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First report on internal evaluation processes

Consortium

University of Twente (UT)
Imperial College London (ICL)
University of Passau (UP)
Institute of Mathematics of the Romanian Academy (IMAR)
University College London (UCL)
Serbian Society of Autism (SSA)
Autism Europe (AE)
IDMind (IDM)

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<tr>
<td>Authors:</td>
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</tr>
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1. Summary

This is a concise report on the steps that have been taken to ensure quality of output in the first year of the DE-ENIGMA project.

A Valorization Board has been named and will meet in Amsterdam in June 2017 (M17). A Peer Group session will be held in M17 so that we can report the feedback with the M18 milestones and use these results for the following period of the project.

None of the foreseen critical risks have arisen so far and no unforeseen risks have been recognized.
2. Key Performance Indicators and Impact Assessment

The DE-ENIGMA project will produce various forms of output during its lifetime: project deliverables, scientific publications, hardware and software, a project website, newsletters and social media messages, press releases and TV appearances, at least one project video.

There are many ways of defining and measuring the Key Performance Indicators (KPIs): we have looked at the checklists from other projects, university courses and publishers and have seen that output KPIs sometimes refer simply to the number of publications, journal/proceedings papers produced and sometimes to the quality of the written output.

In an attempt to cover everything clearly, this report will report on the DE-ENIGMA output so far according to the forms of output and what has been done to assure their quality.

Paper output – Internal reviews and Peer reviews

In the first year, the DE-ENIGMA project has submitted 10 deliverables and published 2 journal papers, 16 conference papers – of which 3 at targeted conferences – and 1 newsletter.

**Deliverables**

A checklist of key points to check in written deliverables was drawn up and discussed by the Project Management Committee (PMC) members. The concept list had been drawn from examples from several EC projects. However, on consideration this list did not contain anything that was not being checked on a regular basis by the researchers in their peer reviews of publications. As the quality of reviewing is ‘in their blood’ so to speak, we did not think it would serve any useful purpose to enforce the use of a written form and was more likely to delay the review. We do take careful note of who is doing the review in case it should ever be left solely to very junior researchers.

All scientific deliverables except one were reviewed by other partners in the consortium before finalization and submission. One deliverable was reviewed by a senior researcher at the UT as all three partners qualified to comment were authors. Management reports are compiled from deliverables, meeting notes, and input specifically requested from all partners. The final drafts are then sent out to be checked by all partners.

A list has been drawn up to share review duties amongst the relevant partners but this has not been made available to the partners to avoid too much untimely information. The project manager notifies partners of upcoming review requests in the PMC updates when the deliverables are announced as ‘due soon’ and a date is always given that deliverables must be ready for internal review.

One deliverable was submitted two days late due to holidays and one was two weeks late due to several researchers leaving for jobs in industry.
Publications
Publications are submitted to journals and conferences with peer review. This should ensure scientific validity and quality.

Digital output – impact assessment

Website, press coverage and newsletters
The DE-ENIGMA Overall Dissemination Plan (D6.1) lists clear guidelines on assessing the effectiveness of dissemination activities and the leading dissemination partner, AE, promotes, records and monitors all dissemination efforts. Specific performance indicators are listed for the different dissemination channels. During the first year of the project, DE-ENIGMA was presented at an international autism conference (attracting more than 1,750 delegates from more than 60 countries) and had 15 media appearances at national and European level. All of these can be found on the DE-ENIGMA website along with the press release and the first newsletter. AE has analytic software running on all of the content of the website to monitor traffic.

SSA is nearly ready to go live with their DE-ENIGMA regional website. They already have more than 2,000 followers on Facebook from more than 10 countries.

The first year progress report (D7.2) lists the main dissemination activities up to M12.

Proof-reading
There are several native speakers of English in the consortium and deliverable texts are checked by one or more of these before submission. Texts for the website and newsletters have been sent to all or several members of the consortium before publication up to now, so they have been checked by native speakers.

Project Videos
This year we had the opportunity of having a 5-minute project video made by Media and Communication students from the University of Passau using some clips from the Belgrade recordings. This was a nice opportunity to have young people make something attractive for young people, and would have been nice dissemination material so early in the project. However, at the time our ethical clearance did not allow for use of the recordings for anything other than research purposes. This triggered the creation of a separate consent form for precisely this purpose (a consent for release information letter and consent form), which is to be given to those families we feel would be keen to be involved in a dissemination activity. This has been submitted for ethical approval.

Later in the project, we will ask SENSU, a professional company that specializes in creating corporate videos for societal impact.

Alyssa Alcorn (UCL) has been creating videos to showcase the progress of the project to members of the public – these are available on the DE-ENIGMA and CRAE websites.
Hardware/software output – Challenges, Peer Group and Valorisation Advisory Boards

The DE-ENIGMA DB will be the very first of its kind to be released for research of behaviours shown by autistic children. It will contain (manually / semi-automatically) annotated audio-visual recordings with respect to facial points, facial gestures, body postures and gestures, various vocalisations, verbal cues, continuously valued target affective states, valence, arousal, interest, stress, and prototypic examples (templates) of rapport behaviour.

