

On the Ground: A Deep Look at Technology's Effect on the Migrant Crisis in Europe

By Ariel Barbieri-Aghib and Owen Martin

A History of Migration

Human migration is no recent phenomenon: in fact, it has existed since humans have been alive on this earth. It has been propagated by war, famine, natural disasters, political turmoil and much more. Despite having existed for many thousands of years, only recently has there been an organization created to deal with these issues. Due to the extreme displacement of people across Europe following World War II and the demise of the League of Nations, the United Nations created the International Refugee Organization (IRO) in 1947. The IRO became the first organization tasked with overseeing all aspects pertaining to refugee's lives. Due to various grievances issued towards the IRO, the UN created a second organization, the United Nations High Commission for Refugees, in December 1949 as an organization which would oversee the global refugee situation. UNHCR was originally intended to exist for three years—until 1951 due to disagreement between member states. In 1951, the Refugee Convention was created, which intended to serve as a treaty which outlined the definitions of who is a refugee, the sets of rights granted to refugees and responsibilities of states who absorb refugees. By the UN definition, a refugee is

“A person who owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it.”¹

¹ <http://www.unhcr.org/1951-refugee-convention.html>

This definition changed from originally applying to those in Europe only when in 1967 a protocol was ratified to remove the geographical limitations and time constraints placed on refugees².

The definition has often been criticized as being too broad which creates difficulty in assessing who is actually a refugee and who is not, however there has been no effort on the part of any nation to correct this, and have a more restricted definition. Regardless of definition, refugees remain one of the most at-risk populations in the world, and the recent upsurge in their numbers has led to a number of dramatic worldwide movements.

The Changing European Climate

Despite the ratification of the 1947 protocol and 1951 convention of refugees by many states, there has been a lack of international pressure on states who do not abide by the conditions set out by the United Nations. In fact, most recently, the European Union and Turkey struck a deal regarding refugees and migrants. The deal, forged on March 18th 2016, states that all “irregular migrants” — in this case referring specifically to the egregious number of people whom are internationally smuggled from Turkey to Greece³ — which arrive on the Greek islands after March 20th can and will be returned to Turkey. In turn, the EU promised to increase the resettlement of Syrian refugees residing in Turkey. This deal, which has been vocally criticized by human rights organizations such as UNHCR, has raised concerns in the international community. Under the 1967 Protocol, there is a strict *non refoulement* policy, stating “No

² <http://www.unhcr.org/protection/basic/3b66c2aa10/convention-protocol-relating-status-refugees.html>

³ <http://www.bbc.com/news/world-europe-35854413>

Contracting State shall expel or return ('refouler') a refugee in any manner whatsoever to the frontiers of territories where his life or freedom would be threatened on account of his race, religion, nationality, membership of a particular social group or political opinion" (Article 33(1))”⁴. However, states may return refugees to a “safe third country” or the “first country of asylum”. Turkey has been declared a safe third country as of recently, despite cries from international organizations due to the terrible conditions, lack of general infrastructure and dangerous conditions present in Turkish refugee camps. According to Amnesty International at a press conference on June 20th of 2016, “the EU made unlawful agreements with Turkey in order to stem the tide of migration”, pressuring Syrian refugees to return to their war torn homeland. Additionally, Amnesty International called on Ankara, Turkey’s capital, to “provide refugees with means to a basic livelihood”, such as jobs, health care, and education⁵.

Human Rights Watch has repeatedly criticized the deal, questioning Turkey’s status as a safe third country.

