Cairo Transport App Challenge: Leveraging ICT Entrepreneurship and Open Innovation to Solve Daily Challenges

Introduction: There is a momentum in Egypt for a critical assessment of pressing development challenges in the aftermath of dramatic political shifts in the country. This change is fueling demand for new, more open and innovative approaches, offering an opportunity for policy-makers to develop information and communications technology (ICT)-enabled interventions to address the country’s issues in the urban and transport sectors. There is also a pressing need to support the efforts of the public and private sector to develop ICT skills and professional networks for entrepreneurship and employment, especially in light of the high youth unemployment and underemployment in ICT. In particular, in widely available mobile telephony and social media which offers a tool for more open, participatory development. ICT can even reach those at the bottom of the pyramid given almost ubiquitous access to mobile networks and increasing access to mobile broadband and cheaper smart phones.

Such ICT tools offer an opportunity to collect feedback and data from citizens and more closely involve them and their views in development and public decision-making.

Broadband, Innovation and Development Solutions: Broadband infrastructure is a prerequisite today for innovation. The rapid growth of mobile broadband networks, coupled with the falling prices of smartphones and feature phones, creates a vast global platform where mobile software developers can sell applications. Expectations are that the global mobile app market will be worth US$25 billion by 2015 up from US$6.8 billion in 2010. The app economy can lead to increased job creation and income earning opportunities in emerging economies as well, especially given the widespread availability of mobile networks, growing mobile Internet access, growth of mobile ads, and low labor costs. New start-ups from developing countries can enter this market and rapidly overcome demand constraints in their local markets.

Egypt can leverage open innovation to address such development challenges. Egypt has experienced rapid growth in mobile penetration, which has exceeded 100 percent, and mobile broadband subscribers are projected to reach 8 million by 2015. Egypt has a growing software and web developer community and is emerging as a regional business operations processing (BPO) hub. Local civil society has been proactive about highlighting critical development problems.
affecting the country, and there is a pressing need to introduce more participatory decision-making approaches to address these challenges.

**Applying Technology and Entrepreneurship to Mitigate Urban Challenges**: Transport and traffic conditions present a particularly serious problem for Cairo and a priority for the new government. Around 16,000 people die in car accidents each year; harassment on public transportation is the biggest deterrent to use by women; private vehicles account for 70 percent of traffic with an average of 1.3 people per car which will lead to a four-fold increase in 2015 average commuting time to 135 minutes.5

The Cairo Transport App Challenge was a World Bank-funded initiative that followed WaterHackathon Cairo6, which took place in 2011 and aimed to build an open collaboration platform to support innovative ideas addressing Egypt’s pressing problems on water resources management and sanitation by leveraging Egyptian technology talent and embracing bottom-up innovation. The World Bank’s ICT Unit and the Egypt Country Office hoped to engage the same talent and energy among Egyptian developers, this time to address Cairo’s pressing transport problem through the Cairo Transport App Challenge.

App Challenges, similarly to a Hackathon, support open technology innovation. However, they provide a different structure to move beyond convening different communities for problem solving to also producing a more advanced technology application as a result. The Cairo Transport App Challenge was initiated in June 2012 and was designed to engage stakeholders and experts in the fields of transport and urban development alongside a volunteer technology community over several months and in an open and participative manner. The aim is for them to work together, conceptualize and actually develop technology applications—working prototypes—to address some of the most pressing transport challenges facing Cairo today. The new approach was adopted for the initiative based on feedback from WaterHackathon Cairo to aim for more advanced products at the end.

**Partnering for Solutions**: The Cairo Transport App Challenge was an open collaboration between the World Bank’s MENA region, the Egyptian Ministry of Communications and Information Technology (MCIT), the Egyptian Ministry of Transport (MOT), and Egypt’s active technology community. Partners and sponsors to the initiative included Ministry of Transport, Ministry of Communication and Information Technology, dotopen and AppCircus, Google Developer Group Cairo, Google, Orange, Vodafone Egypt, TA Telecom, Green Arm, Alahanek Ya Balady, Bey2ollak, Technology Innovation and Entrepreneurship Center, Information Technology Institute, Information Technology Industry Development Agency, Egypreneurs, Wamda and Arabnet.7

**Identifying the Challenges and the Process for Deriving Solutions**: The Cairo Transport App Challenge had several stages. A tech camp in June 2012 convened stakeholders to identify, prioritize and define critical problems around Cairo traffic and transportation. The Challenge was then officially launched in September 2012 when the participating technologists were briefed on the transport problems that were defined through stakeholder consultation earlier. The critical transport-related challenges identified included:

1. Harassment and other personal safety issues;
2. Inefficient microbus systems;
3. Encouraging shared rides and car-pooling;
4. Increasing effective traffic enforcement;
5. Data collection on traffic situation in Cairo;
6. Improving driver behavior.

The technologists then had two and a half months to complete their task. They had access

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5 http://cairo.hackathome.com/briefing/
6 A hackathon is an activity that brings together development / sector experts and software developers and designers to co-create the innovative solutions needed to help solve today's pressing development problems. This usually takes place through a 24-48 hour physical event whereby technologists and subject matter experts work side by side to develop a proof of concept for a technology application to address defined problem statements. For more on this see: www.waterhackathon.org/cairo, http://menablog.worldbank.org/waterhackathon-cairo-unusual-partners-collaborative-solutions
7 Cairo.hackathome.com
to mentors to develop their concepts into working prototype applications, and submitted their apps online, which can be viewed on the online platform developed specifically for this activity. Over 250 individuals signed up to participate and there were over 30 application submissions through the platform. The next steps included selecting the top 10 finalists through online voting and mentors’ evaluations in November 2012. On the award event date, February 16, 2013, the top ten teams presented their applications and a panel of judges selected the top three.

