Serious Gaming:

The Next Frontier in Healthcare

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WE’VE SEEN WHERE GAMES ARE…

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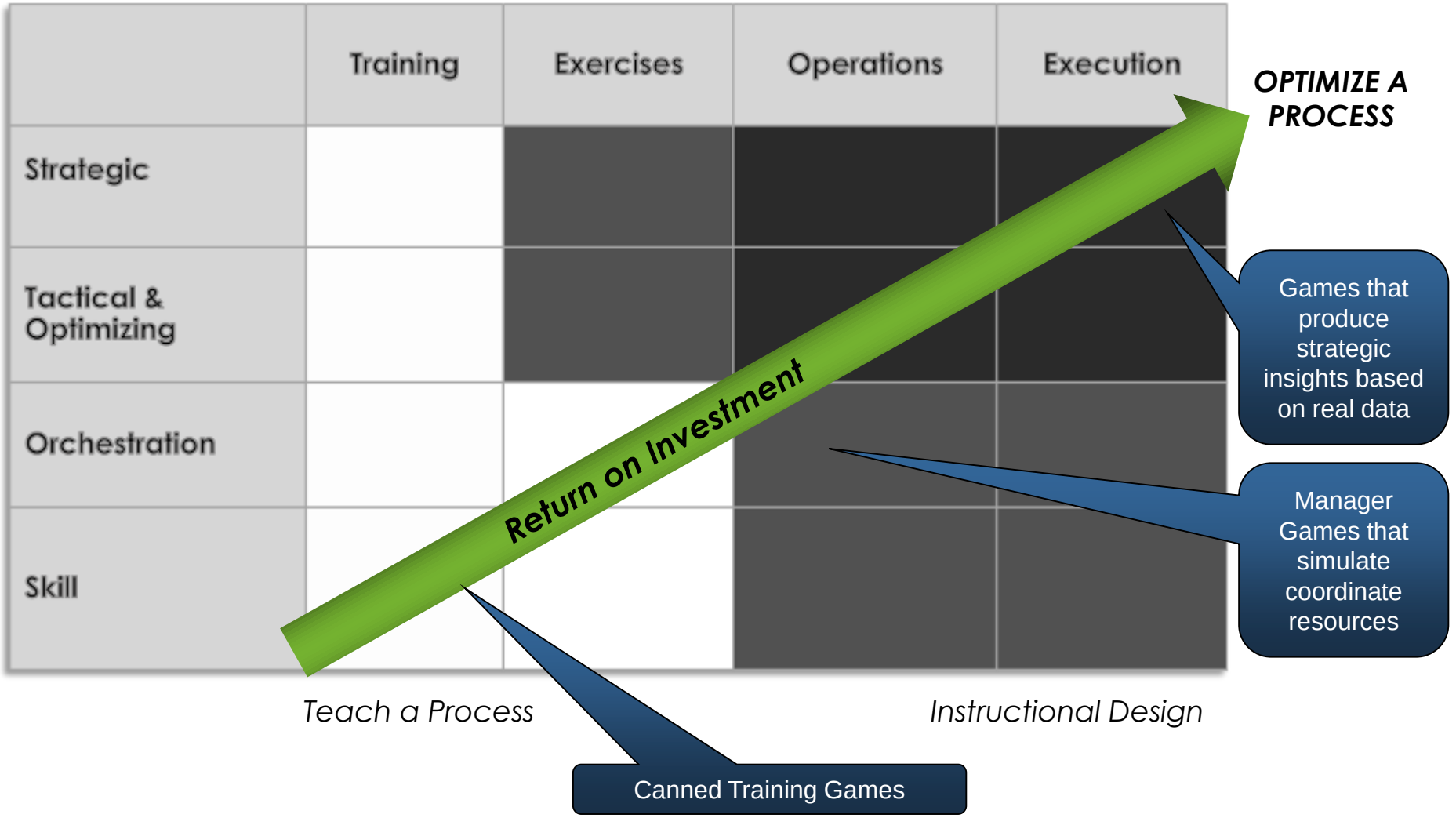
HERE IS WHERE THEY ARE GOING:

