Serious Games beyond Training: From Process optimization to complex problem solving
Agenda

- Dispelling Myths of Games today
- History of Serious Games @ IBM
- Process Optimization Games
- Next Gen City Sims
- High Impact Casual Games
The average gamer?
Example: Achron
Real-Time Strategy Game via timeline manipulation

Watch Gameplay & hear time travel explained
Although typically used to augment F2F training, a serious game can help solve real-world problems using an online and video game format.

Serious games enable the player to learn faster and retain more knowledge in order to make smarter decisions in real life situations by virtually experiencing the cause and effect of actions.

“Games are the most elevated form of investigation.”
Albert Einstein
A walkthrough of three Business Games
According to a recent study, using data visualization, simulations and scenario development will be the most valuable techniques to analyze all the data.
Confluence

Sophisticated Game Engines
- Real Time Strategy Games
- City Sims

Need
- Data Deluge
- Complex Systems
- Managing Partners
- Decision making

SMARTER Serious Games

Cloud

Commercial Applications
- Analytics
- Communities
- Business Process Mgmt
- Relational databases
  ... Supporting flow of real data & real processes
ROI extends well beyond virtual training

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Teach a Process/Instructional Design

OPTIMIZE A PROCESS
Leaders can improve and vet business processes in a video game format.

Transform this process flow...

...into this format.
By 2015:

More Than **50 Percent** of Organizations That Manage Innovation Processes Will GAMIFY Those Processes

-- Gartner
Start off creating a real time strategy game that can be used to train best practices associated with processes. Scale up as data matures to support strategic execution, real time visualization all in the SAME platform.
Municipalities can enable a ‘Smarter Conversation’ about public policy with their citizenry

Transform the process of vetting public policy or training for disaster response…

…into this format.

‘Serious Games can enable better bi-lateral conversations with customers’

---- Forrester
Imagine, the Next Gen City Sim Game…

- Citizenry/ General Public Awareness
- Game Designers
- Educators
- Businesses
- Universities
- Researchers
- Urban Planners
- Government Stakeholders

User Generated Content
Automated Inputs from Sensors
Did you Know?

Serious Games are being created to solve complex problems in real time unbeknownst to the player?
Success Example: Using Serious Games for Optimal Modeling

Folding Proteins

“Here's a model of how real proteins work, and a way for you to create a model showing how they fold and stick together. We'll give points and put you on a leaderboard based on how well this matches our model of an optimal solution. Play!”

- Play a serious game - incentives guide players to optimize models in a competitive environment.
- Players discover multiple optimal models - thus they are collaboratively building up a suite of solutions for the customer

http://www.youtube.com/watch?v=axN0xdhznhY

Group cracks AIDS mystery with computer game

In just three weeks, a group of gamers outfox the world’s finest scientific minds and solve a puzzle that may help us fight AIDS.

Jack Oughton | News | Education | 23/09/2011
More DARPA Science Fiction?

Use the by-product of casual game play to train a compiler how to better recognize bugs in code.

--- DARPA
Crowd Sourced
Formal Verification
BAA
One of FIVE Casual Games that we proposed

Mozart Code

Find where the music sounds off key in order to teach a compiler how to better annotate security problems in code.
Imagine, Games with this Muscle...
Focus 2015: Ethics in Serious Games Design?

- When military-centric games can support real data and real processes for strategic execution, the way that components are weighted in the game (even if used for strictly training) will become a central focus.

Which will have more weight in a strategic targeting game and WHO decides?

How transparent will these weights be??

Saving 180 Civilian Lives Vs. Saving Scarce Resources Vs. Preserving Global Reputation Vs...
In Conclusion

1. Gamers are...

2. Games can be extremely adept at explaining complex systems

3. BIG ROI.

When designed well, they can be used to collaboratively solve very complex problems, whether the players actively realize it or not.