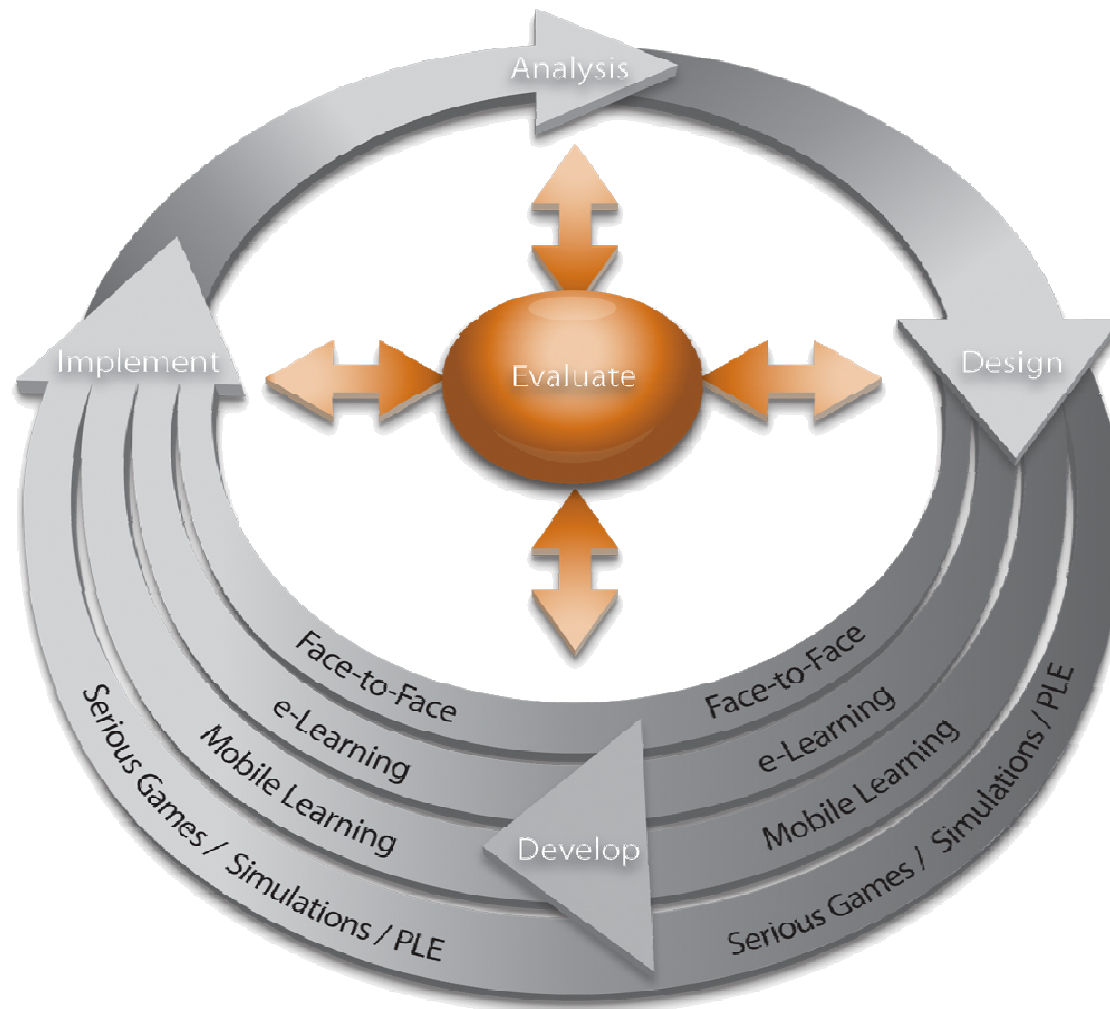**Serious Games**
Simulations

What we will discuss today...

