



# ÆGIS

## Open Accessibility Everywhere: Groundwork, Infrastructure, Standards

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### At a Glance

**Acronym:**

ÆGIS

**Full Title:**

Open Accessibility  
Everywhere:  
Groundwork, Infra-  
structure, Standards

**Contract No:**

FP7-224348

**Start Date:**

September 2008

**End date:**

February 2012

**Project Web Site:**

[www.aegis-project.eu](http://www.aegis-project.eu)



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funded by the  
European  
Commission, 7<sup>th</sup>  
Framework  
Programme

## Editorial

The ÆGIS Consortium is pleased to announce the second issue of the ÆGIS Newsletter. ÆGIS (Open Accessibility Everywhere: Groundwork, Infrastructure, Standards) is a research project funded by the European Commission, working in the area of accessibility and independent living. ÆGIS develops an Open Accessibility Framework (OAF) consisting of open source accessible interfaces and accessibility toolkits for developers, alongside accessible applications and open source assistive technologies for users. ÆGIS will produce this framework through user research and prototype development with current and next generation ICT. This should deeply embed accessibility into future ICT for the open desktop, rich Internet applications, and mobile devices. ÆGIS results will be referred to standards organisations where appropriate, and made available under open source licenses to the greatest extent possible.

This Newsletter keeps readers updated on the current status and achievements of the project. The special focus of this second issue is on ÆGIS's activities for user requirements collection and user involvement in the project developments. The articles in this issue present the work, experiences, accomplishments, and lessons learned by the ÆGIS partners. References to similar activities of relevant projects are also provided.

Please feel free to contact us for any further details, comments, or just to share your experiences in the above fields of interest.

The ÆGIS consortium



## Consulting with end users: the ÆGIS local workshops

In the context of the ÆGIS activities for end user and stakeholder involvement, each of the project pilot sites organised a local workshop, aimed at presenting the project, to all potential users, as well as gathering feedback from end-users and other stakeholders on core use cases that will be used as the basis for designing the main project tools.

As a result of this activity, 4 workshops were organised within the period April-May 2009 in Belgium, Spain, Sweden and the United Kingdom, with over 143 participants, among which were developers of software applications, people with disabilities, personal assistants, user representatives, vendors of assistive technology and other relevant stakeholders.

While the target groups were quite diversified per site, and not always the same across sites, the workshops did follow a more or less similar agenda structure. During these events, the project was introduced to all participants. Every ÆGIS application area presented was also accompanied by a persona, thus ensuring end-users could identify themselves in the application scenario that was presented.



Photomontage from the Swedish workshop in Gothenburg

The national workshops provided an ideal “tool” to collect first hand feedback from AEGIS' target groups, while also identifying a number of recurring issues which are present in all pilot sites, and thus must also be considered in the final user requirements consolidation. Some of the most prominent challenges put forward were the following:

- The development community that participated in the workshops expressed that they are keen on embracing ÆGIS, albeit that they indicated the project should be an “open project” from the beginning. This consists of involving the development communities and (user) organisations that promote open software, offering access to the generated source code and publishing and divulging information about the project. Doing so, the project will benefit from acquiring the knowledge from these communities.
- In order for the project to be successful, especially participating end-users indicated the need for a helpdesk throughout the entire project piloting/testing duration. This concern is understandable since the current support for (commercially available) AT is often cumbersome and not of the expected quality level.
- Related to the above issue, the project will also have to implement a well organised training framework, and most important, adjusted to the needs of each target user group (be it end-users or experts).

Regarding the specific application areas, following challenges arose in all sites:

#### ***Desktop applications:***

- Any new software developed in the context of the project should be compatible with AT hardware already in usage, such as the Braille tablet and printer. At present, this is a main hurdle for end-users to switch to new software.
- Any windows and pop-ups generated by ÆGIS developed applications should be adequately captured and translated through the provided screen reader software.
- While not planned by the project, end-users with hearing impairments expressed a huge interest in automatic translation of text and speech to sign language, while those with vision impairments were mostly interested in text to speech and speech to text translations.

