

BOINC on Android

State & Outlook

9th BOINC Workshop, Grenoble
25. September 2013

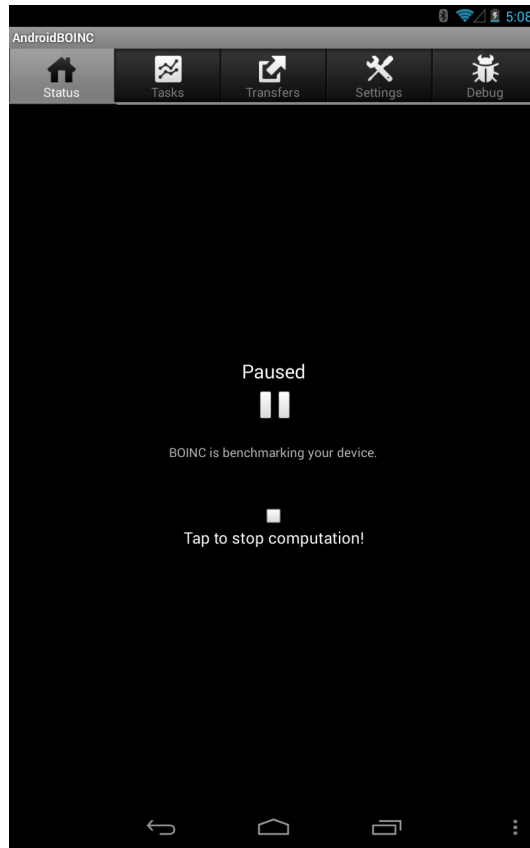
Joachim Fritsch

Max Planck Institute for Gravitational Physics in Hannover, Germany



1. Progress made
2. Feature agenda
3. Projects supporting Android
4. Statistics
5. Challenges

What has changed?



September 2012

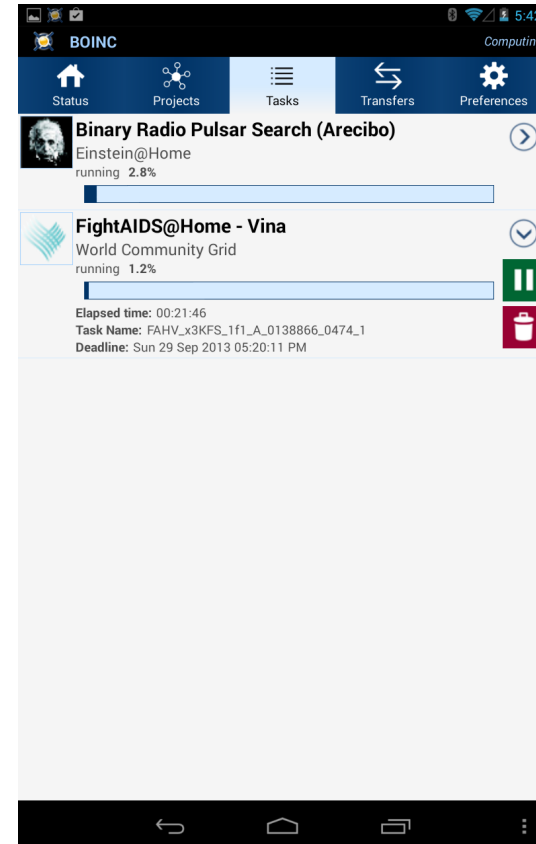


September 2013

What has changed?

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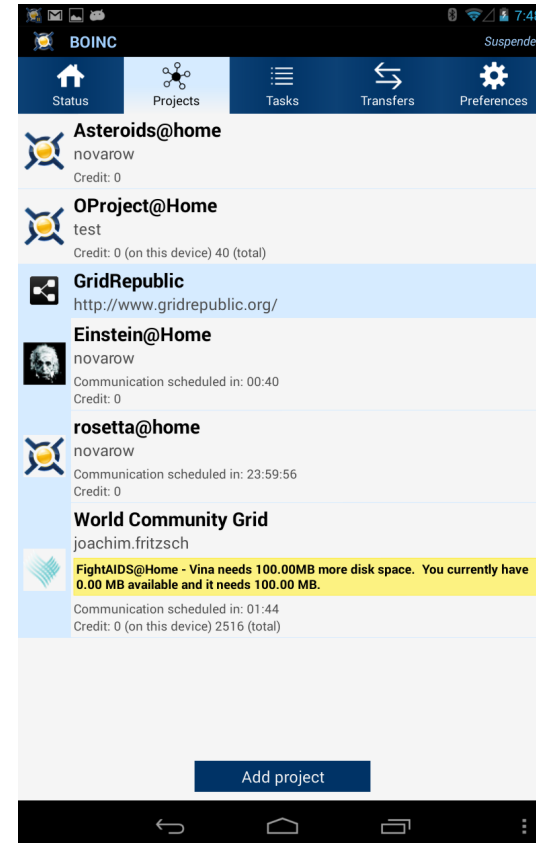
- Support for multiple projects



What has changed?

