End-User Programming for Mobile Devices
introduction
Nikolai Tillmann, Microsoft Research

An Experiment in Developing Small Mobile Phone Applications Comparing On-Phone to Off-Phone Development
Tuan A. Nguyen, Sarker T.A. Rumee, Christoph Csallner, University of Texas at Arlington

Teaching introduction to computer science on mobile devices
Suresh Lodha, University of California, Santa Cruz
technology shift

Global Internet Device Sales

Source: Gartner, IDC, Strategy Analytics, company filings, BI Intelligence estimates

mobile devices have more to offer than your last PC:
users carry phone at all times
sensors: touchscreen, high-resolution camera(s), WiFi, cellular, bluetooth, GPS, accelerometer, gyroscope, compass, ambient light sensor, proximity sensor, FM tuner, NFC, ..
a touch-based IDE in your pocket

touchdevelop is an app to create, share, run scripts everything happens on your phone – no PC required!
introduction to Windows Phone
introduction to touchdevelop app
basic program editing
song shaker
what do our users do?

Balaji Athreya, Faezeh Bahmani, Alex Diede, Chris Scaffidi – Oregon State University

students conducted qualitative analysis of scripts

many scripts resemble regular apps

1/3 of scripts serve no apparent functional purpose (NMF)

other scripts tend to implement unique functionality

low rate of code reuse (5%)
>6000 scripts
reaching more people
programming on the go
modern language
specialized for mobile devices
social experience
book + slides

available free online

touchdevelop.com/book

touchdevelop.com/slides

introduction to programming on a phone

how to use app + editor + language

for teachers + students
University Phone Loan Program for touchdevelop

are you interested in using touchdevelop for teaching...
  basic programming concepts?
  mobile computing classes?
  compiler and languages classes?
  investigating the touchdevelop language?

loan program: get Windows Phones for a semester.
how to apply: touchdevelop.com/teach
sell apps

submit your scripts as real apps to Windows Phone Marketplace!

requires App Hub developer account (free for students via Dreamspark)
app needs to pass regular certification process on App Hub

Learn more...
opportunities...

teaching

introductory courses, advanced courses

research

user interfaces, clone analysis, privacy concerns, plug-ins, distributed state, distributed execution
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