SOCIENTIZE

SOCiety as Infrastructure for E-Science via technology, innovation and creativity

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Author(s)	Manuel Pérez
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Change log

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1	25/07/2013	Manuel Pérez	Creation
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Disclaimer

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More information

Public SOCIENTIZE reports and other information pertaining to the project are available through SOCIENTIZE public website under http://www.socientize.eu .

Content

1. Summary

The SOCIENTIZE project will coordinate all the agents involved in the citizen science, setting the basis of this new open science paradigm promoting the usage of the infrastructures composed by dedicated and external resources which are based on scientists and amateur people. It will set a network where infrastructure providers and scientific researchers will join with the society recruiting volunteers that perform science at home.

This document reflects the selection criteria and role and visibility of SOCIENTIZE's External Advisory Board, EAB.

Document also includes information on EAB work schedule, confidentiality rules applicable, and merits and skills of members.

2. About Socientize EAB

The SOCIENTIZE EAB is formed by three external experts that bring expertise related to the project, such as science, infrastructures, arts, private companies, policy makers, etc.

They were selected following personal, institutional and technological interest for the project. The Project Management Board, PMB, was responsible for voting the acceptance of each member of the EAB.

Candidates have large and reputable experience in their respective fields. The composition of the EAB covers a broad mix of profiles, relevant for the project. With the EAB members we will try to expand our knowledge and strategic discussions covering fields which are not deeply present in the partnership.

All candidates came from fields like scientific research and innovation, open source communities, pedagogical training and cognitive institutions, artists used with large scale performances involving citizens or private data management and legal issues.

3. EAB selection procedure

Candidates were presented by the SOCIENTIZE partners during the first month of the project and contacted by project representatives in order to check their availability and interest. Then, candidates to members of the EAB were voted and selected by the PMB before month 3.

We evaluate the candidates against the following criteria:

- Does the candidate have the necessary level of expertise, experience and reputation in the field of Citizen Science projects?
- Do we have an equal representation of the diverse Citizen Science combinations of skills (science, arts, social)?
- Do the candidates cover theorical as practical expertise on Citizen Science projects?
- Will the candidate be able to engage in a strategic discussion on the project objectives?

4. EAB roles and visibility

The members of the EAB are expected to contribute to the SOCIENTIZE WP5 developments by giving an expert and external point of view. They will be asked to participate in the tasks of the project as reactive consultants. The EAB members are expected to serve also as key informants and multipliers for the specific target groups.

Their participation is really importante at the Second Level Evaluation, as they give the expert perspective.

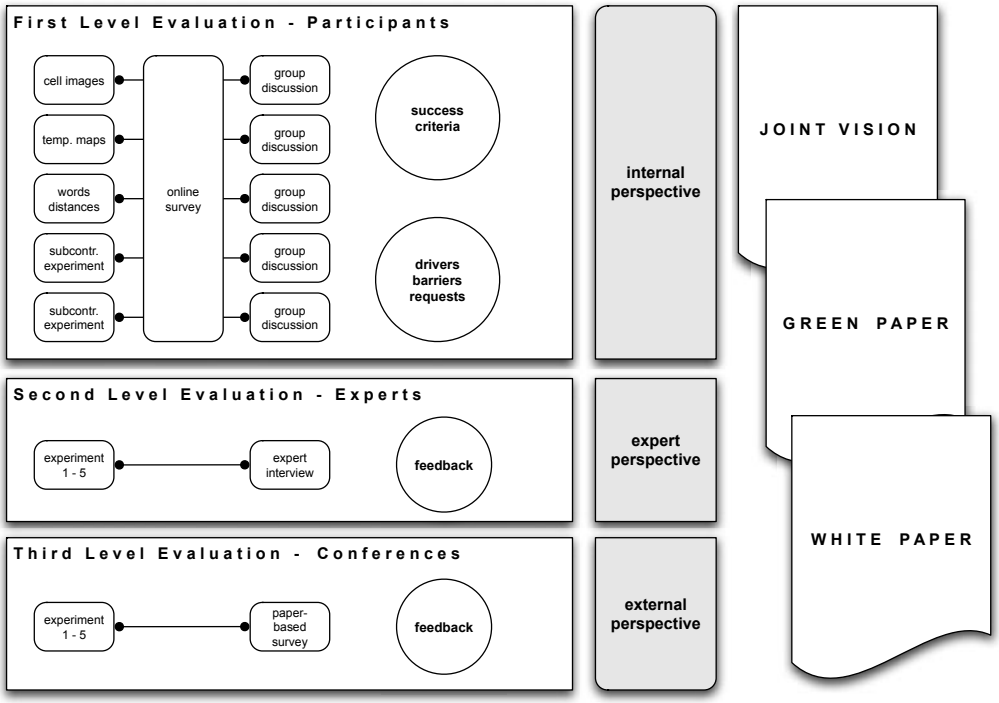

Figure 1: Overview of planned evaluation activities and white book compilation as reflected in the Evaluation Plan.

