DIGITAL DEVELOPMENT DEBATES

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The Pocket Doctors

Uganda's tech industry is booming – young entrepreneurs, programmers and hackers are meeting the needs of the population for easy-to-use, fast and accessible information and consultation. But funding can still be challenging.

It all starts with an idea in your head. A solution to a problem that's been bugging you. You've then got 72 hours to make this vision come true. Together with passionate team of scientists, IT-developers and other experts in the field you are challenged to develop a fully functional prototype of your software. At the end of this intense programming phase, a jury awards the best and most innovative products. In other words: Welcome to a hackathon.

One of these, called "Hack for Youth", was held in Uganda's capital Kampala in July last year. The task was to develop a mobile app solution to promote young people's access to sexual and reproductive health. Amongst the organisers and participants were members of the United Nations Population Fund (UNFPA), the renowned Massachusetts Institute of Technology (MIT), the non-profit youth-led organisation Reach A Hand as well as young people from around the world.

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Even though the teams only have a limited amount of time, the expert jury pays close attention to the commercial viability and scientific expertise of the apps: "We want to make sure they are evidence based and truly respond to the needs of the young people who they are trying to address," explains Charles Daniel Otine of UNFPA Uganda.

Two of the winning teams at Hack for Youth came from Uganda. They now receive support and mentoring to further develop their products for the market. The first is called GetIn: The app connects a pregnant girl with a member of so-called Village Health Teams on site and a professional midwife. The aim is to give the girls a sense of security and eventually get them to facilities for maternal health and antenatal care to ensure they deliver their babies safely. The teenage pregnancy rate in sub-Saharan African is the highest in the world. On average, about 140 per 1.000 girls between 15 and 19 years of age fall pregnant every year. In Germany, this ratio comes down to 7/1.000.

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GetIn will also dispel prevalent myths like: If you have sex for the first time, you cannot fall pregnant or You are too young to be pregnant. "Targeting the youth with information will reduce the risk of another early pregnancy," Otine says. And by that, possibly safe lives. As the Ugandan Ministry of Health reports, 25 percent of Ugandan teenagers get pregnant by the age of 19 and their risk of maternal death is four times higher than for women who are only one year older. The infant mortality rate is even 50 percent higher with adolescents. The beta version of GetIn will be released at the end of September.

The second award-winning app from Uganda that was developed at the hackathon is called SafePal: It is a confidential platform which can be used by young people to report incidences of sexual violence on them or their friends. The users are then referred to a health facility or given psychological support as well as legal redress with the police. "With SafePal, we hope to reach the extremely vulnerable and severely affected," Otine explains.

"The country has seen a number of health apps and several of them have great potential"

SafePal and GetIn are not the first apps to try and close a gap in the Ugandan health network. "The country has seen a number of health apps and several of them have great potential," says Michael Niyitegeka of the International Health Sciences University (IHSU) in Kampala. Most of these were developed by students as well as non-governmental organisations.

Ona Ilozumba, a PhD researcher at Amsterdam University, also explores mobile health in Africa:

"Most of the apps can be helpful but are often not realistic for the mass market as they do not have a proper evaluation plan about what the people actually need." Another reason why several apps don't make it past the prototype stage is the lack of health practitioners that are involved in the development. "We desperately need them, though, as they have a better understanding of the eco-system," says Niyitigeka from IHSU.

...Africa's first smartphone-based app built to diagnose malaria without the need to draw blood.

One software solution that truly can make a difference is called Matibabu (Swahili for medical centre), Africa's first smartphone-based app built to diagnose malaria without the need to draw blood. Instead, the user's finger is inserted into the matiscope, a custom-made portable device which is connected to a smartphone. The matiscope then scans the red blood cells to see whether they are infected by the malaria virus.

It is a bloodless, painless and affordable way of testing and you've got the result in less than two minutes. The standard microscopic diagnosis in comparison takes half an hour, requires a lab technician and is much more expensive.

Matibabu was developed by a group of students at Makerere University. Their team, Code8, also won several prizes like the Women's Empowerment Award at Microsoft's global student competition.

"The validation process has finally begun. We are working hard with our partners in Portugal and are in the middle of acquiring approvals for our market tests in Uganda, Angola and Nigeria," one of the former students, Gitta, says. However, as the testing has to be done very thoroughly, it might take up to 18 months until Matibabu is finally available.

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One key aspect is the funding. Code8 need about $400,000 to develop the final prototype. But, in contrast to GetIn and SafePal, which receive assistance through the UNFPA and MIT, the team behind Matibabu doesn't have this backing – like many other tech entrepreneurs in Uganda.

To improve the situation, Niyitegeka implemented the Applied ICT & Leadership program at IHSU which offers six months' work based training for developers before they actually start building an app. The goal is for them to better incorporate proper research and get a feel for what the people actually need. Afterwards, there is the possibility for an accelerator funding to prepare the commercially viable apps for investor funding. So far, 25 students graduated from the program.

Niyitegeka is optimistic that the initiative at the IHSU will catch on: "We hope to see a greater uptake of health related technology in Uganda through our program. The biggest health product beneficiary in Uganda is our government. It therefore should be the number one promoter of apps." But until now, usually the developers have to rely on self-funding, family and friends or be lucky and win a hackathon.

Photo: "Mobile streets, Kampala, Uganda" by Butterfly Works
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More Information

This article is published in cooperation with our partner JournAfrica!.

» More info on GetIn

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