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Mobile solutions for global workers on the move

This poster focuses on delivering mobile continuing medical education (CME) to health care workers (HCWs) that are on the move in an international setting. Delivering relevant lifelong learning content to a diversity of professionals is a technical challenge. However the need to transmit the latest medical knowledge to specialists is crucial. The Institute of Tropical Medicine (ITM) of Antwerp, Belgium has built a lifelong learning strategy to keep HCWs updated on AntiRetroviral Therapy (ART) for HIV/AIDS related areas.

Although standardization of mobile content is only in its infancy, we have applied the guidelines for mobile content development of the Mobile Web Initiative. This has resulted in increased accessibility of the mobile CME modules, minimal download size of the content, minimal download cost and enabled us to reach as many different mobile cell phones as possible. In addition to this we have designed and delivered CME modules with the flash interactivity, aiming at the latest mobile devices equipped with full multimedia features and addressing the need of the high-tech medical professional that roams the globe. Finding solutions for both low-end and high-end mobile courses demands both a creative and an innovative approach, addressing different learner skills.

Providing lifelong learning

Mobile learning can be a lifelong learning solution, because it caters to the context and time schedules of the learners themselves. The purposes of ITM's mobile CME addition are:

- To facilitate the introduction of high-quality antiretroviral (ARV) care for HIV/AIDS patients, by providing remote consultations in the field of ARVs and management of opportunistic infections to clinicians.
- To provide continuous education in the field of HIV/AIDS care to HCWs on the move all around the world.

Implementing mobile solutions

We focused on four specific technological and financial restraints:

- Limit download size for the CME-modules while keeping standardization in mind;
- Limit the development cost of mobile courses;
- Provide mobile multimedia as an option when relevant;
- Link it to an accessible platform



Standardization: following the Mobile Web Initiative

Standardization is still a big problem in mobile development; however the Mobile Web Initiative (<http://www.w3.org/Mobile/>) does ground breaking work to push forward a mobile standard that enables content that can be accessed by a wide variety of mobile phones. Building on the guidelines offered by the Mobile Web Initiative and their willingness to include both developed, emerging and developing countries in the mobile knowledge revolution, we started developing CME's based on xhtml coding.

This approach offered several advantages:

- The CME content became accessible by more mobile phones;
- Downloading xhtml designed content limits download size;
- The guidelines for using xhtml for mobile content delivery are freely available on the web;
- Our partner institutions in the South could use this mobile development option as well - if they wanted to - because of the open mobile possibilities;
- Xhtml is a more accessible coding language and as such it can also be used by less technological savvy people. This opens possibilities for people or organizations with limited financial and/or human resources in developing countries.

In addition to the coding images needed to be resized and adopted to mobile delivery.

Provide mobile multimedia as an option

While addressing standardization and limiting the download size of the CME modules is a good thing, some mobile multimedia content is offered as well. Unfortunately standardization in this area is limited. When a HCW decides to purchase a mobile device, a lot of personal financial issues guide the purchase. Some of the HCWs already have access to Smartphone's, enabling them to access multimedia content as well. Future trends indicate that the next generations of phones will have increased multimedia capabilities and will cost less. At the institute we are currently developing online courses which address HIV/AIDS related issues. These courses have audiovisual parts in them, making them only accessible with smart phones.

The audiovisual mobile content is built with a mix of screen capturing software, audio recordings, multimedia editing software and conversion software that enables conversion to a mobile device format. Using multimedia content makes it possible to use relevant visual material that enhances the content comprehension addressing different learner skills.

At this point in time delivering multimedia content for mobile devices would only address a limited amount of HCWs. So the multimedia modules that are developed are also recoded into an xhtml module, enabling a broader access of that specific content both in developed, emerging and developing countries, but losing some of the extra learning dynamics audiovisual material can offer.

Conclusions

When technical challenges like download size and standardized content are taken into account, delivering mobile content to remote areas as well as HCWs on the move is possible. The guidelines of the Mobile Web Initiative proved to be worthwhile in developing mobile CME modules that are accessible by a large diversity of mobile devices. Future trends indicate that the next generations of phones will have increased multimedia capabilities. Mobile multimedia can be delivered for developed, emerging and developing countries, but the users are still very limited. As long as older cell phones are used, it is essential to keep the mobile content non-multimedia based to make it accessible to as many HCWs as possible.

Overall the mobile CME modules answer a need enabling HCWs to access the latest medical information relevant for their expertise.

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