loren Mauldin



Condition great



[Privacy & Terms](#)

Submit

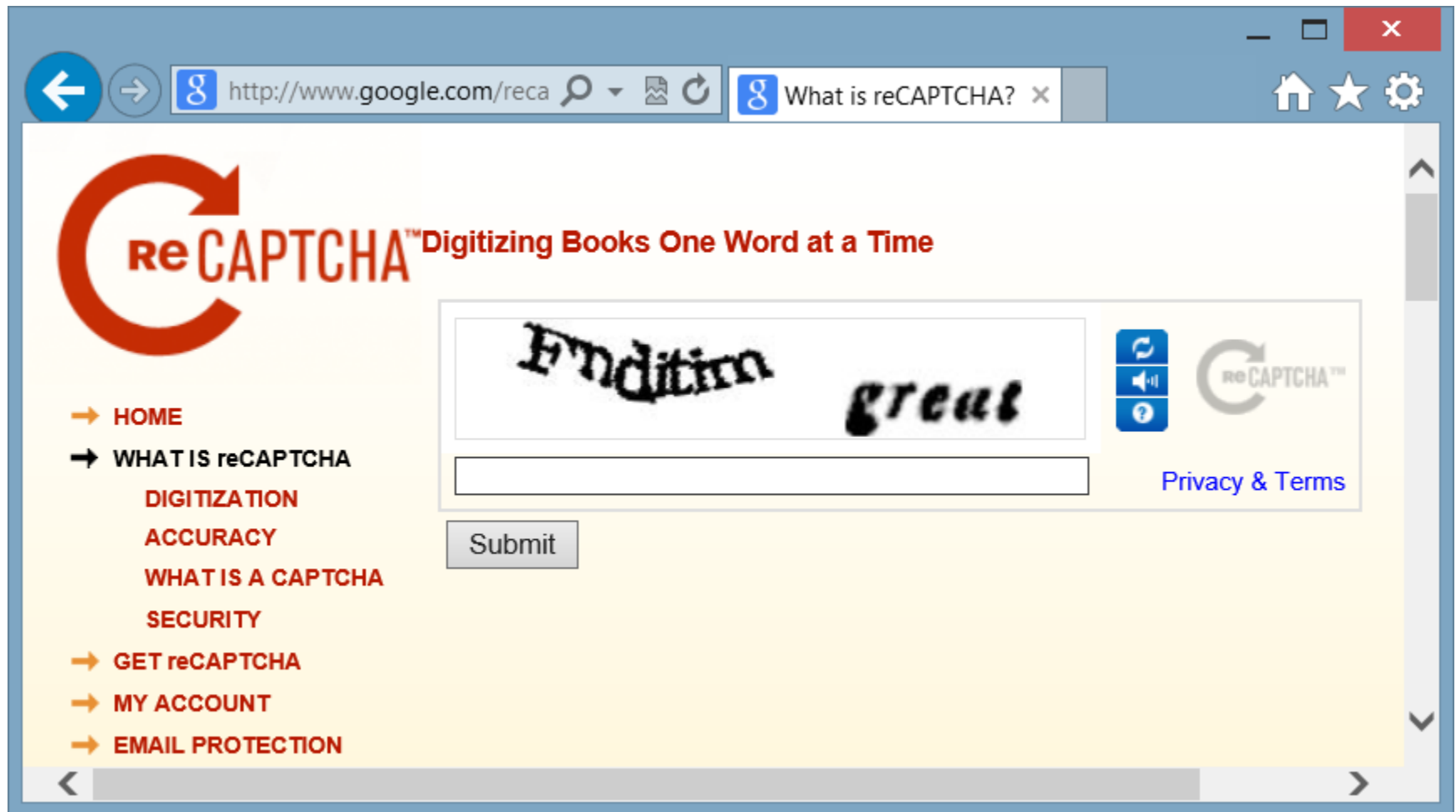




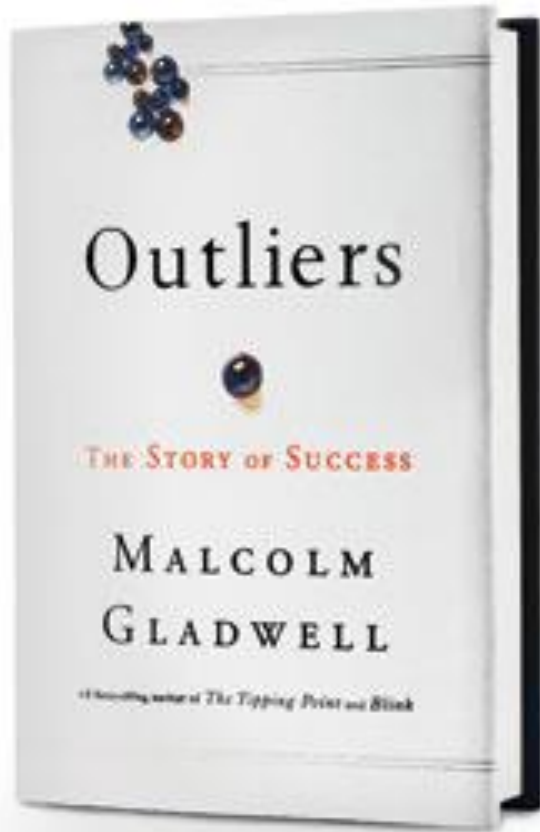
Luis von Ahn  
Pioneer in crowdsourcing  
Inventor of reCAPTCHA

A screenshot of the reCAPTCHA interface. It features a distorted image of the word "great" in a cursive font. To the right of the image are three icons: a refresh button, a volume icon, and a help icon. Below the image is a text input field. To the right of the input field is a "Privacy & Terms" link. At the bottom left is a "Submit" button.

