Making the mainstream accessible: more than a game

This item was submitted to Loughborough University's Institutional Repository by the/an author.

Citation: ATKINSON, M.T. ... et al, 2006. Making the mainstream accessible: more than a game. IN: 1st World Conference for Fun 'n Games, June 26-28, Preston, UK.

Additional Information:

- This conference paper was delivered at the 1st World Conference for Fun 'n Games (FNG 2006): http://www.chici.org/fng2006/index.htm

Metadata Record: https://dspace.lboro.ac.uk/2134/4462

Version: Accepted for publication

Publisher: © The authors

Please cite the published version.
Making the Mainstream Accessible
More Than A Game

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Research School of Informatics
Department of Computer Science
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27th June 2006
Outline

Context
  Then
  Now
  Future

Online Interaction
  Global Navigation
  Collaboration
  Web-based Communities
  Meaningful Competition?

Development Tools: Educational Integration?

Conclusions
  Further Work
  Conclusions
  Acknowledgements

References
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Many individuals and some small companies started developing accessible games for disabled people.

Suddenly blind people were no longer limited to one genre (Interactive Fiction).

Most of the games were conversions of puzzles or classic arcade games.

Some developers have been more original.

Drawback: Segregation.
This talk concentrates on sight loss but could be applied to other disabilities
The Past of Accessible Gaming

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Ethos of the AGRIP Project

▶ Provide access to not only mainstream games, but their surrounding online community and development tools
▶ Give people Freedom to use and modify the game, support infrastructure and tools

AudioQuake
▶ An "Accessibility Layer" for Quake (id Software)
▶ A system for playing Internet multiplayer games
▶ A platform for programming modifications
▶ Only possible due to Open Source nature
▶ Provides and promotes inclusion

AGDev and other developments
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AGRIP Developments

"Implicit Accessibility"

Level design

Audiogames and Accessible games gain weight in industry

Definition:

"accessible games" vs. "audiogames"

John Carmack's Keynote point

Potential mobile market

Work of IGDA, AudioGames.net, AGDev and others

Education and Games get together

EA and NESTA study on games in education [NESTA and EA, 2005]

Potential to augment existing practises and assist in teaching
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Global Information
Online Interaction

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- Web-based Communities
Presenting in Parallel with Local Navigation
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AudioQuake’s approach & Multimodality
Presenting in Parallel with Local Navigation

Abstract concepts and goals vs. Game-world objects

Narrative techniques

Objects, Characters guide the player


not suitable for non-linear (i.e. multiplayer) games

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Differentiates "real" objects and goals

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AudioQuake approach
Waypoint markers
Different audio environments
Areas tagged with names
So far, users like different environments and tagging most
Multimodality
Other means than audio and video may be used
Examples include location-based games such as Demor [Velleman et al., 2004] and haptic feedback provided by the TiM project [Archambault and Burger, 2001]
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Traditional text-based messages pose a number of problems:

- Stops player being able to move (applicable to other games)
- Use of Text-to-Speech further overloads the sound "channel" of presenting information

Potential solutions:

- In-play shortcut keys to quickly review important messages
- Use of VoIP for faster, less invasive (to gameplay) communication
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Use of RADAR and similar metaphors [Atkinson et al., 2006]

Overall strategic information not presented

Inherent problem in first-person games (as pointed out by [Yang and Olson, 2002])

More pronounced for disabled people

Current overview techniques have no accessible counterpart (discounting the use of external devices, which could be problematic)

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Often the websites of gaming communities are not accessible:

- Non-compliance with accessibility standards (e.g., use of flash, tables for layout, graphics with no alternative text).

An online extension to AudioQuake was developed, allowing stats-tracking in a similar way to sites for other mainstream games.

Online Interaction | Web-based Communities

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- e.g. 8 (advanced blind player) vs. 10 (sighted player) "frags" – only a 20% difference in scores!

Performance of blind gamers was let down by

- Implementation-specific technical limitations
  - Input Speed
  - Fast Output Cognition
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IDEs can be inaccessible [Sánchez and Baloian, 2005]

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Standard techniques of teaching programming not as accessible as before

Meanwhile, sighted people can learn in a more entertaining way from earlier ages

AudioQuake represents an even playing field for this style of teaching programming

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Further Work

- Improve existing techniques
- Generalisation & relation to other current research
- Accessible map editing
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<table>
<thead>
<tr>
<th>Conclusions</th>
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This small survey covered 18 users of AudioQuake.
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Conclusions

- What accessible (and audio) games are

- How multiplayer accessibility in particular can be realised

- Non-game aspects

- Educational uses
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- The Grundy Educational Trust
Thanks for listening!
Any Questions?