#### ***Mobile applications:***

- The need for self-explanatory icons supported by voice commands, and the possibility of voice feedback for confirmation of actions was a much raised concern by end-users.
- Related to the above, end-users were also concerned about a good integration between any text-to-speech applications and graphical symbol support.
- Applications developed by ÆGIS should include a configuration option for changing the font size and contrast in the mobile applications/environments.

#### ***Rich Internet Applications (RIA):***

- While these applications are not yet used extensively, the concern for the RIA accessibility is identifiable among all pilot sites.
- Accessible RIA development tools should also be as much as possible accessible for developers with disabilities.



## Consulting with end users:

# The ÆGIS Pan-European User Forum & Workshop

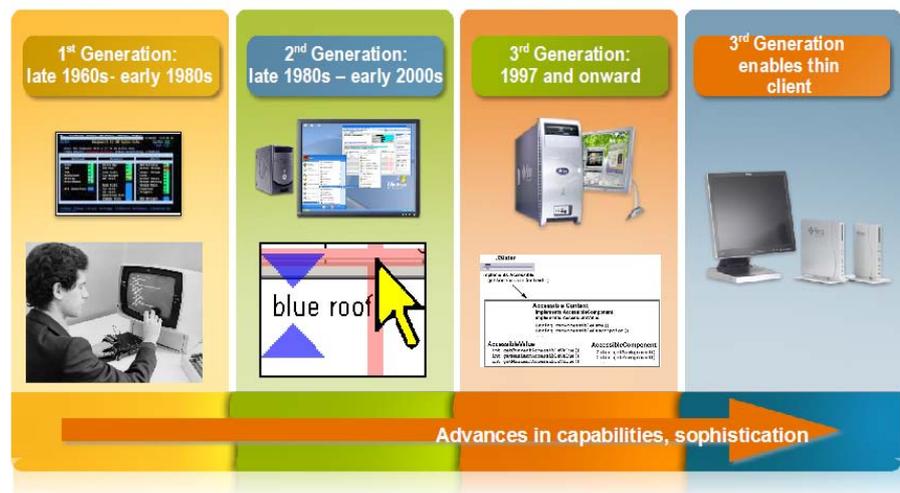
On 4<sup>th</sup> of June, the ÆGIS project organised in Slough (UK) the 1<sup>st</sup> Pan-European User Forum. The event gathered a total of 64 individuals, 36 of which were external to the project, and represented end-users (including people with mobility, vision and hearing impairments), experts, stakeholders, researchers and the industry.

The User Forum kicked off with the presentation by the Project Coordinator, Dr. Evangelos Bekiaris from CErTH-HIT providing an overview of the ÆGIS project. This presentation clarified to the audience what the project will be doing, but also provided a first chance to get feedback from the participants, and potentially have their suggestions incorporated into the project. During this presentation, emphasis was also placed on the fact that the project has planned 4 pilots in Belgium, Spain, Sweden and the UK, but we are also interested in attracting additional users from these and also other countries where possible and feasible. trials and mock-ups.

After this first overview of the project, a technical presentation followed, including demos, by the Technical Manager, Peter Korn from Sun Microsystems, Inc. The focus here was especially on the the urgency of accessibility in ICT. To better position ÆGIS, an overview of the 3 generations of assistive technology was provided.

This session generated quite a few questions from the audience.

### From simple terminal applications to accessible network desktops



3 generations of Assistive Technology development

After this rather technical part, an interactive session took place, presenting the use cases and scenarios developed by the project. This session was led by Edward Chandler - RNIB and Karel Van Isacker - EPR. The presentations addressed all application areas (desktop, RIA and mobile), starting with introducing relevant personas that triggered challenges from the participants, then introducing the project's approach towards the application areas, concluding with a discussion among the participants.

The User Forum was a success and brought together a wide range of stakeholders from many countries. The feedback received showed that the project's aims and objectives meet those expected by the people in the disability field. The comments received will be taken on board by the project, thus supporting the user centred design approach applied throughout the project.