# Acquired by Google – Sept 2009



# Inspiring Innovators





# The 10,000-hour rule.





# Inspiring Innovators

## 1. Become experts.



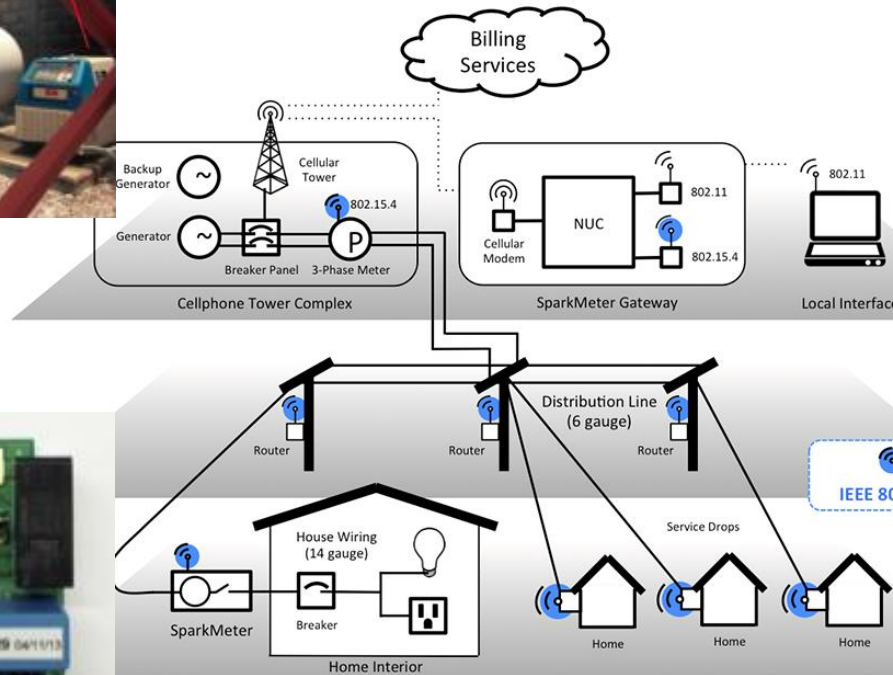
# Inspiring Innovators

1. Become experts.
2. Solve real problems.

# mobile money



# Building a Truly Smart Grid: What Can We Do When There Is No Legacy System?



Les Anglais, Haiti



<http://wise.ece.cmu.edu/redmine/projects/microgrid/wiki>

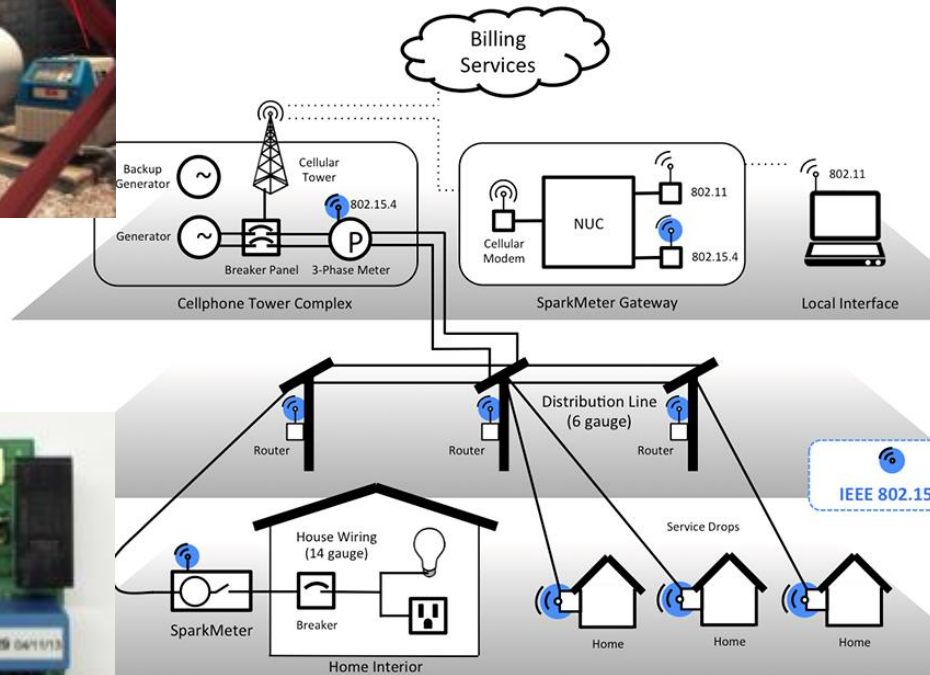




