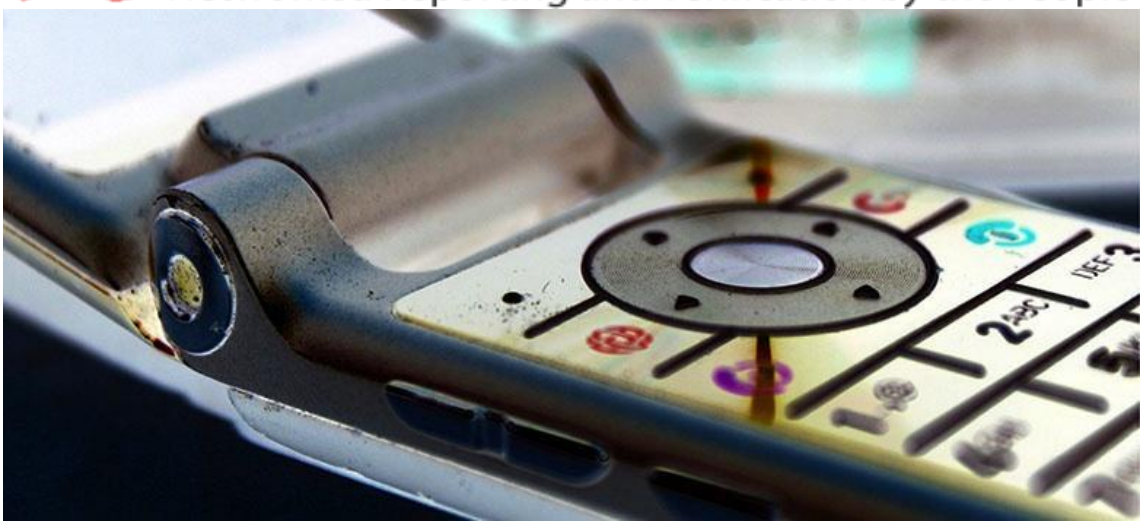
People's Intelligence (PI)
Networked Reporting and Verification by the People



PI Platform: Features and User Stories

Geneva, Delft, Washington and Monrovia Workshop Results

Contents

1. Introduction

This document is a summary of the results of a series of workshops conducted in October 2014 and in March 2015 to understand the needs of a number of humanitarian, human rights, peacebuilding and media actors and elicit their requirements for the PI Platform (PIP).

1.1 Methodology

The PI team followed Agile Software Development methods to elicit needs and features from PI stakeholders. In total we ran four requirements elicitation workshops:

1. In Geneva, Switzerland, on 9 and 10 October 2014 with the International Committee of the Red Cross (ICRC), the International Organization for Migration (IOM) and the United Nations High Commissioner for Refugees (UNHCR).
2. In Delft, The Netherlands, on 29 October 2014 with our media partner Free Press Unlimited (FPU). The workshop was hosted by the Delft University of Technology (TUD).
3. Via Skype on 5 March 2015 with Amnesty International (AI) based out of Washington DC, USA. Conflicting agendas within AI and ongoing crises made it impossible to meet in person in London as planned.
4. In Monrovia, Liberia, on 19 and 20 March 2015 with the Liberian Peacebuilding Office (LPO) and civil society members of the Liberian Early Warning and Early Response (EWER) Working Group.

Prior to our first workshop, we held an in-house brainstorming session to elicit what we thought were essential features of the PIP. In Geneva, the first day of the workshop focused on brainstorming PIP features[1] and potential users. On the second day, the participating organizations proposed and discussed a series of user stories. In Delft we had less time. Together with FPU we reviewed and discussed all the features which had been elicited in Geneva and discussed a first generic user story. FPU subsequently provided another user story in Mali. Over Skype AI discussed and commented on the features elicited in the previous two workshops. AI subsequently provided a user story in written. In Monrovia, in preparation of the workshop we were shown and discussed how the LPO and the associated Liberian Early Warning and Response Network (LERN) run their current operations. The two day workshop which ensued with the members of the EWER working group followed the same format as the Geneva workshop.

The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) could not attend the workshop in Geneva as planned, but expressed interest about how to engage with the people to verify information. All previously named organizations as well as the Office of the High Commissioner for Human Rights (OHCHR) expressed willingness to review and comment on this document.

1.2 Outputs

Features - In following with the Agile Software Development methods we first elicited a great number of features for the PI platforms during short but repetitive brainstorming processes. With the help of the participants they were regrouped and organized along the following categories:

- Dialogue for Data Collection
- Identify and Evaluate Sources

[1] Features of a product or a system are high-level expressions of desired system behaviour.

- Evaluate Information
- Verify Information
- Feedback to Sources
- Output for Organizations
- Sharing Data
- Privacy and Security
- Software and Design

User stories - Subsequently the participants were asked to define "user stories" or use cases, describing a topical use of some of the features elicited in their respective domains of intervention. These user stories are particularly useful as they allow developers to better understand the contexts in which the technology will be deployed. They also help the PI team prioritize the development of more demanded features and create value at an early stage of development. These user stories will also inform recurrent exchanges between PI's developers and an organization's focal points and tester in the course of the iterative development and testing phase of the PI platform.

Participants defined uses of the PI platform to assist the following types of interventions:

- Family Tracing (ICRC)
- Volunteer management (ICRC)
- Camp management (IOM, UNHCR)
- Incident reports (FPU)
- Rights monitoring (AI)
- Peacebuilding (LPO, EWER)

We also discussed a series of user stories whose application span all fields of intervention:

- Syntax errors
- Unknown location
- Communication breakdown
- Informing about risks

1.3 Outcomes

So far the PI project yielded the following outcomes:

- The initiation of a discussion around the benefits and challenges of the automation of a series of critical information processes across interlocking fields of intervention (humanitarian, human rights, media and peacebuilding);
- Exchanges between organizations who often (co-)operate with or alongside one another about the opportunities and challenges of ICT solutions to manage and share information;
- The reaffirmation that ethical principles and protection standards must be at the core of any ICT solution during its entire project life-cycle starting with the requirements analysis phase, the development phase as well as during and after operational deployments of a mature solution;
- The understanding that ICT solutions are but a mean to an end among many other means, and that for all their benefits, human interactions and interventions remain of primordial importance.

1.4 Lessons learned

Throughout the invention phase the PI team shared via HIF's and PI's respective blogs some of the challenges and problems they encountered as well as ways they overcame them. In retrospect and to summarize, it is the exchanges and conversations we all had that were most valuable. Together, we discussed and reflected on best ways to automate the collection, evaluation, verification and sharing information as well as providing sources access to valuable information and actionable feedback, while guarding against risks for the users. During these exchanges the PI team also learned a lot about the challenges faced by the humanitarian, human rights, media and peacebuilding community.

From the start we decided to embrace multiple fields of intervention to test the hypothesis that many of the core features of PI - the automation of a series of critical information processes - could be of use to a series of interlocking organizations. Informed by our interdisciplinary discussions, we believe that the hypothesis holds on condition that we develop a generic platform around these core features which also provide its users with the possibility to customize its use to their domain specific needs.