- Instructional approach/design
  - Interactivity
  - Methods
  - Complexity
- A little background
- Continuum between games, serious games, and simulations
- Demonstrations
- Discussions

Instructional Approach/Design

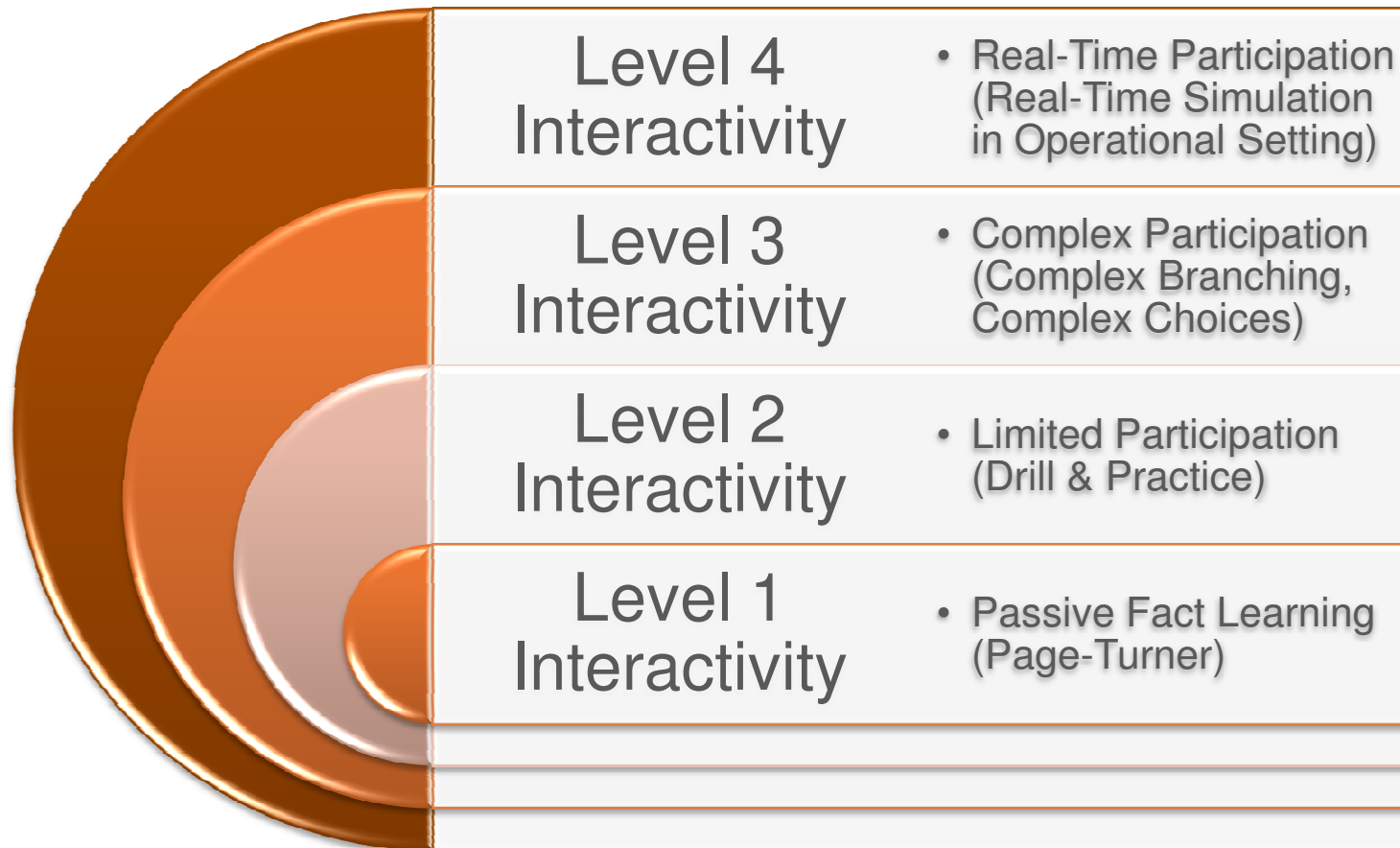# Our Blended Solution is rooted in sound Instructional Design