September 2013:

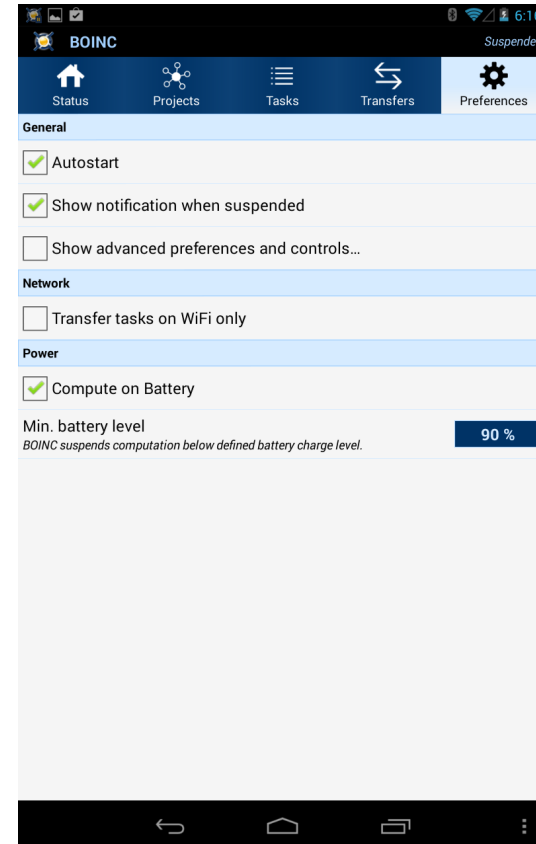
- Support for multiple projects
- Support for account managers



What has changed?

September 2013:

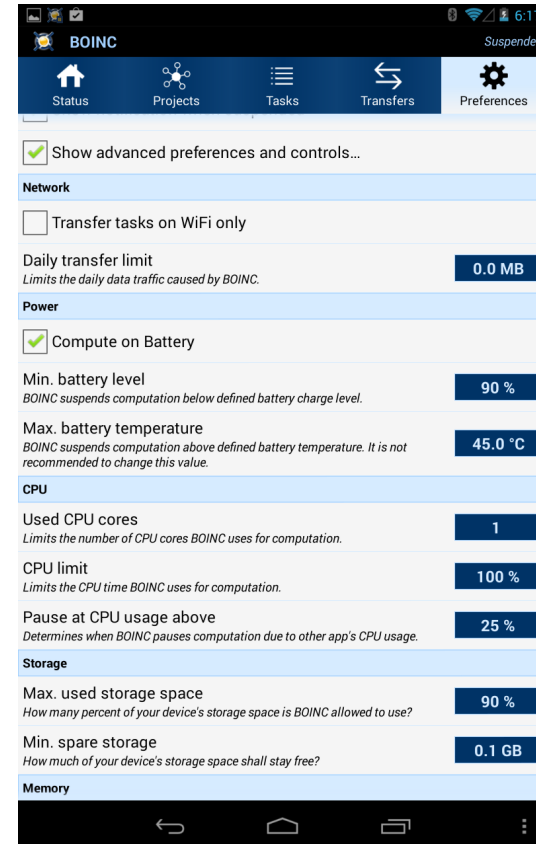
- Support for multiple projects
- Support for account managers
- Simple



What has changed?

