Strengthening aid accountability: Impact assessment of accountability initiatives following the Nepal earthquakes

Applicants
Eligible proposals must have two (and only two) applicants from two groups from the following disciplines within the Network Institute: social sciences, computer science, linguistics, economics, law, mathematics, theology.

Supervisor Name	Department/Group	Faculty
1. Julie Ferguson	Organisatiewetenschappen	FSW
2. Victor de Boer	Computer Science	FEW

Project description
Provide a brief description of the project (max. 300 words)

The 2015 earthquakes in Nepal caused massive devastation, but also mobilized major aid efforts. Innovative GIS-mapping tools using mobile technologies (such as *QuakeMap*[1]) were adopted to identify community needs.

An important drawback of these tools is that they remain inaccessible to communities where connectivity is weak or absent. In response, the Nepalese social enterprise *Accountability Lab*[2] established 'mobile citizens helpdesks', whereby volunteers map where aid efforts are needed, where these have been delivered, and which blank spots remain, combining handheld devices, community radio and community centers. However, a year on, it remains unclear to what extent these efforts actually impacted affected communities and actual accountability of aid to vulnerable communities remains unclear.

This project seeks to respond to this need, toward demarcating reliable impact indicators, implementing these, and developing possible improvements to ensure optimal accountability of aid efforts that reach the most vulnerable affected communities.

Drawing on a social science perspective, the project will demarcate what we need to know in order to conduct a reliable impact study, studying existing data in terms of where aid efforts have been targeted and how/why these have or have not realized their aims, and ensuring sufficient information is generated during data collection. A computer science perspective enriches these insights by 1) analyzing existing geospatial data and enriching this with (Linked) Open Data sources and 2) by enhancing data collection tools where necessary based on -and parallel to- the social science analysis.

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[1] http://quakemap.org/
[2] http://www.accountabilitylab.org/

We aim at developing innovative and relevant interfaces, for example by developing voice-based and mobile interfaces. These enhancements will be co-created with local stakeholders using rapid prototyping methodologies. The project thereby connects to current research conducted by the supervisors including the NWO-funded Smart Disaster Governance project[3] (Ferguson) and ICT for Development initiatives (including WR4A[4]) (de Boer).

Project Organization
Each proposal requests two Academy Assistants from different disciplines. Describe their roles and describe the skills and expertise required from them. (max. 300 words)

Interviews and analysis of open data will be used to generate a data science work flow for accountability studies.

- FSW student: impact measurement of the mobile citizen helpdesk, guided by the research question: "what do we need to know to determine impact of Mobile Citizen's Helpdesks, toward more accountable aid?"
- FEW student: "how can we combine geo-data analysis (and Linked open data) to improve the quality and (re)usability, specifically for the purpose of accountability, and what modifications to the applications can improve the impact of the Mobile Citizen's Helpdesks?"

Assistant 1 (FSW) will focus on identify the sources, nature, potential value and limitations of the information being gathered. For this, a first field trip will provide the data, which will be combined with literature research. This assistant will have an Organization Sciences or other social science background.

Assistant 2 (FEW) will focus on enriching the available data, based on semantic web and linked data principles. At the same time, this assistant will investigate multi-modal enhancements to the data collection tools that are relevant to the specific (cultural) context. This assistant will have a Computer Science background. Specifically, we would target students that have followed the ICT4D MSc. course.

Assistant 1 and 2 will work in close collaboration on the same problem, using a mixed-methodology (Analytical methodology and Design Science). It has been recognized that such a multi-disciplinary approach is beneficial to social and computer science research. Assistant 1 will provide requirements and scope information for Assistant 2. However, we envision an iterative research design, where initial prototype tests will provide feedback to both assistants.

Collaboration
Describe how your research improves collaboration and cross-pollination between the disciplines involved (max. 300 words)

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[3] https://disastergovernance.info/smartgovernance/
[4] http://w4ra.org

The dispersed and complex context of humanitarian aid calls for ICT-enabled collaboration and the mobilization of linked data to generate a more comprehensive picture of relief needs and development opportunities. Social science and computer science research in this domain are therefore closely interrelated. An interdisciplinary approach makes it possible to strengthen machine-driven access to and interpretation of data, toward improving tools and applications, but simultaneously helps better understand the social implications of ICT-enabled humanitarian aid, in terms of for instance citizen participation and accountability.

This project contributes to the further development of the evolving discipline of "Computer Science for Development" (CS4D), whereby computer scientists analyze Computer Science issues in the development context – the expertise of applicant de Boer; and whereby social scientists analyze organizational questions arising from the use of information systems pertaining to development and humanitarian questions – the expertise of applicant Ferguson.

Accountability Lab is an ideal partner to enable this cross-pollination while directly benefiting from the envisaged project outcomes, in that they have direct contact with affected citizens, have access to relevant data and stakeholders, and contribute to strengthening the accountability – and thus the effectiveness – of aid. They have also created OpenGov Hub, a collaborative working space that can act as the base for this project and as knowledge repository on the accountability of disaster response efforts.

To capitalize further on the promising developments among both research groups and with the project partner, more synergy carries great potential toward capitalizing on linked data for more sustainable, context-relevant knowledge sharing and development. We are therefore convinced that combining knowledge, methodologies and practices will lead to stronger and more robust research results, further establishing the domain of CS4D as an important field of research and practice.

Deliverables
Enumerate intended project results: papers, research proposals or otherwise. (max 200 words)

We plan on the following deliverables:

1) a data science work flow for accountability studies (ie, what is necessary for a useful impact study, how to ensure sufficient information is generated during data collection? which open data are available to do this),

2) actual implementation of this work flow toward an impact study of Accountability Lab's 'mobile citizen helpdesks', and

3) possible modifications to the application or back end (for instance regarding the interface, rapid prototyping/ co-creation or connection to voice-based application).

The project will lead to an actual impact study (based on field work of the students on-site in Nepal), and a methodology/process to use for other subsequent or related impact studies in the domain of CS4D and humanitarian relief.

Outcomes will be reported by way of:

- One paper in a high-level Computer Science conference, focusing on knowledge sharing: (*EKAW* or *ESWC*)
- One article submitted to the journal *Information Technology for Development*.
- A design for a (prototype) platform. The platform will be tested first, in the VU ICT4D course, where student groups will develop multiple knowledge sharing applications, and subsequently, in an experimental setting in a target area.
- Inclusion in the *OpenGov* hub and repository.

Planning
Provide a breakdown of the project into phases with tentative timing (max 150 words)

Sept 2016:	Start project
Sept 2016- Dec 2016:	Literature study, define use cases and requirements for impact study
Oct –Dec 2016	(Virtual) data gathering and analysis
Jan 2017	Preliminary design impact study and application modifications
Feb 2017	Nepal field study
March –Apr 2017:	Finalize design, implement impact study and further application modification
Apr 2017	User testing of the application in the ICT4D course
May – June 2017:	Complete workflow, write documentation and finalize papers
June 2017	Present results at ICT4D symposium
June 2017	Finalize project

Please respect the word count limits: proposals that exceed the stated limits will not be eligible.