*“The laws and policies governing Syrian refugees’ lives in Turkey, however, do not grant them full refugee rights, and the protections these laws and policies do extend have yet to be fully realized. As a result, many Syrians in Turkey still cannot access education, healthcare, and lawful employment. Furthermore, delays of up to six months in registration for temporary protection mean that some refugees are unable to get basic services and live in fear of being forced to live in a camp or deported.”*⁶

Despite the recent turmoil in Turkey, the European Union has pushed their deal forward, further ignoring the cautions of various organizations. This has led to a situation in which refugees on

⁴ <http://www.unhcr.org/excom/scip/3ae68ccd10/note-non-refoulement-submitted-high-commissioner.html>

⁵ <http://www.ekathimerini.com/209753/article/ekathimerini/news/leading-rights-groups-slam-eu-turkey-refugee-deal>

⁶ <https://www.hrw.org/news/2016/06/20/eu-dont-send-syrians-back-turkey>

the island of Lesbos— the main transit island in Greece— have become trapped on this island until their claims of asylum or refugee status have been processed, which can take months to be finalized. Only then are they allowed to leave Lesbos and proceed to mainland Europe, where they are either reunited with family or they are allowed to begin their life as a refugee. Those whose claims are rejected face the possibility of returning to Turkey where the Islamic State still carries out terror attacks and refugees live in conditions akin to those they left in Syria.

Syria's Civil War

The Syrian Civil war has left millions displaced and fleeing their country. Since the fighting, there has been a power vacuum which has allowed the Islamic State to take over and control many areas in the Levant— Syria and Iraq, mainly. According to Tufts University Professor Kelly Greenhill⁷, there have been instances in which a group, such as the Islamic State, has used migration as a weapon of war. In this case, IS has been targeting Europe and Turkey by using refugees to destabilize governments.

Their effects are being seen in Europe already, with a referendum vote to leave the EU by Britain in June 2016, effectively turning Britain into an isolationist state. Much of the vote was initially sparked by fear of refugees coming into Britain and taking advantage of the so called welfare state. Greece has turned to closing its borders and restricting the number of refugees admitted, as have the nations bordering Greece. However, Germany— the refugee welcoming

⁷ Kelly Greenhill, *Weapons of Mass Migration: Forced Displacement, Coercion, and Foreign Policy*, Cornell University Press, 2010

nation— has yet to acquiesce to the Islamic State’s will. In some ways, it seems as if Germany is building a buffer region— southern Europe— to deal with the immediate onslaught of refugees, while reaping the benefits of accepting refugees and looking like the benefactor of all refugees on the global scale.

In turn countries like Greece, Italy, and Spain are left to bear the burden of first country recipients, without much financial and legal assistance from the rest of the European Union. This leaves volunteer organizations, international non governmental organizations, and individuals to assist refugees in southern Europe. Some activists, such as a leftist group in Athens, have turned to occupying abandoned buildings and redistributing the space to refugee families. The former City Plaza Hotel is now home to over 300 refugee families, and activists are looking to turn more of Athen’s abandoned buildings into inhabitable places for refugees⁸. Half of the old Athens international airport has been transformed into a de facto camp— the Elliniko Refugee camp.

Refugees in Lesbos

Issues of sanitation, food, water, and medical aid remain in the de facto refugee camps and goodwill driven initiatives. Before the EU deal with Turkey, many international NGOs and volunteers were flooding the Greek shores in hope to help. Due to lack of coordination, the NGOs found themselves with an abundance of volunteers who did not understand what were the best ways to help refugees. Many volunteers also saw this opportunity as one to get a cheap

⁸ <http://www.aljazeera.com/indepth/features/2016/06/greek-leftists-turn-deserted-hotel-refugee-homes-160629131217044.html>

vacation to Greece and ignore their responsibilities as volunteers. Many NGOs failed to register with the Greek government and therefore were not able to aid refugees. The camps in Lesvos found themselves in dire straits, overstaffed and undersupplied, and organization was desperately needed.

Since the EU deal with Turkey, many volunteer organizations and NGOs have left Greece in hopes of helping refugees elsewhere. This has left an abundance of refugees with very few people to help. Lesvos, the main transit island, has since changed, as have the needs of the refugees. Instead of immediate needs such as food, water, shelter, medical and transit, refugees now require legal assistance, translation services, and more nuanced help that not all volunteers can provide. This assistance requires a specialized knowledge of international law, refugee law, and the specifics of the Greek asylum claim law. Not many volunteers come prepared with this knowledge, creating a disconnect between what information volunteers can provide, and what information refugees require.