## The Workshop



View over the User Forum event room - 4 June 2009

On 5<sup>th</sup> of June, ÆGIS project organised in Slough (UK) the 1<sup>st</sup> Pan-European Workshop. The event gathered a total of 88 individuals, 55 of which were external to the project, and represented end-users (including people with vision, hearing and mobility impairments), experts, stakeholders, researchers and the industry.

Many interesting speeches were given by speakers including Mr. Robert Crow from RIM (*Vice President of Industrial Government & University Relations*), who emphasised RIM's Corporate Social Responsibility and Philanthropy activities, Mr. Miguel Gonzalez-Sancho (*European Commission, ICT for Inclusion,*

*Information Society & Media Directorate General*), who presented the EU policies on eInclusion, Dr. Gregg Vanderheiden (*Trace Center, University of Wisconsin-Madison*), who gave a very interesting presentation on accessibility overall and the "Raising the Floor" (RtF) initiative and many other interesting speakers. The workshop was finalised with an open discussion among all participants.

Like the user forum of the previous day, The workshop was a success and brought together a wide range of stakeholders from many countries. The feedback received showed that the project's aims and objectives meet those expected by the people in the disability field. The comments received will be taken on-board by the project, thus supporting the user centred design approach applied throughout the project.



## Approaching the end users of ÆGIS through Personas

To represent the different types of end users that are central to the ÆGIS project, a set of personas has been created. Personas are fictitious individuals who represent the characteristics, goals, behaviour, needs, attitudes, etc. of a group of real users. Although the personas are fictitious people, they are based on the stories of real people. In the case of ÆGIS the data gathered during the interviews and telephone surveys (see deliverable D1.1.2) were used as a basis for the personas.

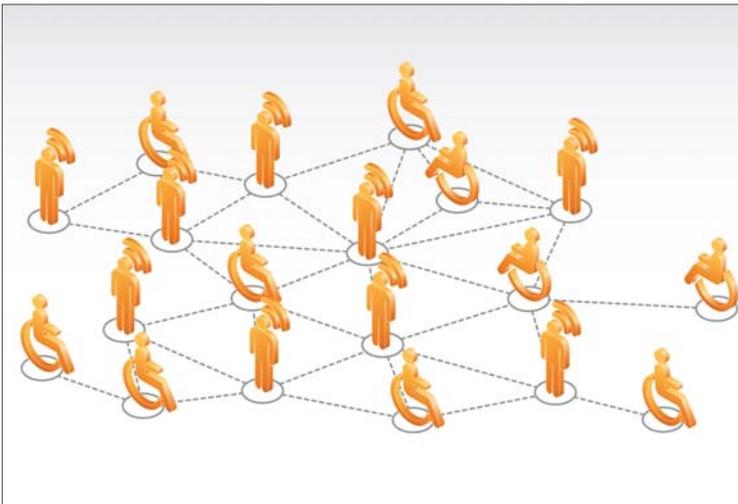
The function of personas in research projects such as ÆGIS is to take the end users of the products that are developed into consideration at all times during the project. They help researchers, designers, developers, etc. to empathize with the end users and to ensure that the products or applications under development match the end users' needs.

In ÆGIS, the end users that are taken into account are on the one hand five groups of individuals with disabilities (visual disabilities, hearing disabilities, cognitive and learning disabilities, speech and communication disabilities and motor impairments) and on the other hand experts/ developers.

Since this is a large and very diverse group of end users, a rather large set of 17 personas was created. Fifteen of these personas represent end users with disabilities, two of them represent experts/developers. For each of these personas, a flyer was made for communication purposes. These flyers include sections with personal information (age, occupation, family situation, type of disability, etc.), technology use, everyday problems, needs & wants and a short scenario from an event that occurred to the persona last month. The full persona descriptions will be made available in the public deliverable "D1.1.3 Use cases and application scenarios" and will be downloadable via the ÆGIS website.