Overall, while remaining aware of the many challenges ahead, participants provided positive feedback about the process, the results achieved and appeared enthusiastic about testing a prototype of the PI platform in the future. More difficult was retaining the engagement of all our humanitarian stakeholders during the subsequent development phase. While UNCHR and IOM indicated that they will follow the development phase with interest, at this stage only the ICRC is willing to contribute time and resources during the development phase, together with all of our other partners in the fields of human rights (AI), media (FPU) and peacebuilding (LPO).

2. PI Platform Users and Contributors

In principle, any interested party and individual can make use of PIP and contribute to information collection, evaluation, verification, etc. We make the assumption that a person who interacts with PIP through messaging has at the very least access to a "dumb" mobile phone.

Potential users and contributors who interact with PIP through messaging include:

- Victims, witnesses and regular citizens (e.g., local community members, pensioners, peoples with disabilities)
- Community leaders (e.g., traditional, religious, women and youth leaders);
- Various public and economical actors (e.g., health workers, school authorities, employees of commercial enterprises, freelancers);
- Staff members of National and International Organizations, Non-governmental Organizations (NGOs) and state authorities (e.g., field workers, information officers, analysts, decision makers, policy makers);
- Peacekeepers and civil protection actors;
- Journalists;
- Volunteers.

In the remainder of this document a "**source**" is any person contributing information to the PI platform regardless of the means of communication used, e.g. SMS, an 'App' on a feature phone, a form on a web page.

A "**PIP admin user**" is any member of an organization who is responsible for the upkeep, configuration and operation of the PI platform through a dedicated user interface which he or she can use to plan and manage information collection and verification campaigns, evaluate incoming information and provide feedback. Organizations using the PI platform will be able to define users, groups, roles, and permissions to control who has access to the platform and what actions they can perform.

Throughout this document we also make reference to a broader category of users under the term "**affected populations**" or people who are adversely affected by a crisis or a disaster and who are in need of urgent humanitarian assistance.[2]

As for users who will administer the PIP platform through a dedicated user interface (e.g., to plan and manage information collection campaigns, analyse incoming information, provide feedback) we refer to them as PIP administrators.

[2] WHO, Definitions: Emergencies, "Affected people", http://www.who.int/hac/about/definitions/en/ accessed on 08 November 2014.

3. PI Platform Features

Features of a product or a system are high-level expressions of desired system behaviour. Together with the ones discussed with the organizations during the workshop, the desired PIP features are grouped into 9 categories:

1. Dialogue for Data Collection
2. Identification and Evaluation Sources
3. Evaluate Information
4. Verify Information
5. Feedback to Sources
6. Output for Organizations
7. Sharing Data
8. Privacy and Security
9. Software and Design

Prior to the series of planned workshops, the PI team also conducted a brainstorming session that resulted in a number of system features. We use IH (in-house), WS1 (09/10 Oct. 2014 workshop), WS2 (29 Oct. 2014 workshop), WS3 (5 Mar. 2015 workshop) and WS4 (19-20 Mar. 2015 workshop) to indicate which features were generated or commented upon on which occasion. Some features have been rephrased or refined to be more concise or understandable. Notes in *italic* reflect comments made by the PI team and additional contributors in the aftermath of the workshops.

3.1. Dialogue for data collection

A dialogue for data collection refers to a session of questions and answers (Q&A) between PIP and a human actor (hereafter referred to as a source) who sends/reports information to PIP. The form of dialogue is meant for sources that send information per text messaging (e.g. SMS), which is the primary but not the only mean to be supported by PIP for data collection.

What a source can do with People's Intelligence Platform (PIP):

- Initiate a dialogue with source (call, SMS/USSD, app, web)
- Dialogue (Q&A) and collect structured information
- Query information

What a PIP admin user can do with PIP:

- Initiate a dialogue (Q&A) with a source
- Define modify ad-hoc dialogue (Q&A) logic using natural language
- Call back or text-back with consent of the source (see Identification and evaluation of sources)

What PIP does:

- Create unique references for each new dialogue

3.2. Identification and evaluation of sources

The evaluation of the reliability of a source is both helpful to assess how reliable a source is over time and assess the credibility of the information it is reporting. PIP needs means and methods to identify and evaluate sources.

What a source can do with PIP:

- Provide identification information (person, device)
- Provide consent for contact
- Provide consent for data use

What PIP does:

- Deduplication/Identification of same sources
- Evaluate source reliability over time and per information (reliability points)
- Maintain list of sources who consented on being contacted
- Detect potential spammers

What a PIP admin user can do with PIP:

- Review and modify sources evaluation by PIP
- Manually rate sources
- Add and link sources
- Blacklist spammers

3.3. Evaluation of information

Information is evaluated to establish its relevance with regard to a specific thematic or domain of intervention. It is also evaluated to establish how credible the information is compared with other information. To achieve this objective a combination of triangulation as well as semantic analysis techniques can be used.

What PIP does:

- PIP evaluates the relevance and credibility of information
    - Natural language processing (Eng/Fr for a start)
    - Event recognition
    - Typo correction
    - Triangulation
    - Tagging of information

What a PIP admin user can do with PIP:

- Maintain categories of events, relevant keywords, questions, associated feedback
- Sort reported information
- Review and modify information evaluation by PIP
- Manually rate information
- Add and link information

3.4. Verification of information

The features mentioned in this section are meant to support manual verification of information. Features related to verification by means of automated triangulation are listed in Sect. 3.3.

What a source can do with PIP:

- Receive alerts to (manually) verify information
- Send new information related to an alert

What PIP does:

- Alert about information that needs to be verified

What a PIP admin user can do with PIP:

- Receive alerts to (manually) verify information
- Add new information related to an alert

Verification through dialogue

During the workshop in Geneva the PI team exposed one approach to triangulate information that could not be corroborated, e.g. when there is only one source reporting about a particular event or incident, or when sources who reported information have unknown or low reliability ratings and can therefore not be trusted.

The idea is simple and once more relies on establishing dialogues with sources. Say sources A, B and C reported information about a particular event (same date and location and similar answer to the "What happened?" question). If for example those sources are deemed not reliable (low reliability ratings), PIP would send requests to verify the information provided by A, B and C to sources D, E and F who are believed to be in the vicinity of the reported event. Sources D, E and F may be other anonymous sources, sources with a higher reliability rating, vetted sources such as volunteers, staff or a combination of all of the above. Sources D, E and F would have the possibility to accept or refuse such requests. Upon provision of new information from D, E and F, PIP will resume its evaluation of the information provided by A, B and C and assign new credibility ratings on their information as well as new reliability ratings.

3.5. Feedback to sources

These features describe how PIP is to provide feedback to sources who have reported information.

What a source can do with PIP:

- Subscribe to alerts (time bound, thematic)
- Query information (e.g. collected info, service providers)

What PIP does:

- Send messages to sources (e.g. collected info, service providers, contingency measures)
- Alert to give manual input to feedback

What a PIP admin user can do with PIP:

- Add and modify the feedback to a source
- Maintain updated information about available service providers (3W)

3.6. Output for organizations

The output of PIP for organizations include data reporting, statistics, alerts, etc.