What are the "kinds" of cognitive learning? Bloom tells us…

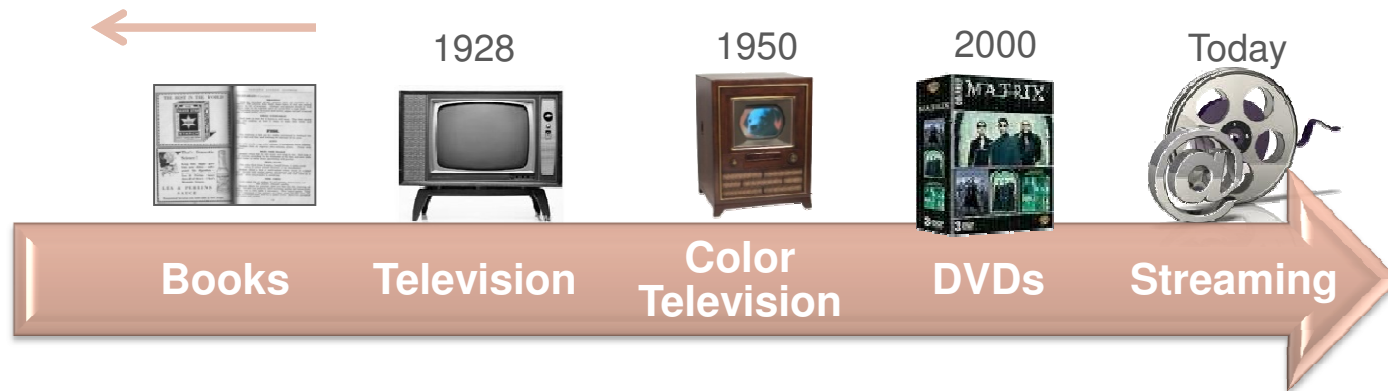| Creating	•arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, write
Evaluating	•appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate
Analyzing	•analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, distinguish, examine, experiment, question
Applying	•apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write
Understanding	•classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate
Remembering	•arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce state

Levels of Interactivity

Level	Description
Level 4 Interactivity	• Real-Time Participation (Real-Time Simulation in Operational Setting)
Level 3 Interactivity	• Complex Participation (Complex Branching, Complex Choices)
Level 2 Interactivity	• Limited Participation (Drill & Practice)
Level 1 Interactivity	• Passive Fact Learning (Page-Turner)

A little background...

Who we are dealing with?

An arsenal of consumer electronics

Do we understand who we are dealing with?

1928   1950   2000   Today

Books   Television   Color Television   DVDs   Streaming

Pong   PC   NES   Play Station   Xbox   Xbox 360   PS3   Wii

1972   1983   1986   1994   2002   2005   2006   2006

Game Knowledge

The average game player is age 34

(26% of gamers are over age 50)

http://www.theesa.com/facts/pdfs/ESA_Essential_Facts_2010.PDF

Game Knowledge

53% of American Adults play video games

20% play every day

http://www.pewinternet.org/Reports/2008/Adults-and-Video-Games/1-Data-Memo/01-Overview.aspx

Game and learning characteristic are complimentary

Engagement
- Interaction
- Story building

Goals
- Objectives
- Motivation

Rules
- Fairness
- Balance

Challenge
- Competition
- Conflict

Key characteristics of games

Key characteristics of Adult Learning*

Adults learn **experientially**

Adults want **relevancy**

Adults learn best when learning is of **immediate value**

Adults tend to be **self-directed**

Adults approach learning as **problem solving**

*Knowles, M. S. (1970). *The modern practice of adult education: From pedagogy to andragogy*. Englewood Cliffs: Prentice Hall.

