

Jinghui Cheng

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EDUCATION

Ph.D. in Computer Science – Human Computer Interaction track

DePaul University, Chicago, IL. September 2011 – present (expected August 2016)

- *Advisor:* Dr. Cynthia Putnam
- *Dissertation Title:* Supporting Therapy-Centered Game Design for Brain Injury Rehabilitation

M.S. in Computer Systems Engineering

Xi'an Jiaotong University, Xi'an, China. September 2006 – June 2009

B.S. in Information Engineering

Xi'an Jiaotong University, Xi'an, China. September 2002 – July 2006

RESEARCH EXPERIENCE

Research Assistant in College of Computing and Digital Media, DePaul University.

June 2013 – present

Project: Supporting the use and creation of games for brain injury rehabilitation

Studies to support therapists

- Conducted interviews, observations, and diary studies with therapists who use commercial video games (e.g. Kinect, Wii, iPad games) with patients who have had a brain injury
- Conducted qualitative and quantitative analysis of data collected from user studies and generate a knowledge-base about commercial game use for brain injury rehabilitation
- Created and conducted user studies on wireframes for an information system aimed to help therapists select appropriate games that match their therapeutic goals and patient attributes
- Based on the wireframes, developed and conducted user studies on a working prototype of the system (can be accessed at: <http://tinyurl.com/TherapyGameR>)

Studies to support game designers (on-going)

- Through analyzing data from therapists' accounts of game use in brain injury therapy sessions, created Therapy-centered Game Design Patterns aiming to structuralize design knowledge for brain injury rehabilitation games
- Interviewed professional game designers who focused on games for health to understand how they approach designing games and collect their feedback on example patterns
- Created and conducted user studies for a tool aimed to help game designers browse and select the Therapy-centered Game Design Patterns

Research Assistant in Systems Engineering Institute, Xi'an Jiaotong University.

February 2005 – June 2009

- Researched on optimal scheduling algorithms to solve electrical grid scheduling problems.

INDUSTRY EXPERIENCE

User Experience Research Intern in Platfora, San Mateo, CA, June 2015 – September 2015

- Conducted benchmarking usability studies for two major product components
- Explored the use of Kano model as a means to prioritize usability issues
- Conducted an accessibility assessment of the product

Software Engineer in 3DiJoy Corporation, Shanghai, China, February 2010 – July 2010

- Developed the network engine for motion-based games
- Developed the player communication/interaction dashboard for the gaming system.

Software Engineer in Giant Interactive Group, Shanghai, China, July 2009 – February 2010

- Developed the server-side game logic for a Massively Multiplayer Online Role-Playing Game

TEACHING EXPERIENCE

Lecturer on record of *GAM312: Game usability and playtesting*, DePaul University.
September 2014 – December 2014.

Exploring the relationship between culture and games, Guest Lecturer in *GAM312: Game usability and playtesting*, DePaul University. March 2014 and March 2013.

Game design considerations for diverse users, Guest Lecturer in *HCI440: Introduction to User-Centered Design*, DePaul University. March 2013.

Motion-based gaming for brain injury rehabilitation: research methodologies and analyzing video, Guest Lecturer in *HCI445: Inquiry Methods and User Analysis*, DePaul University. October 2012.

PUBLICATIONS

Putnam C., **Cheng, J.**, Lin, F., Yalla, S., and Wu, S. (2016). 'Choose a Game': Creation and Evaluation of a Prototype Tool to Support Therapists in Brain Injury Rehabilitation. Accepted to appear in *the 2016 annual conference on Human factors in computing systems (CHI '16)*. (Acceptance rate: 23%)

Cheng, J., Putnam C. (2016). 'Choose a Game': A Prototype Tool to Support Therapists Use Games in Brain Injury Rehabilitation. Accepted to appear in *the 2016 Annual Conference on Human Factors in Computing Systems (CHI EA '16)*. (Research Demo)

Cheng, J., Mulholland J., and Shankar, A. (2016). Kano Model to Balance Delight and Frustration for Users of an Enterprise Application. Accepted to appear in *the 2016 Annual Conference on Human Factors in Computing Systems (CHI EA '16)*. (Poster: Acceptance Rate: 43%)

Cheng, J., Putnam C., and Rusch, D. (2015). Towards Efficacy-Centered Game Design Patterns For Brain Injury Rehabilitation: A Data-Driven Approach. In *Proceedings of the Annual ACM Conference on Conference on Computers and Accessibility, ASSETS '15* (pp. 291-299). (Acceptance rate: 23%)

Cheng, J., Putnam C., and Rusch, D. (2015). 'Choose a Game': A Prototype Tool to Support Therapists in Brain Injury Rehabilitation. Demonstration presented at *The Annual ACM Conference on Conference on Computers and Accessibility, ASSETS '15*, October 26-28, Lisbon, Portugal.