What PIP does:

- Produce info graphics
- Send alerts about emerging trends, dangers
- Propose actions to be taken
- Log all actions taken on reported information

What a PIP admin user can do with PIP:

- Authorize alerts and set thresholds
- Subscribe to alerts (time bound, thematic)
- Query information (e.g. collected info, service providers (3W), dashboard)

3.7. Sharing data

Data or information must not be published or shared without the explicit consent of its source. A source may withdraw his/her consent. At the moment of data collection, PIP or a human actor asks a source whether the reported information can be shared with or transmitted to a third party. There are different levels of consent for data sharing. The corresponding questions are e.g.:

1. Can we publish your information e.g. on our website?
2. Can we share unpublished information with other organizations and humanitarian agencies?
3. Can we share your information with authorities?

Organizations often have their own data sharing policies. Whether and what data or information can be shared and when are often different from case to case. In addition, confidentiality and data protection policies will determine if and how data can be shared with third parties. Above all, whether data can be shared need to be judged by ethics, security and safety of the people concerned.

What PIP does:

- Redacts data according to redaction rules
- Shares data according to sharing and querying rules (incl. consent)

What a PIP admin user can do with PIP:

- Define redaction rules
- Validate redactions prior to sharing
- Define sharing and querying rules (incl. consent)
- Validate sharing

3.8. Privacy and security

What a source can do with PIP:

- Ask for her/his information to be destroyed
- Provide information anonymously

What PIP does:

- Provide access and data security
- Devise dissimulation tactics (establish dialogue from another telephone line, blur important communication by making PI number a one shop all number e.g. weather, market prices, good news section)

What a PIP admin user can do with PIP:

- Define access rights, roles, etc. for data sharing and access to PIP functions

3.9. Software and Design

Some issues raised do not pertain to the previous categories. We list these issues here for reference.

- **PIP is open source:** To allow audit, build trust in the platform and increase security.
- **PIP is localized:** PIP must support multiple languages including it's user interface, messages PIP sends and text-based data analysis. French and English are likely to be first considered for PIP prototyping.
- **PIP is communication channel agnostic:** Sources can make use of SMS/MMS, USSD, voice, an "App" on a feature phone or a webpage to report and receive information.
- **PIP supports standard and ad-hoc taxonomies:** PIP admin users can define and maintain list of categories of information.

- **PIP is inter operates with organizations' legacy systems:**
  - **Rapid FTR**: UNICEF uses RapidFTR, an open-source mobile phone application and data storage system that seeks to expedite this process by helping humanitarian workers collect, sort and share information about unaccompanied and separated children in emergency situations so they can be registered for care services and reunited with their families. RapidFTR is specifically designed to streamline and speed up Family Tracing and Reunification (FTR) efforts both in the immediate aftermath of a crisis and during ongoing recovery efforts. Integrates with PRIMERO.
  - **PRIMERO**: UNICEF Protection-related Information Management for Emergency Response Operations, which is an open source software application that will help partners securely and safely collect, store, manage, and share data for protection-related incident monitoring and case management. Integrates with RapidFTR.
  - **Displacement Tracking Matrix** (DTM): IOM System to track and monitor displacement during crises.
  - **PROT6**: ICRC Client Relation Management system for protection data.
  - **Family links Ecosystem**: ICRC family tracing information management system.
  - **ProGRESS**: UNHCR system for refugee registration, repatriation, resettlement
  - **CPiMS**: Save the Children, the International Rescue Committee (IRC) and UNICEF standard inter-agency child protection information management system (IA CP IMS) for the child protection sector. This information management system is a practical, field-level tool that supports effective case management. It is comprised of database software and accompanying 'tools', such as template paper forms and data protection protocols.
- **Tools & Methodologies:**
  - Humanitarian Response
  - Rights Up Front (RuF)
  - Centrality of Protection
  - Restoring Family Links Strategy
  - Communicating with Disaster Affected Communities (CDAC)
  - Accountability for Affected People (AAP)

- **Geofencing:** It is a technology that can be used to send messages and alerts only to those entering or in a geofence (a delineated area) Geofencing can be helpful to verify information about a particular event, alert only certain populations at risk, etc..

4. PI Platform User Stories

4.1. ICRC - Family Tracing

One possible application of PI in the context of natural disasters is to assist the tracing of missing persons. The ICRC indicated that PIP should allow (1) people to report that they are safe and well; and (2) people to search the ICRC database for missing person. Both scenarios are described in more details below.

The scenarios described here are ideal dialogues where a number of messages are exchanged back and forth between PIP and a source, and during the entire exchange the communication does not break down. Moreover, the source answers all questions correctly, respects the prescribed syntax and provides a location that is known. A series of alternative scenarios describe how the PIP system is to deal with the following issues:

- Syntax errors;
- Unknown location;
- Breakdown of the communication (after source has received a unique reference number).

Note: *Discuss and research need of conformity with the People Finder Interchange Format (PFIF) for tracking missing people. PFIF is a data model and an XML-based exchange format for sharing data about people who are missing or displaced by natural or human-made disasters. See PFIF overview, PFIF format and related GooglePersonFinder searchable missing person database.*

4.1.1. User Story 1: "I am safe and well"

In this scenario, a person can use PIP to report that she or he "is safe and well". Typically a person would call or text PIP. In return the person will be prompted with a series of options, among which a "I am safe and well" option as well as the URL of the website where that person can go in case the communication drops and resume the process. Upon choosing this option, PIP will provide the person with a unique reference number that will be used by PIP when providing feedback to the person.

Subsequently, the person will be asked a series of questions necessary to identify her or him, including her or his name, his age and sex, his parents name and where the person is believed to be. PIP will also ask the person's consent to publish the missing person's information on the ICRC website, share this information with other humanitarian actors and/or the authorities.

In terms of feedback, PIP will provide the contact details of the nearest ICRC representation and keep the person informed in case new information has been added to her or his case-file, for example when the missing person reported that she or he is safe and well, or when another person has also reported the person as missing. In such event, and when the person has consented on being recontacted and has indicated that it is her/his personal device, PIP will send a message referring to ICRC standard procedures.

4.1.2. User Story 2: "Searching for a missing person"

In this scenario, a person can use PIP to search for a missing person. Typically a person would call or text PIP. In return the person will be prompted with a series of options, among which "search for a missing person" as well as the URL of the website where that person can go in case the

communication drops. Upon choosing this option, PIP will provide the person with a unique reference number.

As in the first scenario, the person will be asked a series of questions necessary to identify the missing person, including her or his name, his age and sex, his parents name and where the person is believed to be. PIP will also ask the person's consent to publish the missing person's information on the ICRC website, share this information with other humanitarian actors and/or the authorities.

In terms of feedback, at the end of the questionnaire, PIP will provide the contact details of the nearest ICRC representation. And when the person has consented on being recontacted and has indicated that it is her/his personal device, PIP will also keep the person informed in case new information has been added to her or his case-file, for example when the missing person reported that she or he is safe and well, or when another person has also reported the person as missing. In such an event, PIP will send a message to inform the person that new information has been received about the missing person. The message will contain the unique reference communicated by PIP to the person when she or he initiated a search for a missing person as well as the telephone number of an ICRC representative to know what new information has been received.

4.1.3. User Story 3: "I recognized a child"

In this user story, the ICRC explained how PIP could be used in their efforts to reunite children who have been separated from their parents in the context of a natural disaster or an armed conflict.