In an effort to consolidate all necessary information for volunteers, a helpful handbook was created by the part of previous volunteers who had helped during the beginning of the refugee crisis on Lesvos. This handbook describes what is needed and what is not, on the part of volunteers, as well as the crucial do's and don'ts once they have arrived on the island. Additionally, for those who are unable to take time off and be volunteers, the handbook offers a list of supplies which was in constant need on Lesvos and places which interested individuals could donate to.

The Arrival of Technology

With the advent of do-it-yourself app development, increasing levels of connectivity in the internet age, and widespread information accessibility provided by computers, a new player has appeared to take on an unprecedented role in addressing the global refugee crisis:

technology. The tech field is one that has traditionally been quite competitive and independent.

However, massive numbers of people are fleeing war, deprivation, and persecution — more than 43 million people worldwide now forcibly displaced, according to the United Nations⁹ — and socially-minded developers and programmers have begun joining forces. In 2015, Mike Butcher of TechHub and TechCrunch fame organized Techfugees, which has served as the umbrella organization coordinating the movement — suddenly, developers around the world could share in a common, worldwide goal. According to Butcher, “Techfugees started out as a simple idea. I had to engage the tech engineers and startups in my world with the NGOs, and even refugees themselves to try and bring the power of technology to bear on the crisis. Now joined by a small team, we’ve clearly tapped into a zeitgeist to try and help. We’re not saying tech can be a magic wand waved over this huge issue. But it’s 2015... smartphones and the web have the capability to find lost families, report human rights abuses and perhaps even disrupt [smuggling]”¹⁰.

Butcher’s initiative was and remains based on two distinct pillars: empowering displaced humans by channeling their significant skills into giving back to their own communities, and engaging brilliant and talented engineers from around the world to build technologies with refugee aid in mind. The Techfugees inaugural hackathon spawned some fantastic, persistent

⁹ <http://www.un.org/en/globalissues/briefingpapers/refugees/>

¹⁰ <http://www.telegraph.co.uk/technology/news/11923385/Techfugees-ready-or-not-to-take-on-migrant-crisis.html>

ideas like Refugees on Rails¹¹ — an online coding school for refugees seeking computational knowledge — and GeeCycle.org¹², which let users donate a used cell phone to refugees once upgraded. These two ideas demonstrate the value of a focused global community, as both pillars were addressed and Techfugees was off and running.

“Techfugees is a movement, not an organization”, Butcher is fond of saying, and in the year since its inception, Techfugees has certainly moved fast. Their Facebook group has over 4800 members, all eager to help out in any way they can; they continue to this day to organize events and hackathons that bring humanitarian aid groups together with brilliant computer scientists; and new innovations are pouring into the world as a result.

Tech Tactics and Tribulations

These humanitarian hackathons have sprung up around the world in the past year in an effort to promote “peacetechnology”¹³, a subset of technological innovation which caters towards peacebuilding and promoting social good. Individuals, or teams, enter the hackathons with one goal in mind: create an app which would help refugees in this current crisis. Hackathons bring together some of the best and brightest minds in the local tech community to build their peacetechnology, and the ideas range from the mundane to the possibly fantastic.

One of the largest challenges of this movement is the sheer amount of creations. Vetting every app that emerges is difficult, and many are either forgotten or simply overlooked, leaving

¹¹ <http://refugeesonrails.org/en/>

¹² <http://www.geecycle.org/>

¹³ <http://www.p3.co/blog/2016/3/3/public-private-partners-its-not-all-about-the-money>

an array of half functioning apps available to refugees and volunteers alike. According to Kiwanja, a tech blog, “The ubiquity of mobile phones, the reach of the Internet, the sheer number of problems facing the planet, competitions and challenges galore, pots of money and strong media interest in tech-for-good projects has today created the perfect storm. Not a day goes by without the release of an app hoping to solve something...” and this ceaseless creation eventually extends past the Techfugees umbrella and into uncharted territories without proper vetting.