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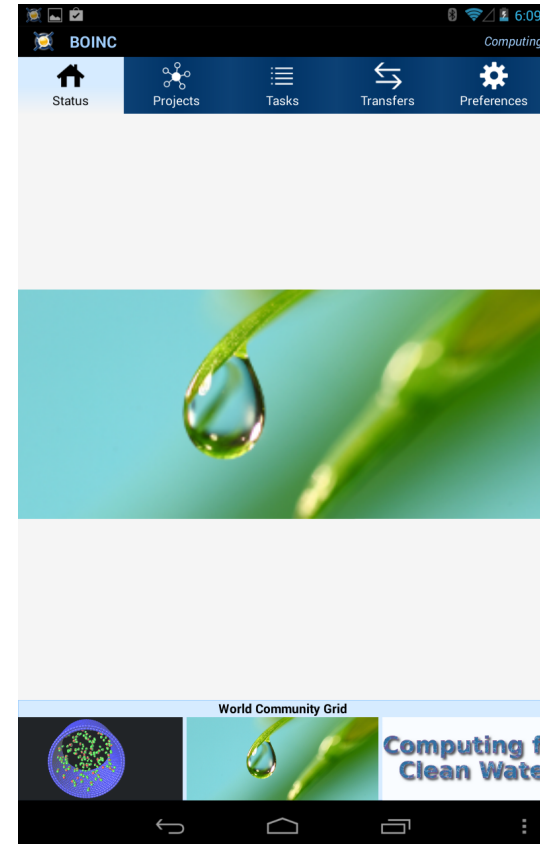
- Support for multiple projects
- Support for account managers
- Simple & advanced preferences



What has changed?

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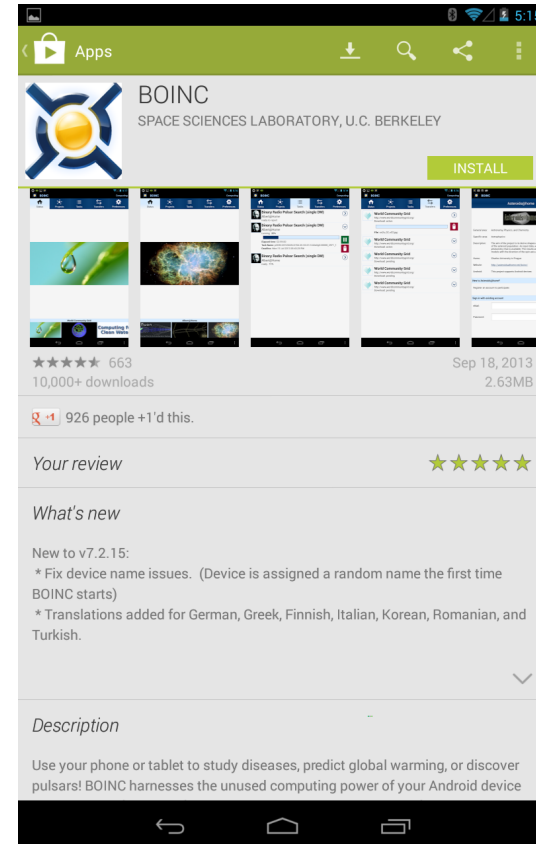
- Support for multiple projects
- Support for account managers
- Simple & advanced preferences
- Slideshow



What has changed?

September 2013:

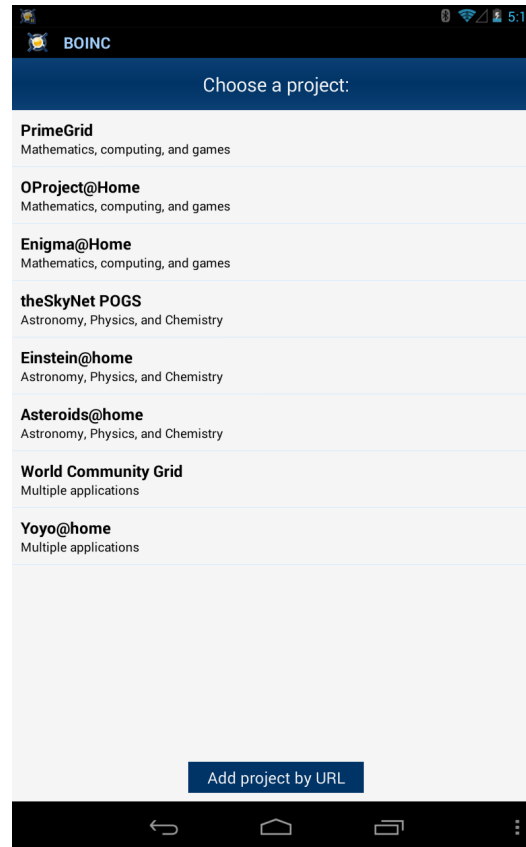
- Support for multiple projects
- Support for account managers
- Simple & advanced preferences
- Slideshow
- Distributed via Google PlayStore [1]



What would be nice to have? [2]

- GoogleTV support
GoogleTV's Android does not support NDK, yet.
BOINC does not support devices without battery.
- SD card support
Significant number of devices has small (<8 GB) internal storage.
- Non-ARM Android devices
x86 is striking back.
- Other ideas?
E.g. game like achievement system, social media integration....

What projects are using Android?



What to do, to get started?