Traditionally the ICRC publishes posters or books with pictures of children who have been separated from their families. These pictures or books are displayed in IDP or refugee camps among other places with the hope that a relative or a person (e.g. a neighbour or family friend) will recognize their picture and make contact with an ICRC representative. For privacy and security reasons the name of the children or any other biographic information is not published alongside their picture. Each child, however, is identified by means of a unique reference code.

In this context, a person who recognize a picture could call or text PIP to report that they recognize a child's photo. PIP would prompt them with a series of options which could include a "I recognized a child" option. By selecting such an option, the person will be prompted to reply with the unique reference number of the child she or he recognized. PIP will also ask the person who recognized a child how they can be recontacted. Typically, PIP will ask a series of question to inquire about the person's contact details where they can be contacted by an ICRC staff or volunteer. As in the first two user stories, PIP will inquire if the device he used is her or his own and if the person can be recontacted on the same number. In case the person did not call with his own telephone, PIP will ask the person for his address and/or propose to go to the nearest ICRC tracing booth. PIP will also provide the telephone number of the nearest ICRC office or ICRC volunteer. PIP will also alert the closest ICRC staff or a volunteer that a person claims to have recognized a child. The ICRC staff or volunteer will then make contact with the person who reported having recognized a child to ascertain that person's knowledge and relation to the child.

4.1.4. User Story 4: Managing volunteers

In this user story the ICRC explained how PIP could be used to manage volunteers.

Based on an existing list of volunteers, PIP could text volunteers to check their availability. The volunteers can respond by providing information about their availability. PIP can also send a message to listed volunteers with basic instructions (e.g. go to the nearest phone booth, go with list of

disappeared to village X, accept or deliver red cross messages). Volunteers can accept or refuse instructions.

There were hesitations around the option to provide a volunteer with the possibility to update his credential through PIP. While this is possible provided that the volunteer disposes of a unique reference number and answers a series of questions, questions were raised about the possibility for a person with access to a volunteer unique reference number to temper with a volunteer's information.

As in other scenarios, when a volunteer accept instructions, they are provided with a unique reference number which they can use to report back about their accomplishments.

PIP could also be used to run a volunteer recruitment campaign. Volunteers, could text or call a number to enrol. PIP would as in the first two scenarios ask the candidate volunteer to provide identification information and consent where necessary. Upon reception of her/his information, PIP would send instructions as to what to do to be formally registered.

4.2. IOM, UNHCR - Camp Management

4.2.1. User Story 1: Camp profiling and management

This user story is discussed by IOM and UNHCR. They see potential use of PIP in refugee and IDP camp profiling and management, e.g. in relation with the Global CCCM Cluster.

Affected populations can contact PIP to voice their needs and problems or request interventions. Organizations can use PIP to survey affected populations. To help with establishing camp profiles, PIP collects information from affected populations who report about their access to and the availability of services, e.g. shelter and WASH (water, sanitation and health) or who request interventions. For example, a person can report that she or he has not eaten since a number of days; in response, PIP will send a message to the camp manager and/or to relevant 3W actors, e.g. to provide food to needy persons. Affected populations can also use PIP to report protection issues. The reporting of protection issues will require additional discussions due to the sensitivity of the matter, questions related to the safety of the witness of the victim as well as data security.

For example, questions related to WASH are:

- Do you have access to a water point?
- How far is the water point?
- Is the water potable (i.e. drinkable vs. undrinkable)?

Questions can be tailored around known cluster indicators (e.g. shelter, sanitation, health, protection). See the Humanitarian Response registry of cluster indicators.

PIP's feedback to sources about available services relevant to their reported needs or issues should point to existing referral pathways (e.g. health care: hospital A for vaccine, hospital B for …). For example, (after evaluation) reports from sources are transmitted to the relevant camp manager. The camp manager can research issues such as access (roads from point A to point B) and availability of services (shelter, WASH, protection) and inform the source (text or call back). Reports from sources could also be made available to a call centre (hot line) who could decide to contact the source back.

In terms of warnings and notifications, PIP can also alert IOM and UNHCR about patterns of needs or issues in specific camps to inform the prioritization of the response as well as follow ups. For example follow ups could be informing the camp manager by means of a message, calling the camp manager,

contact other sources to verify the information (incl. relevant 3W actors) or send an assessment team.

4.2.2. User Story 2: Sources query PIP about the availability of services

In this user story, sources are allowed to query the system (e.g. about the availability and accessibility of services). Participants mentioned the following categories of queries:

- Availability of services
- Coping mechanisms
- Contact information of organizations who can help define which services are available (e.g. hot line)

If they are to receive automatic feedback about available services, the information must be accurate and up to date. If the information maintained by PIP is not up to date or accurate, PIP can provide the source with the contact details of organizations that can help answer which services is available. PIP can also send their queries to be processed manually, e.g. to a call centre who could check the availability of and access to a service (update the information in PIP) and contact the source back.

It is noteworthy that the number of queries received by PIP about specific services or thematic can help measure the most pressing needs of the affected populations and their interest for specific information.

4.2.3. User Story 3: Maintaining 3W information up to date

The possibility of using PIP to keep 3W information updated was also discussed. PIP could regularly ask service providers to provide updates about the access to or accessibility of their service(s). For example PIP could ask known sources whether a 3W service is operational and accessible. For example, PIP could send the following message "Reply A if service XYZ is operational. Reply B if service is not operational" followed by a second message "Reply A if service is accessible. Reply B if service is not accessible." Results can be shared with the relevant clusters and government counterparts.

The participants also noted the following:

- PIP would need to maintain lists of services and afferent points of contacts updated to send regular update requests.
- It is technically also possible to push surveys about the accessibility and availability of services to a population in the vicinity of the service(s) that need(s) to be assessed.

  Note: *See also feature 54 and associated note on the importance of dating information about services' accessibility and operationability.*

  Note: *Sources who have been referred to certain services could also be asked to evaluate these services for the quality of the services received.*

The participants also noted a series of challenges:

- People could abuse PIP by reporting more needs or issues than there are with the hope to receive more.
- PIP is only available to those in possession of a mobile phone. This may lead to a misrepresentation of categories of vulnerabilities, in particular the most vulnerable who may not dispose of devices to contact PIP.
- In camps everything is currency.

The participants insisted on never removing the human element from the system. A system is not to become a replacement for traditional responses.

4.2.4. User Story 4: Population Movements

This is another user story raised by IOM and UNHCR. PIP may be used, e.g. by refugees or migrations, to report information about population movements. Although the gathered information likely does not suffice for population statistics, it can give indications of trajectories of population movements, and may contain other useful information about field/ground situations. This helps situation analysis of new locations:

- to know that there is a new location; and
- to be informed of events such as attacks, relocations, and natural disasters.

Current Practice: Population movements are currently monitored mainly through (1) focal points and (2) camp monitoring. Organizations have designated focal points at major transport hubs and main point entries in transit cities and towns. These focal points report information about population movements. In addition, in refugee camps, the arrival and departure of people are counted. Camp managers have an good idea of how many people (and who) are living in the camp.

A dialogue between a source and PIP may concern:

- the number of people in the reported movement;
- the destination;
- safety, e.g., "how safe is the situation where you are?".

