Epidemiology as a Model for Large-Scale Application Accessibility Assessment
Anne Spencer Ross, Jacob O. Wobbrock

Motivation

Why Accessibility?
Must support all people in benefiting from technology.

Why Mobile Applications (Apps)?
• Ubiquitous
• Powerful
• Still many accessibility problems

Current Approaches

Focus on developers testing individual apps
Google’s Accessibility Scanner

Contributions

• Conceptual model that emphasizes:
  • Population-based analysis
  • Interactions in multi-factor ecosystem

Future Work

• Develop tools for automated, large-scale app accessibility analysis

Acknowledgements

Supported with: NSF CAREER IIS-1053868, Wilma Bradley Endowed Fellowship in Computer Science and Engineering

Epidemiology-Inspired Model

Objectives: Identify Risk Factors and Causation

Terminology:
Health: state of complete accessibility
Population: a group of apps

Break the Chain of Infection

Identify high-risk
Susceptible Host
Apps that use agent for essential functionality

Prevalence:
the number of apps with a barrier in a population

Study Life Cycles

DEVELOPMENT LIFE CYCLE

Preventative Treatment
Concept
Design

Therapeutic Treatment
Update
Implement

Release/Birth
Abandon/Death
Life Expectancy

Evaluate Existing and New Treatments
How do we know what works?
What makes the most impact?

Evaluated Public Policy and Regulation
Data-driven solutions