As described in SOCIENTIZE deliverable D5.1, Evaluation Plan, the feedback of the expert interviews of the External Advisory Board is mainly seen as a "complementary unit of action" to the target groups (Meuser & Nagel, 2005). These experts will be advisors for the SOCIETIC project team and should work out together with the evaluation team the relevant aspects from an external perspective. Their insights in internal structures and policy processes are essential for the sustainable deployment of the introduced experiments and will give valuable aspects for future actions and refinements.

For the analysis of the expert interviews, the transcripts and protocols will be analysed as proposed by Meuser & Nagel (2005). The applied method will reveal commonalities and differences by comparing the experts' experiences and points of view. The main aim of this method is to receive common aspects beyond the individual opinions out of the focus group discussion of the target groups. Single cases and typical statements are documented and summarized in thematic units.

The results are based on systematization of relevancies, a generalization and an interpretative framework. Abstract categories are structured at least by two researchers of the evaluation team

in order to improve the objectivity and make the results more reproducible and complementing the results of the first level evaluation.

The analysis scheme of the content analysis according to Meuser & Nagel (2005) consists of four main steps:

- paraphrasing of relevant aspects by summarizing content

- headlines, finding meaningful and significant headlines for the summarized aspects

- compare topics by looking for similar categories and criteria in each expert interview

- conceptualization of the defined categories and defining main concepts

The derived main concepts identified by the SOCIETIC evaluation team will give more insights in determining aspects of the implementation of the c-infrastructure experiments and complement the compilation of the white paper.

The contributions of External Advisory Board members will be included in the white paper, reports and workshops. Therefore, visibility and potential further cooperation are expected to be the major motivations for them to join this initiative, as no personal payments or big travel expenses are covered.

They will be paid only for travel expenses during major conferences or dissemination events of the SOCIENTIZE project.

5. EAB Meeting Schedule

EAB members will be present at least in one face-to-face event prepared by SOCIENTIZE (first year conference and workshop or the final workshop before the project ends). They may participate also in virtual meetings, as well as using online interactive tools of the project, mostly videoconference. The further virtual involvement of the EAB members as key contributors to the white paper is foreseen during collaborative working sessions throughout the runtime of the project.

- Face to face event: First year conference meeting to be held autumn 2013 in in Vilnius ICT 2013 event.
- Telematic meetings: All three EAB members took part in expert interviews via Skype/telephone in June/July 2013. These interviews collected the EAB members' views and experiences with citizen science for the draft white paper, with regard to the definition of citizen science, benefits and barriers for stakeholder involvement, as well as for a broader dissemination.
- Dr. David Anderson lead the first virtual meeting of the Project held in january 2013, "Virtual technical workshop" over the technical platforms to be used on huge citizen science experiment, streamed worldwide via YouTube.

6. Non-disclosure Agreement

Members of the SOCIENTIZE EAB signed a non-disclosure agreement prior to the start of their participation in the SOCIENTIZE project. In particular, the agreement sets out the information which is to be handled as confidential and sensitive, the information that can be disclosed and shared and the law under which the agreement will be governed. A key role for the advisory

board is to comment on SOCIENTIZE deliverables and contribute to establishing new ethical tandards in surveillance technologies. The deliverables list in the original DoW makes it clear which outputs are to be treated confidentially (CO) and which are to be treated as public (PU).

7. SOCIENTIZE EAB members

Name	Specialty and Organization	Notes
Dr. David Anderson	UC Berkeley Space Sciences Laboratory	BOINC project leader
Dr. Drew Hemment	Manchester Art & Tech Festival, FutureEverything	European Open Living Labs in Europe
Dr. Steven Bamford	University of Nottingham	GalaxyZoo project staff

Dr. David Pope Anderson (born 1955) is an American research scientist at the Space Sciences Laboratory, at the University of California, Berkeley, and an Adjunct Professor of Computer Science at the University of Houston. Anderson leads the SETI, BOINC, Bossa and Bolt software projects.