# Anthony Rowe

## Researcher and Inventor

### Wireless Sensor Network Technology



Les Anglais, Haiti



<http://wise.ece.cmu.edu/redmine/projects/microgrid/wiki>

# Inspiring Innovators

# Inspiring Innovators

## 1. Become experts.

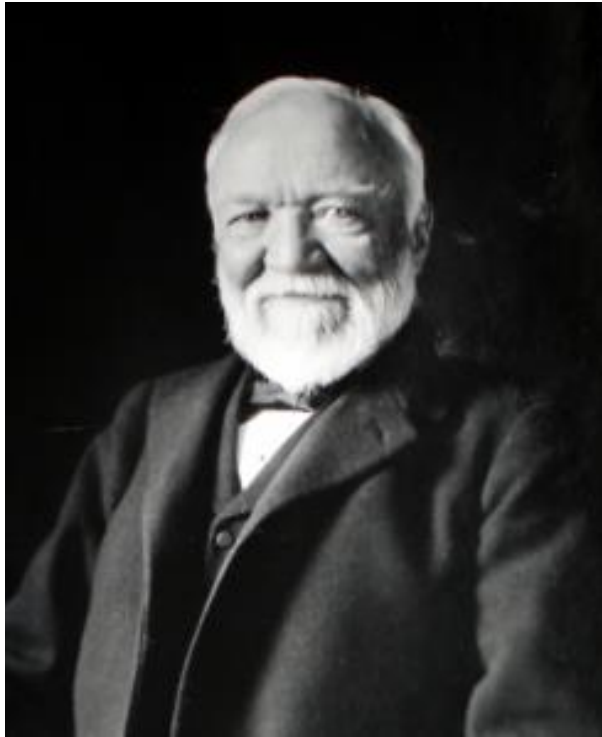
# Inspiring Innovators

1. Become experts.
2. Solve real problems.



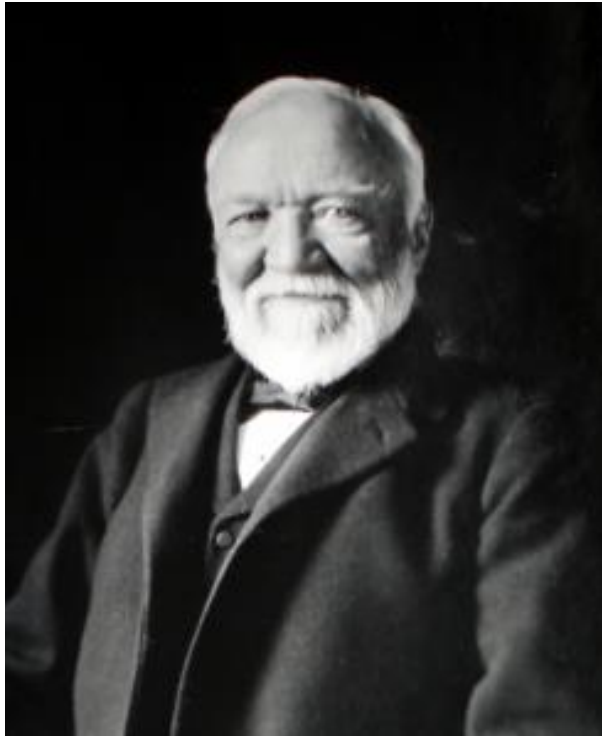
# Inspiring Innovators

1. Become experts.
2. Solve real problems.
- 3. Be born at the right time!**