# Results of three studies show it can work
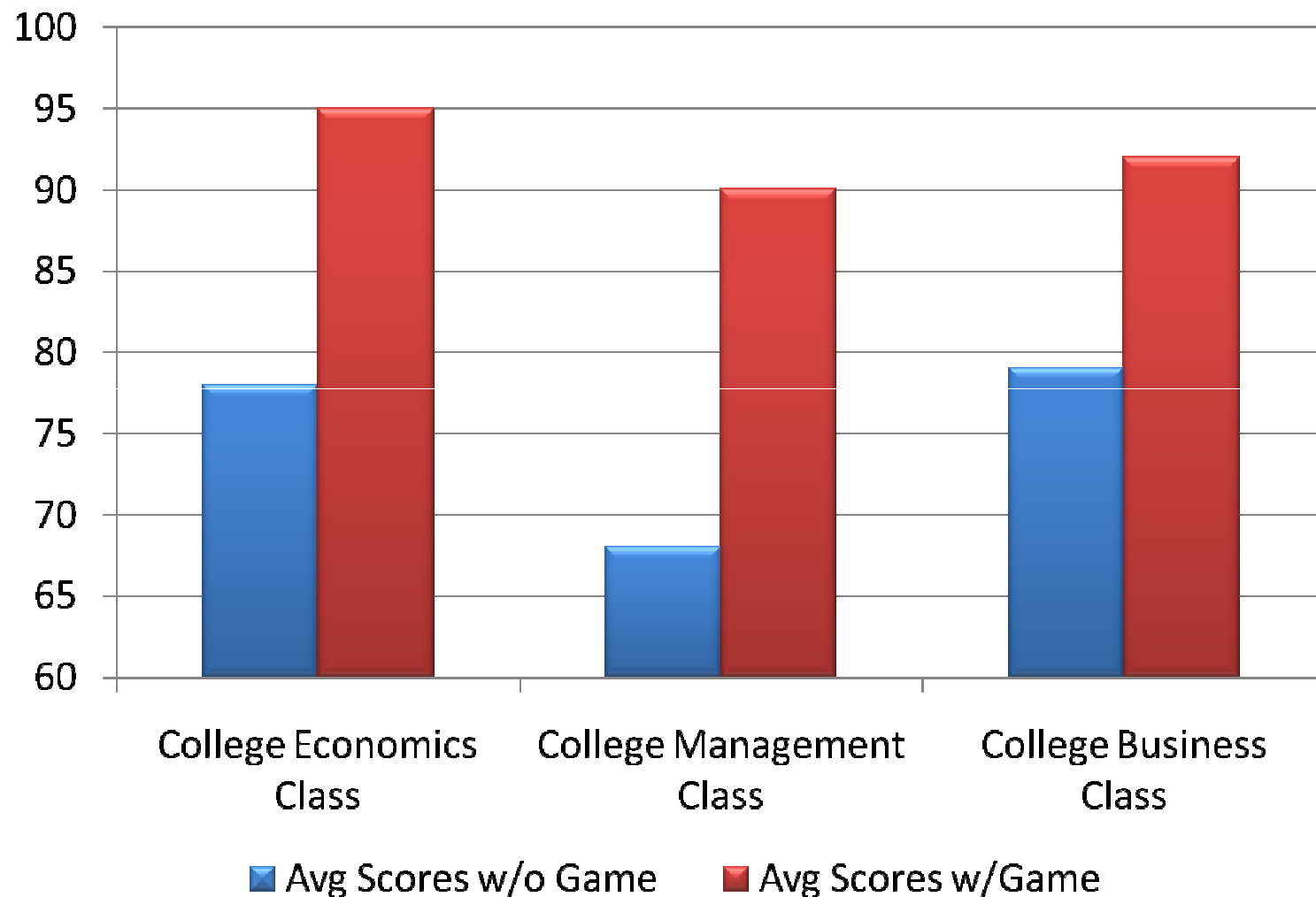
Blunt, R. (2007). Does Game-Based Learning Work? Results from Three Recent Studies. *Interservice/Industry Training and Simulation Education Conference (I/ITSEC) 2007* (pp. 2007 Paper No. 7172 Pages 1 - 11). Orlando, FL: National Training and Simulation Association.