Identifying the Winners: The Cairo Transport App Challenge award ceremony brought together the ICT and transport sectors in Egypt and catalyzed inter-sectoral collaboration. The event was opened by H.E. Atef Helmy, the Minister of Communication and Information Technology, H.E. Dr Hatem Abdel Latif, the Minister of Transport, Hartwig Schafer, World Bank Country Director for Egypt, Yemen and Djibouti, and Eng. Yasser El Kady, the CEO of the IT Industry Development Agency (ITIDA). During the opening, ITIDA signed a memorandum of understanding (MoU) with the German University in Cairo for cooperation in intelligent transport. The two Ministers also signed a cooperation agreement for the ICT and transport sectors. Both Ministers stayed till the closing of the event, which was hosted by Country Director, Hartwig Schafer.

The event provided an opportunity for aspiring Egyptian technology entrepreneurs to showcase their talent and help solve an issue that affects their and their communities’ daily lives through bottom-up innovation. The main part of the event consisted of the presentations and pitches by the ten finalists of the Cairo Transport App Challenge. Each team was given three minutes to present, followed by two minutes of questions from the jury. The jury consisted of representatives of ITIDA, the Ministry of Transport, Vodafone Egypt, Orange, Google, TA Telecom, and the NGO Green Arm. The evaluation criteria for the apps (working prototypes) included:

- Originality, creativity and innovation;
- Addressing the problem statements;
- User experience and design;
- Technical and operational feasibility;
- Team effort;
- Economic and financial viability.

The winning apps were:

- 1st Prize went to Beliaa, a GPS-enabled road assistant connecting drivers with road assistance, providing maintenance requests and updates, and discounts for Car Service Centers. Beliaa won US$3000 and a nomination to participate in the Mobile Premier Awards (MPA) in Barcelona on February 25, 2013. The first Egyptian app showcased at the MPA.
- 2nd Prize as well as the Best Windows App sponsored by Microsoft went to Emokhalfa, a community-based reporting system of driving conduct to improve safety on the roads. Emokhalfa received US$2000 and a Windows phone.
- 3rd Prize and the Popular Prize based on public voting went to Autobeesy Feen, which lets bus drivers send status updates to commuters waiting at the bus stops and report on traffic conditions at their locations. Autobeesy Feen received US$1500.

The event was attended by over 150 people, livestreamed and received social media and press coverage. The event was live tweeted with #TAppCairo, reaching over 17,000 accounts and creating over 41,000 impressions. The majority of attendees were between the ages of 20 to 25, approximately a quarter of them female, 33 percent student or graduate, 20 percent entrepreneur, 7 percent freelance, 37 percent employee of a company.

8 [http://cairo.hackathome.com/](http://cairo.hackathome.com/)
9 To review the top ten apps, visit [http://appcircus.com/event/cairo-tapp-final-in-cairo](http://appcircus.com/event/cairo-tapp-final-in-cairo)
11 To learn more about the jury members, visit: [http://appcircus.com/event/cairo-tapp-final-in-cairo](http://appcircus.com/event/cairo-tapp-final-in-cairo)
13 Survey of registrants by the task team

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Conclusions: The Cairo Transport App Challenge offers a foundation for doing things differently for Egypt and for the World Bank. It showcased how to apply technology solutions to address Cairo’s transport and traffic challenges, leveraging the homegrown talent of local technologists and embracing innovation from the bottom-up. These innovations that the Cairo Transport App Challenge generated compliment the top down efforts to introduce IT in traffic management systems and leverage readily available technologies. One of the participants from the Google Developer Group-Cairo Chapter highlighted that this initiative gave him hope that “things can move forward and progress in Egypt”. The Cairo Transport App Challenge also built an open collaboration across sectors, between the public and private spheres, bringing together communities that do not usually work together to cooperate. It also highlighted that the World Bank is not just about large lending operations, but also supports more agile activities with quick results, convening open collaborations across sectors and playing the role of a “solutions bank”.

“The Cairo Transport App is a great example of bottom-up, local innovation that can complement the more traditional lending operations supported by the World Bank,” said Hartwig Schafer, World Bank Country Director Egypt, Yemen and Djibouti. “This competition shows how working across sectors – ICT, Transport, and Urban Development, in this instance – can help find innovative solutions to development challenges,” said Jose Luis Irigoyen, World Bank Director for Transport, Water, and Information and Communication Technologies.14

The showcased applications underlined the role of citizen reporting and mobile data collection. By leveraging mobile networks and increasing data services and social media, these apps provide opportunities to directly involve citizens through readily available tools to work together with government and the private sector on addressing development challenges that affect their daily lives.

This initiative supported local technology entrepreneurship at its nascent stages, connecting aspiring technology entrepreneurs to local and international mentors, networks of technologists and potential investors and incubators. The winning teams were provided with capital for continued work on their apps, and the first prize winner participated in the prestigious Mobile Premier Awards in Barcelona, connecting with the biggest global players in the mobile technology industry.

“The Cairo Transport App is an opportunity for young Egyptians to invent and innovate in a bid to contribute to addressing the current social and economic challenges, and to stimulate and develop the spirit of entrepreneurship. We are investing seriously in the development of technological human resources and we have programs and projects that enable our youth to compete globally,” said H.E. Minister Atef Helmy, Egypt’s Minister of Communications and Information Technology.15