

EPROM

Entrepreneurial Programming and Research on Mobiles



W3C Workshop on the Mobile
Web in Developing Countries
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<http://mit.edu/eprom>

EPRM Overview

■ EPRM Aims

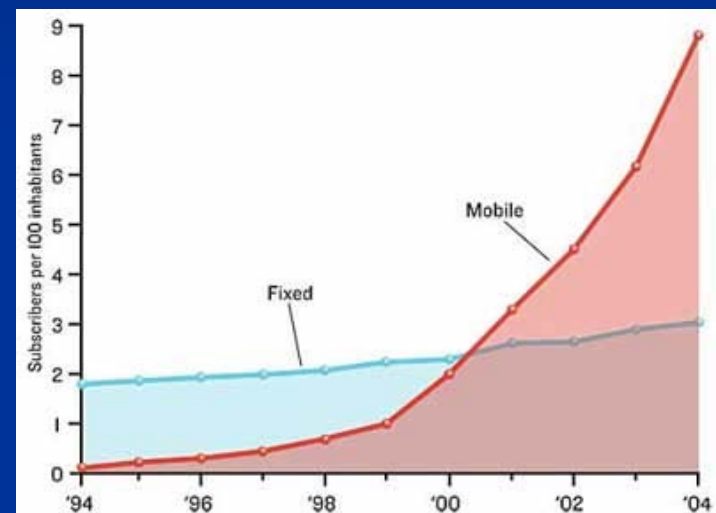
- the development of new applications for mobile phone users worldwide
- academic research using mobile phones
- the creation of a widely applicable mobile phone programming curriculum

■ EPRM Rational

- Worldwide, there are more than 2.4 billion cellphone users, with more than 1,000 new customers added every minute.
- 59 percent of these 2.4 billion people live in developing countries, making cellphones the first telecommunications technology in history to have more users there than in the developed world.

Why Africa?

- Cellphone usage in Africa is growing almost twice as fast as any other region and jumped from 63 million users two years ago to 152 million today. (60% annually)
- Kenya
 - Stats:
 - 35 million people
 - 50% below poverty line
 - 40% unemployment
 - ~200,000 households with electricity
 - Growth:
 - 1999 -> 15,000 mobile phone subscribers.
 - 2004 -> 3.4 million subscribers
 - 2006 -> 6 million subscribers
 - Employment and Economics
 - 437,900 new jobs in the small business sector
 - 10 phones per 100 people boosts a typical developing country's GDP growth by 0.6 %
- New Applications Emerging
 - Sambaza
 - Fisherman, Farmers, KACE
 - Community Payphone



The 3 Aspects of EPROM

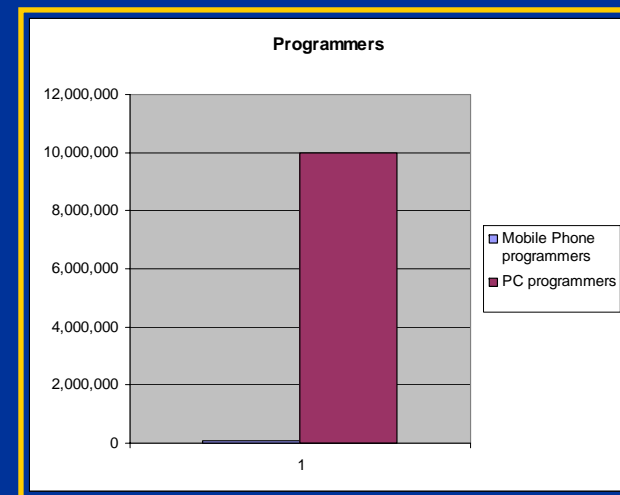
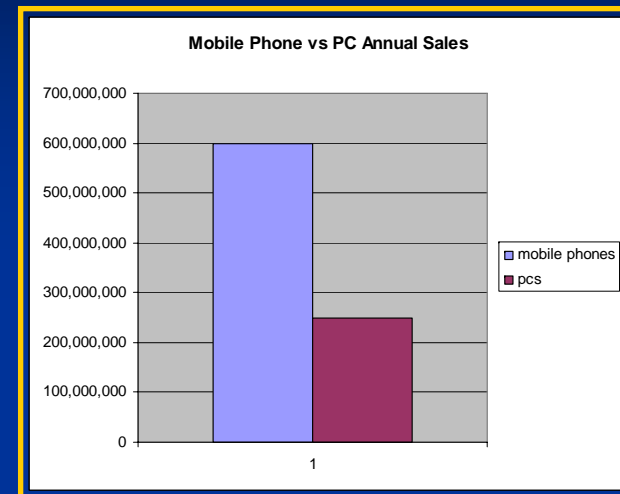
- Education
 - Python
 - SMS Applications
- Research
 - Mobile Medicine
 - Call Logs
- Entrepreneurship
 - Partnerships
 - Cellulant, Safaricom
 - Application Deployment
 - What sticks?

