

Invitation for dialogue conference and information about upcoming innovation competition

“Mobile literacy and psychosocial wellbeing tool for children affected by the Syrian conflict”

Project partners: the Norwegian government<sup>1</sup>, in cooperation with the Norwegian University of Science and Technology (NTNU), the All Children Reading Grand Challenge for Development<sup>2</sup>, the mobile network operator Orange and the Inter-Agency Network for Emergency Education (INEE)

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<sup>1</sup> Represented by the Norwegian Ministry of Foreign Affairs, the Norwegian Agency for Development Cooperation (Norad), the Norwegian Agency for Public Management and eGovernment (Difi). The project is also assisted by the Norwegian National Programme for Supplier Development.

<sup>2</sup> Launched in 2011 by the US Agency for International Development (USAID), World Vision and the Australian Government. See also: <http://allchildrenreading.org/>

## Background

The Syrian conflict is causing disruption to the education of millions of children, in addition to threatening their physical safety and psychosocial wellbeing. According to a recent report from Save the Children<sup>3</sup>

- Basic education enrolment in Syria has fallen from close to 100% to an average of 50%. In areas like Aleppo which has seen active conflict for a prolonged period, that is closer to 6%.
- At least a quarter of schools have been damaged or destroyed.
- Almost three million Syrian children are out of school.
- In 2014, half of refugee children were not receiving any form of education.

Globally, approximately 80 million people are currently impacted by humanitarian emergencies arising from natural disasters and armed conflicts. In a recently published background paper analysing 35 crisis affected countries, the Overseas Development Institute states that “Globally, an estimated 65 million children aged 3-15 are directly affected by emergencies and protracted crises, according to an analysis of 35 crisis affected countries. While a number are out of school, for those in school, many are at risk of education disruption, drop out, and poor quality, alongside psychosocial and protection concerns”.<sup>4</sup>

Millions of Syrian children are not receiving any form of education. Achieving reading and writing fluency (literacy) is crucial for lifelong learning, and would therefore be a skill that is particularly important to develop for children that do not have the opportunity to learn in a classroom. A positive factor is that Syrian parents are generally literate and well educated, and may therefore be able to provide support to their children in their learning efforts.<sup>5</sup>

Early grade reading instruction involves teaching five component skills and providing ample reading practice. The component skills are: (1) learning that the language is made up of a specific set of individual sounds and that letters and letter combinations represent those sounds; (2) developing the skill to decode letters, letter combinations and words; (3) vocabulary; (4) oral reading fluency (speed and accuracy), and (5) comprehension.<sup>6</sup>

Syrian children both inside and outside of school are living under the extreme stress of a protracted conflict. Elevated and prolonged stress levels can lead to high levels of cortisol, which impede brain development and can result in learning disabilities, memory problems and emotional regulation difficulties.<sup>7</sup> Although the reported prevalence of mental health impairment among children and

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<sup>3</sup> Save the Children, 2015, “The Cost of War. Calculating the impact of the collapse of Syria’s education system on Syria’s future” [http://www.savethechildren.org.uk/sites/default/files/images/The\\_Cost\\_of\\_War.pdf](http://www.savethechildren.org.uk/sites/default/files/images/The_Cost_of_War.pdf).

<sup>4</sup> Susan Nicolai, Sébastien Hine and Joseph Wales, the Overseas Development Institute (2015), “Education in emergencies and protracted crises. Toward a strengthened response”, Background paper for the Oslo Summit on Education for Development, <http://www.osloeducationsummit.no/pop.cfm?FuseAction=Doc&pAction=View&pDocumentId=63312>.

<sup>5</sup> For an example of the use of para-teachers to help children learn, see a demo of Success for All’s computer-assisted tutoring at: <http://www.successforall.org/Elementary/Schoolwide-Support-and-Intervention-Tools/Computer-Assisted-Tutoring-Tools/>. Note that this is a supplement to classroom instruction which is led by a trained teacher.

