



DIGITAL STRATEGIES FOR  
DEVELOPMENT SUMMIT **2015**  
**Accelerating Inclusive Development through ICT Innovation**  
A Knowledge Exchange Forum for Asia-Pacific Region and Beyond

# Coding for career

Expanding opportunities for youth  
employment in developing countries

Chris Coward & Maria Garrido  
Technology & Social Change Group  
University of Washington



The **Technology & Social Change Group** at the University of Washington **Information School** explores the design, use, and effects of information and communication technologies in communities facing social and economic challenges. [Learn more about TASCHA »](#)



## What role do MOOCs play in workforce development?

Online courses have the potential to expand quality education and career training worldwide, but few people in developing countries access them. How can online education, like MOOCs, best help young adults across the developing world grow successful careers? [Learn more »](#)

# Changing skills demands in today's labor market

- Countries in different regions face a shortage of skilled workers to fulfill the job needs of a booming tech industry
- This labor shortage affects not only the IT sector but cuts across other economic sectors: health care, banking, education...
- Software engineers, data scientists, database managers, app developers are among the top positions demanded in today's labor market

# Increasing demand for programming talent



eu – 800,000 unfulfilled IT positions by 2015

br – Tech companies unable to recruit programming talent

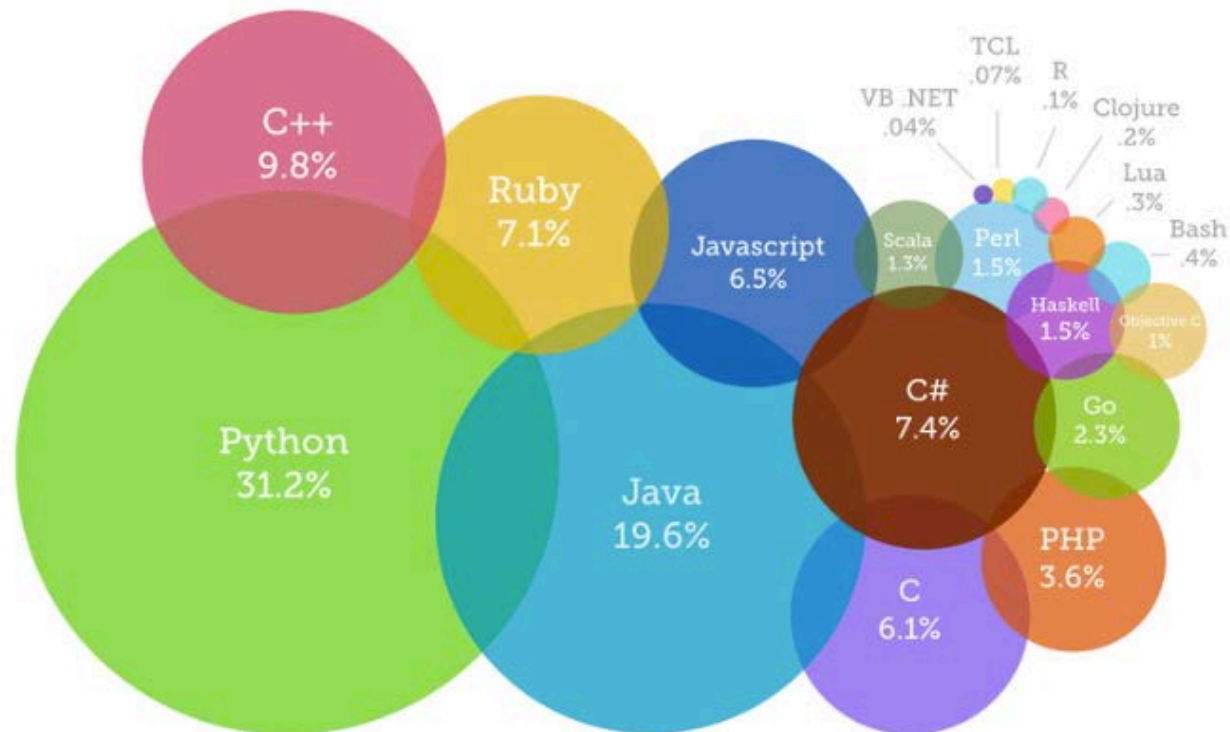
ph – Potential for 900,000 jobs in IT outsourcing

