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European Commission
Information Society and Media

i2web

Inclusive Future-Internet Web Services

By 2025 40% of the European population will be over the age of 60 or will have a severe disability. Future Internet applications have rich, complex interfaces that allow people to engage in social networking, contribute their own user-generated content and access a wide variety of multimedia content from their computer, their mobile phone or even their television.

To help make the Future Internet fully accessible to all, i2web has created innovations to support both the users and providers of applications. i2web is supporting users by pioneering a new approach to accessibility based on investigating the positive strategies that disabled and older people use, and it has developed a prototype system that empowers users to choose adaptations of applications that support those strategies.

For web application providers, i2web has developed an open integrated accessibility testing and maintenance environment that allows application commissioners, developers, and accessibility experts to all have access to common information about the accessibility of a web application, conduct accessibility tests, access information about how to solve accessibility problems and track application accessibility over time. The i2web system also supports developers in providing the adaptations needed for disabled and older users' strategies.

At a glance

Inclusive Future-Internet Web Services
http://i2web.eu/

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Partners:
Fraunhofer Institute for Applied Information Technology FIT (DE), The National Microelectronics Applications Centre Ltd (IE), University of York (UK), Hewlett-Packard (IT), Public-i Group Ltd (UK), Polymedia SpA (IT), University of Ljubljana (SI), National Council for the Blind of Ireland (IE), Foundation for Assistive Technology (UK)
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Programme: 7th Framework Programme

The i2web project uses a highly user-centered approach, working closely with the various user groups, and has conducted both expert and user evaluations and several field studies throughout the project.

How i2web helps disabled and older people use Web 2.0 applications

i2web is pioneering a new approach to Web 2.0 accessibility by investigating the positive strategies that disabled and older people use with the Internet, rather than focusing on the problems they encounter. Over 60 users have been involved in studies with the i2web team, working with desktop computers, mobile phones and WebTV. These studies have elicited 7 key high level strategies that people use with Web 2.0 applications, which break down into over 100 different patterns of interaction, depending on the platform on which they work, their assistive technologies and their personal preferences. Based on this extensive research, the project has developed a modelling framework and an assistive

SEVENTH FRAMEWORK PROGRAMME

system that empowers users to choose adaptations that support the positive strategies that they use.

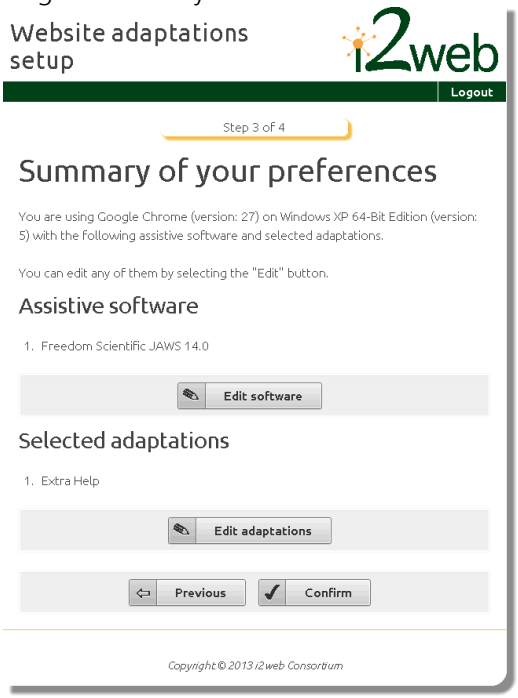

Figure 1. i2web assistive configuration system.

How i2web helps developers, accessibility experts and web commissioners

i2web has worked with web developers, accessibility experts and website commissioners to understand their work practices. We have conducted surveys, interviews and observations with over 100 practitioners. Based on this understanding, i2web has developed new tools to support the creation of accessible websites and Web 2.0 applications.

For application providers, i2web has developed an open integrated accessibility testing and maintenance environment that allows application owners, developers, and accessibility experts to all have access to common information, but with different perspectives, on the accessibility of a web application, to conduct accessibility tests, access information about how to solve accessibility problems and track application accessibility over time.

The tools for web developers are open for use by any accessibility validation system. The tools integrate accessibility testing into the workflows that web developers already undertake in their development processes. Accessibility support and advice is focused at the level of web content, allowing developers to undertake both formative and summative accessibility evaluations with the assistance of automatic and semi-automatic testing tools.

The tools for application commissioners allow them to track accessibility of their websites at a high level and monitor changes over time. It provides them with an overview of what pages are likely to cause users trouble, with information that is abstracted away from the technical details of how the website was developed and tested.

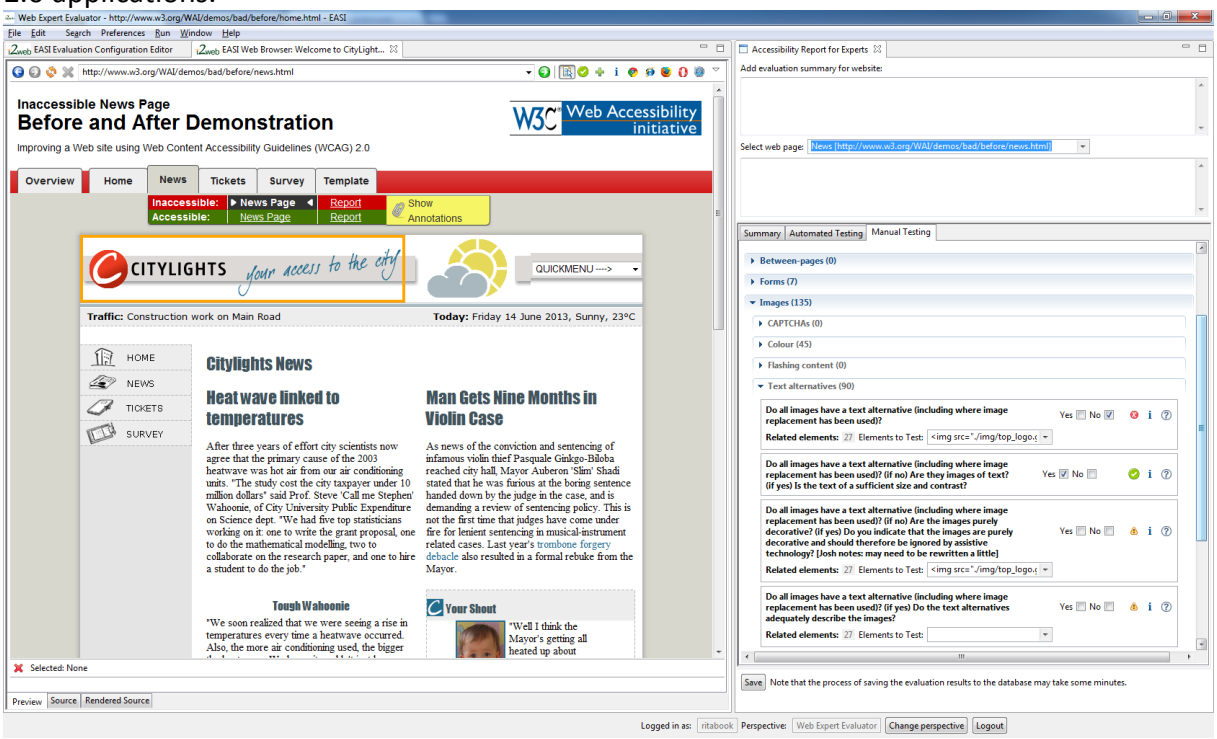

Figure 2. i2web accessibility support tool.