PIP may give a source feedback concerning the situation of the destination (e.g. where is a refugee camp), and how to contact service points or providers. Feedback concerning safety and security situations (e.g. in an area or a route towards an area) always needs to be treated with caution. Whether such feedback should be provided is under question, since there often lacks overview of a situation, and the situation itself is often vulnerable and subject to change.

The gathered information can be pushed to service providers in an aggregated manner to inform them about population movements for preparation. In this context, PIP can also be used by service providers to update their situations. PIP may ask service providers whether a service point is operational and has more capacity. There is no more detailed discussion on this matter.

4.3. FREE PRESS UNLIMITED - Incident reports in support of local media

4.3.1. User Story 1: "I am afraid"

A source texts or calls PIP. In response, PIP sends the source a message containing a series of options she/he can choose from. For example, a source (in this case a victim) may send "I am afraid". FPU suggested that messages can be formulated from the perspective of the source. When a source sends a message, e.g. "I am afraid", that initiates a Q&A session, PIP would reply with the following questions (and relevant sub-questions in case of inaccurate answers or syntax):

- What happened?
- When did this happen?
- Where did this happen?
- Who did that?

- How do you know?
- Where are you?

Similarly to the ICRC user story, FPU also indicated that it could ask additional questions to identify the source, recontact the source and ask for the source's consent to use and share its data. FPU also indicated that PIP could provide the following types of feedback to the source:

- Thank the source for her/his report
- Depending on the source's consent that her/his information has been broad-casted on the radio, published on a website or shared with other organizations
- The source's report was verified with other credible sources;
- A list of emergency contact numbers.

FPU also indicated that sources should have the possibility to query PIP, opt-in or out of alerts and updates. As in other user stories, PIP would ensure for completeness and accuracy, evaluate the sources as well as the information received and present the results to FPU to take further actions.

4.3.2. User story 2: Support to grass-root journalism in Mali

In the central town of Gao, FPU intends to set up a a production centre to produce radio programmes with their local partners, including talk shows, debates and maybe a news bulletin in local languages. These programmes will be broadcasted by existing radio stations in Northern Mali. Information received by means of PIP can be used to feed the discussion themes of the talk shows and debates or for the daily news bulletin.

More concretely, FPU sees PIP as a blended tool which can assist with information gathering and verification while facilitating limited intervention. On the one hand the users of PIP would operate like field reporters, which would be particular useful in remote areas which journalists can only access with great difficulties because of security issues and transport problems. [Upon receiving relevant information,] PIP would automatically alert the production centre where professional journalists will be in charge of collating, archiving and crosschecking the information received by calling witnesses, verifying information with local police offices, hospitals, etc. On the other hand, because of the volatility of the situation it may be dangerous or even impossible to advise sources for example to stay home or to go immediately to a hospital. At most PIP could provide sources with the contact details of services such as an ambulance, a local police station, the UN peacekeeping operation MINUSMA, the French military operation SERVAL or humanitarian organisations with a presence in the area.

4.4. AMNESTY INTERNATIONAL - Rights Monitoring

Amnesty International provided in writing the following use case requirements:

"Following on consultation with People's Intelligence (PI), Amnesty International here defines ideal use cases for potential piloting. Initial case uses will be conservative relative the full potential of PI as it relates to the collection of information, and the sharing of information. For longer term adoption or support of the PI infrastructure, AI is assured that technical and design specifications identified to date with PI investigators will be sufficient for long term success of the project. For an initial use case, the only additional requirement will be the ability to build into a survey "tree" nodes where explicit consent is provided by the information provider (e.g., "confirm you understand how the information

may be used by AI," with a multiple choice option to confirm understanding). This appears well within the capabilities of PI.

AI recognizes the potential of PI is strongly linked to the ability of individuals to "query" the system for information provided by others. While AI wishes to support the development of this component of the larger project, and incremental approach to AI's use of a PI system would require strong controls on access to the information provided by users AI engages with. As such, initial use requirements would include controlled access to the information, with access limited to relevant AI staff, and PI investigators working on the architecture."

4.4.1. User Story 1: Monitoring Economic, Social, and Cultural rights

In order to test AI's approach to the use of "crowd" derived information, we would seek a use case that involves a minimal amount of risk to the information provider until such time as AI is confident of its internal policies, risk mitigation protocol, and research methodology using such data. As such, rather than instances of highly contentious political environments, armed conflict, or widespread state repression, we would seek an initial use case that could be defined as tension over enjoyment of Economic, Social, and Cultural rights (ESC). While not without risk to local community members, human rights defenders, and PI-information providers, we believe this thematic domain to be more controllable and a better use domain in order to test AI's approach to crowd-derived data.

Examples of such use cases could include the collection of information about housing and tenure rights, access to social services, environmental and/or corporate impacts on quality of life, in addition to collection of information related to local, peaceful organizing and advocacy for enjoyment of rights at the intersect of those narrower thematic issues. As exemplars, past country environments for such work have included informal settlements/slums in Nairobi (access to services), rural areas of the Niger Delta (housing and extractive activity impacts), N'djamena (illegal evictions), Bulgaria (relocation of Roma communities), Haiti (service access), Cambodia (housing/relocation), inter alia.

While one of these areas may serve as a useful pilot, potential use cases would be evaluated based on the risk operating environment as a limiting factor, as well as the extensiveness of AI networks and contacts *in situ*. Other factors such as the prevalence and geographic reach of communications networks, the demographic make-up of those with communications access, and considerations of language fractionalization among the population are likely to be central in the identification of a potential pilot.

4.5. LIBERIA EARLY WARNING AND EARLY RESPONSE (EWER) - Peacebuilding

Current practice: Organizations who are members of the EWER working group make use of the Ushahidi platform to send, receive, tag and map reports. For example, the Liberia Peacebuilding Office (LPO) relies on a group of about 50 trained reporters dispersed across the country to send reports about interventions, violence, election-related issues, cross-cutting issues, land disputes, murder, accident cases and drug activities. The reporters text their report to a dedicated telephone number by means of SMS, starting their message with the keyword "lpo" followed by a description of the incident or event. They are equipped with reminder cards to remind them of the information a report should contain. By inserting the keyword "lpo" at the beginning of their messages, the messages are automatically redirected to the LPO Ushahidi instance for processing. By the same token, the report is sent free of charge for the reporter and is directly charged to the LPO.

Once a SMS reaches the LPO Ushahidi instance, a person manually transcribe each report into "proper" English (at times the reports are written in so called "Liberia English" and/or contain acronyms); tag the report manually along the LPO taxonomy, geolocate it manually on the map, and follow up when and where deemed necessary. The original report is saved on the LPO instance and the edited report is published for all to view on the LERN Ushahidi instance. The current Ushahidi platform does not allow recording, tasking and reminding a user that a report needs to be followed up. Currently, reports are manually assessed along a severity ranking matrix to decide if they need follow-up. As a result, the follow up tends to happen on a ad hoc basis, with some incidents not being followed up.

The LPO and the EWER working group are interested in PIP to automate series of the processes which, as described above, require manual processing. They also wish to increase their number of trained reporters and allow untrained citizens to report incidents. With regard to the later, LPO and the EWER working group are looking at PIP as a potential tool to automate the collection, evaluation and verification of relevant and structured information from unknown sources such as the citizens, which if they were to use their current platform, would require a too large amount of resources to perform.