If the tech community hopes to continue making a positive impact on the refugee crisis, they need to focus on apps that give refugees increased agency, integrating them into their new homes, and apps that work with government agencies instead of in parallel with them. In Germany, the leading app among refugees is Ankommen¹⁴, which provides legal help as well as tips for living in Germany. The success of this app is largely attributed to the partnership between public government offices and private institutions. This partnership allows the information on the app to be vetted by a government office— ensuring that the app is not spreading misinformation. Apps such as Ankommen also show refugees that the government has a vested interest in the well being of refugees present in their country. If Greek government offices and private institutions were to put forth an app such as Ankommen, many of the refugees would have access to information previously unknown to them, and it would largely solve the issue of refugees being in limbo on Greek islands.

¹⁴ <http://www.p3.co/blog/2016/3/3/public-private-partners-its-not-all-about-the-money>

What Developers Don't Know

According to a UNHCR site planner on Lesbos, Patrizio Jellici, Lesbos is no longer an island which receives refugees only to send them off again, and the needs have changed. The two refugee camps on Lesbos, Moria and Kara Tepe, used to demand the essentials. However, some essentials such as blankets, have proved less necessary and more difficult to use in the warm summer months. The UNHCR blankets are useless after one use, since it costs the camps more to wash the blankets rather than order new ones, resulting in hundreds of blankets which have been used once, and since disposed of. When the camps first opened, women were given sanitary supplies regardless of whether they needed them. This resulted in a great waste of goods, since refugees have to travel far and do not want to carry more than is necessary. Since then, Kara Tepe has been giving all the refugees in the camps vouchers to claim what they need rather than hand them goods only to have them thrown away.

Additionally, the larger camp, Moria, has been overbooked by refugees since the EU-Turkey deal came into effect. Clashes between refugees of various ethnicities have become commonplace and the camp is regularly subjected to rioting and looting, something the camp management is unprepared for. The situation on Lesbos is very dynamic, changing on a daily basis. Unless there is someone on the ground in Lesbos who is both privy to the situation and able to update apps with the relevant information, any app trying to disseminate information rather than provide a service is largely unhelpful. The kind of apps that have seen success with regularity all provide refugees with interminably useful services — like apps that provide access

to medical assistance (like Medshr, an app that securely sends medical data to volunteer doctors around the world for quick and easy diagnosis in the field¹⁵) or translation facilitation (see section on translation) — and irreplaceable communication apps such as Facebook and Whatsapp are the only ones which refugees need and use on a daily basis.

Identifying the Problem, Finding the Solution

All of these apps require access to a smartphone and all the accompanying needs. Eighty-seven out of 100 Syrian refugees possess smartphones¹⁶, but when on the run from their native lands, keeping these phones charged and connected to the internet becomes a very real problem. How can a displaced individual use Whatsapp to communicate with their family back in their home country without the necessary infrastructure in place in the camps? According to volunteer Mark Andrews, “on Lesbos, the immediate need on the tech front was to enable as many of the refugees as possible to gain access to mobile phones, charging stations and to have the ability to connect to the Internet”. The paucity of charging stations around Lesbos has been a big problem in the past, one that has stymied the delivery of many useful apps into the hands of refugees. However, in the beginning of June 2016, one group from University of Edinburgh, Scotland made a breakthrough. Samuel Kellerhals and Alexandros Angelopolous founded a startup named Project Elpis — which means hope in Greek — at a Techfugees-organized conference. They made the finals, but still needed funding. Project Elpis approached the issue from an infrastructure angle, unlike many other startups which focus on mobile development.