## And continuing with the project Use Cases...



One of the most important outcomes of the work held during the first year of ÆGIS is the extraction of the Use Cases of the project. On the basis of the outcomes of the field trials and the workshops held as well as of the Consortium Partners expertise, an extended set of Use Cases has been created, addressing all three different application areas of ÆGIS, namely the desktop applications, the mobile applica-

tions and the rich internet applications areas.

The ÆGIS Use Cases are related to the Personas developed, whereas will also constitute the basis for the functional description and the specifications of the prototypes to follow. The ÆGIS Use Cases will orient the developers of the project in their development priorities, whereas will also turn to specific application scenarios for the evaluation phases to follow, in order to provide a specific context for evaluation, in absolute compliance with the project objectives.

All ÆGIS Use Cases are described following a common tabular format, covering, among others, the ÆGIS users/actors that are addressed in each case (primary and secondary), the link to other Use Cases of the same application area or not and to the Personas developed, the priority level (essential, secondary, supportive), which reflects the priority for implementation in the context of the ÆGIS project duration, the system input and output, the different scenarios and the interaction level discerned, the required devices and any restrictions, the critical success parameters, etc.

In addition to these textual descriptions, the Use Cases are accompanied by UML diagrams, which reflect the relationships among actors in each Use Case.

The draft ÆGIS Use Cases were presented in the first User Forum and Pan-European workshop of the project, where feedback was received from developers, end-users and other experts, and taken into consideration for their finalization.



32 Use Cases have been developed, clustered per ÆGIS application area:

#### Desktop applications area (Subproject 2):

- Screen magnification for the GNOME Desktop (and Sun Ray system)
- Windows screen reader for Java (“Java Access Bridge”)
- Printing Braille in OpenOffice.org
- Accessibility Checking for ODF
- Full DAISY book creation in OpenOffice.org
- Comprehensible multi-lingual documents through a screen reader
- Open interface to Assistive Technologies
- Gaze Switch Gaze tracker- “send e-mail with your eyes”
- Graphic Symbol Support for facilitated text comprehension and production in OpenOffice.org
- Integration of open real-time into audio, video, and text-chat desktop applications

#### Rich internet applications area (Subproject 3):

- Web developer developing accessible DHTML RIA application
- Web developer developing accessible Java-based RIA application
- Visually impaired user using Java-based RIA application
- Creating an accessible internet map Using an Internet map: orientation, manipulation and walking directions
- Using an internet map: visual adaptation
- Accessible Rich Internet map applications using the OCR and VRML technology

**Mobile applications area (Subproject 4):**

- Accessible Mobile Phone for the blind
- Mobile as an Augmentative and Alternative Communication (AAC) device for severe motor and/or speech impairments
- Symbol-based Augmentative and Alternative Communication (AAC) system for mobile devices for direct person-to-person (face-to-face) communication
- Augmentative and Alternative Communication (AAC) for instant and text messaging (IM/SMS) on mobile devices
- Onscreen keyboard for motor impaired operation of a mobile
- Rapid text entry into a mobile device
- Alternate text entry system for mobile devices
- Captions for the deaf display in mobile video
- Audio description for the blind/low-vision played in mobile video
- Accessible messaging application for mobile devices
- Voice Activated Applications for Smartphones
- Assistive technologies for mobile devices toolkit
- Accessible applications for mobile devices toolkit
- Mobile application developer developing accessible Java FX applications for mobile devices
- Developing accessible mobile s/w

Beyond the above Use Cases, another, more restricted, set of synthetic/combinational Use Cases has been developed, aiming to address more complex scenarios, and interfering with more than one applications (in the same application area or across different application areas).

The final ÆGIS Use Cases and their UML diagrams, together with the Personas and the conceptual models that will orient the functional specification of the ÆGIS applications are reported in the context of the public Deliverable D1.1.3: "Use cases and application scenarios", which will be soon downloadable via the ÆGIS web site. Deliverable 1.1.3 is considered as a working document by the ÆGIS Consortium, thus several updates may be released in the future, as the development will progress.