The screenshot displays the EPROM website interface. At the top, the EPROM logo is accompanied by the tagline 'ENTREPRENEURIAL PROGRAMMING AND RESEARCH ON MOBILES'. A navigation bar includes links for 'home', 'education', 'research', 'entrepreneurship', 'sponsors', and 'about us'. A large photograph of a smiling man in a purple shuka holding a mobile phone is featured. The main content area is divided into several sections: 'What is EPROM?' which defines the program's goals; 'Why Africa?' which highlights the continent's rapid mobile phone adoption; 'Mobile Phone Programming Curriculum' under the 'EDUCATION' category; 'A.I. on Mobile Phones' under 'RESEARCH'; 'SMS Boot Camp' under 'ENTREPRENEURSHIP'; and 'Acknowledgments' listing sponsors like NOKIA. A copyright notice for MIT is at the bottom.

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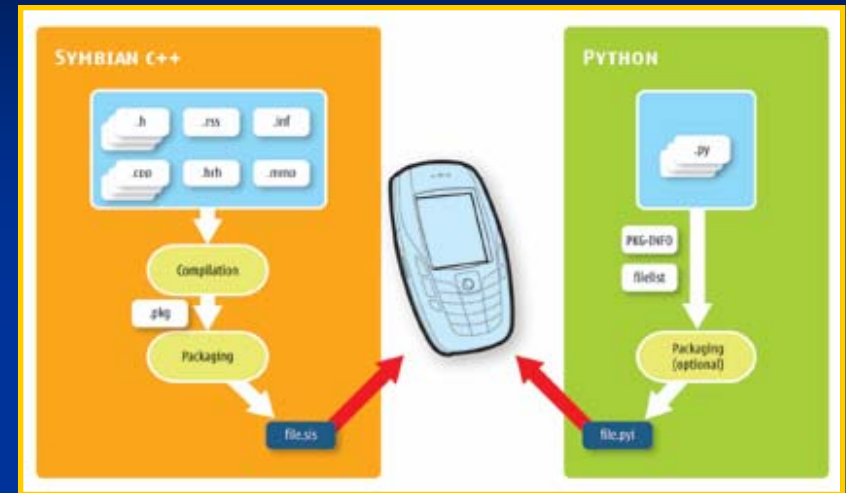
EDUCATION: Why Program Phones?

- Mobile phones are computers that are carried by over 1,000,000,000 people around the world.
- They are no longer single use devices but rather can be harnessed to provide a variety of functionalities.
- You'll be part of the first mobile phone application developers in the world.



EDUCATION: Python

- Cross Platform
- Open Source
- Successful (Google, NASA, etc)
- Scripting Language
- Extending and embedding abilities
- Good standard library
- Reasonable memory footprint
- Access to full phone functionality...



```
import appuifw
appuifw.note(u'Hello World!')
```



EDUCATION: SMS-based Apps

- SMS Gateway
- KACE-style apps
- Stolen Car Alerts
- Business Directories
- Movies Listings
- Weather Forecasts
- Craig's List



RESEARCH: Mobile Medicine

- Demographic Survey Tool
 - 200,000 people in the Kilifi District
- Location
 - Cell-Tower / GPS
- Database Integration
 - GPRS
 - Syncing