¹⁵ <https://en.medshr.net/>

¹⁶ <http://news.psu.edu/story/350156/2015/03/26/research/ist-researchers-explore-technology-use-syrian-refugee-camp>

With the help of their University's chaplaincy, they built two solar power charging stations which have been installed in the Kara Tepe camp and the Malaksa refugee camp in Athens. Each unit has twelve charging units, allowing power for up to 3,600 people per day. The project began after Angelopolous was volunteering on Samos, when refugees approached him to use his phone since their phones had ran out of power. It was then that he realized how much of a necessity phones were and how phones were the main means by which refugees gathered information. Following his return to the UK, Kellerhals and Angelopolous set out to build something which would allow refugees to access the information they needed. Kellerhals and Angelopolous investigated what the refugees needed, and built a product which directly reflected what they found. “We set out with the idea of providing carbon neutral, free, sustainable electricity to refugees by charging their mobile phones but one thing we also noticed was that people often gather around the units and then there’s a social implication which is good, and bad”, explained Kellerhals. If the units had been placed in a camp such as Moria, where ethnic tensions run high, they ran the risk of installing a unit which would then be weaponized. It was through diligent research and listening to those in charge of the camps that the pair found the best locations to place the units. Both charging stations have been extremely well received in their respective places by staff and refugees alike, and manager of Kara Tepe camp Stavros Miroyannis is eager for more charging stations to be placed around his camp, and already placed orders for double as many units. To quote Miroyannis, “we needed [the Elpis unit] yesterday”. According to Kellerhals, the group also gave a survey to refugees who were using their product to see how well their needs were being met.

Project Elpis is a rare glimmer of hope in an otherwise deep sea of frustrating half built projects. The key difference between Project Elpis and others has been their relentless research on the topic, rather than creating a product which fails to match the refugee's needs and then quickly abandoning it. In a country like Greece, where solar panels pepper the rooftops of every house, creating a product tailored *for* that specific environment rather than a product which can be used anywhere is crucial — the fact that it is also a product which uses renewable energy is simply a plus.

Mistakes en Masse

Still more importantly, not everything coming out of the new boom in technology is making a positive difference. An overarching problem created by the hackathons is the distinct lack of communication between NGOs present on the ground and developers. This leads to apps which are neither necessary nor needed by refugees, leaving the very problem developers sought to help with unresolved. An oversaturation of the market: the more “solutions” that are created, the more often redundancies are created from nothing. Many hackathon participants face problems they have never seen or experienced, and try to build applications that would fit within their own status quos without considering the ramifications for international deployment. The situation in Lesbos, Greece provides a good example of this. At the end of 2015 and beginning of 2016, Lesbos had two large refugee camps that served largely as transitory camps. Their basic human needs were not met as the camps struggled to become sufficiently staffed with UNHCR

aid workers and military organizers, and so through the help of Techfugees, developers and NGOs coordinated to build apps that would put refugees in contact with essential resources. Two of these apps, Cricket and Refaid, gained lots of funding for displaying the locations of cheap or easily accessible resources on the island of Lesbos, but have since deteriorated into nonbeing as the combination of difficult maintenance and lack of usefulness saw their promises of aid go up in smoke¹⁷.

In larger-scale news, on June 20th, iSea — an app which claimed to allow users to monitor various parts of the Mediterranean in an effort to alleviate the strain on European officials— was removed from the app store. The app was partnering with a Malta based NGO called Migrants Offshore Aid Station (MOAS)¹⁸. However, experts investigating the app found that the supposed satellite images which the app provided were not live streamed, and may have been showing users the same image of the sea, which has cast a dark shadow over the effort¹⁹. iSea had been recently hailed as an app which would allow independent citizens to help in the migrant crisis and had recently won the Bronze Medal at the Cannes Lions festival. However, the recently exposed shortcomings of the app reflect the difficulties in verifying the thousands of apps created for the refugee crisis. Even though this app won awards, garnered international recognition, and was partnered with several NGOs, it ultimately was a play for cash by the Grey for Good advertising agency that was responsible for the fake data²⁰.