## OAF: Towards an Open Accessibility Framework

One of the most important ÆGIS goals is to develop a generic Open Accessibility Framework (OAF) and an all inclusive architecture for embedded accessibility into mainstream ICT. In the same line of work, ÆGIS aims to define and specify the key functionalities of security and privacy protection, interoperability and Quality of Service (QoS), context awareness and aggregation, so as to support the above architecture.

The starting point for the ÆGIS OAF is the existing UNIX accessibility framework. In the past year, our work on the OAF has focused in three areas: first in surveying the accessibility frameworks and accessibility APIs that exist on other platforms (Windows, Macintosh, Blackberry, and iPhone) to better understand what might be missing from our “starting point”; second in using our work in ARIA support for Firefox on UNIX systems to build into the OAF the “platform on platform” functionality needed to make ARIA-enabled applications accessible on the UNIX platform; and finally in our early investigations into Java-based mobile accessibility, which further inform the ways in which the OAF must expand beyond our “starting point” to encompass the unique and challenging issues of the mobile environment.

Moreover, a number of Quality of Service, interoperability and security elements and concerns have been defined for all 3 projects areas: desktop applications, Rich Internet Applications and development toolkits, as well as mobile applications and relevant development toolkits.

All of these documents will soon be downloadable from our web site <http://www.aegis-project.eu/>

# ÆGIS online User Forum

The ÆGIS online User Forum has been launched, and allows to both end-users and developers of web, mobile, desktop and rich internet applications to comment on topics that have been posted there by the ÆGIS project team.

The screenshot displays the ÆGIS online User Forum interface. At the top, the ÆGIS logo is accompanied by the text "Open Accessibility Everywhere" and the subtext "Groundwork, Infrastructure, Standards". To the right are logos for the European Union, Information Society Technologies, COOPERATION, and e-inclusion. The main content area features two forum posts:

- Register for User Forum access** (dated 2009.10.08 15:32:56) by user [karel](#). The post text reads: "In order to comment on our topics below, please [register](#) first (once your account is created, you will receive an e-mail to activate your account), or when you are already registered, [login](#)." It includes tags and a hit count of 35 with a [Read more...](#) link.
- Developers** (dated 2009.09.29 19:41:00) by user [karel](#). The post text reads: "Developers involved in software development for desktop, mobile, internet and rich internet applications can comment here on accessibility aspects related to assistive technologies."

A left sidebar contains a navigation menu with items: About ÆGIS, News & Events, Results, Downloads, Consortium, Contact, Sitemap, User Forum, Login, Our Accessibility Policy, and Links. Below the menu is a search bar and a "Related Projects" section featuring "ACCESSIBLE Application Design and".

You are kindly invited to participate in this discussion, and provide your own feedback and observations regarding the various raised topics.

Registration is optional, but is recommended so that we can easily keep you updated on any new events, and workshops we organize, alongside physical workshops.

To access the User Forum, go to [www.aegis-project.eu](http://www.aegis-project.eu), and select in the left menu the item "User Forum". You will then be brought to the various topics that have been posted.

We hope to welcome you very soon!



## Related Projects



### Questionnaire to assess the use of ICT and Electronic Assistive Technology (EAT)

ImPaCT in Europe (Improving Person Centred Technology in Europe) is a Key Activity 3 funded project under the Lifelong Learning Programme. It is a network that will perform the following functions:

- Facilitation of exchange and mutual learning between education and training providers within the health and social care sector regarding the development and exploitation of PCT for the benefit of staff and end users
- Provide advice support to organisations and practitioners in the field of ICT on strategies to develop user-led PCT for the benefit of individuals
- Identify current good practice in regard to the use of PCT for the promotion of innovative education and training systems
- Engage in publicity and awareness-raising activities using an existing EU-level network to disseminate information to over 8000 service providers across Europe,

In order to assess the use of Person Centred Technology (PCT) which includes all ICT and EAT devices, the ImPaCT project launched an online survey (<http://easpd.hft.org.uk/>). The gathered information will then be used by the ImPaCT in Europe project team to evaluate and promote the benefits of PCT for people with disabilities.