**Challenges**

Scientific competitions will be organised using the DE-ENIGMA database. At the end of year 1, no datasets or software were yet ready for sharing, and, as the collection and annotation of the DE-ENIGMA database is still ongoing at the time of writing no immediate plans relating to the organization of a Challenge have yet been made.

**Peer Group**

The integration task will gather all of the software modules from the partners and will present this in the form of an interactive therapeutic game based around Zeno R25. Hardware will be adapted or added where necessary to facilitate the software modules. The various phases of development will be presented as prototypes. These prototypes will first be presented to senior scientists from international projects working on similar technologies and/or problems to those of DE-ENIGMA in a Peer Group meeting.

As yet, no Peer Group meeting has been convened. We plan to hold the first one (before the first milestones in M18) when we have our first prototype. We do already have a good idea of who we will invite.

Firstly, someone from BabyRobot – this is an H2020 project that started at the same time as DE-ENIGMA. The main goal of the project is to create robots that analyze and track human behavior over time in the context of their surroundings (situational) using audio-visual monitoring in order to establish common ground and intention-reading capabilities. In BabyRobot the focus is on the typically developing and autistic children user population.

We will also approach the CMU-Portugal project INSIDE that is looking at Intelligent Networked Robot Systems for Symbiotic Interaction with Children with Impaired Development. The project aims to develop new hardware and software solutions that will support a real-world interaction with autistic children in a joint cooperative task with therapeutic purposes.

**Valorisation Advisory Board**

The first Valorisation Advisory Board meeting will be held in together with the Peer Group meeting – that is to say, Peer Group on day 1 and VAB on day 2, in June 2017 (M17). The strategy for the VAB composition is to involve companies with a consolidated commercial track record of ICT solutions for treatment of autistic children.
RoboKind as the producer of Zeno R25 are an obvious choice for this panel. They immediately demonstrated their availability to join the VAB.

We also have a confirmation from Noldus Information Technology, an SME that develops and delivers innovative software and hardware solutions and services for the measurement and analysis of behaviour.

IDM will write a roadmap for the exploitation plan after the 1st VAB meeting.
Risk Management

None of the foreseen critical risks have arisen so far. The one foreseen risk relevant for this period in the project is that of possibly not finding enough children to record. So far recruitment is going very well. Our aim is to record a total of 128 children. We already have recordings of 42 Serbian children and 18 English children; another 22 English children have been recruited for the current run in London. Set up for the next round of data collection in Belgrade will start on 27 March 2017. SSA have already recruited the 22 children for this final session plus 4 extra as a buffer in case of unexpected situations. There will also be one more round in London after that.

We do foresee a problem with the annotation tasks but though this may cause a delay of sorts, it is not a risk to the aims of the project. We are due to deliver and annotated DE-ENIGMA DB in M18 and this will certainly be delivered. The database infrastructure will be fully completed for storage on a secure data server hosted by Department of Computing, Imperial College London with a front-end web-portal attached to facilitate data sharing. The database will be populated with full sets of annotated recordings of interactions between the children and the robot and / or researcher / therapist. But it is unlikely that all of the 128 recorded sessions will be in the database at M18. Annotation will continue and the remaining sessions will be added as they are ready.

Time management

One of the deliverables was the first year’s report describing the general progress in the project in relation to the project schedule. From the point of view of evaluation one would conclude that, considering the difficulties with recruiting staff, at UCL and UT for example, and re-recruiting at ICL, the progress is as good or even better than could be expected. Approximately a quarter of the effort has been spent (24% or 120 of the 489PMs) for an estimated 19% of the budgeted direct costs for personnel while 82 children have taken part in recording sessions (of the targeted 128 children) and further sessions in Belgrade and London for March and April (M14 and M15). This will make us 3 months later than planned with collection of all data. However, in view of the vast amounts of data involved, the annotation task is first looking at the recordings of 12 children as this amount of data can be physically shared at one time with all partners involved. Children are being recruited as quickly as they can be scheduled for recording, and there is already data available and organised ready for annotation. The annotation task has made a rather slow start. Once again this is related to the staffing levels which mean that only a certain amount of work can be done. It is not a matter of people not doing enough work, but of not enough people to do the work.
3. Conclusion

In conclusion, DE-ENIGMA’s internal evaluation is heavily based on ‘who is judging what we are doing’ rather than on formalized paper checks. We look to our scientific peers for review of our journal publications and conference presentations – but we will go further. A Peer Group meeting will give us the undivided attention of coordinators or senior researchers from similar projects for a whole day, rather than just their shared attention in a conference session. Likewise, a VAB meeting will give us a full day with companies with a consolidated commercial track record of ICT solutions for treatment of autistic children.