

Portable Open Search and Identification Tool (POSIT)



THE
HUMANITARIAN
FOSS PROJECT
@ TRINITY

Building Free Open Source Software for Society

Developer

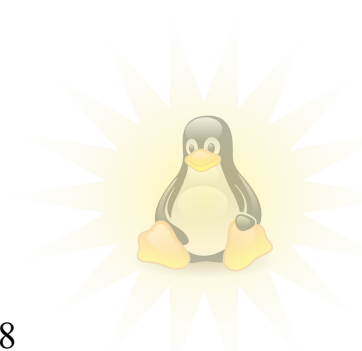
- Prasanna Gautam

Advisors

- Prof. Ralph Morelli
- Trishan DeLanerolle

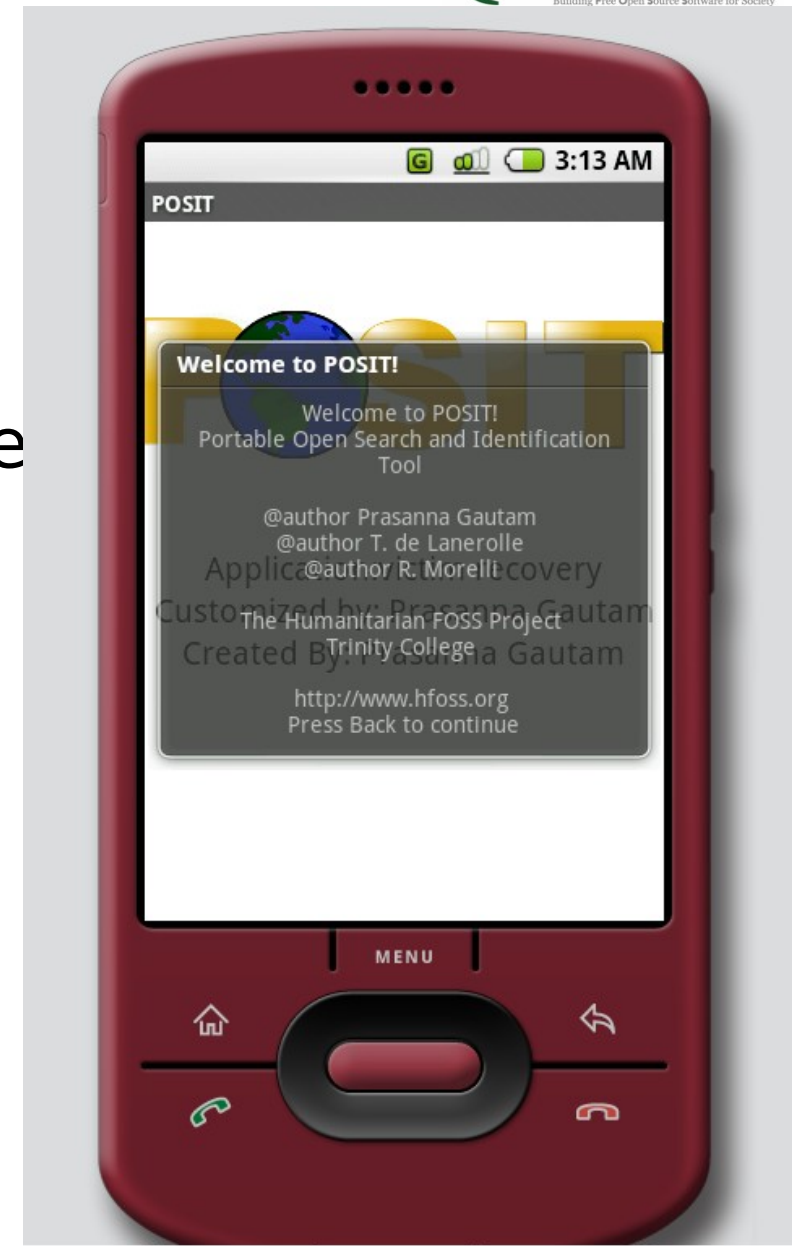
Mobile search and Identification

- When disaster strikes, volunteers on the ground don't have an easy way to transfer photos, catalog victims while assisting in rescue operations.
- Field scientists have to rely on older and disparate tools to do things that a single mobile handset could easily do.



POSIT

- Open phone platform for rapid development of customized search and identification applications.
- Based on Google's Android phone software.



Client: What is Google Android?

- The Android stack: an open source set of tools/utilities for developing application for Mobile phones.
- Linux
- Developer Challenge: the lure of \$10M
- Other open source phone platforms: LiMo, Symbian(in process), Ubuntu Mobile, Qtopia, OpenMoko



History

- Initially built as a tool to assist in disaster management which would send status report to a remote server.
- Idea was then extended to scientific research too.
- Later, we decided, it should be open to modify for anyone to change according to their uses.



