ABSTRACT
In this paper, we describe three tools that facilitate ‘crowdsourcing’ open source development to help overcome accessibility, usability and productivity issues identified by disabled students.

Categories and Subject Descriptors
K.4.2 Social Issues - Assistive technologies for persons with disabilities

General Terms
Design, Human Factors

Keywords
accessibility

1. INTRODUCTION
The Access Technologies Team at the University of Southampton School of Electronics and Computer Science (ECS) has developed a series of tools to help overcome accessibility, usability and productivity issues identified by disabled students. One of the points that arose out of the JISC funded LexDis project was the degree to which students were able to use their assistive technologies with Web 2.0 type services such as Facebook, blogs and wikis. It was found that those who did not need access tools, such as screen readers or keyboard only access, did not necessarily use their text to speech or spell checking software in these situations. There were also many students who did not have these technologies but still wanted to check their spelling and to change the look of the web pages they were reading. There were also those who wanted to access the web when using computers in other places and they needed some form of support. An issue that also arose was the general inaccessibility of some of the Web 2.0 sites and so it was decided that a more comprehensive approach was needed which is described further in this paper. Working through the issues discussed, a chart of document types was created with ease, by eliminating the reliance on browser-dependent plugin architectures and instead using a common language for all: JavaScript. When developing a toolbar, the programmer simply needs to tell the page to download the AtKit installation, is cross browser with flexible personalised features and will even work on the iPhone and iPad.

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Figure 1. Toolbar
3. ACCESSIBLE MENU
There are many portable pen drive applications that can help with accessibility, productivity and leisure activities when on the move but these can be rendered virtually useless without an accessible pen drive menu. An accessible menu has therefore been developed to help with navigation to these applications. The settings allow for colour and font changes, large text and keyboard access. This pen drive has been developed for staff to check the accessibility and usability of websites and applications but should also be useful for students. The tools that have been used to test the Web 2.0 services and applications have been added to the Access Tools download page along with a page of instructions.

Figure 2. Accessible Menu

4. WEB2ACCESS
A website was developed that allows users to test any Web 2.0 site or software application against a series of checks linked to the WCAG 2.0 and other guidelines. Over 150 Web 2.0 services have already been checked and results can be viewed for each site or for a particular disability. A wizard offers a step by step walk through with links to the techniques used for others to independently conduct tests. Web2Access will help students, teachers and course developers to check the accessibility and usability of websites and applications they will be expected or required to use during their studies.

Figure 3. Web2Access

5. CONCLUSION
Web2Access allows users to test any Web 2.0 site or software application against a series of checks linked to the WCAG 2.0 and other guidelines. The Access Tools accessible menu helps with navigation to portable pen drive applications that can help with Web2Access evaluations, accessibility, productivity and leisure activities when on the move. The accessible toolbar provides support for the majority of browsers and accessible websites through magnification, text and page style, colour and layout modification, spell-checking, text to speech readout, dictionary definitions and referencing and Fix the Web reporting. A video demonstration is available for downloading and is also available on Synote captioned. If users wish to annotate the recording on Synote they need to register before logging in with their registered user name and password, otherwise they can go to the “Read, Watch or Listen Only Version”. The panels and size of the video can be adjusted and the size of the text can also be enlarged.

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1. www.lexdis.org.uk
2. http://www.fixtheweb.net/toolbar
3. http://access.ecs.soton.ac.uk/ToolBar/
5. http://www.devx.co.uk/ATBar/
7. http://www.web2access.org.uk/test
8. http://www.w3.org/TR/WCAG20/
12. http://users.ecs.soton.ac.uk/mw/recordings/Mike_Wald/Access_toolkit2/Access_toolkit2.wmv