<sup>6</sup> See for instance Adams, M. A. (1990). *Beginning to read*. Cambridge: MIT Press; NRP [National Reading Panel] (2000a). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Washington, D.C.: National Institute of Child Health and Human Development;

Comings, J. P. (2015). An evidence-based model for early-grade reading programmes. *Prospects* 45: 167-180

<sup>7</sup> See for instance Center on the Developing Child, Harvard University, [http://developingchild.harvard.edu/key\\_concepts/toxic\\_stress\\_response/](http://developingchild.harvard.edu/key_concepts/toxic_stress_response/) and Thabet, A. A., & Vostanis, P.

adolescents in conflict and crises varies considerably, numerous studies, e.g. studies<sup>8</sup> in Gaza, have demonstrated the highly detrimental effects this can have on the psychosocial wellbeing of children, which again affects the ability to learn<sup>9</sup>. Given that psychosocial wellbeing is so fundamental for the ability to learn, many of the ongoing non-formal educational programmes targeting children from areas affected by humanitarian crises and protracted conflict include fun, play and stress relief approaches as an integral part of their overall learning efforts. Could a digital learning approach also combine learning and psychosocial wellbeing?

### The innovation challenge

This project seeks to develop a smartphone application that can significantly increase literacy levels<sup>10</sup> in Arabic and improve psychosocial wellbeing for children (aged 4–10) in Syrian<sup>11</sup> households that use the application. The application is primarily intended for household use, to supplement the formal and non-formal educational programmes that exist, but it would be considered an advantage if it could also be used within these programmes.

### The potential for using smartphones to reach households directly with tools

Communication surveys, factual statistics and media coverage on the topic indicate a high prevalence of smartphone ownership among Syrians living as refugees in host countries, and we therefore assume that there is a potential for providing learning opportunities directly to many households.<sup>12</sup> Our tentative assumption is that this also pertains to Syrians living in Syria, but that many areas will not have reliable network coverage. Alternative outreach strategies, for instance via humanitarian organisations, may therefore be needed in order for these households to download learning applications to their phones or to access them on other media platforms.

Crucially, the international mobile network operator Orange has agreed to be a partner in this project, both for quality assurance and for outreach in Jordan, where many Syrians live as refugees. The GSM Association (GSMA) will in addition support the project through its Disaster Response Programme by providing mobile market intelligence for affected areas and supporting outreach efforts where possible.

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(2000). Post traumatic stress disorder reactions in children of war: a longitudinal study. *Child Abuse and Neglect*, 24(2), 291-298.

<sup>8</sup> Save the Children, 2014, "A living nightmare. Gaza – one year on",

[http://www.savethechildren.org.au/data/assets/pdf\\_file/0012/102090/GAZA-one-year-on.pdf](http://www.savethechildren.org.au/data/assets/pdf_file/0012/102090/GAZA-one-year-on.pdf).

<sup>9</sup> Schultz, J. H., Sørensen, P. M., & Waaktaar, T. (2012). Ready for School? Trauma Exposure and Mental Health in a Group of War-Affected Ugandan Adolescents Re-Attending School. *Scandinavian Journal of Educational Research*, 56(5), 539-553.

<sup>10</sup> Defined as documented effect on two or more of the five component skills described earlier.

<sup>11</sup> Living in Syria and as refugees in host countries.

<sup>12</sup> See for instance Stephanie Koons, "IST researchers explore technology use in Syrian refugee camp", Penn State News, URL: <http://news.psu.edu/story/350156/2015/03/26/research/ist-researchers-explore-technology-use-syrian-refugee-camp>, CIA, The World Factbook, Middle East: Syria, URL: <https://www.cia.gov/library/publications/the-world-factbook/geos/sy.html>, and GSMA's Arab States 2014 report [http://arabstates.gsmamobileeconomy.com/GSMA\\_ME\\_Arab\\_States\\_2014.pdf](http://arabstates.gsmamobileeconomy.com/GSMA_ME_Arab_States_2014.pdf).