**Andrew Carnegie**

1835-1919

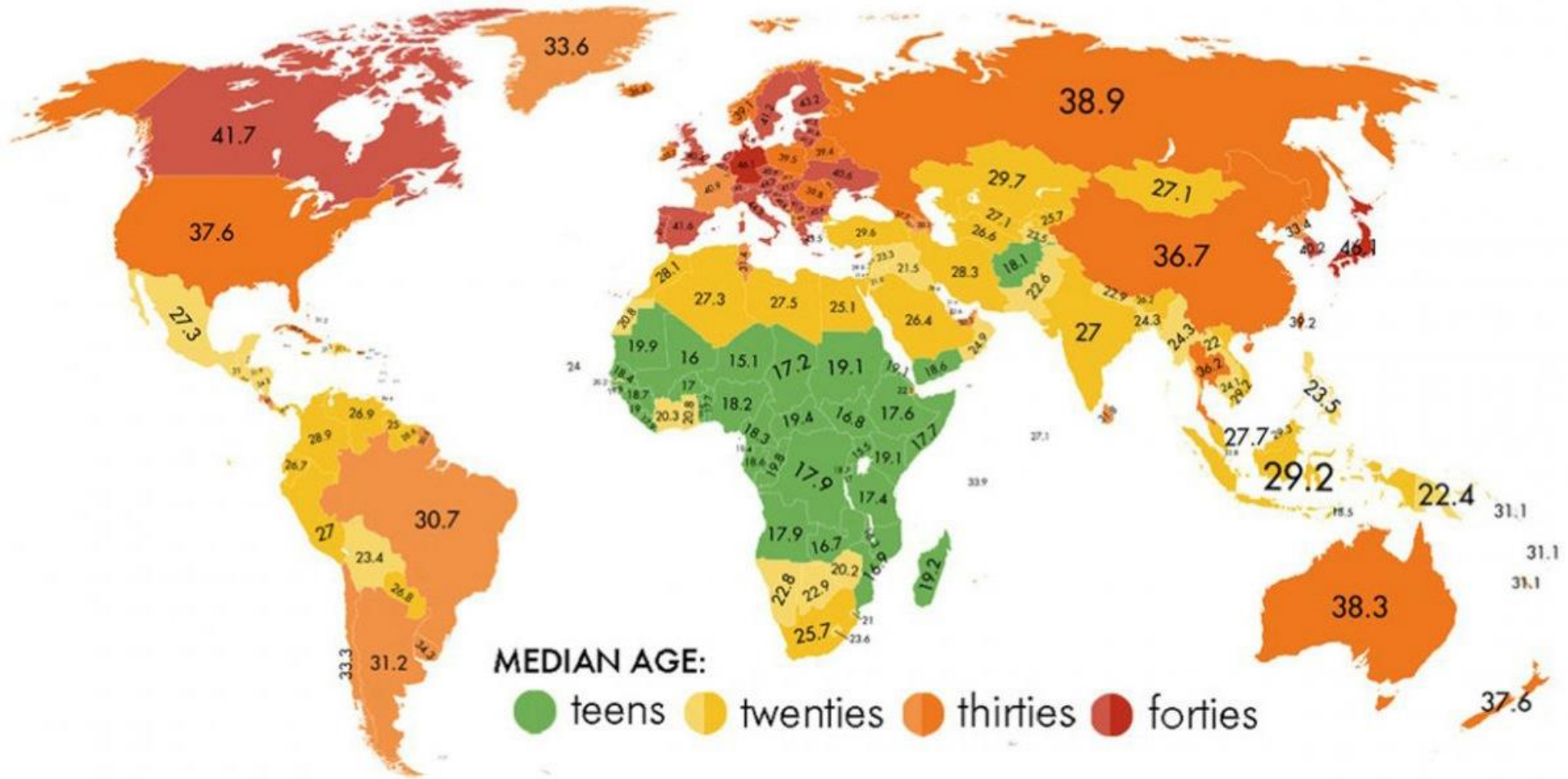


**Andrew Carnegie**  
1835-1919



**Bill Gates**  
1955-

# “The future of humanity is increasingly African” UNICEF



**YOUNGEST:** 1. Niger (15.1) 2. Uganda (15.5) 3. Mali (16) 4. Malawi (16.3) 5. Zambia (16.7)

**OLDEST:** 1. Germany & Japan (46.1) 2. Italy (44.5) 3. Austria (44.3) 4. Virgin Islands (44.2)

Source: CIA Factbook

Simran Khosla/GlobalPost

Carnegie Mellon University  
Rwanda

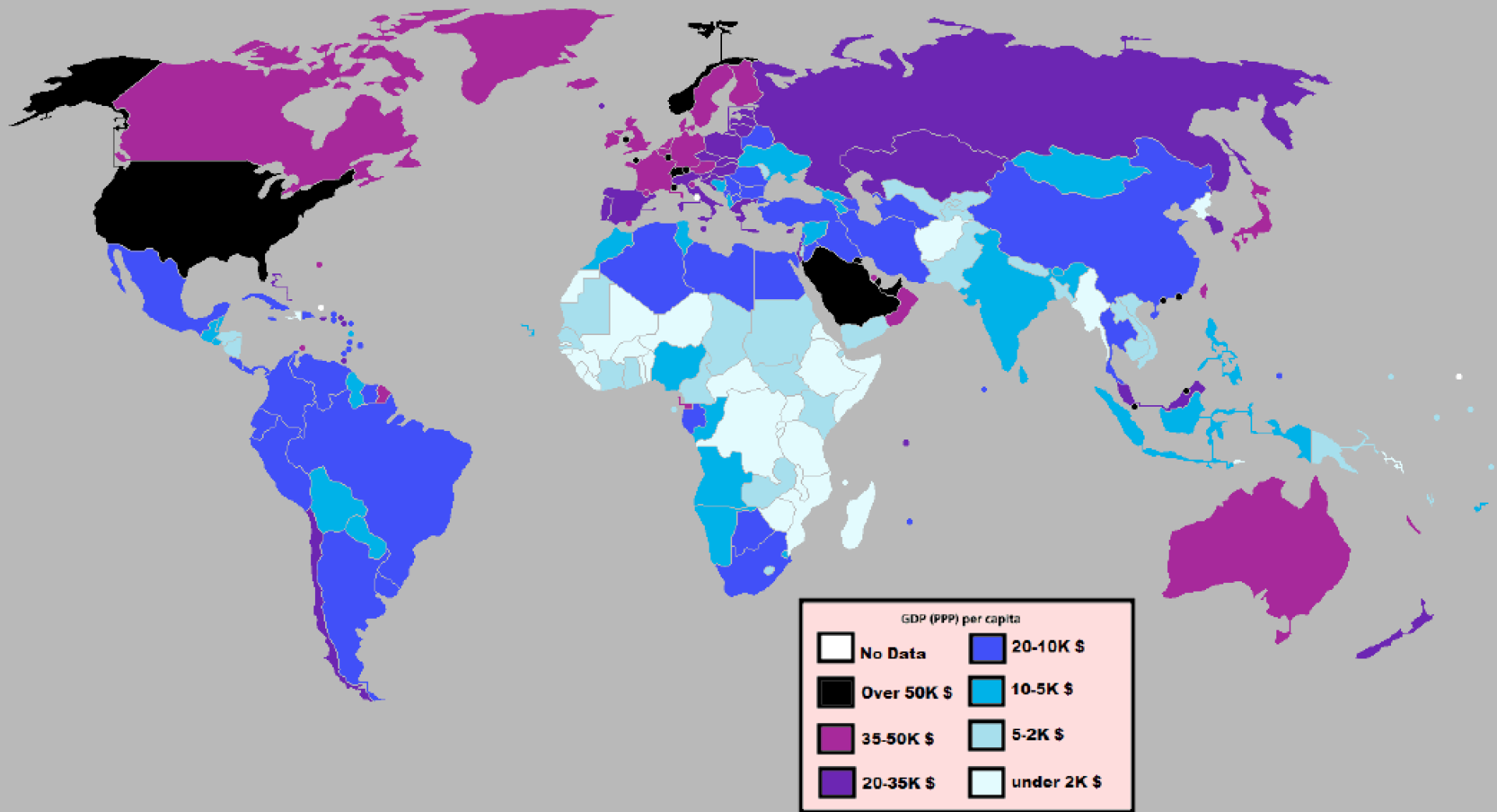


# Why is Carnegie Mellon in Africa?



**Carnegie Mellon University  
Rwanda**

# The Last Economic Frontier



The Past



The Future



Carnegie Mellon University  
Rwanda





**Carnegie Mellon University  
Rwanda**



# Carnegie Mellon University Rwanda



## Brilliant Minds Wanted

# Carnegie Mellon University Rwanda



Murakoze cyane  
Merci  
Obrigado  
Thank you!

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[www.cmu.edu/rwanda](https://www.cmu.edu/rwanda)