Of note for piloting and deployment in Liberia:

- Literacy rates (2005-2012)[3]:
  - Female: 42.9%
  - Male: 49.1%
- Population with some secondary education (2005-2012)[4]:
  - Female: 15.7%
  - Male: 39.2%
- Network penetration[5]:
  - Mobile: 78%
  - Internet: 8.3%
- Main network operators:
  - LoneStar: A possible candidate at the 2017 presidential elections, Mr Benoni Urey, is rumoured to own 20% of LoneStar shares.[6]
  - CellCom
- Geofencing: Reportedly works in Liberia for registered users [to be further researched].

4.5.1. User Story 1: Land issues

Members of the Early Warning and Early Response (EWER) working group as well as citizens can call or text PIP to report a land issue. Upon reception of the call or the text message, PIP responds with a series of options from which the source can choose: Please reply " 1" to report a land graft; "2"

[3] Human Development Reports, http://hdr.undp.org/en/data, accessed on 31/03/2015
[4] *Idem*
[5] Liberia - Telecoms, Mobile and Broadband - Market Insights and Statistics, 16 January 2015, http://www.budde.com.au/Research/Liberia-Telecoms-Mobile-and-Broadband-Market-Insights-and-Statistics.html, accessed on 31/03/2015
[6] Liberia: EJS Succession - Liberia's Presidential Election Configuration, 24 February 2015, http://allafrica.com/stories/201502240893.html, accessed on 31/03/2015

to report a land conflict; or "3" to report a land concession issue. Other options are of course possible.

Depending on the answer received, PIP follows up with a series of tailored questions to collect information about the chosen issue. PIP save the answers to each question. PIP then informs the source that his/her report has been received and will be addressed. PIP also alerts the relevant EWER members of a new land issue report. Upon reception of the report, the EWER member can use PIP to cross-examine all the reports about a land issue to determine exactly what is the land issue at hand; tag the report for follow-up; and [upon consent of the source] share the information with the relevant authorities such as the Ministry of Justice or Labour. Once the EWER member has followed-up on the reported issue, PIP informs the source of the actions taken.

EWER members also indicated that they would like to use PIP to mediate and/or mitigate land conflict the participation of relevant stakeholders. The participants, however, did not elaborate how they intended using PIP to achieve this goal.

4.5.2. User Story 2: Election violence

PIP is used to monitor the situation during the registration process (e.g., political party conventions where candidates are chosen); the electoral campaign (e.g., distribution of leaflets, use of hate speech by certain candidates or affiliates); the voting (e.g., opening time of the polling station, presence or absence of party representatives, turn-out at the polling station, incidents which negatively impact on the electoral process, tally); the counting process and the publication of the election results; as well as incidents in the aftermath of the elections (e.g. human rights violations).

National and international long term and short term election observers, but also citizens, can call or text PIP to report incidents during the different electoral phases.

For each phase, a source calling or texting PIP can be provided with series of options to choose from and specific questions to answer in order to document the option chosen. Dedicated telephone lines can be provided for election monitors allowing for tailored reporting options and related questions. Other telephone lines accessible by citizens would provide for more generic options and related questions. Examples of questions that citizens could be asked:

- When did the polling station open?
- Are the polling stations clearly identified for everybody to see?
- Are party monitors present?
- Is there a security present? How does the security behave?
- Is there any violence?
- Is the entire process OK?

Upon receiving reports, PIP will assess the reliability of the source and the credibility of the information reported. Where and when necessary and possible [considering safety and security precautions], PIP can ask specific questions to identify the source of a report. Electoral monitors can be provided with unique reference numbers to allow their identification.

Reports of incidents can be aggregated by polling station or at higher aggregation levels such as the electoral constituencies. PIP would either automatically, or after screening and vetting by an PIP administrator, send alerts of credible incidents prone to disrupt the polls to monitors in the vicinity of a polling stations where such incidents have been reported.

PIP will also provide feedback to the source. The type of feedback that can be provided needs to be further discussed as these may vary depending on the source type (trained monitors or citizens), the reporting phase and the type of report received, among other things.

4.5.3. User Story 3: Human Rights - Sexual and Gender Based Violence

A trained monitor text or call PIP and reports an alleged rape of a 12 year old by a 40 years old man in Duside Community, Firestone, Margibi County. PIP asks the monitor a series of questions including the monitor's location. Based on the answers given and assuming that that all the necessary safety and security precautions have been met, PIP proposes a series of possible responses to the PIP administrator such as the contact details of the nearest clinic or hospital where the victim can be cared for or contact details of the nearest police station to report the alleged rape. After clearing and selecting a response, the PIP administrator contacts the trained monitor and delivers the response. [Once cleared by a PIP administrator, the response could be delivered by means of SMS as well.] The PIP administrator can also decide to share the information with the authorities. The identity of the victim should be protected, for example, by referring to the victim by means of a code and not sharing the victim's identity but only the victim's code.

4.5.4. User Story 4: Peacebuilding - Violence monitoring

This use story mainly focuses on the feedback that PIP can provide a source and the outputs for PIP administrators.

Upon reporting a violent incident, PIP informs the source if someone else has reported a similar incident. In other words, PIP tells the source if the information he/she reported is deemed credible or not. PIP could also provide direct feedback in the form of recommendations as to what to do. For example, somebody reports seeing a corpse on a football field, PIP could recommend the source to contact the nearest police station and provide the source with the police contact details. Alternatively, PIP could tell the source not to take any action as the relevant authorities have been warned and will respond.

PIP also rings alarms when receiving reports about issues deemed critical by the PIP administrator, e.g., a murder that could escalate into an inter-tribal conflict or demonstrations that turn violent. Assuming availability of data, PIP provides for possible responses for a PIP administrator to choose from in a given situation. For example, alert community elders of the situation and ask them to attempt deescalating the situation through mediation, or should the situation get out of hand, alert the police. In such case, PIP could also provide the PIP administrator with the contact details of the local community elders and/or the local police.

PIP also automatically forwards reports to relevant institutions after these reports have met a certain credibility threshold. Alternatively, to prevent the spread of false rumours, PIP could could also warn communities that certain information that has been reported has not been verified. PI also produces charts and graphs summarizing the reported information.

4.6. Alternative User Stories

4.6.1. Syntax errors

In case a source does not answer a question with the correct syntax (e.g. letters instead of numbers, dates not respecting formats, obvious typos, etc.), PIP will perform the following actions:

- Attempt to auto-correct the response provided (e.g. "yesterday" instead of a date according to proposed format "ddmmyyyy" or a typo which makes PIP hesitate between different words) and prompt the source with a corrected answer.
- If it cannot auto-correct the response provided, PIP will ask the question again insisting that the source uses the proper format or reiterate her/his answer

4.6.2. Location unknown

When a source provides a location, PIP will check it against known Common Operational Datasets (COD) and/or available mapping tools (Open Street Maps, Google Maps, Bing Maps, etc.). If the location is found and there is no other location with the same denomination in another administrative boundaries, it will prompt the next question to the source. However, in case the source:

1. Provided the name of a locality for which there are multiple occurrences in the COD of in available mapping tools, PIP will prompt the source with the different possibilities and ask the source to choose before resuming its original list of questions;
2. Provided the name of a locality for which there are no known occurrences, PIP will inform the source that this location is unknown and will prompt the source with a series of additional questions to approximately locate the said location. For example:
    a. What is the nearest large city? Reply with a name.
    b. How many kilometres/miles from your location? Reply with a number.
    c. In which direction (north, east, south, west or any combination thereof)? Reply with a letter (N for north) or a combination of letters (SW for south-west).