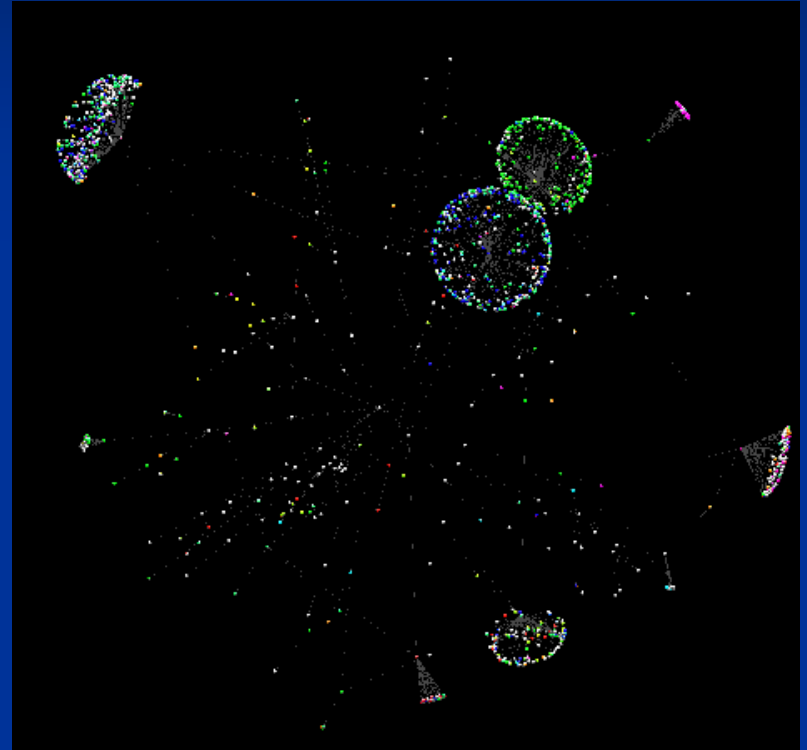
RESEARCH: Call Log Diffusion

■ Data

- Call Network for the UK
 - 250 million nodes (phone #'s)
 - 5,000 edges/second (calls)

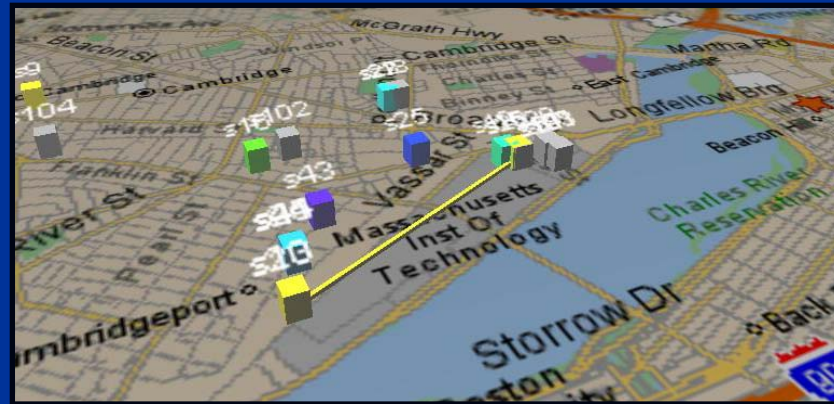
■ Objectives

- Diffusion of Purchasing and Churn
- Understanding Usage Behavior



RESEARCH: AI on Mobile Phones

- **Location:** Celltower ID/User-Defined Names/GPS
- **Proximity:** Bluetooth Device Scan every 5 minutes
- **Communication:** Phone Call/Text Log
- **Status:** At home, traveling, sleeping, etc...



- Over 450,000 hours continuous human behavior data collected over the 2004-2005 academic year.

ENTREPRENEURSHIP: App Deployment

- 'Business Plan Competition'
- Nokia Resources
- New Venture Creation Courses
- SMS Bootcamp
- Mobile Phone Programming for Entrepreneurs
- Location-based Service Deployment
- Localized Content



Get Involved



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