Completing the questionnaire should not take too long, and your inputs will be invaluable!

In case of questions, don't hesitate to get in touch with Miriana Giraldi at [miriana.giraldi@easpd.eu](mailto:miriana.giraldi@easpd.eu)



## Online survey on accessible software implementations

ACCESSIBLE is an EU FP7 project spanning over 36 months. Started since 1 September 2008, it aims at improving the accessibility of software development products by introducing a harmonised accessibility methodology into accessible software development processes, using significantly better measurement strategies, methodologies, etc. The envisaged improvement will enable large organisations, SMEs or individuals (developers, designers, etc.) to produce software products of superior accessibility and usability, accompanied by appropriate measures, technologies and tools that improve their overall quality. Because of your past and present work in the accessibility area, we would like to kindly invite you to participate to our survey that addresses Developers, Accessibility Assessors, Elderly and Disabled People, Public Bodies, and Service Providers. The relevant-for-you questionnaire has been designed to identify the user needs within the premises of the ACCESSIBLE EU FP7 project. Its evaluation will be the basis to implement appropriate tools and methodologies in order to increase awareness and need for accessibility.

If you are interested in contributing, these questionnaires (accessible via <http://www.accessible-project.eu>) are completely anonymous, and are available in German, Greek, Portuguese, Italian, English, and Bulgarian. We believe that your valuable contribution will help us to extract project User needs and prepare a report which will be of great benefit in promoting Accessibility for software implementations throughout Europe.

Thank you in advance for your time and contribution.

# ÆGIS AT HCI 2009

## ÆGIS at the International Conference on Human-Computer Interaction

At the biannual International Conference on Human-Computer Interaction (the 13th edition of HCI International) three ÆGIS papers were presented by Peter Korn and Karin Slegers. The presentations were part of a special session of the Universal Access in Human-Computer Interaction track, called "Inherent Accessibility in Software Design, Development and Assessment", organised by Evangelos Bekiaris, ÆGIS Coordinator. Two general papers about ÆGIS were presented: Evaluation Frameworks about All Inclusive Mainstream ICT (by Maria Gemou and Evangelos Bekiaris) and Towards Open Access Accessibility Everywhere: The ÆGIS Concept (by Peter Korn). The third paper was about the user-centred design approach in ÆGIS: A UCD Approach Towards the Design, Development and Assessment of Accessible Applications in a Large Scale European Integrated Project (by Karel Van Isacker, Karin Slegers, Maria Gemou and Evangelos Bekiaris).

# ÆGIS organises satellite event at ETAPS 2010 (March 27-28, 2010) in Paphos, Cyprus

ÆGIS is organising a satellite event at ETAPS 2010 (European Joint Conferences on Theory and Practice of Software). This satellite event is entitled FOSS-AMA (Free and Open Source Software - for Accessible Mainstream Applications), and aims to bring together the most recent achievements and renowned experts in Open Source Community and Accessibility. 3rd generation access techniques and their potential for more accessible mainstream ICT for end-users and relevant toolkits for developers will be explored. Interactive demos will embellish the presentations sessions.



The schedule for paper submission, notification of acceptance and final versions of camera-ready papers is as following:

- Abstracts submission deadline: 30th November 2009
- Notification of abstracts acceptance: 15th December 2009
- Paper submission deadline: 15th January 2010
- Notification of acceptance and review outcomes: 30th January 2010
- Final camera ready papers: 20th February 2010

Submissions in the following categories will be admissible:

- Scientific Papers
- Technical Papers

The final versions of the accepted camera-ready papers will be published and will be made available during the workshop. The event will also foresee an exhibition of demos on accessible open source Rich Internet Applications, Desktop Applications and Mobile Applications.

The contact address to use is [info@aegis-project.eu](mailto:info@aegis-project.eu).

Full details about the call for papers is available on the ÆGIS project website.



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