## Our impression of which digital tools already exist

Through this invitation, we are initially requesting ideas and relevant research that can help us better understand the opportunities and challenges. This will help us design specifications for a subsequent competition.

Our impression is that there is already a wide array of print-based materials which could be adapted for digital dissemination and/or e-learning materials available online and through other media platforms (e.g. audio, video) for some of the component skills of literacy, including several in Arabic<sup>13</sup>, but that fewer are available as applications that can be downloaded for offline use. Still less content has been designed or adapted for use on smartphones. Furthermore, the potential for creating truly amusing and engaging digital learning tools, with an engagement level resembling some of the big entertainment games, seems untapped.

Examples of more experimental approaches to the potential relationship between digital games and stress relief include the testing of certain types of non-verbal games for reducing the violent flashbacks (i.e. spontaneous intrusive memories of a traumatic event)<sup>14</sup> associated with Post Traumatic Stress Disorder<sup>15</sup>.

There are also materials and videos available online with information about self-help methods for addressing various stress-related symptoms. Still, there is a question as to whether such materials are available in the right languages, are well known, sufficiently engaging and considered relevant at the household level.

Any instructional tool that is applied, be it non-digital or digital, should take into account conflict sensitivity issues to avoid doing harm.<sup>16</sup>

## Examples of highly relevant questions for which we are seeking initial input

- To what extent do digital tools have the potential for increasing literacy and wellbeing outcomes for children affected by the Syrian crisis or similarly stressful conditions?
- Are there existing digital tools on the market that can fulfil what we are requesting, or that can easily be adapted to do so?
- What is the right level of ambition for such an innovation project –in terms of both literacy and wellbeing outcomes?
- What are promising areas of research that should be considered when further developing this project?

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<sup>13</sup> See for instance this UNRWA self-learning resource: <http://slp-syria.unrwa.org/>, and the video “Children Can’t Wait to Learn” (also known as the E-learning Sudan programme), partners for which are TNO Netherlands, Ahfad University of Women (Sudan), War Child Holland, and UNICEF: <https://www.youtube.com/watch?v=PowrWf7RnIE>.

<sup>14</sup> American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing.

<sup>15</sup> See for instance Emily A. Holmes, Ella L. James, Emma J. Kilford, Catherine Deeprose (2010), Key Steps in Developing a Cognitive Vaccine against Traumatic Flashbacks: Visuospatial Tetris versus Verbal Pub Quiz <http://www.plosone.org/article/fetchObject.action?uri=info:doi/10.1371/journal.pone.0013706&representation=PDF>; and more recently James, E. L., Bonsall, M. B., Hoppitt, L., Tunbridge, E. M., Geddes, J. R., Milton, A. L., & Holmes, E. A. (2015), Computer game-play reduces intrusive memories of experimental trauma via reconsolidation update mechanisms. *Psychological Science*, 26(8), 1201-201. doi: 10.1177/0956797615583071 which shows that a Tetris game-play procedure can also be effective on established (i.e. older) memories of experimental trauma.

<sup>16</sup> See for instance INEE’s Conflict Sensitive Education Pack for guidance [http://toolkit.ineesite.org/inee\\_conflict\\_sensitive\\_education\\_pack](http://toolkit.ineesite.org/inee_conflict_sensitive_education_pack).

- Are there infrastructure and cost limitations that can negatively impact the success of the project (less access to smartphones than anticipated, limited access to Wi-Fi zones for downloading the application, limited access to charging for smartphones etc.)?
- Are parents able to let their children have access to their mobile phones for the period of time required to take part in the interventions? What would help this?
- Are there contextual and cultural barriers that might negatively impact the success of the project (access for children and for girls in particular, religious norms, lack of experience with using digital tools etc.)?
- Will a version in standard Arabic (sound and spelling) be most appropriate, or will Syrian parents want their children to use learning materials in a particular dialect?
- How can we ensure that the tool can be used by as many children as possible, including children with disabilities and special needs?
- Will digital tools have more effect if they are used directly by children, or will empowering the parents with relevant pedagogical skills and methods be more effective?
- Under what circumstances can a digital tool developed for households also be relevant in ongoing non-formal and formal education programmes?
- Can the impact of the tool be increased by combining it with other approaches, such as remote support by teachers?
- Can the best features of entertainment games also be used for learning games?
- Can doing something that is fun and absorbing in itself significantly improve psychosocial wellbeing?
- To what extent might it be feasible to gather information about learning and wellbeing outcomes directly from the application?
- To what extent can a tool be made so it is easily adaptable to other crises and emergency situations, and to what extent does it need to be highly contextually relevant?
- Is there a risk that the project can cause harm in any way to its target population? If yes, how can this risk be mitigated?