Putnam, C. Dahman, M., Rose, E., **Cheng, J.**, and Bradford, G. (2015). Teaching Accessibility, Learning Empathy. In *Proceedings of Annual ACM Conference on Conference on Computers and Accessibility, ASSETS '15* (pp. 333-334). (Poster: Acceptance Rate: 51%)

- Cheng, J.**, Putnam, C. (2015). Therapeutic Gaming in Context: Observing Game Use for Brain Injury Rehabilitation. In *CHI '15 EA Extended Abstracts on Human Factors in Computing Systems, CHI EA '15* (pp. 1169-1174). (Poster: Acceptance Rate: 41%)
- Putnam, C., Reiner, A., Ryou, E., Caputo, M., **Cheng, J.**, Allen, M., Singamaneni, R. (2015). Human-Centered Design in Practice: Roles, Definitions, and Communication. To appear in *Journal of Technical Writing and Communication*.
- Putnam, C., Zagal, J., and **Cheng, J.** (2015). You are Not the Player: Teaching Games User Research to Undergraduate Students. To appear in *Usability Testing of Video Games: Multidisciplinary Case Studies*.
- Putnam, C., **Cheng, J.**, & Seymour, G. (2014). Therapist Perspectives: Wii Active Videogames Use in Inpatient Settings with People Who Have Had a Brain Injury. *Games for Health Journal*, 3(6), (pp. 366-370).
- Putnam, C., & **Cheng, J.** (2014). Therapist-centered requirements: A multi-method approach of requirement gathering to support rehabilitation gaming. In *Proceedings of the IEEE 22nd International Requirements Engineering Conference (RE 2014)* (pp. 13-22). (Acceptance rate: 27%).
- Putnam, C., & **Cheng, J.** (2013). Motion-games in brain injury rehabilitation: an in-situ multi-method study of inpatient care. In *Proceedings of the 15th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '13)* (pp. 1-2). (Poster: Acceptance rate: 48%)
- Putnam, C., & **Cheng, J.** (2013). Helping therapists make evidence-based decisions about commercial motion gaming. *ACM SIGACCESS Accessibility and Computing*, (107), 3-10.
- Putnam, C., **Cheng, J.**, Rusch, D., Berthiaume, A., & Burke, R. (2013). Supporting therapists in motion-based gaming for brain injury rehabilitation. In *CHI '13 Extended Abstracts on Human Factors in Computing Systems (CHI EA '13)* (pp. 391-396). (Poster: Acceptance rate: 46%)
- Putnam, C., Wozniak, K., Zefeldt, M. J., **Cheng, J.**, Caputo, M., & Duffield, C. (2012). How do professionals who create computing technologies consider accessibility? In *Proceedings of the 14th international ACM SIGACCESS conference on Computers and accessibility (ASSETS '12)* (pp. 87-94). (Acceptance rate 28%)
- Zhai, Q., Guan, X., **Cheng, J.**, & Wu, H. (2010). Fast Identification of Inactive Security Constraints in SCUC Problems. *IEEE Transactions on Power Systems*, 25(4), (pp. 1946-1954).

SKILLS

- User Research Methods:
Interview, Contextual Observation, Diary Study, Usability Study, Game Playtesting
- User Research Tools: Morae, WebEx, Axure
- Data Analysis Tools: Atlas.ti (Certified Student Trainer), R, Matlab
- Programming: Java, C/C++, C#, SQL, Matlab
- Web Development: HTML, CSS, JQuery, Bootstrap
- Other Tools: Adobe Illustrator, Adobe After Effects

VOLUNTEER WORK

Student Volunteer in CHI' 2013, Paris, France, April 2013

Open House Chicago Volunteer, Chicago Architecture Foundation, October 2013 and October 2010