¹⁷ <http://refugeeaidapp.com/blog/>

¹⁸ <http://mashable.com/2016/06/14/crowdsourcing-app-isea-rescue-refugee-crisis/#vI6MxNK2uSqT>

¹⁹ <http://www.dailydot.com/layer8/i-sea-app-refugees-media-coverage/>

²⁰ <http://www.adweek.com/news/advertising-branding/grey-grudgingly-returns-bronze-lion-it-won-cannes-questionable-i-sea-app-172397>

Finally, Refugees Welcome, a German app which sought to pair newly arrived refugees with Germans willing to host them has run into a series of issues, after being heralded as a “Airbnb for refugees”. The app has spread to ten different countries, but continues to run into problems despite being initially built with the best intentions. “In Hamburg, for instance, there were just ten room listings for over 1000 refugees seeking accommodation”²¹ and enthusiasm has fallen since the beginning of the refugee crisis. Additionally, accommodating refugees without residency permits has proven difficult which speaks to the complex legal framework of European and North American countries. These apps were created in the problematic model of hackathons, which adds to the “Silicon-ification of the whole world, where every problem is a profit opportunity”²² reducing the plight of millions of displaced humans simply to figures in a bank account. There has recently been an increased push away from the technological solutions and towards strengthening the already existing institutions in place, such as the Red Cross and Amnesty International.

The Human Intangibles

The problem extends beyond the lack of due diligence: according to volunteer Mark Andrews, “the needs of the refugees are multifaceted; their physical needs are a lot different to their emotional needs, for example. At the end of the day if you believe in treating all human beings with compassion and assign to one and all respect and human dignity, then all of our needs when faced with trauma are pretty much the same wherever you are in the world.” This is

²¹http://www.huffingtonpost.com/2016/06/30/refugees-dont-need-your-a_n_10757006.html

²²Ibid

something that no specific mobile application can address: an *intangible*. Apps like Kricket and RefAid sought to give refugees access to resources that the camps are already providing them, yet ended up ostracizing the users from actual human connection. Neither of these apps are in use any more, and indeed they embody the problem more than the solution. “The most helpful thing that an outside volunteer has done for the refugees? Listened to them. Asked sensitive questions and offered support and encouragement so no refugee felt left out in the cold and alone in what was and still is for many of them a very traumatic experience especially for the more vulnerable refugees and the children” explained volunteer Mark Andrews.

The actions of volunteers have a far more important impact on refugees’ lives than using an application to get information. Many volunteers put in hours of hard work with the end game of helping others, as opposed to much of the tech industry which puts in far fewer hours with the end game of making profit. On the ground charities— Caritas Hellas, Doctors without Borders, etc — have continued to provide irreplaceable support for migrants and refugees. Charity organizations not only provide refugees with the physical necessities to survive, they also provide assistance in navigating the foreign legal landscape of Europe. Individual volunteers, despite being armed with good intentions, are not educated in the nuances of refugee law. The charities which have stayed on Lesbos since the EU-Turkey deal are perhaps the most important part of the puzzle. Instead of leaving the island because refugees ceased to pass through, the charities and organizations who stayed have proven to the refugees that they have a vested interest in their well being— something which cannot be said about all tech that is marketed

towards refugees. “Most of the refugees really respected the independent volunteers as they treated their fellow men, women and children with a great deal of respect extending towards them a true hand of friendship and support. [The volunteers] were very hands on sitting down with the refugees, listening to their stories, [and] offering comfort when they could... unlike the others who took a more stand off approach towards the refugees so they didn't get too personally involved,” Andrews commented.