### Dialogue conference

The first stage of the process will be for the project partners to conduct dialogue conferences in Oslo and Washington, D.C., and potentially also in an Arabic-speaking country. Our aim is to inform the market<sup>17</sup> in more detail about the project and have an open discussion about opportunities, challenges, and existing and novel approaches to how smartphone solutions can be used most efficiently to improve literacy and psychosocial wellbeing outcomes.

### Subsequent competition

The project partners<sup>18</sup> are hoping that the dialogue conference will trigger an interest in the market for developing smartphone solutions that can significantly increase literacy and psychosocial wellbeing outcomes among Syrian children in the households where they are used.

The Norwegian University of Science and Technology will play a key role throughout the project, for quality assurance of specifications, in chairing the selection panel and in testing and long-term

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<sup>17</sup> Should be interpreted very broadly, as we expect that “the market” will include partnerships between edtech-companies, gaming companies, academic institutions, humanitarian organisations and other stakeholders.

<sup>18</sup> In addition to the project partners, which include the Norwegian government, the Norwegian University of Science and Technology, the All Children Reading Grand Challenge for Development partners (USAID, World Vision, and DFAT), the mobile network operator Orange and the Inter-Agency Network for Emergency Education (INEE), the project has established a reference group consisting of representatives from the Norwegian Ministry of Foreign Affairs, Norad, USAID, the World Bank, and the Mayo Clinic.

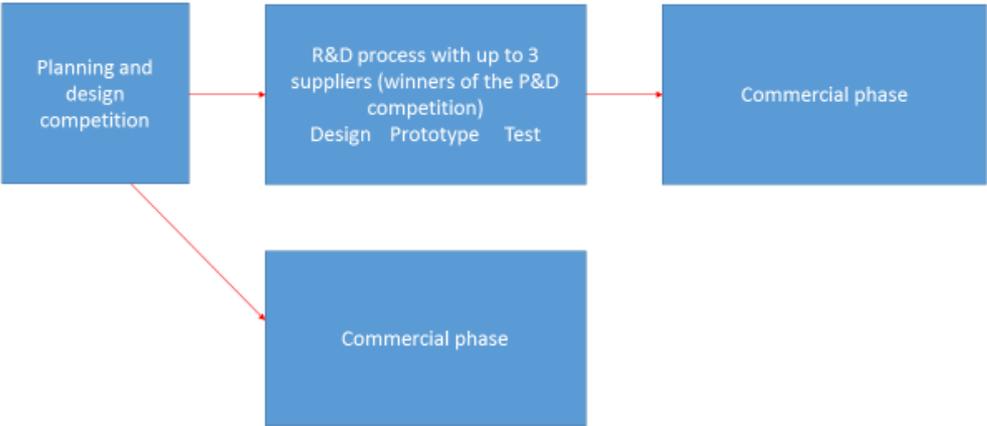
maintenance of the resulting software. Assessments of which software approaches to support will involve feedback from children and families affected by the Syrian conflict.

We envisage two alternative competition models for stimulating innovation in this field (see models below).