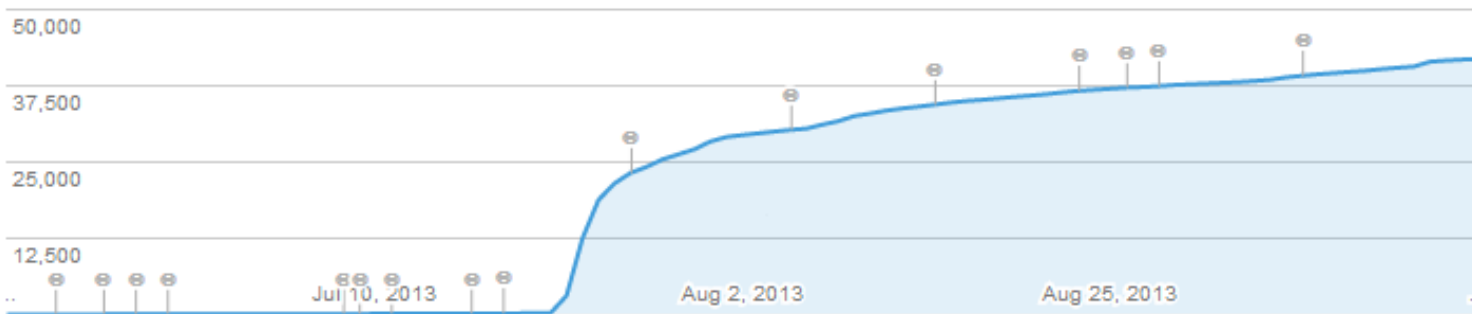
1. Cross compile your science apps
toolkit: Android NDK
target: ARM-Android (potentially also x86 and MIPS architecture)
2. Optimize CPU for capabilities
plan classes based on CPU ABI, floating point unit (NEON vs. VFP), ...
3. Configure server to deliver Android WUs

Help is available! [3]

Why? Some numbers:

Google PlayStore: (09/19/13)

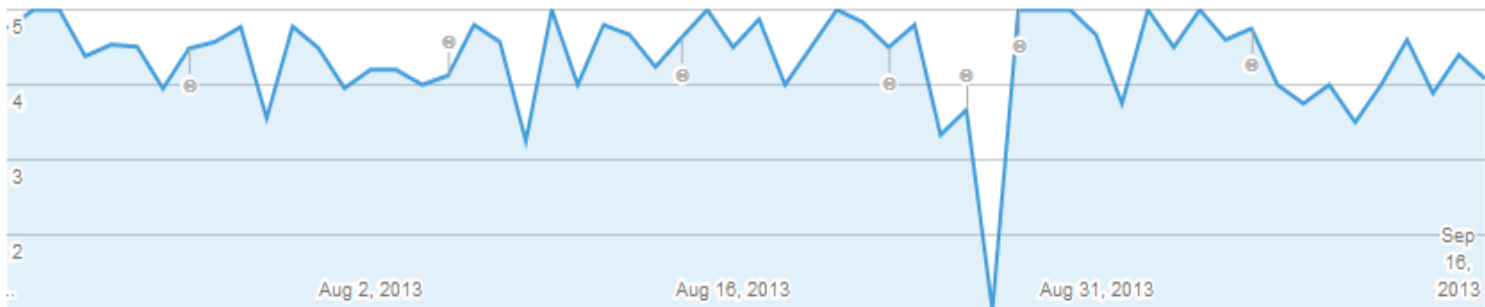
- 18,330 active users
- 41,918 total installs



Why? Some numbers:

Google PlayStore: (09/19/13)

- 4.46 / 5 average rating



Why? Some numbers:

Project's point of view: (09/13/13)

World Community Grid

VINA application

- 10,979 Android members
- 13,741 devices

...returned 700k WUs.

Einstein@HOME

BRP4 application

- 12,350 WUs weekly
- More than Mac OS
- 1/5 of Windows or Linux

Getting better...

- Many volunteers un-install app quickly
18k active vs. 42k total
- Android environment is heterogeneous, high device variety
large beta testing group is a good start
- Projects can't be present in stores and advertise "their" app
ensure single BOINC client on device

Thank you for your attention.



Download BOINC from PlayStore,

or join beta testing group at [4]

- [1] <https://play.google.com/store/apps/details?id=edu.berkeley.boinc>
- [2] <http://boinc.berkeley.edu/trac/wiki/AndroidBoincTodo>
- [3] <http://boinc.berkeley.edu/trac/wiki/AndroidBuildApp>
- [4] <https://groups.google.com/forum/#!forum/boinc-android-testing>