ChildRescue:
A Collective Awareness Platform for Missing Children Investigation and Rescue


*NTUA, DSS Lab
**Frankfurt UAS
Issues with the current mechanism

If a child goes missing around a park, from the public’s perspective
- How many people should be aware?
- Where should they be?
- What should they know?
- When should they know it?

from the Missing Children organisations’ (and the police’s) perspective
- Where are the records located?
- What if the child needs to be sought in another country?
- How is (?) profiling done?
- How are S&R teams organised? Who’s where in relation to the case file’s evidence?

*Source: Figures and Trends Report 2017 (by Missing Children Europe)
Issues with the current mechanism

When an unaccompanied migrant minor comes to a shelter, from the hosting facility’s perspective

- Can we identify him?
- Should we have been expecting him?
- Where is he going?
- Does he intend to stay?
- Is he in danger?

If/when he goes missing, from the hosting facility’s, the missing children organisations’ and the police’s perspective

- Is he in danger?
- See previous slide...
What does ChildRescue offer?

Through the use of cutting-edge technologies, ChildRescue harnesses collective awareness, for the faster and more effective resolution of missing children cases.

ChildRescue is co-funded from the European Union’s Horizon 2020 research and innovation programme, with the goal to:

- reduce the time required to identify a missing child
- support the detection and protection of unaccompanied migrant minors
Our approach:
General Public as active social sensors

Leveraging collective creativity, resourcefulness and action for a meaningful cause

Providing location-based audience targeting of mobile alerts

Integration of multiple sources for the missing child

Increasing accuracy and timeliness of publicly and privately available information

Performing evidence-based predictions on the whereabouts of children in distress

Effective, significant reduction in the time needed for locating a missing child

Liverpool, 04/07
Our approach at a Glance
Research Challenges

Through the exploitation of innovative technologies, it achieves:

- Location-based distribution of alerts
- Prediction of the most probable location and routes followed for the missing child
- Raising of individual & collective awareness for the collection and validation of information on the missing child and his/her movements
- Use of social networks as an additional source of information for the missing child
Spatiotemporal Data Analytics for route estimation

Static datasets
- Open Data
- Past cases

Dynamically created evidence data
- Social network activity
- Potential POIs based on profile
- Inaccurate reported point
- Potential routes
- Community Mobile Notifications
- Notifications spread

Point gone missing
Validated point seen after x time
Validated point seen after y time
Validated point seen after z time

Liverpool, 04/07
Which are the ChildRescue consortium partners?

<table>
<thead>
<tr>
<th>Partners</th>
<th>Country</th>
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<tbody>
<tr>
<td>National Technical University of Athens (NTUA), Decision Support System Laboratory, DSSLab (Co-ordinator)</td>
<td>Greece</td>
</tr>
<tr>
<td>European Federation for Missing and Sexually Exploited Children AISBL - Missing Children Europe (MCE)</td>
<td>Belgium</td>
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<td>The Smile of the Child (SoC)</td>
<td>Greece</td>
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<tr>
<td>Foundation for Missing and Sexually Exploited Children – (Child Focus)</td>
<td>Belgium</td>
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<tr>
<td>Hellenic Red Cross (REDCROSS)</td>
<td>Greece</td>
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<tr>
<td>Frankfurt University of Applied Sciences (FRA-IAS)</td>
<td>Germany</td>
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<tr>
<td>SINGULARLOGIC ANONYMI ETAIREIA PLIROFORIAKON SYSTIMATON KAI EFARMOGON PLIROFORIKIS (SLG)</td>
<td>Greece</td>
</tr>
<tr>
<td>Ubitex Limited (UBITEX)</td>
<td>Cyprus</td>
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<tr>
<td>MADE Group (MADE)</td>
<td>Greece</td>
</tr>
<tr>
<td>SUITES DATA INTELLIGENCE SOLUTIONS LIMITED (SS)</td>
<td>Cyprus</td>
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Dashboard for the Case Manager
Collaboration Space for the Case Manager
Mobile app for the simple users
ChildRescue in 2020

By the end of 2020, ChildRescue aims to be actively used:

- In the search for missing children
- In the support of hosting facilities for unaccompanied migrant minors
- As a tool for cross-border co-operation among public and private child welfare organisations on a pan-European level
When?

- **June 2019**: 1st pilot release of the ChildRescue mobile application

- **July-September 2019**: Internal testing and pilot experimentation on the 1st release of the application in Greece and Belgium

- **End of September 2019**: Training and simulation/tabletop exercise in a controlled group of 10-20 people in Greece and Belgium

- **November 2019**: Internal testing to a larger controlled group of volunteers (e.g. 2,000 people) in Greece and Belgium

- **End of February 2020**: Training (one day) and field exercise (one day) of the beta version of the ChildRescue platform and application

- **March 2020**: Final version of the ChildRescue platform & mobile app

- **May 2020**: Public release of the ChildRescue platform
Summing Up

a multi-source spatiotemporal data analytics approach,

based on the knowledge extracted from the state-of-the-art review,

that aims to support an active missing children investigation process.

Accomplished by recommending possible POIs the child might visit and estimating routes/trajectories possibly followed,

so that mobile app notifications can be adapted/adjusted accordingly and be sent only to relevant, location-wise, recipients.
When a child goes missing, every minute counts

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