Uganda

Case Study: The work of Jonathan Huck in Northern Uganda

Jonathan Huck is a Lecturer in Geographical Information Science at the University of Manchester, specialising in the geospatial software development. Although Jonny's research spans topics from both Human and Physical Geography, one of his main projects investigates the provision of healthcare in Northern Uganda, and the application of emergent communication technologies for environmental sensor networks in Kampala, Uganda.

Want to know more about the project?

The Acholi Region of Northern Uganda is approximately the same size as Belgium, has a population of approximately 2 million, and was the focal point of a brutal war between 1986 and 2006. Mutilation was a common practice during the conflict, including the severing of lips, ears, noses, fingers, hands and legs. Following the conflict, injuries still continue due to remnant landmines and small pockets of on-going violence. The impact of the conflict upon the region has been profound, with a substantial portion of the population left with physical and mental disabilities and little or no access to healthcare services. Problems for those with disabilities are compounded as they are frequently sent away from their homes or even killed because of local attitudes towards disability.

This project sought to address these problems by providing prosthetic limbs and orthopaedic care to those with limb loss, as well as educational community outreach events in order to address local attitudes towards disability. The core principle of these services and events is that they must be delivered within walking distance of the communities that they seek to serve, due to a lack of transport infrastructure. However, detailed maps of the area are not available, meaning that any attempt to determine either the prevalence of disability or deliver comprehensive and efficient outreach services and events is impossible.

In order to address this problem, Jonny has started a campaign called #Huckathon, which seeks to map the region through volunteering, whereby members of the public give their time to draw the missing details onto the map using the online system available at huckathon.org. Data that are collected using this approach appear directly on our maps, as well as in the OpenStreetMap database, making them freely available to anyone who wants it, globally. The maps are also made frailly available to the people of Uganda, permitting activities such as town planning and infrastructure and service allocation to take place for the first time. In addition to their own project, the maps have already been used for the installation of broadband internet connections to >200 schools and >20 medical centres in Northern Uganda, and for a cervical screening programme in Southern Uganda.

The latest development in the project is that data can also be used in order to train cutting-edge machine learning algorithms, which can then be used in order to identify and map further features (huts, buildings, roads etc.) on the map,

making the goal of creating a complete, highly detailed map of the country more achievable.

How can you be involved?

Jonny is always looking for volunteers to come to his #Huckathon events (or indeed to hold their own!). For further information, or to get involved, please contact jonathan.huck@manchester.ac.uk.

You can also find out more information on the Huckathon site: http://huckathon.org. A story about this project from the School of Environment, Education and Development will be released soon so keep your eyes peeled...