Introduction

Applications on Aakash(Android)
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Applications on Aakash(linux)
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links and downloads
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Aakash

Aakash Programming Lab, IPython and GNU/linux

Indian Institute of Technology, Bombay

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AA KASH
tablet for every indian

NME-ICT (MHRD), AAKASH PROJECT, IIT BOMBAY

Outline

Introduction

- Aakash - a low cost access device
- Available for student at less than **\$22**

Aakash-2 specs

- 1 Ghz Processor
- 512 MB RAM
- 4 GB ROM
- 3000 mAh battery
- Multi-touch, Capacitive
- Android ICS (4.0.4)
- Wifi connectivity
- Front camera
- Accelerometer

Aakash Programming Lab

- Full fledged programming environment for Python-2.7.2 and other languages
- Scilab-5.4, an Open source software for numerical computation
- Was extended to C and C++ with GCC-4.6.3
- Offline docs and reference manual

IPython notebook

- Ipython notebook with `Matplotlib` works on android with firefox or chrome web-browser

How it works

$$Booting \rightarrow preinstall.sh \rightarrow aakash.sh \xrightarrow[\textbf{gkstart.py, ipython.py}]{\textbf{sb\_manage.py}}$$

Challenges on Android

Aakash Programming lab

- CPU and memory optimization
- Unable to compile `scilab` using Android NDK
- Plots in `Scilab`
- Integrating `shellinabox` server

Challenges on Android

IPython

- Unavailability of web-sockets in default Android webkit browser
- IPython-kernel random shutdown

Aakash Business Tool

- `sqlite` - as a database
- client(`java`)-server(`xmlrpc`) interaction

Linux

- `linux` and alternate OS for students and teachers on Aakash
- runs entirely from `SDcard`

Arduino on Aakash

Arduino

An open-source electronics prototyping platform

(▶)

expEyes on Aakash

expEyes

A tool for learning science by exploring and experimenting

Challenges in linux

- touch screen drivers
- USB-to-serial, cdc drivers
- Desktop environment
- GPU drivers
- kernel level hacks, module loading, wifi etc.
- file-system

Android apps on Aakash

https://github.com/androportal

- IPython notebook   /apk-ipython
- Aakash Programming Lab   /APL-apk
  - docs   /docs
- Aakash Business Tool   /ABT

linux on Aakash

- http://aakashlabs.org
- http://androportal.github.com/linux-on-aakash
- http://www.youtube.com/user/TheAakashTablet

Competition

Competition on Aakash app development

1. 50,000
2. 25,000
3. 10,000

http://aakashlabs.org/compete

Questions?