

"Serious Games"



Searching for a Definition

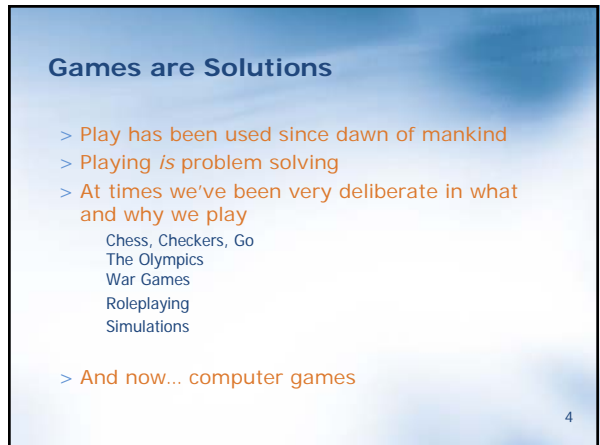
What are serious games?



Problems...

- > Solving problems is what humans do
- > Entertainment is a solved problem
- > There are other problems...
 - Teaching People
 - Figuring out Correct Policies
 - Putting Robots on Mars
 - Overthrowing Dictators
 - Responding to Threats
- > Problem solving is a big business!

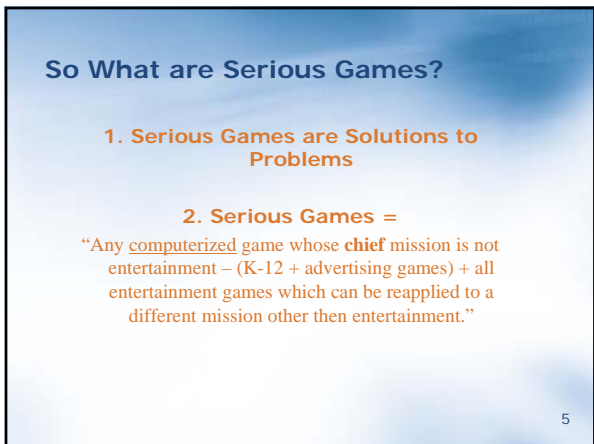
3



Games are Solutions

- > Play has been used since dawn of mankind
- > Playing *is* problem solving
- > At times we've been very deliberate in what and why we play
 - Chess, Checkers, Go
 - The Olympics
 - War Games
 - Roleplaying
 - Simulations
- > And now... computer games

4



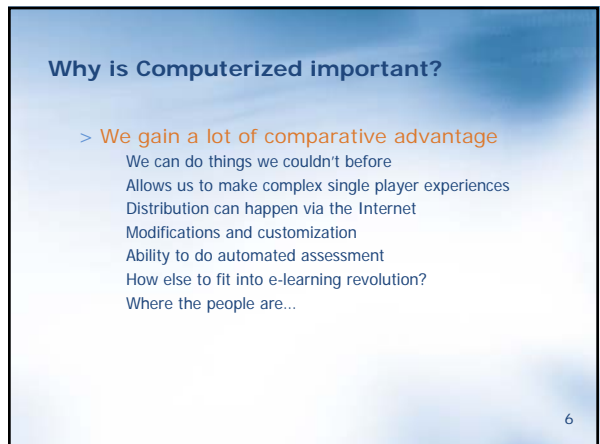
So What are Serious Games?

1. Serious Games are Solutions to Problems

2. Serious Games =

"Any computerized game whose chief mission is not entertainment – (K-12 + advertising games) + all entertainment games which can be reapplied to a different mission other than entertainment."

5



Why is Computerized important?

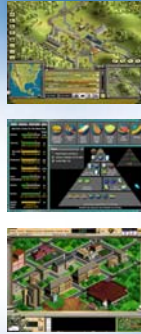
- > We gain a lot of comparative advantage
 - We can do things we couldn't before
 - Allows us to make complex single player experiences
 - Distribution can happen via the Internet
 - Modifications and customization
 - Ability to do automated assessment
 - How else to fit into e-learning revolution?
 - Where the people are...

6



Created So Far?

- > SimHealth
- > Close Combat: Marines
- > America's Army
- > Battle Site Zero
- > Virtual U
- > Environmental Detectives
- > Hungry Red Planet
- > Catch the Sperm
- > Virtual Leader
- > Under Ash
- > Hidden Agenda
- > Balance of Power
- > SimCity
- > Other Sim Series
- > Flight Simulator
- > Rollercoaster Tycoon
- > Capitalism
- > Surgeon
- > Civilization
- > Railroad Tycoon
- > President Elect
- > Korsun Pocket



13

What has this gotten us?