4.6.3. Communication breakdown

If the communication breaks down after PIP sent a source a unique reference number, it is possible to imagine to provide a source with the possibility to resume the session with the reference number of the session that was interrupted where she/he left. Typically, in such a scenario, the source will be asked to reply with the unique reference number sent by PIP and PIP will resume the Q&A session with the next question for which it has not yet received an answer.

Note: There are security concerns that need to be guarded against as a person who is not the source but disposes of the unique reference number provided to the source (e.g. the source used a third party mobile phone) could impersonate the source and provide misleading information to PIP. One possible way to guard against this is when making use of non-feature phones is by making use of USSD instead of SMS when available. One of the advantages of USSD over SMS is that it does not leave a trace of the messages that were received and sent. In such a case, the source needs to write down or memorize the unique reference number sent to her/him. If the source does not share the unique reference number, the possibility of somebody else resuming the session and providing misleading information is nil (unless of course the integrity of the network has been compromised and somebody has gained access to the content of the communications between a source and PIP).

4.6.4. Informing about risks

The question about informing the user about the risks entailed by sending information over insecure lines of communications was also raised. Organization using PIP will define dialogues to warn sources of the risks entailed making contact with PIP. These warnings can be sent at the very beginning of a new dialogue before asking the source to send substantial information and provide his/her consent to publish or share it.

5. Annex A: Example of a conversation

An example of a dialogue between a source and PIP follow. The scenario described here is an ideal dialogues where a number of messages are exchanged back and forth between PIP and a source, and during the entire exchange the communication does not break down. Moreover, the source answers all questions correctly, respects the prescribed syntax and provides a location that is known.

5.1. User Story 1 "I am safe and well"

1 **SOURCE:** A person called John Smith calls or simply texts the ICRC hotline (e.g. number 123). When texting the ICRC hotline, the message can either be empty or contain text (e.g. "I am safe").

2 **PIP:**

2.1 PIP initiates a new session

2.2 PIP sends a first message to the source

3 **SOURCE:** John receives the following message:

> ICRC Family Tracing. Reply "1" if you are safe and well. Reply "2" to search a missing person. If connection is lost go to www.familylinks.icrc.org
> (147/160 characters)

4 **SOURCE:** John reports that he is safe and well:

> 1
> (159/160 characters)

5 **PIP:**

5.1 PIP evaluates the information (syntax)

5.2 PIP creates a unique reference number

5.3 PIP sends the next message to the source

6 **SOURCE:** John receives the following message:

> Your reference number is XYZ12345. Please write it down. We need to ask you a series of questions. Q1: Reply with your first name followed by your last name.
> (157/160 characters)

7 **SOURCE:** John replies:

John Smith
(10/160 characters)

8 **PIP:**

8.1 PIP evaluates the information (syntax)

8.2 PIP sends the next question

9 **SOURCE:** John receives the following message:

Q2: Reply with the first name followed by the last name of your father.
(71/160 characters)

10 **SOURCE:** John replies:

Jack Smith
(10/160 characters)

11 **PIP:**

11.1 PIP evaluates the information (syntax)

11.2 PIP sends the next question

12 **SOURCE:** John receives the following message:

Q3: Reply with the first name followed by the last name of your mother.
(71/160 characters)

13 **SOURCE:** John replies:

Judith Doe
(8/160 characters)

14 **SYSTEM:**

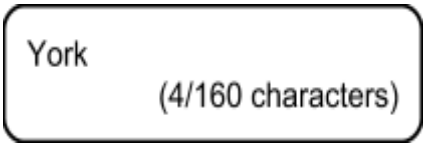
14.1 PIP evaluates the information (syntax)

14.2 PIP sends the next question

15 **SOURCE:** John receives the following message:

Q4: Reply with the name of the village or city where you currently reside.
(74/160 characters)

16 **SOURCE:** John replies**:**

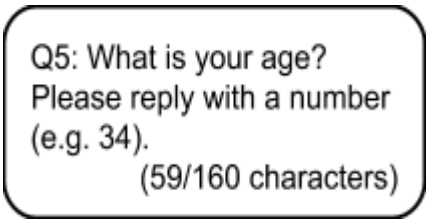


17 **SYSTEM:**

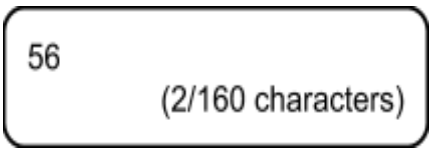
17.1 PIP evaluates the information (syntax, location)

17.2 PIP sends the next question

18 **SOURCE:** John receives the following message:



19 **SOURCE:** John replies:



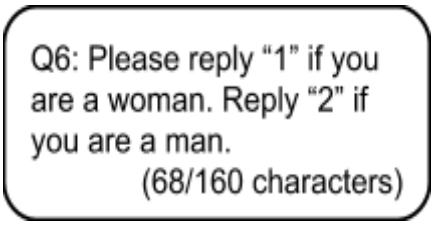
20 **SYSTEM:**

20.1 PIP evaluates the information (syntax)

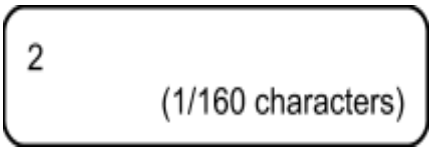
20.2 PIP sends the next question

Note: In case the missing person is under 18 years of age, PIP will inform that her/his biographic data will not be published on the ICRC website and directly ask the source's consent (here Jane) to share the information about the missing child with other humanitarian actors and/or the authorities.

21 **SOURCE:** John receives the following message:



22 **SOURCE:** John replies:



23 **SYSTEM:**

23.1 PIP evaluates the information (syntax)

23.2 PIP sends the next question

24 **SOURCE:** John receives the following message:

Q7: We need your consent to share your data. Can we publish your data on the ICRC website? Please reply "yes" or "no".
(118/160 characters)

25 **SOURCE:** John replies:

yes
(3/160 characters)

26 **SYSTEM:**

26.1 PIP evaluates the information (syntax)

26.2 PIP sends the next question

27 **SOURCE:** John receives the following message:

Q8: Can we share your data with other humanitarian organizations? Please reply "yes" or "no".
(93/160 characters)

28 **SOURCE:** John replies:

yes
(3/160 characters)

29 **SYSTEM:**

29.1 PIP evaluates the information (syntax)

29.2 PIP sends the next question

30 **SOURCE:** John receives the following message:

Q9: Can we share your data with the authorities? Please reply "yes" or "no".
(76/160 characters)

31 **SOURCE:** John replies:

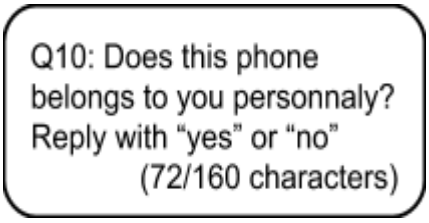
no
(2/160 characters)