POSIT for victim search and ID: Disaster Management



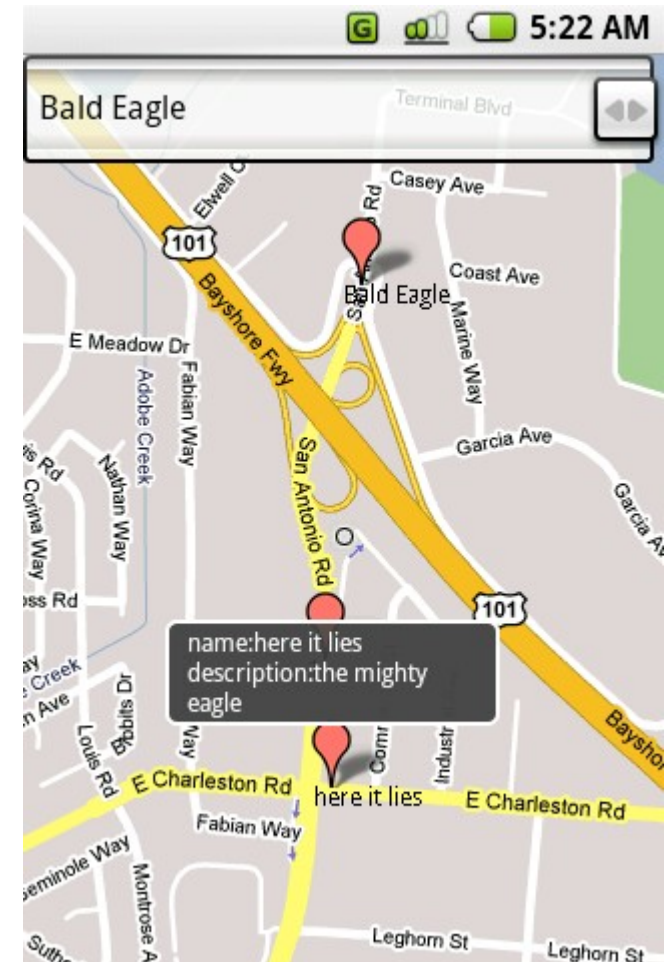
Application: victim recovery
Customized by: Prasanna Gautam
Created By: Prasanna Gautam



POSIT for hawk tracking: Environmental Science



Application: Hawk Tracking
Customized by: Prasanna Gautam
Created By: Prasanna Gautam