Illustration 1: Caption of the hangout streamed in Youtube, David Anderson (BOINC and SOCIETIC EAB's member)

Anderson received a BA in Mathematics from Wesleyan University, and MS and PhD degrees in Mathematics and Computer Science from the University of Wisconsin–Madison. While in graduate school he published four research papers in computer graphics. His PhD research involved using enhanced attribute grammars to specify and implement communication protocols.

From 1985 to 1992 he was an Assistant Professor in the UC Berkeley Computer Science Department, where he received the NSF Presidential Young Investigator and IBM Faculty Development awards. During this period he conducted several research projects:

- FORMULA, a parallel programming language and runtime system for computer music.
- DASH, a distributed operating system with support for digital audio and video.
- Continuous Media File System (CMFS), a file system for digital audio and video.
- Comet, an I/O server for digital audio and video.

From 1992 to 1994 he worked at Sonic Solutions, where he developed Sonic System, the first distributed system for professional digital audio editing.

In 1994 he invented "Virtual Reality Television", a television system allowing viewers to control their virtual position and orientation. He was awarded a patent for this invention in 1996.

In 1994 he developed one of the first systems for collaborative filtering, and developed a web site, rare.com, that provided movie recommendations based on the user's movie ratings.

From 1995 to 1998 he was Chief Technical Officer of Tunes.com, where he developed web-based systems for music discovery based on collaborative filtering, acoustics, and other models.

In 1995 he joined David Gedye and Dan Werthimer in creating SETI@home, an early volunteer computing project. Anderson continues to direct SETI@home.

From 2000 to 2002, he served as CTO of United Devices, a company that developed software for distributed computing.

In 2002 he created the Berkeley Open Infrastructure for Network Computing project, which develops an open-source software platform for volunteer computing. The project is funded by NSF and is based at the UC Berkeley Space Sciences Laboratory. BOINC is used by about 100 projects, including SETI, Einstein, Rosetta, Climateprediction.net, and the IBM World Community Grid. It is used as a platform for several distributed applications in areas as diverse as mathematics, medicine, molecular biology, climatology, and astrophysics.

Anderson was involved in Stardust, which used 23,000 volunteers to identify interstellar dust particles via the Web - an approach called distributed thinking. In 2007 Anderson launched two new software projects: Bossa (middleware for distributed thinking), and Bolt (a framework for web-based training and education in the context of volunteer computing and distributed thinking).

He is also involved in technology for distributed thinking and for large-scale web-based training and education.

Dr. Drew Hemment is an artist, curator and researcher based in Manchester England. Recent projects have been on open data, remote collaboration, new mobilities and environmental mass observation. He is Director and Founder of FutureEverything (formerly Futuresonic), and is Associate Director of ImaginationLancaster at Lancaster University.

An interest in social technologies and art in urban space was developed through a 3-year study on the shifting boundaries between art practice, the event and data systems. Participation in a series of workshops and online discussions in 2003 which helped to elaborate the field of locative media, was followed by the Mobile Connections exhibition within Futuresonic 2004 that sought to explore forms of expression that are intrinsic or unique to mobile and wireless media. Founder and CEO of FutureEverything, the UK's award winning digital culture festival and innovation lab, Deputy Director of CX £4M Creative Economy Knowledge Hub (AHRC), and Associate Director of ImaginationLancaster at Lancaster University.

Illustration : Dr. Drew Hemment at Future Everything, Manchester UK

Over 20 years his work around the world in digital culture and innovation has been recognized by awards from the arts, technology and business sectors, including Lever Prize 2010 (Winner) and Prix Ars Electronica 2008 (Honorary Mention), and covered by New York Times, BBC and NBC. Current projects include emoto data visualization of London 2012 Olympics and £1.9M Catalyst tools for social change (EPSRC).

The Open Data Cities project led open data policy in Greater Manchester and DataGM (Greater Manchester Datastore). Member of the Manchester Innovation Group, the body which advises the Local Economic Partnership (LEP) on innovation, the Editorial Board for Leonardo journal of art, science and technology (MIT), and has served on many international Art Juries including UNESCO DigiArts. In 1999, awarded a PhD at Lancaster University, in 2009 elected a Fellow of the Royal Society of the Arts (UK), and in 2010 an Eyebeam resident (USA).

