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Interests

User-centered design, GUI design, software and web design, software and web development, exergaming, research and teaching.

Work Experience

- **Research. 2011-present: Research Assistant at Queen's University**
  - Project: CP Fit 'n' Fun: Health and Social Benefits of Virtual Exercise Games in Youth with Cerebral Palsy
    - Took active part in the user-centered design, development, and testing of an exercise video game, considering accessibility issues of children with CP.
    - Designed and conducted studies with children with CP to evaluate several aspects of exercise video games.
    - Analyzed data, co-wrote papers and gave presentations in ACM conferences.
  - Project: Exercise games and physical activity: Does multi-player online play improve adherence?
    - Handled logistics of setting up studies and training other team mates.
- **Research. 2008-2010: Researcher at SINFOCI research group at University of Quindio**
  - Project: Development of a collaborative virtual environment
    - Designed, developed and documented 2D and 3D user interfaces for the virtual environment.
  - Creation and management of the University of Quindio's usability lab (team of 4)
  - Web usability and accessibility consulting and testing for small companies.
- **Teaching. 2005 –2010 Full Time Lecturer at Systems and Computers Engineering program at University of Quindio, Colombia**
  - Supervised undergraduate thesis projects in software and web development
  - Designed and taught courses at the undergraduate level:
    - Algorithms Fundamentals
    - Object Oriented Programming
    - C++ and Java
    - Compilers
    - Computer Graphics
    - Graphical Interfaces Design
    - Usability testing

- **Teaching. 2007 – 2010 Part Time Lecturer at Software Engineering program at EAM Escuela de Administración y Mercadotecnia, Colombia**
    - Designed and taught courses at the undergraduate level:
        - Java Language
        - Data Structures
        - Software Design
- **Freelance. Web Designer/Developer, 2002 – 2010, Colombia**
    - Developed webpages and online systems for small companies, making use of:
        - HTML, PHP, JavaScript, SQL, CSS, Action Script
        - Database Design
        - Graphic Design
        - Flash Animation
- **Research. Developer at SINFOCI Research Group, University of Quindio, 2002-2004**
    - Coded several widgets for the GUI of an embedded system using C++

Education

- **PhD Candidate in Computer Science at Queen's University, Kingston Canada, 2011 – Present (GPA: 3.93)**
    - Focus: Exercise video games for children with cerebral palsy
    - See: Work experience - Research (earlier in this document)
    - Developed a networked 2D video game in XNA, implementing simple techniques of interest management for the grad course CISC 877: Developing Digital Games (member of a 2 people team).
- **MSc in Engineering at EAFIT University, Medellin Colombia, 2010 (GPA: 3.8)**
    - Cum Laude mention for MSc thesis
    - Focus: Computer-supported cooperative work and user centered design
    - Designed, developed and evaluated a 3D virtual environment that allowed GUI designers to build GUI sketches collaboratively over the network. Led a team of three for early stages of the project. Did most of the coding and designed and conducted usability studies.
    - Designed and developed a phidgets based console and application for the grad course Human-Computer Interaction (member of a 3 people team).
- **BSc in Systems and Computers Engineering at University of Quindio, Armenia Colombia, 2004**
    - Honours mention for undergrad thesis project
    - Focus: Distributed systems and 3D graphics engines
    - As part of a group of three, designed, developed and tested a distributed 3D graphics engine supporting multiple simultaneous views.

Technical skills

- Proficiency in programming languages:
    - **Java SDK**

Actively used from 2001 to 2010 in undergraduate and graduate courses and master's thesis project, involving:
    - Networking
    - Development of DBMS (Database management systems)
    - Data structures
    - GUI (forms applications) and Applets
    - 3D environments (Java3D and jMonkey Engine)
  - **C# under Visual Studio .Net**
    Used from 2011 until now in graduate courses and research, involving:
    - 2D Computer games development with XNA
    - Data structures
    - Windows forms applications
    - Console applications to analyze data/logs
    - Manipulation of data from COM ports
  - **PHP, JavaScript, HTML 4**
    Actively used from 2001 to 2010 for development of web Content Management Systems and small business webpages
  - **C++ from 1998 to 2004**
    Used for high school and early years of undergraduate projects
    - DOS console applications in text mode and graphic mode with SVGA drivers
- Experience managing software projects with the Rational Unified Process
- Web and GUI design/development
  - Strong knowledge of usability fundamentals
  - 2D Graphic design and animation
  - Web server and database management

Non-technical skills

- Leadership, proactivity, assertive communication, team work, guidance/instruction, stress and pressure management.
- Spanish as first language (fluently), English as second language (fluently).

Publications: Long/full papers

2013. Designing action-based exergames for children with cerebral palsy. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '13). ACM.

2012. Design of an exergaming station for children with cerebral palsy. In Proceedings of the 2012 ACM annual conference on Human Factors in Computing Systems (CHI '12)

2011. 3D Collaborative Virtual Environment for Real-Time GUI Sketching. Avances En Sistemas E Informatica ISSN: 1909-0056 ed: Universidad Nacional Medellin, v.8 fasc.2 p.66 - 71, Colombia.

2011. WeSketch: A 3D Real Time Collaborative Virtual Environment that Improves the GUI Sketching Task. Information Technology: New Generations (ITNG), 2011 Eighth International Conference on. IEEE.

Publications: Short papers, posters and demos

2012. Liberi and the racer bike: exergaming technology for children with cerebral palsy. In Proceedings of the 14th international ACM SIGACCESS conference on Computers and accessibility (ASSETS '12)

2012. Interactivity Session - Liberi: An exercise video game for children with cerebral palsy. ACM annual conference on Human Factors in Computing Systems (CHI '12)

2013. GRAND conference. Bringing Action to Exergames for Children with Cerebral Palsy.

2011. GRAND conference. CP Fit 'n' Fun: Health and social benefits of virtual exercise games in youth with cerebral palsy.

Invited talks

2013. Bringing Action to Exergames for Children with Cerebral Palsy. Games for Health conference. Boston Massachusetts.

References

Prof. T.C. Nicholas Graham. School of Computing, Queen’s University. Kingston, Canada.

Prof. Helmuth Trefftz Gomez. Computer Science department, EAFIT University, Medellin, Colombia.

Prof. William Joseph Giraldo. University of Quindio, Armenia, Colombia.