# Digital Literacy Continuum



# The most sought after programming skills in 2015

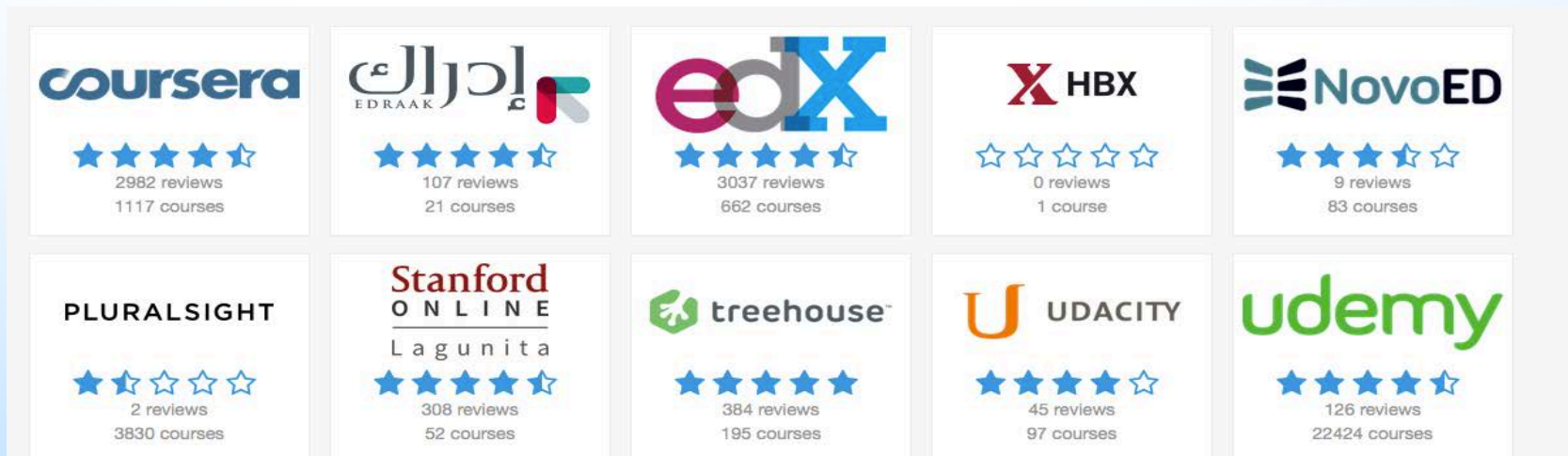
Most Popular Coding Languages of 2015





# Non-Formal Pathways: Online

- MOOCs (Massive Open Online Courses)
- Khan Academy, Code Academy...
- and many more





# Non-Formal Pathways: Physical Spaces

Libraries  
Telecenters



Tech Hubs  
Training centers



# Non-Formal Pathways: Physical Spaces

Libraries  
Telecenters

Tech Hubs  
Training centers



Basic ICT Skills

Sector ICT skills  
(SMEs, Agriculture,  
BPOs)

Coding skills

# Coding Bootcamps

- New model to gain coding skills in condensed learning format
- Typically 6-12 weeks, in-person
- Cost USD \$11,000 - \$20,000
- Corporate partnerships common
- Nearly 20,000 graduates worldwide [LinkedIn, 2014]
- Women nearly 40% of graduates



# Mainly in developed countries

number of 2014 graduates.



*Cities with bootcamp graduates by graduation year (2011-2014). Smallest dots have less than 100 bootcamp graduates, while the largest dots have more than 700 graduates.*

# Assessing the potential of bootcamps in developing countries

- Is the bootcamp model a feasible solution to address youth unemployment in developing countries?
- What are the different bootcamp training formats, curricula, and partnerships to increase employment and learning success?
- How would this model need to be adapted to meet job needs in developing country settings?
- What mechanisms are needed to enable participation of marginalized youth and women?

# THANK YOU

Chris Coward    ccoward@uw.edu  
Maria Garrido    migarrid@uw.edu



**Technology & Social Change Group**  
**University of Washington Information School**  
tascha.uw.edu | @taschagroup