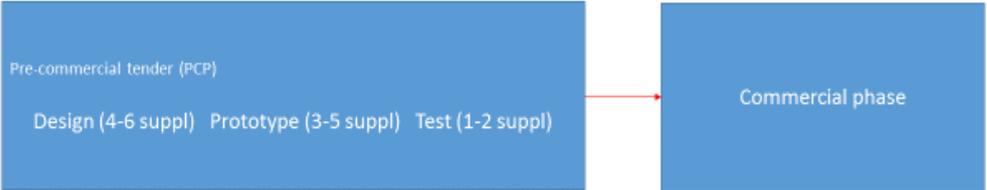
In the first model, a **broad planning and design competition** would form the basis for selection of design/early prototype providers for a subsequent stepwise R&D process. In the second model, a **pre-commercial tendering process** will be applied to ensure a greater degree of predictability throughout the process.

The partnering organisations in this initiative will contribute to the process with economic incentives, with the aim of supporting and encouraging innovation. The economic framework and competition model have not yet been fully established, and will be decided upon in the aftermath of the dialogue conferences. The decision will among other things be based on input related to the market situation, ongoing research, and feedback from the market following the dialogue conference. There will also be non-monetised incentives, such as the opportunity to receive R&D input and feedback from world-class stakeholders in various relevant areas.

**Model 1:**



**Model 2:**



## Guidelines for reuse of content and software

An important aspect is to enable others to reuse both digital content and technology developed as part of the project, subsequently supporting self-enhancing diversity of production models and interactive communities. It is therefore our goal to impose minimal restrictions in terms of commercialisation of new products derived from the project.

We therefore anticipate that the apps and programs developed as part of this project will be released under BSD Licence (Berkeley Software Distribution) and that all digital content will be released under Creative Commons Attribution CC BY. Both licences allow others to reuse, change and distribute, even commercially. However, we are receptive to feedback on this issue and the guidelines are intended only to apply to those who receive economic incentives.

## Timeline for initial stages of the project

- Guiding announcement on DOFFIN, on [www.norad.no/eduapp4syria](http://www.norad.no/eduapp4syria), and <http://allchildrenreading.org>, and through social media (25 September 2015)
- Dialogue conference (26 October 2015, Oslo)
- Dialogue conference (29 October 2015, Washington, D.C.)
- Possible dialogue conference (**tentative**, early November, Arabic-speaking country)
- Written feedback from suppliers and other stakeholders (deadline mid to end November; a **template for providing written feedback will be published ahead of the dialogue conference**)
- Subsequent process will be announced on DOFFIN, on [www.norad.no/eduapp4syria](http://www.norad.no/eduapp4syria), and <http://allchildrenreading.org>, and through social media

## Dialogue conferences

The first step of the project is to invite physical or virtual participation in one of the two confirmed dialogue conferences planned for the project. Information about a possible dialogue conference in an Arabic-speaking country will be published on DOFFIN as soon as it can be confirmed, [www.norad.no/eduapp4syria](http://www.norad.no/eduapp4syria), and <http://allchildrenreading.org>.

### Oslo

The initial conference will be held at Norad in Oslo on 26 October from 1–4 pm, at Ruseløkkveien 26, the 4<sup>th</sup> floor auditorium. The event will be interactive and allow for discussion. The event will also be live-streamed, so that those who are not able to participate physically can send questions via e-mail and follow the event. A conference programme will be circulated to registered participants closer to the event and published on DOFFIN and on [www.norad.no/eduapp4syria](http://www.norad.no/eduapp4syria). Online registration no later than 16 October.

### Washington, D.C.

The second conference will be held as part of the annual Mobiles for Education Alliance Symposium in Washington, D.C. on 29 October. The event will be interactive and allow for discussion. A conference programme will be circulated to registered participants closer to the event and published on DOFFIN, [www.norad.no/eduapp4syria](http://www.norad.no/eduapp4syria), and on <http://allchildrenreading.org>. Online registration no later than 18 October.

### Contact person for the dialogue conference in Oslo:

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**Contact person for the dialogue conference in Washington, D.C.:**

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Practical questions related to the dialogue conferences will be answered via e-mail or collected as Frequently Asked Questions and answered on the relevant webpages. Questions related to the content of the concept note can be raised at the dialogue conferences or in the subsequent written feedback.