Workshop summary - Accessibility Challenges of Virtual Worlds

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The aim of this workshop was to discuss, amongst all participants, research priorities towards increasing the accessibility of virtual worlds, with two main focus areas: critical research towards supporting current needs of current virtual world users with special needs, and research that is required to render virtual worlds accessible to new groups of users.

The discussion was launched by a general presentation of the issues by the chair, and a live presentation by Matthew Tylee Atkinson, "Accessibility: A Case of Us and Them"?" (supported by a paper published in the conference proceedings). The discussion then started, involving the invited panel members and the audience.

Given the mixed nature of the audience, comprising both accessibility researchers (many without any background on virtual worlds) and virtual worlds researchers (many without any background on accessibility), the chair begun the discussion by asking why should this subject (accessibility challenges of virtual worlds) matter.

The participants answered that it was a matter of participation in society. Accessibility is not a matter for some: it' for all. Even if just for egotistical motives, we all will reach a point in our lives where we will require accessibility technologies. But why direct research efforts to the accessibility of virtual worlds in particular? A consensus was reached that it should be more effective to introduce accessibility measures in virtual-world technology now, while it is still in its infancy, than later on, when it will be more widespread.

The case of elders in particular was discussed. Where is the motivation for elders to participate in virtual worlds? Participants answered that a specific case may be the desire to have a parallel life, seen as a new opportunity. And that creating opportunities for people should be a priority of research.

The issue was raised that one should be aware of a significant difference between accessibility in virtual worlds and accessibility to other forms of 3D environments: virtual worlds are social, at least in terms of user-to-user communication, but increasingly in terms of user-created content. And the viable approaches regarding 3D environments where the ability to produce content is in the hands of a few (companies, typically) can be quite different when content creation is spread over a mass of users.

A different use for virtual worlds is as research laboratory for architects. Instead of simply watching a 3D rendering of a building, architects and actually see how people use it, see what happens to their work when it is used with and without guidance, by many or just by a few, occasionally or regularly.

A participant suggested that avatars might be programmed with different kinds of physical limitations, so that architects could see how a building model intended for real life would be understood and used by people with such limitations.

A suggestion was made that the overall 3D environment should be able to adapt to different needs of users. For instance, places to click, information displays, walking areas, etc. can be resized and re-located automatically for each user – although there is a potential for conflict when two or more users with different requirements are present. Another suggestion was that the environment could suggest supporting tools for each user.

But what should be the key determining the adaptation of a virtual environment? An idea was that avatars could have the option to voluntarily tag themselves according to their type of disability (visual, movement coordination, etc.), and that architecture and even user interfaces could then be able to read these tags, as long as they become standardized, and thus automatically adapt to the requirements of users.

A final idea was that given the feasibility of implementing such adaptive measures at low cost in virtual worlds, given the possibility of better realizing the point of view of users with special kinds of needs, accessibility measures could spread from virtual worlds and "contaminate" real life. And that would be a most fortunate consequence indeed.

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