# Continuum between games, serious games, and simulations
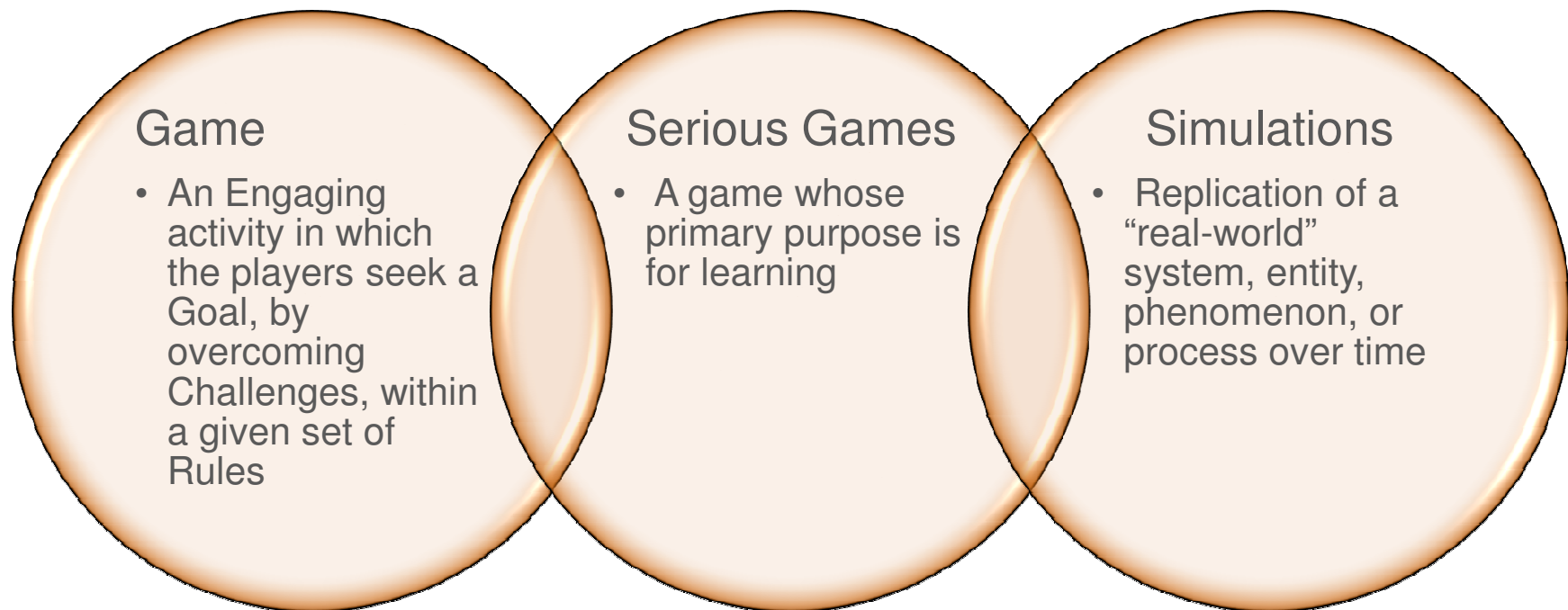
Game

- An Engaging activity in which the players seek a Goal, by overcoming Challenges, within a given set of Rules
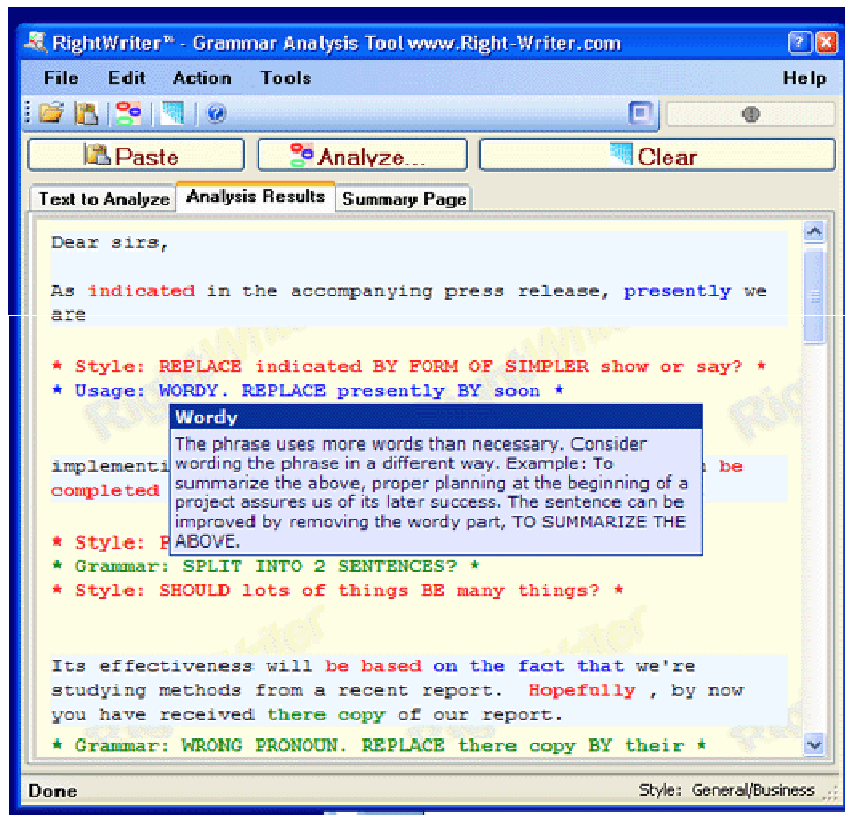
Serious Games

