Center

• Established with support from the DLC, the Office of the Vice-president for Research, and the College of Education
Today’s Learners

• The Gamer Generation (Beck & Wade, 2004)
  – bold but measured risk-taking (trial and error)
  – strong multi-tasking skills
  – global view
  – ambitious
  – crave engagement

• Digital Natives (Prensky, 2006)
  – representational competence
  – multidimensional visual-spatial skills
  – inductive discovery
  – attentional deployment
  – crave interactivity
Today’s Gamers

• 97% of children age 11-17 play video games (PewInternet.org, 2008)

• A survey of incoming college freshmen found that they were more involved with video games than films, books, or television (Jenkins, 2002)

• In 2002, Computer and video game sales exceeded $10.3 billion in the US compared to $9.5 billion in box office sales

• 2007 US video game sales rose 43% to $17.9 billion, again shattering records
Increased Acceptance

• Dance Dance Revolution put in all West Virginia schools, and a recent study found that its use helped children to improve their general health and reduce risk for lifestyle related disease

• The Federation of American Scientists declared that video games can redefine education and called for federal research
Research needed

• Lack of quality research on the use of serious games for learning (Egenfeldt-Nielsen, 2006; Fletcher & Tobias, 2006; O’Neil et al., 2005).
• Little research supporting the effective design of serious games (Dempsey, Rasmussen, and Lucassen, 1996; Kiili, 2005).
• There is a need for sound instructional design within the games and additional instructional support and effective strategies in implementing games (Leemkuil et al, 2003; O’Neil et al, 2005; Wolfe, 1997).
Center Mission

• To provide support for implementing, designing and developing serious games and virtual environments for learning;
• to encourage collaboration across Purdue and with K-12 schools;
• and, to establish a foundation for securing funding and conducting research at Purdue on the use of serious games and virtual learning environments in education.
Center Activities

- Currently completing case study of a high school history teacher’s use of a serious game in his sophomore history class
- Have submitted MacArthur Digital Learning and Regenstrief Institute for Health Care grant proposals
- Currently working on NEH, NSF, and Robert Wood Johnson Foundation grant proposals
- Have established center relationship with numerous Purdue faculty and staff, with the library gaming group, IDeaLaboratory, and the Ackerman Center
- Collaborating with several learning software companies and seeking to solidify these connections and establish further relationships
- EDCI 59100 Computer and Video Game Design for Education taught each Spring semester
Center Equipment

- 16 total computer workstations
- 3 development workstations with dual-monitors and commercial, royalty free game development engines
- Xbox 360, Wii, and PS3 gaming consoles
- Library of commercial and serious games, including modding toolkits
Morae Usability Software
Morae Usability Software

- Capture screen video
- Capture camera video
- Capture mouse clicks, typing, and all other screen interactions
- Capture audio
- Code directly on video clips for easy analysis in single timeline
Dark Basic 3D Game Creator

- License and royalty free
- Designed for non-programmers
- Produces stand-alone executables
- Includes easy to use toolkit
Torque Game Builder

• Easy to use 2D game engine
• Supports publishing to PC, Mac, Wii, Xbox 360, iPhone, Web platforms
• WYSIWYG level editor
• Royalty free
• Provides physics model and networking capabilities
Second Life

• Second life installed on all workstations
Other virtual worlds & engines

• Virtual worlds
  – There (www.there.com)
  – Kaneva (www.kaneva.com)

• Game engines and toolkits
  – Gamemaker
  – Toolkit
  – Wintermute
  – RPG Maker & more
Future Goals

- Design, develop, implement, and evaluate serious games
- Establish more connections and opportunities for collaboration across and outside of campus
- Develop implementation support documentation for numerous serious and commercial games for use in K-12 classrooms
- Establish Purdue as an international leader in serious games and virtual environments research
- Hold workshops and professional development courses for teachers on the use of games and virtual environments in the curriculum
- Pursue a certificate or degree program in game design and development at Purdue
- Establish an online community to support the center and encourage collaboration (purdueseriousgamescenter.ning.com)
Questions? Comments?

• Please contact me at brwatson@purdue.edu if you would like to have access to the center’s resources or are interested in discussing collaboration opportunities