Intention Statement:

Help emerging governments provide reliable “first-world” public services while minimizing capital investment and operational costs.

Objectives for Angel Hack:

* Build a mobile application demonstrating closed-loop, NFC-enabled, mobile field service
* Apply three different types of crowdsourcing solutions to a simple government-managed field service operation (e.g. fixing broken public toilets and leaking pipes)
* Quantify the economic advantage and the quality-of-service improvement available through this combination of disruptive technology and business agility.

Context:

According to the Open Development Technology Alliance (ODTA), “penetration, awareness and literacy in information and communication technologies (ICTs) in the developing world can transform water and sanitation management. Mobile phones, the Internet and open data are creating new entry points to make sanitation services more transparent, inclusive and participatory while forging new connections between the government, its citizens and the private sector.” [[www.sanitationhackathon.com](http://www.sanitationhackathon.com)] ODTA is applying the principles of crowdsourcing to optimize certain types of incident reporting. Extending their observations, many public services, including energy, transportation, and infrastructure management have an opportunity to benefit in the same way.

Meanwhile, powerful back-office service management platforms are being re-introduced as cloud-based, software-as-a-service offerings. Large ERP system providers and smaller “best-of-breed” service management solution providers are opening their programming interfaces to 3rd-party developers and systems integrators. Open platforms like ServiceNow allow organizations to launch robust workforce, project, and asset management systems easily, quickly and with little or no up-front investment.

At the same time, mobile application development platforms (like MobileReach) are making it easy for organizations to customize the mobile user experience and map it directly to the business process. Geolocation, auto-id, and sensing technologies combine with the mobile application to reduce wasted time, eliminate errors, reduce fraud, and save costs.

Finally, rather than establishing government-owned service crews, the public works offices in emerging nations are building networks of private or independent contractors to address issue resolution in the field. This introduces an agile and economical (ie “Lean”) model for dispatch, monitoring, governance, cost control, and performance management. It also results in a repeatable and scalable method for assuring quality of service.

The combination of these innovations, (citizen-based incident reporting, intelligent mobile sensors and applications, an on-demand back-office service management system, and a managed network of contractors), provide all the ingredients to allow an emerging government to roll out reliable, first-world public services quickly, while minimizing capital investment and operational costs. The resulting business process is scalable, governed, and secure.

Nov 18 Demo:

The demo will be presented at the conclusion of Angel Hack Boston. It is a 10-step, closed-loop maintenance process simulation.

Using a smartphone app, the citizen identifies a broken public toilet and uploads the issue report into a cloud-based service management system. The service manager converts the issue into a trouble-ticket, groups it with similar tickets into a job, and posts the job request. A mobile field service technician uses a smartphone app to accept the job. The technician fixes the toilet and again uses the mobile app to record the completed work and post the outcome. The citizen is alerted. The citizen then verifies the toilet works and again uses the mobile app to validate the outcome and endorse the technician.

1. Citizen opens a trouble-ticket by tapping tagged asset with mobile device
2. Citizen confirms the data and posts the issue data to Service Manager
3. Service Manager bundles the issue into a job record and posts it
4. Service Manager alerts the new job posting to Field Worker
5. Field Worker reviews job, noting deadlines, compensation, tools, and parts
6. Field Worker accepts job and posts confirmation to Service Manager
7. Field Worker completes job, taps asset tag, and posts resolution to Service Manager
8. Service Manager alerts resolution to Citizen
9. Citizen receives alert
10. Citizen taps the asset, confirms resolution, and rates Field Worker performance