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DIGITALLY-INCLUSIVE MOBILE ENVIRONMENT

Dr Andy Chun, Chief Information Officer at the City University of Hong Kong, shares how he and his team transformed the University's public website into one that is digitally inclusive for everyone. Report: Clarice Africa.

A University-wide mobile web project was initiated by the University Council in late 2010 as part of a larger University rebranding effort. Its main objective is to transform the mobility, accessibility, searchability and usability aspects of the entire University website by deploying modern HTML 5 and CSS3 technologies.

Prior to the implementation of the project, Chun says the University website was not user friendly for everyone.

"'By everyone' means the website should also be usable by people with all abilities and disabilities. We aim to re-develop the website in a way that makes sure sure users can have equal access to all content and information regardless of what device or platform they use."

In addition, Chun and his team also worked on making sure the University website and its web pages were searchable in popular search engines as a way to strengthen the brand of

Dr Andy Chun
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the school. The project involved modernising more than a hundred distinct websites from different departments, for a total of about half a million pages on potentially different platforms.

"The sheer magnitude of the scope of work was quite a significant challenge," he remarks.

"Historically, our websites grew organically," he says, adding that each web page is different in design and technology,

and as such, only a very small fraction of the University's web pages follows web accessibility standards.

To finish the project within less than a year, he stressed that it was critical that they select the right set of technologies, architecture, approach and project management to ensure timely success of the project. To start off, Chun and his team tested the websites of the world's top 50 universities. Interestingly, they found out that only seven used HTML5 or CSS3. Out of these, only three had mobile support for a small fraction of their content — support that was limited.

"Since the objective was to revitalise the entire University website and not just a few key pages, developing native apps was not feasible as it would have entailed a massive effort on our part and would not have met the web accessibility requirements of the project."

"Instead, the approach we selected was a 'mobile web

approach', which follows several web standards and guidelines, coupled with a 'responsive web design' strategy that automatically detects client agents and reorganises, re-lays-out and either adds or hides elements as needed to give the correct look and feel for the apps."

"With the 'mobile web approach' the same source code supports both desktop and mobile device screens, thus enabling us to save time and money from having to recode a mobile version for each website."

Since the project involved close to a hundred departments and 250 staff, the team needed an approach that was both scalable and flexible enough to support different platforms.

"Our approach was to create a central technology framework containing platform-independent web components and templates, which the individual departments can then hook up to their content management systems."

"Using central templates and distributed implementation, we were able to complete this project in record time — within less than a year," Chun remarks.

A DIGITALLY INCLUSIVE WEBSITE

Since the project also aims to support e-inclusion efforts in Hong Kong by providing barrier-free and accessible websites for everyone,Chun says that with the University-wide mobile web project, persons with disabilities would now find it easier to navigate the website.

"Now, people with low vision or the visually impaired can now use assistive devices such as screen readers and braille to understand our content. Although it was possible in the previous format, the website back then was not very convenient to navigate or to understand, particularly on some of our older web pages."

He explains that the project has enabled them to enforce a common set of modern accessibility standards that would be applicable to the University's websites, which included the navigation mechanism, layout and alternative contents.

After almost a year of intensive work involving more than 200 people from various departments, Chun and his team's efforts paid off. Not only were they able to further strengthen the University's branding, but they were also able to significantly drive costs down.

"Most Universities around the world are probably also concerned with e-inclusion and contributing to the digital divide. The technical approach we took made it easier for us to achieve this goal since our centralised collection of template designs already has built-in accessibility elements, which have already been tested and validated. With the latter in place, we were able to assure our users that our web pages have at least achieved a certain level of accessibility standards."

Chun adds that the centralised template approach also makes it easier for the team to adapt to newer accessibility standards, guidelines or technologies once they become available.

"Currently, only a very small percentage of websites in Asia has been coded with accessibility in mind. We hope our efforts can set an example for other universities and organisations in this region to follow."

Due to the success of the University's web accessibility project, the Office of the Government Chief Information Officer of Hong Kong invited the University to collaborate with it in providing services and guidance for the Hong Kong-wide 'Web Accessibility Campaign'.

"Moving forward, the University will be providing educational seminars and workshops to help define accessibility certifications in Hong Kong. Furthermore, we look forward to sharing our technology platform and implementation of best practices with non-profit organisation and small and medium enterprises," he concludes.‹

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While most of us can easily navigate on computers and the latest mobile devices, what about people with disabilities who experience difficulties with these interfaces? Meaningful digital inclusion does not only pertain to bridging the digital divide and connecting the unconnected, it should also make sure that people with disabilities — whether Blind, Deaf and Mobility impaired - are not excluded from the transformational benefits of innovation and are also not left behind.