Adapting Open Geospatial Data Visualization to Support Forced Migrants in Their Host Cities

GEO-C

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CONTEXT

65.3 million forced migrants
world wide in 2015 [UN,2015]

FM=21.3 mil. Refugees; 3.2 mil. Asylum seekers; and 40.2 IDPs

FM need to access information to do not fall into marginalization.

Open geospatial data augments the world we live in.

Aspects to consider
- training and education, guidance by local institutions and population, proficiency of local language
- Overflow and complexity of the available information

CHALLENGES

Search for ways for forced migrants to use open data despite the challenges in their resettlement process.

1. **Identification of FM's challenges and needs** in their resettlement in host cities.

2. **Developing open geospatial data visualization and interaction adaptations** for mobile services (i.e. ICT) for FM in their host city.

ACTIONS

Semi-structured interviews
with FM and relevant stakeholders

1. FORCED MIGRANTS ✓
- 4 individual interviews
- 2 group interviews (N=7)

2. OTHER STAKEHOLDERS ✓
- 5 social workers
- 1 staff member at FM accommodations

Participatory workshops (2x)
with YFM (combining PR+PD)

1. CHALLENGES AND NEEDS ✓
- 5 workshops (N~25 YFM) + 2x (N=20 Locals)
- 1 field trip (N~25 YFM +N=20 Locals)
- 1 evaluation session (N~25 YFM + N=20 Locals)

2. DESIGN ADAPTATIONS
- Data visualization, User Interface design, Content – Low-fidelity prototyping (N_expected~10 YFM)

Lab/Field Study
with FM (testing prototypes)

EVALUATION OF ADAPTATIONS
Most suitable open geospatial data visualizations
- General data representation
- Spatial familiarization purpose

RESULTS

Initial Challenges [in progress..]

- Limited proficiency of local language
- Occasional low literacy competency
- Lack of experience with geospatial apps
- Complexity of available geospatial information
- Orientation and self-location in new cities

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Initial Needs [in progress..]

- Offline geospatial mobile applications
- Add geospatial aspects from the host city dynamics (networking + language)
- Highly graphic interfaces (pictures+ semi-concrete icons)
- Audio support for information communication

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Guidelines   Open tool

OCT

SCALING UP

Assessment of new conditions

VS.

Calibration of visualization adaptations

1. Available adaptations are focused on first stages of FM's resettlement (e.g. navigation (Map+Picture/ AR+Map → + Pictures – Text UI)

2. Using the obtained open geospatial data visualizations to generate solutions that adapt in time for further FM's resettlement stages.

IMPACT

Direct users

Indirect users

Supports the creation and adaptation of open data for one vulnerable population group.
It contributes to enhance more open, inclusive, and resilient cities on migration related aspects.