ITS ALL ABOUT MAXIMIZING YOUR ROI



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OPPORTUNITIES FOR SERIOUS GAMING IN HEALTHCARE

Greater patient compliance
Improved (healthy) behavior choices
Customized experience
Higher clinic productivity
Increased quality of care in the clinic
Higher customer satisfaction
Drug Innovation

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…study showed that patients who played the game actually became more engaged in their care and, in effect, turned into better patients

Cognitive Behavioral Therapy for Depression in Teens

SPARX players achieved a significantly higher state of remission – 44% with the game's help versus 26% with therapy.

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Patient Notes:
AMS1 Sky Pad
SITUATION
BACKGROUND
ASSESSMENT
RECOMM
DONE
menu
points
Air Medic
SCL
HRV

NEVERMIND
NEVERMIND

KATIE DRUMMOND SECURITY 05.01.12 6:30 AM

OXFORD DOCS: WE CAN PREVENT PTSD … WITH TETRIS

"….concluded that when played soon after exposure to trauma, Tetris served as "a cognitive vaccine" that seemed to "inoculate against the build-up of flashbacks."

PRESCRIBE APPS INSTEAD OF MEDS: CUSTOMIZED

- Drives at behaviors change
- Patients see progress
- Drs see progress
- Insurance company reduces long-term health risk

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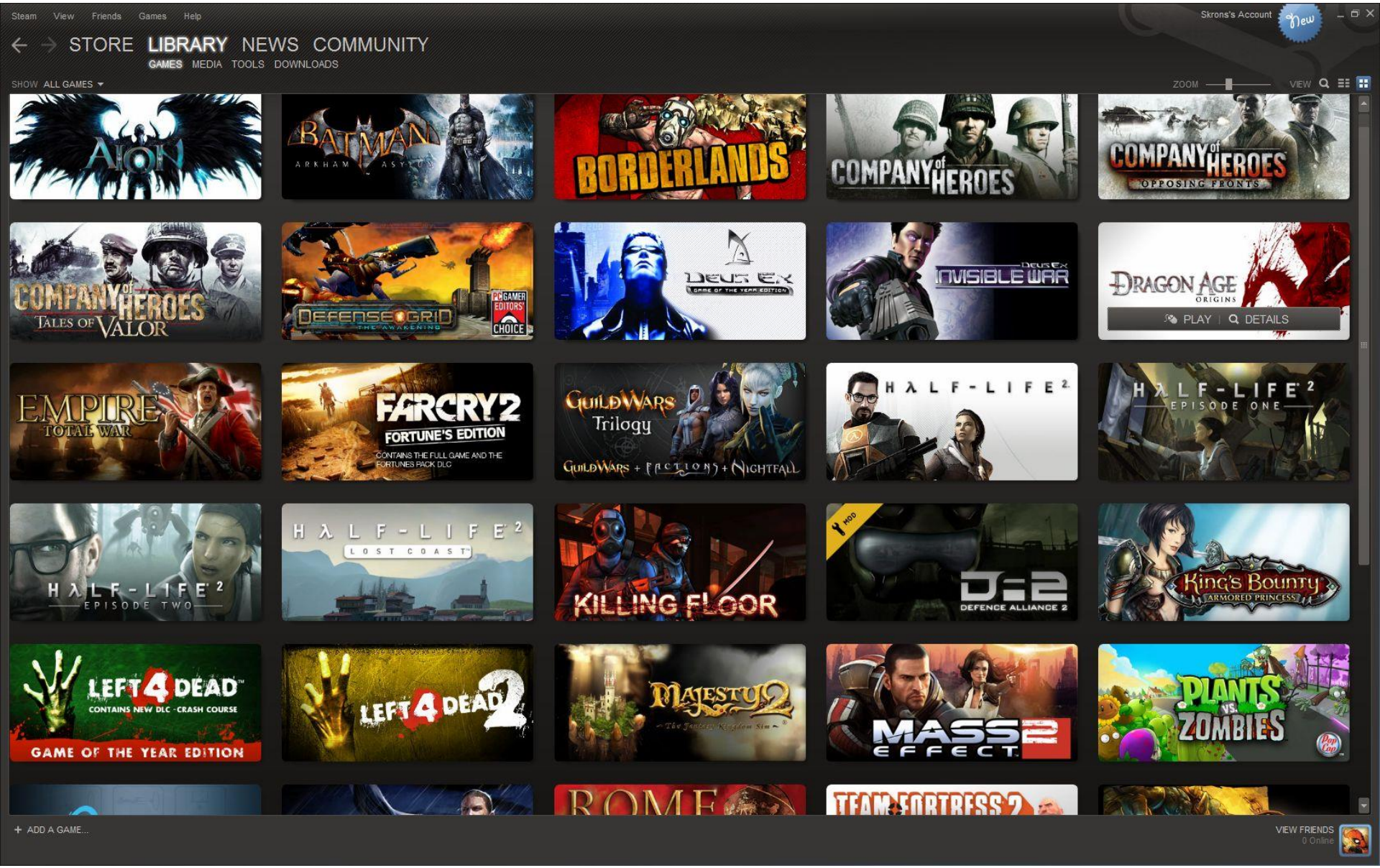
CONSIDER THE CURATED LIBRARY BUSINESS MODEL



