

Challenges for Device Description Repository

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Abstract

ACCESS describes some of the real world device description repository issues and challenges in a context of the diversified mobile Internet.

1 Introduction

The mobile Internet was launched in Japan in 1999. Since then, they witness the rapid penetration into the every day's life. As the mobile Internet users reached 70 millions, a large portion of the Internet content was converted to be mobile-enabled. In addition, a large portion of mobile-specific content was created. ACCESS has skills in developing porting web-enabled software to digital appliances since 1995. We have leveraged Internet-TV, mobile handsets, game consoles, and other office machines and home appliances using NetFront. NetFront shipped in 235 million licenses in 801 products by the end of 2005. Recent porting experience includes portable game consoles, copy machines, electronic music instruments, digital TV, automotive navigation systems, and so on. NetFront can cover both of context-specific languages (like Compact HTML or WML) and general purpose languages (HTML4 or XHTML1).

2 Challenges

The mobile Internet includes a wide variety of diversity from device capabilities, execution environments to development environments. We don't see any convergence in this competitive market in the near future in spite of multiple efforts in different layers. For the mobile Internet eco-system, we support the device description repository to harmonize the efforts done by the client device developers and content providers.

3 Practical Challenges

The reality of the device description repository falls into the following three categories:

- Historical Challenge
- Trust between content providers and device developers
- Content Practice Diffusion

First, it is good to learn from the past experience of content adaptation. When the mobile Internet was launched in 1999, just before the Internet bubble, many emerging companies started in Japan to claim the device independent content platforms. After 7 years, there came many mobile Internet companies, however, we cannot see any persistent technology providers to supply content adaptation services. There could be several reasons. The technology was immature. The device capability update speed was too fast. The visibility of content adaptation advantages for content providers was small. The content providers did not trust the adaptation approach because they were so keen about the content quality (e.g. color on the real devices). The content adaptation process was tiny compared to the large amount of work to maintain mobile content for 24 hours. The lessons should be learned and different solutions are needed.

It is good to learn to learn from the experience of UAProf. UAProf is a good technology, which is really needed in the market place. However, the convention to use this facility was very limited in the early stage. The collaboration between technology providers and content providers is not easy. It needs interactions and success experiences. It needs education and evangelization. It needs social process and time.

Second, the use of device description needs trust between technology providers and content providers. It is not an easy task to develop inter-domain trust relationship. Without that, the device providers will minimize the device capability exposure, and the content providers will ignore

the device description efforts. Good tools may help the harmonization process.

Third, it is good to grow content practice diffusion. One of the key factors of the Internet growth is that the Internet content can be easily copied. People copied HTML contents in the early phases. Content adaptation is isolated from this process, therefore, it is better to intentionally enhance the content diffusion process. People will learn from copying. This is a challenge in the content adaptation webs.

4 Conclusion

ACCESS encourages W3C to identify real world issues in the device description repository to improve the content development environment in the mobile Internet. The mobile Internet quickly penetrates everyday's life and becomes an integral part of social life. The end users need the mobility in the Internet access. This whole emerging and growing demands need a better environment for content authoring for diverse devices.