- A game whose primary purpose is for learning

Simulations

- Replication of a "real-world" system, entity, phenomenon, or process over time

Game: An Engaging activity in which the players seek a Goal, by overcoming Challenges, within a given set of Rules
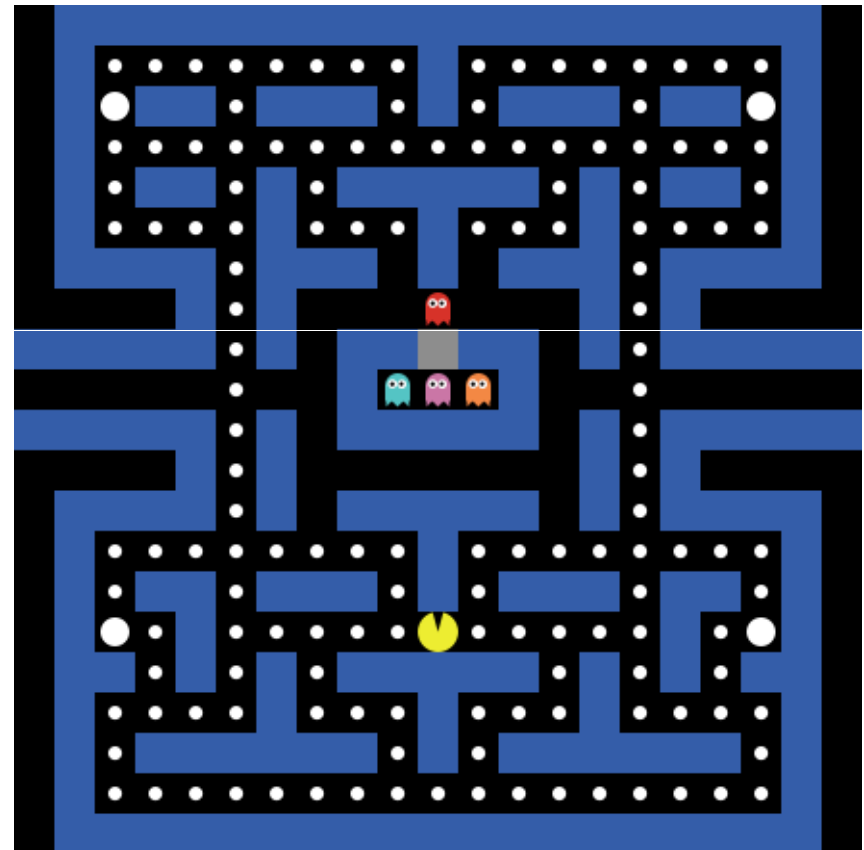
Serious Games:
A game whose primary purpose is for learning
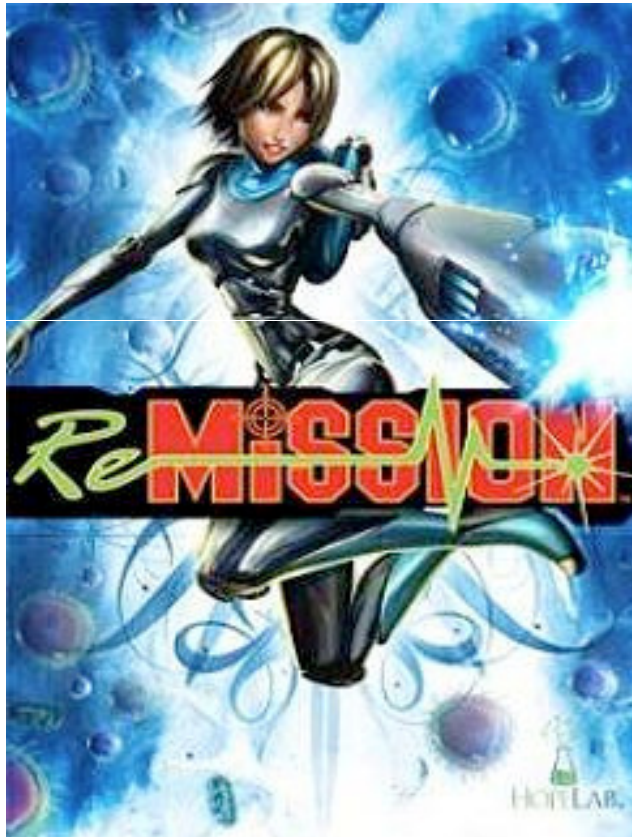
Simulations: Replication of a "real-world" system, entity, phenomenon, or process over time

Demonstrations

Next steps…