- > Mostly one-off titles sponsored by enlightened/interested third parties
Foundations, Non-profits, Military, Higher-Ed
- > Majority developed in the last five years
- > A plethora of traditional games which can be repurposed by savvy teachers

14

Current Position

- > A project history to build from
- > Incredible technology looming
Graphics tech faster than Moore's Law
New consoles in 2006 & 7
Portable market hypergrowth
- > More academics & programs contributing
- > Increased industry cooperation
- > Invigorated press; highly interested

15

Broadbased Industry Support

- > IGDA
 - > ESA
 - > GDC
 - > E3Expo
 - > ELSPA
 - > NASAGA
 - > DIGRA
 - > NZGDA
- <http://www.nzgda.com>



16

A Closer Look

Space by Space

Government

- > *"A democratic society depends upon an informed and educated citizenry"*
- Jefferson

- MassBalance & BudgetUtah, Waterbusters
- > Fed, state and local
Different degrees of funds and accessibility



18

Edutainment/K-12

- > Established retail market
Riverdeep, Infogames, Leapfrog
- > Lots of online stuff
PBS Kids, Scholastic

19

Higher Education

- > Less constricted by standards
- > Able to take more risks
- > Better technology infrastructures
- > Struggling with "E-instruction"
- > Academic Contributions & Research
- > Will build lots of stuff themselves



20

Health Care

> Games for Health: Documented Uses

- Game as Carrot Model
- Health Education & Media
- Patient Treatment
 - Asthma, ADD, Motor Skills, Psychological, measurement, Biofeedback
- Create/instill/measure conditions in research
- Administrative/Professional Training
- Technology Transfer

> Medical issues w/games

- Clinical Trials and protocols
- Violence? Repetitive Stress Injuries, Eyes, Seizures, Obesity?



Health Media LAB
INTERACTIVE HEALTH EDUCATION

21

Corporate

- > Larger Pen & Paper contingent
- > Uses

- Training
- Analytics
- Advergaming



22

Military I

- > Huge e-learning commitment
- > Obvious crossover opportunities
- > Training & advergaming
- > Contracting process
- > Examples:

- Close Combat Marines
- Full Spectrum Command
- Full Spectrum Warrior
- Spearhead II
- Army Game Project
- DarWars



THE OFFICIAL U.S. ARMY GAME
AMERICA'S ARMY



23

Military II

> More Examples:

- Guard Force (National Guard)
- Joint Force Employment
 - Crossover into Real War commercial release
- SIMSar2
 - Coast Guard Search and Rescue



24

Non Government Organizations

- > Examples:
 - Markle Foundation
 - SimHealth
 - Leimondt Foundation
 - Hidden Agenda
 - Global Kids
 - Policy Slam
 - Sloan Foundation
 - Virtual U
 - NAHB
 - Building Homes of Our Own





25

Other

- > Journalism
- > Artistic
 - Trigger: Game Art
- > Editorial
 - Newsgaming
 - Fix Your Commute
- > Propaganda &
- > Political statements
 - Eyewitness



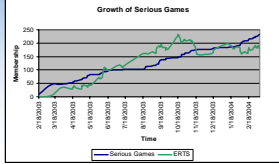
26

A Serious Games Network

Who's doing what and where?

Serious Games Initiative

- > Timeline
 - Started 2002
 - First meetings spring 2003
 - Listserv founded February 2003
 - Lounsbury Funding July 2003
 - Currently over 240 members
 - Games For Health 2003
- > Goals
 - Help policymakers and administrators
 - Organize greater serious games community
 - Support other projects and independent efforts
- > Results
 - Lots of press and growing network
 - Useful resource for government agencies
 - Contributing to legitimacy of space
 - Serious Games Summit 2003!



Richard Lounsbury Foundation

Alfred P. Sloan Foundation

28

Who's Else is Out There?

- > Games to Teach → Education Arcade
- > ETC @ Carnegie Mellon
- > IC2 @ Austin
- > ICT @ USC
- > Moves Institute
- > Army Game Project
- > DARPA
- > Microsoft Research
- > Academic Co-Lab
- > MediaX (Stanford)
- > Variety of Independent Evangelists
- > Lots of new projects incubating





29

The Broader Marketplace

This stuff doesn't grow on trees

Lots of Potential Markets



- > U.S. Textbook Market \$3 Billion
- > Corporate Learning \$66 Billion
- > Government Training \$40 Billion
- > IBM Training Budget \$700 Million
- > U.S. Army Training \$7 Billion+
- > E-Learning \$10 Billion+
- > Government Simulations \$3 Billion
- > Leapfrog \$680 Million
- > Foundation payouts \$20 Billion+
- > Business Analytics \$5 Billion+
- > 1% of all of this? Priceless...

31

Why serious games now?

- > Games have matured
- > We have many things others don't
 - Cutting edge **visuals** and interface design
 - Great **AI** and storytelling capabilities
 - Online** communities
- > Games are becoming mainstream
 - Entertainment & culture
 - Sheer numbers of computing devices is huge

32

Resources

- > www.seriousgames.org
Serious Games Mailing List
- > www.educationarcade.org
- > www.gamesforhealth.org
Games for Health List
- > www.socialimpactgames.com
- > www.acm.org/pubs/cie.html
- > Serious Games Showcase and Challenge
<https://dl2.fedsun.navy.mil/SeriousGames/>
- > SimBionic: Game AI middleware (free)
www.stottlerhenke.com/SeriousGames/

33