Tech for Translation

The tech covered so far may try to offer solutions that empower the individual, but the human to human interactions that are so desperately needed still must be addressed. This is where translation apps enter the picture as the powerful players. Some apps, like the Universal Doctor Speaker, exist to facilitate translation in the case of medical emergencies, and have been adopted by the champions of the refugee crisis²³, yet even this award-winning app falls short because of a lack of coverage. The language barrier between Middle Eastern refugees and Europeans is one of the largest obstacles for successful cultural assimilation²⁴, and this obstacle exists because the languages of Arabic, Pashto, and Farsi which are commonly spoken by refugees are not spoken at all on the continent. RefugeeSpeaker only translates between European languages, however new apps like GetAcross seek “to make language barriers a thing of the past”, according to CEO and founder Mayel de Borniol. De Borniol, who has been working to eliminate language barriers since 2010, says that “it [GetAcross] puts the refugee in

²³ <http://www.refugeespeaker.org/>

²⁴ <http://www.voanews.com/content/language-barriers-add-to-migrants-difficulties-in-europe/2961042.html>

contact with an interpreter, which will be somebody who has demonstrated aptitude in a language”. Users of the app can sign up either as ordinary users, with a need for translation, or as volunteer interpreters for any number of languages. When translation is needed, the user makes a language request and the app contacts every volunteer that knows the language to function as a go-between, facilitating real-time translation that allows for conversations across language barriers. Unfortunately, GetAcross currently only functions on iPhone, and the majority of refugees carry Android phones because of their affordability, but the technology exists and is iterating towards a solution at the moment. Both RefugeeSpeaker and GetAcross have enormous potential to be actual game-changing applications for refugees across the world. Many refugees find themselves facing important documents in different languages or conversations with government officials that they cannot understand, which sends them further down the rabbit hole of isolation. Apps that facilitate translation like these new innovations are the most important step towards the pillars of Techfugees — to empower refugees to actualize change in their new communities.

Conclusion

Despite the various setbacks tech faces on a daily basis, tech has provided an incredible amount of resources to refugees in Europe and made significant change. The boom in technology has made more and more individuals aware of the ongoing crisis and has given them an avenue to provide assistance. Developers are mobilizing across Europe in order to help refugees in any way possible; the spirit of humanity and goodwill has been spreading across the continent

in an effort to help those less fortunate, spearheaded by the wave of innovation. In the town of Riace, in the Reggio Calabria region of Italy, the mayor has decided to help revitalize the town by resettling scores of refugees who would otherwise have no place to live. In addition to providing housing for the refugees, the town has also given jobs to most of the refugees as well as enrolled the refugee children in school, in an effort to make them more productive members of Italian society²⁵.

However, the most influential result that technology has catalyzed is the integration of refugees into the changing European climate. Multiple start ups aiming to teach refugees how to code further pushing the first pillar of Techfugees, are empowering refugees to use their significant intellectual capital as part of their new environments. This means that, potentially, the next generation of positive change for the refugee crisis may come from refugees themselves. At the end of the day, they remain most aware of what their needs are. Networks among refugees already exist, through Facebook groups and Whatsapp communities, and Refugees on Rails and the Refugee Coding Project are providing the necessary resources for quick learning. Simply providing access to a computer enables refugees to empower themselves²⁶ over time, the sign of successful societal re-integration.

The foundation for future steps has been laid. Applications that facilitate translation and eliminate language barriers are allowing refugees to have their voices heard, and breakthroughs in renewable, affordable hardware enable those voices to span continents. For a subset of the human population that has lost almost everything — their homelands, their families, their jobs, their peace of mind — any amount of autonomy that can be returned to them is important. The

²⁵<http://www.aljazeera.com/indepth/inpictures/2016/04/refugee-settlement-programs-save-dying-italian-villages-160421113908416.html>

²⁶<http://kutv.com/news/local/refugees-prepare-for-future-with-degrees-in-computer-coding>

challenge for developers and humanitarians alike is to remain focused on the needs of those with nothing, instead of on money and notoriety for the developer, for if that challenge is met the ramifications are massive. This means addressing the refugee community directly for inspiration, like Project Elpis; working alongside the refugee community and identifying a major shortcoming, like GetAcross or GeeCycle; or integrating with local governments to increase accessibility, like Ankommen. In all of these cases, tech can rise to the challenge by placing the needs of users ahead of anything else. One of the biggest reasons this refugee crisis exists at all is because it is difficult for somebody outside of European nationalism and language capabilities to be a contributing piece of European society. However, there's an app for that.

