



UNESCO Uses SoukTel Online Messaging System Case Study

Sending SMS Emergency Alerts to Families in Gaza

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Overview and Project Description

In 2011, UNESCO began a series of efforts to improve its Disaster Risk Reduction (DRR) programme within the 1.5km 'buffer zone' of the Gaza Strip — the area that borders Israeli-controlled territory. These efforts aimed to enhance schools' abilities to fulfill their roles as safe, protective spaces for children and communities in times of crisis. To support these efforts, SoukTel created a large scale, web-based SMS alert and survey system which allows UNESCO to:

- Send SMS alerts from UNESCO staff/school administrators' phones — or from a secure web interface — to the mobile phones of parents, school staff and other community members (alerts can range from emergency notifications to school announcements).
- Deliver SMS-based surveys that can be used to collect data related to DRR program activities.

What Worked – And Why

Custom security features for multiple user types: Every SoukTel mobile messaging system is custom designed to meet partners' specific needs—a critical factor in crisis zones, which each have unique challenges and constraints. In Gaza, to ensure safe data transmission in places where security is a constant concern, SoukTel software developers designed a customized web-based software platform with two different access levels: One basic access level which lets school staff send mobile alerts to students and parents (from their mobile phones or a web platform), and one 'administrator' level which lets UNESCO staff oversee system use--by monitoring online message delivery reports. The 'administrator' level also lets UNESCO staff authorize or bar local mobile phone numbers from sending out content, in case a local school staff member's phone is stolen.

These multiple access levels serve several purposes, all of which help ensure effective service delivery: For the small number of authorized UNESCO staff, the 'administrator' level enables them to monitor which mobile phones can send out emergency alerts. The ability to trigger the send-out of thousands of SMS alerts from a single mobile handset (by sending a command like 'SEND GAZA CITY GROUP: Danger – School under attack') is a key feature—because it ensures that in times of emergencies, no matter where school staff happen to be, they're still be able to alert the wider school community (even without web access). However, even with the requirement for school staff to enter SMS PIN codes and specific keywords before sending a message to thousands of youth, the risk of misuse (due to theft or other circumstances) is high. An added level of oversight on the part of UNESCO 'administrators' mitigated this risk substantially: If they saw suspect text messages being sent by a local handset, they could bar that handset from the platform immediately.

Multiple access levels also grant UNESCO greater ability to control the message costs and monitor system use: The web-based message reports interface (which only 'administrators' can view) lets staff see the quantity, dates, and content of all outgoing messages. This allows UNESCO personnel to determine whether message content is being delivered in a timely fashion, to the correct location, with the correct text—and make changes quickly if needed.

Direct Partnership with Mobile Networks: In each country where it works, SoukTel aims to partner directly with national mobile networks in order to secure cheaper message pricing and special text-in hotlines (many of

which are free to local users). In Gaza, Souktel worked directly with mobile operator Jawwal to obtain a 'Sender ID' with the label 'Safe Schools', so that when mobile users saw the 'From' field on an incoming text message they'd know that the SMS security alerts were always coming from a recognised and trusted source. This service 'branding' almost worked too well: After on-site training and testing of the system, UNESCO staff requested 17 unique sender IDs, so that each school participating in the service would have its own 'From' label for text alerts and UNESCO staff and partners could quickly identify which school had sent a particular message. In times of emergency, UNESCO felt that this would facilitate quicker assistance from emergency responders. Mobile operators are often hesitant to provide large numbers of sender IDs for a single project, but given Souktel's strong existing relationship with Jawwal, its staff were able to convince the network to activate these custom SMS 'From' labels. Subsequently, families knew with confidence that incoming warnings were being sent from a credible source (their local school) and weren't unfamiliar content or 'Spam'.

