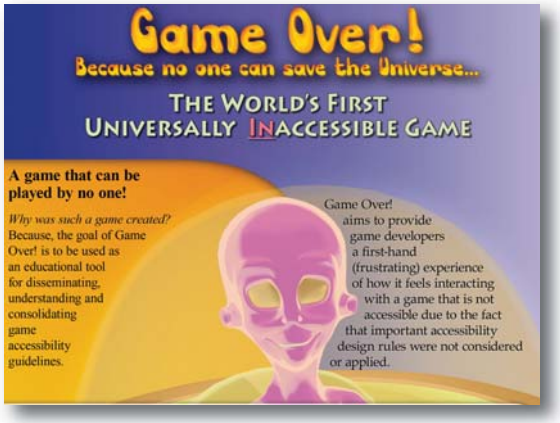
UA - GAMES

Universally Accessible Games

The concept of Universally Accessible Games (UA–Games) has been proposed as a means to overcome the limitations of previous approaches to game accessibility, and as an effective technical approach to achieve game accessibility coupled with high interaction quality, also putting forward the objective of creating games that are concurrently accessible to people with diverse abilities.

UA-Games are interactive computer games that:

- Follow the principles of Design for All, being proactively designed to optimally fit and dynamically adapt to different individual gamer characteristics without the need of further adjustments via additional developments.
- Can be concurrently played among people with different abilities, ideally also while sharing the same computer.
- May be played on various hardware and software platforms, and within alternative environments of use, utilizing the currently available devices, while appropriately interoperating with assistive technology add-ons.



Game Over won the people's choice award at "Play Arcadia," (www.playarcadia.com) in Toronto, 2007.

Key results

(a) A design method: Unified Design for UA-Games

- The systematic design approach that we have followed in order to create our UA-Games. This method reflects a process-oriented discipline emphasizing abstract task definition with incremental polymorphic physical specialization.

(b) A novel concept: Parallel Game Universes

- This theory aims to provide a way for creating multiplayer games where people with diverse abilities can play cooperatively, or against each other, while at the same time experiencing the game in an optimally adapted way.

(c) Four games that have a two-fold role, acting both as proofs of concept and as case studies.

- UA–Chess: a universally accessible web–based chess.
- Access Invaders: a universally accessible multiplayer and multiplatform version of Space Invaders.
- Game Over!: the world's first universally inaccessible game, meant to be used as a game accessibility educational tool.
- Terrestrial Invaders: a UA-Game packed with numerous accessibility features that was developed in order to be able to create Game Over!

All the games can be downloaded from:
http://www.ics.forth.gr/hci/ua-games/
Related publications can be found at:
http://www.ics.forth.gr/hci/ua-games/publications.html

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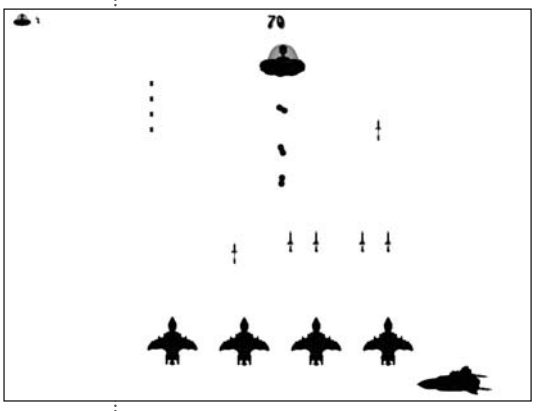

HUMAN COMPUTER INTERACTION LABORATORY (HCI)

The Human Computer Interaction Laboratory of FORTH-ICS (http://www.ics.forth.gr/hci/), established in 1989, is an internationally recognised centre of excellence, with accumulated experience in user interface software technologies, design methodologies, and software tools. The Laboratory carries out leading research activities focused on developing user interfaces for interactive applications and services that are accessible, usable, and ultimately acceptable for all users in the Information Society, while, at the same time, providing an appropriate framework and tools for reducing development time and cost. The research activities of the Laboratory, rooted in the principles of Universal Access and Design for All, address the development of interactive applications and services for various platforms, such as personal computers, handheld computers, mobile phones, smart appliances, and other computational devices distributed in the environment. Research results include infrastructures, methods, prototypes, architectures, tools, and programming languages, as well as methodologies for maintenance, reuse, modification and extension of the developed systems. Systematic testing, evaluation, validation and integration of the above results are achieved in practice through the development of advanced applications and services, such as mobile information systems, ambient intelligence environments, accessible web portals, entertainment applications (e.g., games), and educational software (e.g., eBooks).

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Edited: November 2007

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