

PROJECT TAWASOL

CONNECTING PRIMARY SCHOOLS IN TUNISIA TO CREATE AN INTERNET-EMPOWERED NEXT GENERATION



An IEEE Sight workshop at Sadiki School, Tunis. Photo courtesy IEEE Sight, Tunisia Chapter

1 EXECUTIVE SUMMARY

Project Tawasolis a project in Tunisia that's led by IEEE Sight, Tunisia chapter and People Centered Internet. The aim of the project is to connect primary schools across the country to the Internet, and train students to use the Internet through ICT skills workshops conducted by IEEE.

2 CONTEXT

Internet penetration in Tunisia stood at 46 percent in 2014, according to the International Telecommunications Union. A predominant majority of the population accesses the Internet through mobile broadband subscriptions, with more than 4.5 million subscriptions to 3G mobile data plans which far exceeds the number of fixed broadband subscribers, around 500,000 in number.

As of 2016, 48% of the schools in Tunisia have access to an Internet connection. However, not all of these schools are equipped with labs that can train these children with ICT skills, and connections are more often than not provided to the administrative staff for coordination purposes.

Country Statistics: Tunisia			
Land area (sq. km.)	163,610	Mobile cellular subscriptions (per 100 people)	98.6 (2014)
Population	11 million (2015)	Number of active users (Mobile)	4.5 Million (2016)
Population below the poverty line (as a % of total population)	3.8 (2014)	Number of Active Users (Fixed)	500,000 (2015)
Labor force	4 million (2014)	Broadband Users (% of population)	4.5 (2012)

3 CHALLENGES

Lack of access to Internet-enabled devices: Most schools in Tunisia do not have computer labs that have Internet enabled devices, which forms the first barrier to students that are trying to use the Internet. With low rates of home broadband connectivity in rural areas, schools and community anchor institutions are crucial points of contact for connecting to the Internet.

Lack of training: ICT training is introduced at the higher secondary level, at the age of sixteen. Most students are unable to harness the resources Internet offers to them prior to that. Training of teachers in the latest technology as well as updation of skills is very poor, which forms another challenge to digital literacy education.

Disparities in access: Rural areas suffer most from the lack of Internet connectivity. While coastal areas have relatively high rates of home broadband subscribers, schools still lag behind. Most homes still depend on copper, and while fiber connectivity is available to large enterprise,

it is still out of reach for most households. In rural areas, wireless connectivity is restricted to 2G networks, whose coverage is very poor in remote areas in the interior regions of Tunisia.

4 CORE DESCRIPTION

The project seeks to provide students small Raspberry Pi operated devices with hard disks that can be updated periodically with relevant content such as Wikipedia pages, TED Talks and other educational content from the Internet. The devices have been developed by IEEE Sight in Tunisia with aid from the San Francisco chapter. They are capable of automatically updating content when connected to Wi-Fi or 3G networks.

In December 2016, the Sadiki school in Tunis has been identified as the first “Connected School” for the dissemination of these devices coupled with digital literacy training workshops by members of IEEE Sight. With support from the government, the project aims to connect, by the end of 2017, 24 such schools – one school in each region within Tunisia. The project focuses on primary schools, with an aim to make the next generation aware of new technologies and information that can be accessed through the Internet.

As part of the project, technical talks and digital literacy as well as ICT training workshops are organized by IEEE Sight, Tunisia. These talks cover interactive sessions that teach students how to build their own websites using drag and drop interfaces. The first workshop conducted in 2016 had a 50% participation by women, a key step in enabling gender parity in Internet access and skills.

5 IMPACT

In digital literacy training workshops that have been conducted by IEEE Sight, students have built their own prototype e-commerce websites in order to sell hand-made bracelets using HTML, CSS and modular website building interfaces. The reactions in post-workshop surveys conducted thus far have been tremendously positive. “Most students asked us when we will return to provide them with their own devices for development,” says Skander Mansouri, one of the IEEE Sight members that conducted these training workshops.

The project aims to impact 24 primary schools by the end of 2017 through the provisioning of low-cost Wi-Fi enabled Raspberry Pi operated devices, impacted close nearly a 1000 students overall.

6 KEY TAKEAWAYS

Providing primary school connectivity can be an important enabler of education and opportunities for young students, as it provides access to the vast troves of information that is available on the Internet.

ICT Skills training is a crucial component of connectivity projects targeted at youth. This training is more successful when conducted in an interactive setting and aimed at achieving an output (such as a website).

Lowering the cost of devices needed to access the Internet can enable more students at an optimal level, especially in rural areas and for poorer households where affordability is a concern.