In-person training of system users: Wherever possible, Souktel staff travel on site to train service managers on messaging platform operation. Here, Souktel personnel went to Gaza to conduct in-person trainings with groups of school staff at three different locations; trainees included the principal, school secretary and the IT teacher of each institution. Trainers showed school staff how to create customised groups of local student/parent mobile numbers by uploading names and phone numbers from Excel files. Trainers also gave school staff the chance to send test messages both from the web platform and from their mobile phones, so that they could see each step of the process first hand. This in-person practice was critical: It gave school staff a clear understanding of how the service works, it allowed them to ask questions in an informal, non-threatening setting, and it prompted follow-up discussions about how the technology could facilitate their overall school logistical coordination. Thanks to the in-person training, the local communities' follow-up usage of the technology has been high: Since the training, messages have been sent by staff at every participating school, with approximately 9,383 messages sent in total as of March 2012. Examples include:

Delivery Date and Sender ID	(Translated) Message Text
2011-12-08 14:04:18 - AL Qastena School	The Qastena primary school wishes to inform you that the children are in their normal school schedule as there is no longer any danger in the area.
2012-03-12 12:35:05 - Admin	We hope that you are all keeping safe. Please remember that you can to SMS alerts in times of emergencies like these.
2012-03-12 10:50:47 - Hani-Naim School	The students have been evacuated from school out of concern due to the current situation.

What didn't Work – And Why

While the on-site training itself was a success, the timing of the training was not ideal: Souktel and UNESCO initially planned to hold trainings in late July 2011, before the beginning of the Muslim holy month of Ramadan (when work days are shorter, and staff are more likely to be on vacation). However, UNESCO personnel and partners at the Ministry of Education expressed concern that school staff might forget training content if it was held too far away from the start of the academic year (which falls right after Ramadan) — the time when teachers would actually begin to utilise the service. As a result, Souktel and UNESCO agreed to hold training sessions at three different locations in Gaza during the month of Ramadan itself. However, with hot weather pervasive and most trainees observing a ritual fast, training delivery proved difficult. The overall lesson, applicable to any crisis zone, is that technology training should be organised at times/in contexts that allow for the greatest degree of local participation and focus.

Lessons Learned

- **Design Message Content Carefully**

During local user trainings, Souktel staff discussed the importance of carefully crafting SMS crisis alert messages, emphasising that messages should not unnecessarily alarm school communities and they should contain all the critical facts regarding the event: Where it happened, when, who was involved, and what action should be taken. While the schools mainly followed these guidelines, on 22 December 2011 one school sent a message that simply said 'Students have been evacuated from the school because of clashes nearby.' However, school staff forgot to provide the critical details, such as whether or not anyone had been injured and what action families were recommended to take. A more thorough message in that context would have stated 'Students have been evacuated from the school because of clashes nearby. No one has been injured, but it is recommended that everyone remain indoors until you receive a follow-up message.' As a follow-up to this event, Souktel staff contacted UNESCO and recommended that UNESCO staff hold a refresher session on message content.

- **Include First Responders/Medical Personnel in the Crisis Messaging Plan**

Initially, staff at each Gaza school began sending alert messages only to fellow staff, parents and community members. However, in December 2011, after the system was first used for what appeared to be an emergency situation, a follow-up debriefing held by Souktel and UNESCO revealed the following key reality: If SMS emergency alerts were sent only to parents and community members, UNESCO would still have to place separate phone calls to medical personnel/first responders to request their help. This move could prove time consuming, and possibly even life-threatening, in situations like rocket or mortar attacks on schools. In order to promote a more efficient crisis response, Souktel contacted UNESCO's emergency response partners (hospitals, paramedics) and secured permission to include them in the SMS emergency alert groups. All members agreed that this would help streamline post-crisis action. Now, when schools in Gaza send out an emergency alert, organisations like Doctors Without Borders will receive the message directly, allowing them to send aid immediately if required. This lesson learned may help save lives in the future.

Recommendations

1) Monitor, train, and repeat: In times of crisis, even the best-trained staff can forget key techniques of running a mobile crisis response system. It is vital to consistently monitor system usage - from remote offices via a web-enabled messaging platform, or from the field site itself - and verify that system content follows best practices. If it doesn't, reminders and retraining ensure that staff remember key lessons- while continued monitoring enables quality assurance, from near or far.

2) Model your messaging plan after what will happen on the ground: If medical personnel are among the first to arrive in a crisis situation, make sure to include them in a crisis alert messaging group. If protection groups must be present for advocacy efforts to happen, make sure they're in your advocacy messaging groups. Model your messaging plan after the logical sequence of events and key stakeholders in the field, to ensure the efficiency and effectiveness of your service. Iterative learning is important: if you find that extra calls are being made, add those people to the messaging plan.