References

Primary Sources:

Samuel Kellerhans, Engineer with Elpis
Alexandros Angelopolous, Engineer with Elpis
Mayel de Borniol, CEO at GetAcross
Patrizio Jellici, Site Planner with UNHCR
Mark Andrews, Volunteer on Lesbos
Stavros Miroyannis, Kara Tepe Camp

Websites or Articles:

Background information on the 1951 refugee convention:

<http://www.unhcr.org/1951-refugee-convention.html>

Situation in Italy:

<http://www.aljazeera.com/indepth/inpictures/2016/04/refugee-settlement-programs-save-dying-it-alien-villages-160421113908416.html>

Information on new coding jobs for refugees with CS knowledge:

<http://kutv.com/news/local/refugees-prepare-for-future-with-degrees-in-computer-coding>

iSea scandal:

<http://www.adweek.com/news/advertising-branding/grey-grudgingly-returns-bronze-lion-it-won-cannes-questionable-i-sea-app-172397>

Background on language barrier difficulty:

<http://www.voanews.com/content/language-barriers-add-to-migrants-difficulties-in-europe/2961042.html>

Background on the inherent bias in apps:

http://www.huffingtonpost.com/2016/06/30/refugees-dont-need-your-a_n_10757006.html

iSea scandal:

<http://mashable.com/2016/06/14/crowdsourcing-app-isea-rescue-refugee-crisis/#vI6MxNK2uSqT>

The EU - Turkey deal:

<http://www.ekathimerini.com/209753/article/ekathimerini/news/leading-rights-groups-slam-eu-turkey-refugee-deal>

Horrible conditions in Turkey:

<https://www.hrw.org/news/2016/06/20/eu-dont-send-syrians-back-turkey>

iSea scandal:

<http://www.dailydot.com/layer8/i-sea-app-refugees-media-coverage/>

Background information on tech in a camp

<http://news.psu.edu/story/350156/2015/03/26/research/ist-researchers-explore-technology-use-syrian-refugee-camp>

Non-refoulement policy:

<http://www.unhcr.org/excom/scip/3ae68ccd10/note-non-refoulement-submitted-high-commissioner.html>

Apps for humanity:

<http://www.p3.co/blog/2016/3/3/public-private-partners-its-not-all-about-the-money>

Techfugees history and background:

<http://www.telegraph.co.uk/technology/news/11923385/Techfugees-ready-or-not-to-take-on-migrant-crisis.html>

Situation we observed in Greece, in article form:

<http://www.aljazeera.com/indepth/features/2016/06/greek-leftists-turn-deserted-hotel-refugee-homes-160629131217044.html>

Refugee status background:

<http://www.unhcr.org/protection/basic/3b66c2aa10/convention-protocol-relating-status-refugees.html>

Refugee background:

<http://www.un.org/en/globalissues/briefingpapers/refugees/>

EU - Turkey deal comes into effect:

<http://www.bbc.com/news/world-europe-35854413>

Books:

Kelly Greenhill, Weapons of Mass Migration: Forced Displacement, Coercion, and Foreign Policy, Cornell University Press, 2010

Apps:

<http://www.refugeespeaker.org/>

<http://refugeeaidapp.com/blog/>

<https://en.medshr.net/>

<http://refugeesonrails.org/en/>

<http://www.geecycle.org/>

<http://www.projectelpis.org/>

<https://getacross.org/>