



INFORMATION TECHNOLOGY  
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Carnegie Mellon University



# Speech-based Telephone Services for Disseminating Development Related Information

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# Our Research...



**Speech-based services over simple phones** to facilitate **development** where **information** and **connectivity** are the missing components

Examples include speech-based:

- Marketplace (Craig's List), Citizen Journalism, message boards/blogs
- Health, agriculture, jobs, education,...
- Information gathering through surveys and polls,...

**To achieve impact at a massive scale:**

- Robust solutions to reach the masses using available means with minimum resource expenditures



# Challenges: User Training, Motivation, and Mass Dissemination

1. How do you train low-literate masses to use of telephone based speech interfaces?

- Explicit user training is not scalable.

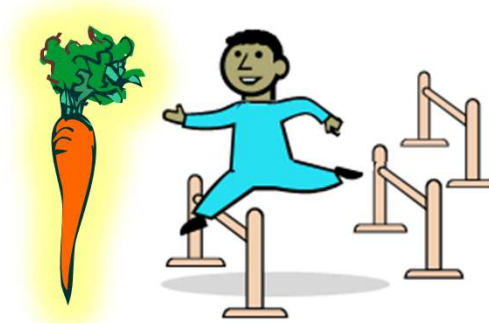
2. How to advertise / communicate to masses who don't read?



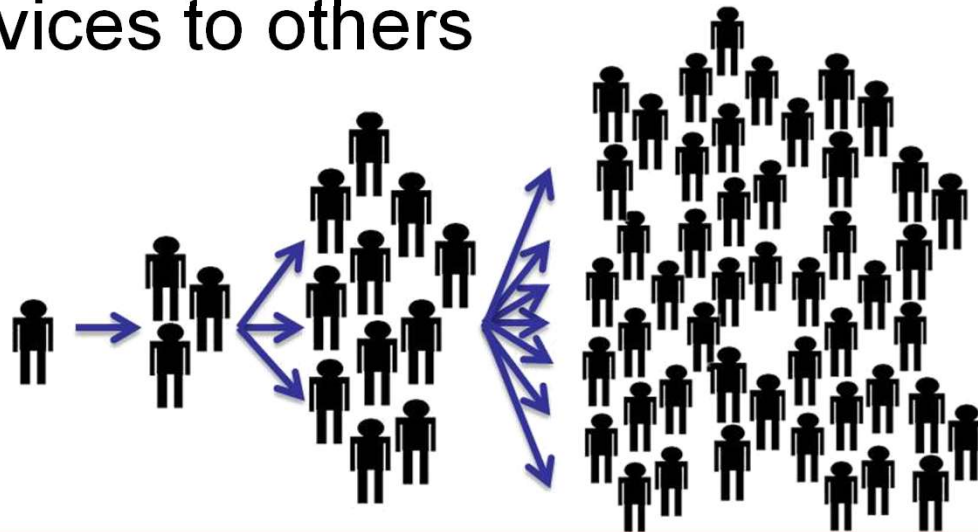
# Our Strategy: Viral Entertainment

Use simple voice-based entertainment to:

1. Incentivize people to train themselves



2. Spread these services to others



Use ***Viral Entertainment*** as a vehicle  
for disseminating ***Development***  
related telephone-based services



# Polly (میاں مٹھو)

Polly is a **telephone-based, voice-based** service which allows users to make a short recording of their voice, **modify it** and **send the modified version to friends**.





This brief video depicts a typical user interaction with Polly

## **USER INTERFACE**

# Deployment in Lahore



- Started with **5 users**
- After a year:
  - **636,000** calls
  - **165,000** users
  - Spreading to **1,000 new people daily**
- **34,000** people used the job search service
- listened **386,199** times to **728** job ads
- and **19,000** users forwarded them **34,000** times to their friends.



# Development Services

- **Job Audio-Browser:** Audio browse newspaper job ads appropriate for low-skilled workers (Pakistan; 2011-12)
- **Babajob.com's** audio portal for entry level jobs (India; 2013-14)
- **Ebola Healthline:** Browse and spread authoritative messages about Ebola (Guinea; 2014-present)
- **Hello Rozgar:** A portal to connect employers and employees; trainers and trainees (Pakistan; currently being developed)

# Hello Rozgar (Hello Livelihood)

A portal where:

- Registered employers can post jobs and browse profiles of interested applicants
- Registered users looking for jobs can browse and apply for nearby jobs
- Registered trainers can post training/apprenticeship vacancies
- Registered users looking for skill training opportunities can browse and apply for nearby vacancies.



**Thank you!**



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