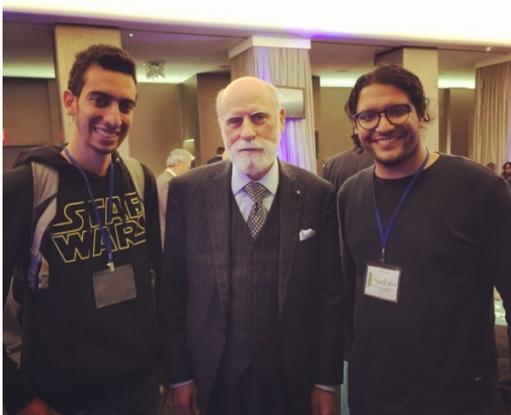
Global Connect: Internet Stakeholders Advancing Solutions (Oct. 2016, USA)

IEEE SIGHT TUNISIA Section participated in the the Global Connect: Internet Stakeholders Advancing Solutions meeting that took place on October 5-6 in Omni Shoreham Hotel, Washington DC. The two representatives Skander MANSOURI and Ahmed SELMI presented the TAWASOL (Connect) Project to 175 Stakeholders from the White House, Tech companies and international organizations, citing the direct youth-to-youth approach for sharing the opportunities and culture of the Internet. The whole team had decided on this people centered approach of connecting on the Human level to youth and their teachers AND also connecting them to each other and the rest of the world through technological means.

At the first day of the DC meeting Ahmed joined the Gap Mapping roundtable discussions where participants worked together on defining a Gap Map on what is stopping communities from achieving « Meaningful connectivity » so people could Connect to Thrive.

Such a gap map is intended to create simpler blueprint of what to do next to close the gaps so all can connect to thrive. Skander co-lead the Youth and Connectivity roundtable with Susan Maravetz of InternationalConnector.com - the participants at this roundtable reached the realization that youth do not need to be "helped" they can DRIVE the movement of Connect to Thrive with their energy and new ideas. Both roundtable discussions specifically called out IEEE-SIGHT's Tunisia project which many can work together on to discover what works best.

The next day Skander and Ahmed joined the African Roundtable discussion on the fastest small steps to take to connect Africa. The conclusion of the discussion was to create Innovation Hubs in different regions of Tunisia to create a groundswell of interest in schools and students for Internet access so that all students living in rural and urban areas, could Connect to Thrive.





Internet Governance Forum (Dec. 2016, Mexico)



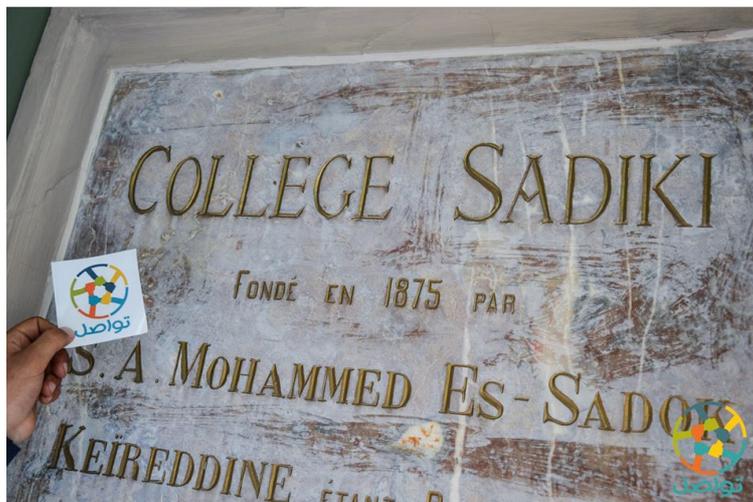


Connecting the Sadiki School

After setting a plan for the TAWASOL project, TAWASOL means connectivity in arabic, the IEEE SIGHT Tunisia Team aims to connect all primary schools in the 24 region of Tunisia with Internet and provide a good quality STEM Education.



The team started with their project pilot in Sadiki School on September 17th 2016. The Sadiki School was established by Kheireddine Bacha in 1875, one of the most prestigious and reputed schools located in the heart of the tunisian capital. Many of the Tunisian elites, including Habib Bourguiba the first president of Tunisia, graduated from this school.



The scheduled tasks were brought into action. A kick-off workshop was held to present the project to public and youth interested in volunteering. Hence, the day started with a booth, which was set up to distribute flyers and stickers. Parents, as well as students, were interested to know more about the project and eager to see similar initiatives happen around the country. 150 kids were gathered all morning to mingle with the organizing team.



This gave the team a huge pulse of enthusiasm and self confidence to start the next session of the workshop, where they gathered in a room about 40 students and asked them key questions: 'How does the internet work?'. The session featured simple questions about the use of Internet like "how many websites there are in the net and what's does the browser do". These questions were explained by roleplaying by the participant of the sessions.





The director of the school also came to the session and had a word with the children and the organizing team stating the importance of such activities and how the Sadiki School is lucky to be the first school in Tunisia to benefit from our project.

Meanwhile, new computers were being set up and the newly established internet connection was checked by the team as they were preparing the rooms for our next workshop.



Before entering the next workshop, the kids had the opportunity to ask us multiple questions during our coffee break, and then, the workshop began. We taught them how to create their first website using the Weebly platform, they were asked to create a blog website for their school.



After an hour and a half of designing their first website, the kids saved their newly created site and were told to add on some features from their home. The organizing team and the children were gathered to have a final group pictures.



This pilot project has shown that these kids are eager to learn more about Internet connectivity, they all want to produce content, not only consume information. The SIGHT team now has a mission to present their project in the next Internet Inclusion: Advancing Solution Congress in Washington, DC on October 5-6 2016.



Skander Mansouri, Vice Chair of IEEE SIGHT Tunisia Section