Common element

Same Database Models



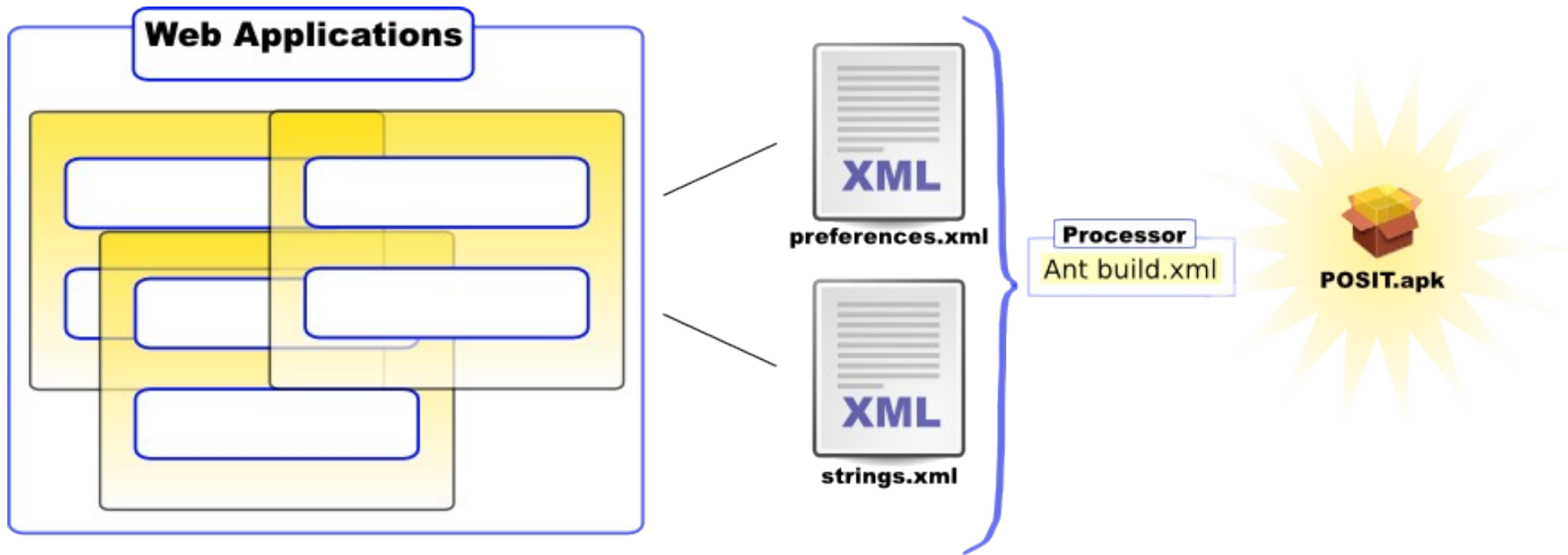
XML-RPC



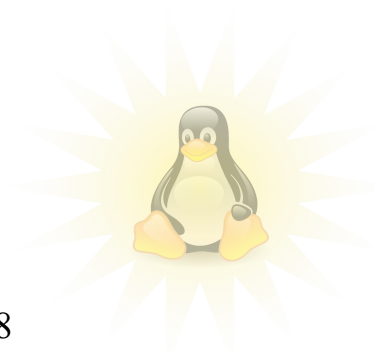
XML-RPC



New POSITs



Point, Click and just a little bit of typing

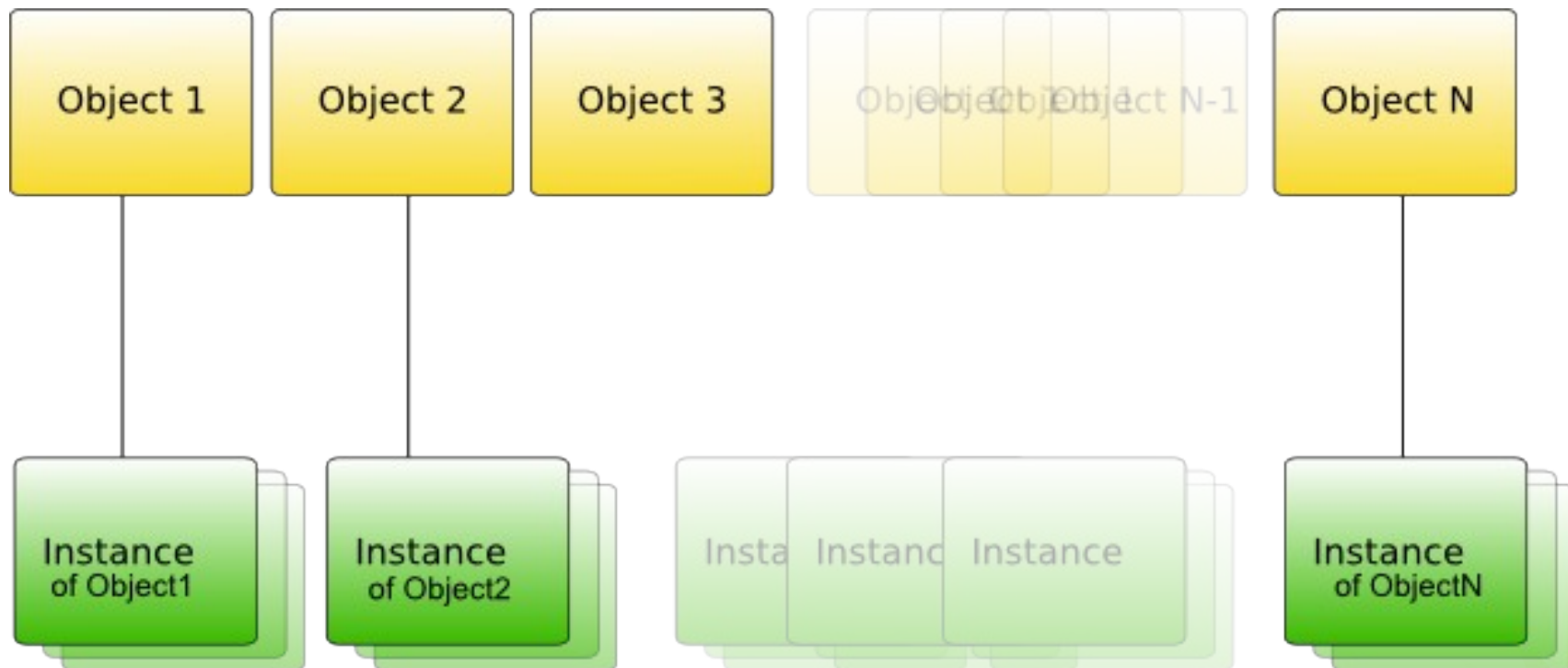


Server

- Built on python Django framework.
- Stores data from the phone
- Stores libraries of POSIT applications.



Data Model



Communication

- XML-RPC (eXtensible Markup Language-Remote Procedure Calls)
- Sends data as XML to and from the phone
 -
- Why
 - Easier to parse, serialize, generate.
- Seamlessly integrated to Django models.



Challenges

- No resources available in the beginning.
- Bugs in the platform itself!
- No phones (yet!)
- Too many components/decisions. Took a bit of learning.
- Development on Android has stalled for a while.



Lessons Learned

- “Early optimization is the root of all evil”
 - Keep it Simple and general but be ready to rewrite when you need to.
 - Prototype early on.
- It's about the People.
 - Technology is fun but it should be made accessible and easy.



Future Plans

- Build a hosting space and synchronization frameworks for the generated POSIT applications.
- Submit the application for second round of Google's Android Developer Challenge.
- Modularize the application more and strip the core POSIT to just a few essentials.



Thanks...

- Interdisciplinary Science Program
- David E. Trier (Accenture)

