

Opening up Access to Online Documents using Essentiality Tracks

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Current Problems

Essentiality and Proficiency

DocBook XML

Essentiality Tracks

Application in the “Real World”

Future Work

Summary

References

Current Problems

- ▶ Information Exclusion

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- ▶ Standards Compliance \neq Usability [Mohamad et al., 2004]

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On the other hand...

The DRC [Disability Rights Commission, 2004] provides us with motivation to use accessibility as a benchmark for site usability – 35% of sites are easier for **everyone** to use if they are made accessible!

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 - ▶ Accessibility improvements.
- ▶ Useful for when space or time is at a premium.
- ▶ Essentiality filtering and personalised rendering is carried out as a proxy service.

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- ▶ Rendering subject to “Proficiency” of the user or device.
- ▶ User profiles stored centrally.

Example: User's Point of View – Before

The screenshot shows a Firefox browser window displaying the Nationwide Building Society website. The browser's address bar shows the URL <http://www.nationwide.co.uk/default.htm>. The website header features the Nationwide logo and the tagline "proud to be different". A navigation menu includes links for home, credit card, current account, insurance, investments, loans, mortgages, savings, and travel. A search bar is present with the placeholder text "enter keyword or search phrase" and a "search" button. Below the navigation, there are several promotional banners: "planned maintenance", "Internet Banking" with a "Sign on" button and links for "more info", "register", "demo", and "security"; "LIFE COVER" with the text "You love them. Protect their future for less than you think" and a "more info" link; and "CURRENT ACCOUNT" with the headline "Ask your bank why they charge you to use your card abroad" and a sub-headline "We don't! - Switch today" with "more info" and "apply now" buttons. A small image of a man in a suit is part of the "CURRENT ACCOUNT" banner. At the bottom of the page, there is a disclaimer: "Nationwide Building Society, Nationwide Life Limited and Nationwide Unit Trust Managers Limited represent only the Nationwide Marketing Group which is authorised and regulated by the Financial Services Authority for life assurance, pensions, unit trusts, insurance and regulated mortgages. [Legal](#) | [Privacy](#)". The browser's status bar at the bottom shows "Done".

Example: User's Point of View – After



- [home](#)
- [banking](#)
- [credit card](#)
- [insurance](#)
- [investments & pensions](#)
 - [loans](#)
 - [mortgages](#)
 - [savings](#)

[[View https://co-teach.lboro.ac.uk/corgs/essen/nationwide/default.html](https://co-teach.lboro.ac.uk/corgs/essen/nationwide/default.html) without filter] [[Essentiality filter Home](#)] [[Essentiality level: 1 / 2 / 3 / 4 / 5 / -6- / 7 / 8 / 9 / 10](#)]



Example: Author Mark-Up

Applications Places Desktop Fri 21 Oct, 17:13

FrontPage - AGRIP Wiki - Mozilla Firefox

File Edit View Go Bookmarks Tools Help Getting Started Latest Headlines

http://www.agrip.org.uk/

Show Mark

AGRI Wiki [skip navigation](#)

[MatthewAtkinson](#) | [UserPreferences](#) Search

[FrontPage](#) [News](#) [About](#) [Download](#) [Develop](#) [Community & Support](#) [Contact](#) [Links](#)

[Edit](#) [Show Changes](#) [Get Info](#) [Subscribe](#) More Actions:

FrontPage

Updates

2005/10/19: [Beta 4.1 has been released.](#)

Check out [RecentChanges](#) for more detailed update information.

Research

Are you interested in funding research that will change the way we deal with information and improve accessibility issues for the blind and vision-impaired? Please visit [my home page](#) for more information and become one of the first to benefit.

The AGRIP Project

Welcome to the AGRIP Project's Wiki. This site was created so that the community can learn about how to install, use and develop the software we produce.

Our aim is to provide access to the mainstream gaming community not by producing specialist "accessible games" but by making mainstream games - and their associated extension and development tools - accessible. We want blind people to not only play the games that sighted people do, but to be involved in the online communities that surround them and to extend them, creating new games and applications with them; something that sighted people have enjoyed a great deal over the years.

Over the past two years, we have developed an accessible version of Quake and QuakeWorld which allows both single and multi-player games, including the collection of online player statistics. In the future we will add immersive 3D audio

Done

[FrontPage - AGRIP Wiki - Mozilla Firefox] FrontPage - AGRIP Wiki - Mozilla Firefox

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- ▶ A simple implementation of essentiality was added to DocBook XML.
- ▶ Proficiency taken care of by (XSLT) filter modifications.

The Problem of Context I

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```
<essn level="7">
  <para>Under no circumstances must any employee:</para>
</essn>
<essn level="5">
  <itemizedlist>
    <listitem>
      <para>
        Stay in the building after the alarm has
        sounded. <essn level="9">Leave the building
        immediately if there is a fire.</essn>
      </para>
    </listitem>
    . . .
  </itemizedlist>
</essn>
```

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    is a fire.</li>  
  . . .  
</ul>
```

The Problem of Context II

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- ▶ These problems can be avoided.

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```
<essn track="manager" level="3">  
  <para>...</para>  
</essn>
```

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```
<essn track="manager" level="3">  
  <para>...</para>  
</essn>  
<essn track="developer" level="4">  
  <para>...</para>  
</essn>
```

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Proposed Implementations

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 - ▶ (X)HTML
 - ▶ PDF
 - ▶ Plain Text

Example Web Form

Browser Menu and Toolbar							
Document Retrieval Form							
Your role	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						
Essentiality	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						
Profile	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						
Custom font	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						
Custom colours	<table border="1"><tr><td></td><td></td></tr><tr><td></td><td></td></tr></table>						

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Popular criticisms of proxy approach, including those cited by other related work [Hanson and Richards, 2004, Mohamad et al., 2004].

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- ▶ Transformations overridden
- ▶ Bandwidth
- ▶ Lots of “Undoing” work
- ▶ Tolerance of non-compliant sites
- ▶ Most web sites are not annotated to provide extra accessibility information

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- ▶ Bandwidth or processing time (on the client) can be saved.
- ▶ No "undoing" work is necessary; only the transformations appropriate to the user are carried out.
- ▶ No tolerance of non-conformance is required
- ▶ No absolute need for annotation, but already established a business case for it.

Future Work

- ▶ Formal Testing

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Summary

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- ▶ How they can be applied in other areas
- ▶ Scalability improvements with Essentiality Tracks
- ▶ Possible uses

Thanks for listening!
Any Questions?





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