32 **SYSTEM:**

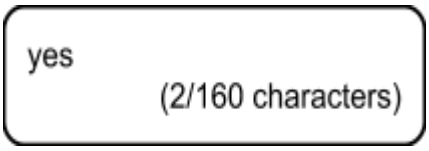
32.1 PIP evaluates the information (syntax)

32.2 PIP sends the next question

33 **SOURCE:** John receives the following message:



34 **SOURCE:** John replies:

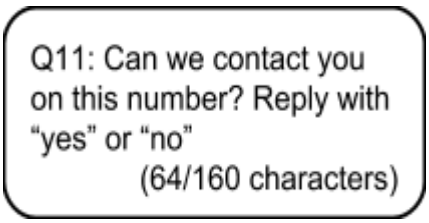


35 **SYSTEM:**

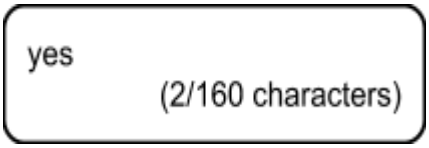
35.1 PIP evaluates the information (syntax)

35.2 PIP sends the next question

36 **SOURCE:** John receives the following message:



37 **SOURCE:** John replies:

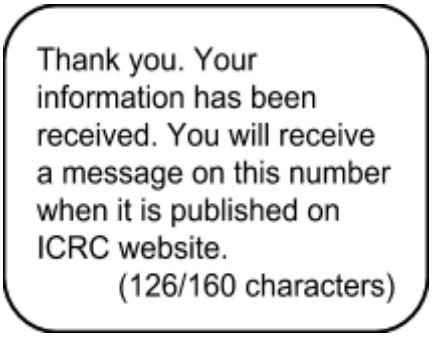


38 **SYSTEM:**

38.1 PIP evaluates the information (syntax, logic)

38.2 PIP informs the source that all her/his information has been received and that he will receive a message on his/her telephone when her/his information has been published on the ICRC website.

39 **SOURCE:** John receives the following message:

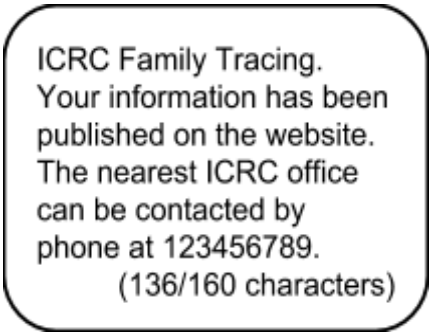


40 **SYSTEM**: PIP sends all information received from John to the ICRC family tracing system

41 **ICRC FAMILY TRACING SYSTEM**: Informs PIP when John's information has been published on the ICRC website

42 **SYSTEM**: PIP sends message to John that his information has been published on the website + telephone number of nearest ICRC office

43 **SOURCE**: John receives the following message:



44 **ICRC FAMILY TRACING SYSTEM**: Checks the database and informs PIP if the person has been reported as missing by somebody else.

45 **SYSTEM:** In case the person has consented on being recontacted and has indicated that it is her/his personal device, PIP will send a message to the SOURCE referring to ICRC standard procedures.

46 **SOURCE:** John receives the following message: *"We received new information in relation to your case nr. XYZ12345. Please contact the nearest ICRC office by phone at 123456789.*

6. Annex B: Workshop participants

6.1. Geneva workshop - 9-10 October 2014

- Alexandra KRAUSE, Information Management Officer (Protection), UNHCR
- Kelly RYAN, Information Management Officer, UNHCR
- Guilhem RAVIER, Head of Unit, Protection of the Civilian Population, ICRC
- Aurelio SALA, Head of Project - Restoring Family Links WebGate, ICRC
- Muhammad RIZKI, Information Management Officer, IOM

Note: *Ms KRAUSE and Ms RYAN each attended a different day of the workshop.*

6.2. Delft workshop - 29 October 2014

- Leon WILLEMS, Director Policy and Programmes, FPU
- Leon VAN DEN BOOGERD, Team Leader for Participatory Media, FPU
- Menso HEUS, Coordinator for the Internet Protection Lab, FPU
- Martijn WARNIER, Associate Professor Systems Engineering, TU Delft

6.3. Washington DC workshop (via Skype) - 5 March 2015

- Scott EDWARDS, Research Advisor, Amnesty International (AI)
- Christophe KOETTL, Research Advisor, Amnesty International
- Roxana GALUSCA, PhD Researcher with Amnesty International

6.4. Monrovia workshop - 19-20 March 2015:

- Nathaniel WALKER, Independent Consultant, Liberia & USA
- Togar TARPEH, Coordinator, Liberia Peacebuilding Office/Ministry of Internal Affairs (LPO/MIA)
- Sheikh KAMANA,Data Management Assistant, LPO
- Adline V. KETTER, Volunteer, LPO
- Ryan GRETZ, Intern, LPO
- Alex LASSAROH SWAVAY, Programme Officer, Flomo Theater
- Nelson O. KANDOR, Programme Assistant, West Africa Network for Peacebuilding Liberia (WANEP)
- Solomon S. GILEH, Executive Director, Edusport
- K. Boboh KOLLIE, Project Manager, GAPS
- Sheikh Idrissa SWAROY, Executive Director, UMABGCO
- Watta MASSALAY, Finance Officer, UMABGCO
- Vera GARWEY, Women/Children Desk, Inter Religious Council Liberia (ICRL)
- James DARWOLO, Civil Affairs Officer, United Nations Mission in Liberia (UNMIL)
- Timothy M. ZONOE, Technology Specialist, iLab Liberia
- Mohammed M. SHERIF, Executive Director, Foundation for Peace and Development (FPD)
- Mai W. WALO, Admin and Finance Officer, FPD
- Francis E. LANSANA, Resident, Accountability Lab
- Bongafule TAMBA, Assistant Programme Officer, Rights and Rice Foundation (RRF)
- David M. KOLLIE, Executive Director, Kwageh Community Development Program (KCDP)
- D. Maxim KUMEH, Executive Director, IPC

- E. Gbellay HARRIS, Regional Officer, Lutherian Church in Liberia - Trauma Healing and Reconciliation Programme (LCL-THRP)
- Theresa WILLIAMS, Warehouse Coordinator, National Disaster Relief Commission/Ministry of Internal Affairs (NDRC/MIA)
- Salomon WATKINS, Communications, Liberia Media Center (LMC)
- Varney AH. KAMARA, Coordinator, Liberia Freedom of Information Coalition (LFIC)

6.5. Additional contributions

- Ashraf Kheir, Senior Developer, Stichting People's Intelligence
- Dr Ulrich Mans, Co-Founder, Peace Informatics Lab
- Martin Užák, Developer, Independent

Version: 1.0, created on 19/10/2014, last updated on 20/05/2015

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Acknowledgements: We are very grateful to all the organizations who engaged with the PI project and whose members actively participated in the series of elicitation workshops we organized. Their input throughout our discussions has been instrumental to our better comprehension of their various domains of intervention and how the PI platform could help tackle some of the information challenges at hand.

We are equally thankful to the Humanitarian Innovation Fund, a programme managed by ELRHA (Enhancing Learning and Research for Humanitarian Assistance), for supporting the invention phase of the PI project and allowing us to share its results with the wider NGO community.

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