Dr. David Hemment recent projects:

Emoto. Visualizing the emotional response to London 2012. A unique data art project that visualises the online emotional response to the London 2012 Olympic and Paralympic Games. http://www.emoto2012.org

FutureEverything. The UK's award winning digital culture festival and innovation lab. futureeverything.org

CX - The Creative Exchange. The Creative Exchange is a Knowledge Exchange Hub for the Creative Economy developing new experiences, services and research with creative companies in the digital public space funded (£4m) by AHRC.
thecreativeexchange.org

Open Data Cities. A project exploring how cities would evolve if all data was open that led to the creaton of DataGM, the Greater Manchester Datastore. Open Data Cities on futureeverything.org

Dr. Steven Bamford. Senior Research Fellow, Faculty of Science, University of Nottingham, UK. He defines himself as an "astronomy researcher, citizen science interested and critical thinker (but not much so far)".

Promoter of the **Galaxy Zoo** team, a project that works on figuring out what makes galaxies look the way they do: how they formed and why they change as they get older and move to new cosmic locations. Somehow manages to still do some science between helping to run Galaxy Zoo, that started back in July 2007, with a data set made up of a million galaxies imaged by the Sloan Digital Sky Survey, who still provide some of the images in the project today.

With so many galaxies, Galaxy Zoo team assumed it would take years for visitors to the site to work through them all, but within 24 hours of launch we were stunned to be receiving almost 70,000 classifications an hour. In the end, more than 50 million classifications were received by the project during its first year, contributed by more than 150,000 people.

The task in that first Galaxy Zoo was simple; all they asked volunteers to do was to split the galaxies into ellipticals, mergers and spirals and - if the galaxy was spiral - to record the direction of the arms. But it was enough to show that the classifications Galaxy Zoo provides were as good as those from professional astronomers, and were of use to a large number of researchers.

Perhaps the most exciting sign of Galaxy Zoo success is the fact that they have been successful in bidding for time on some of the largest telescopes in the world to follow up on many Galaxy Zoo discoveries : the list currently includes the Isaac Newton and William Herschel Telescopes on the island of La Palma in the Canaries, Gemini South in Chile, the WIYN telescope on Kitt Peak, Arizona, the IRAM radio telescope in Spain's Sierra Nevada, Swift, GALEX, Chandra, XMM-Newton and Suzaku up in space, and perhaps most excitingly the Hubble Space Telescope.

Galaxy Zoo 2 was inspired by our newfound confidence in the ability of you, our volunteer classifiers, and so we asked for a closer look at just over 200,000 of the brightest of the Sloan galaxies. They asked about the number of spiral arms, the size of the galaxies' bulges and much else besides. Once again, they were thrilled with the response and in the 14 months the site was up to receive a little more than 60 million classifications.

Dr. Bamford selected publications:

BAMFORD, S.P., MILVANG-JENSEN, B. and ARAGON-SALAMANCA, A., 2007. The sizes of disc galaxies in intermediate-redshift clusters Monthly Notices of the Royal Astronomical Society. VOL 378((1)), L6-L10

BAMFORD, S.P., MILVANG-JENSEN, B., ARAGÓN-SALAMANCA, A. and SIMARD, L., 2005. The Tully-Fisher relation of distant cluster galaxies Monthly Notices of the Royal Astronomical Society. 361(1), 109-127

BAMFORD, S.P., ARAGON-SALAMANCA, A. and MILVANG-JENSEN, B., 2006. The Tully-Fisher relation of distant field galaxies Monthly Notices of the Royal Astronomical Society. VOL 366(NUMBER 1), 308-320

MOUHCINE, M., BAMFORD, S. P., ARAGON-SALAMANCA, A., NAKAMURA, O. and MILVANG-JENSEN, B., 2006. The metallicities of luminous, massive field galaxies at intermediate redshifts Monthly Notices of the Royal Astronomical Society. VOL 369(NUMBER 2), 891-908

8. Conclusions

All the SOCIENTIZE project team congratulates of the External Advisory Board membership reunited. His skills and commitment exceeds our better expectations; doctors Anderson, Bamford and Hemment will fulfill our expectatives to reunite a comprehensive team of experts about Citizen Science.

All of them will ensure an extra vision of the future of Citizen Science that will guarantee a much more rich SOCIENTIZE's White Paper according the emerging trend of democratizing science and schooling within science education that can be characterized as citizen science, from the roots to the analysis of projects and methodology.

With the help of EAB, White Paper will move a step forward from the current conceptualization of Citizen Science, looking to resolve the concerns of communities and environments when considered holistically and when compared with more dynamic and multidimensional ideas for characterizing science, with targets that engage with real concerns of citizenship.