WORK RIGHT

The Guardian Angel mobile application works as your personal protective application. It allows intuitive specification of “shields” that govern the personal wellness and safety of their owner, detect hazard and notify employees and emergency centers

BLE/ANT+ / CPU

Accelerometer:
- Speed-X
- Speed-Y
- Speed-Z

Environmental-sensing:
- temperature
- light
- noise
- oxygen deficiency
- carbon monoxide

GPS Sensor:
- location

Bio-sensing:
- heart-rate
- Body temperature

Hazards Detection

- Excessive lifting, pushing, carrying
- Fatigue
- Alertness
- Dehydration
- Fall / Injury
- Use of safety equip

Alert Employee

Inform Emergency Center

Broadcast message to nearby employees

IBM WorkRight

Federated Analytics
Detective (real-time) / Predictive

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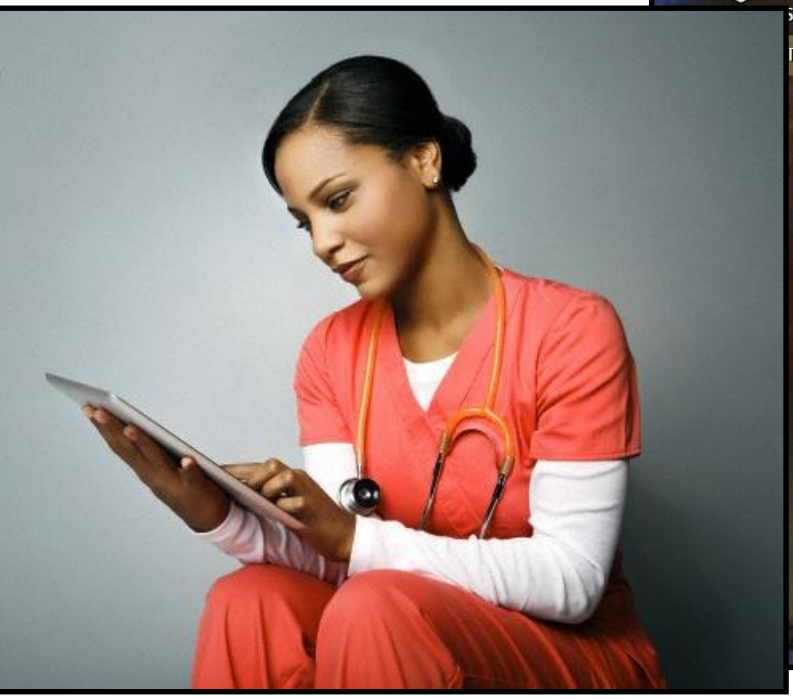
TURNING CAREER DEVELOPMENT INTO A JOURNEY

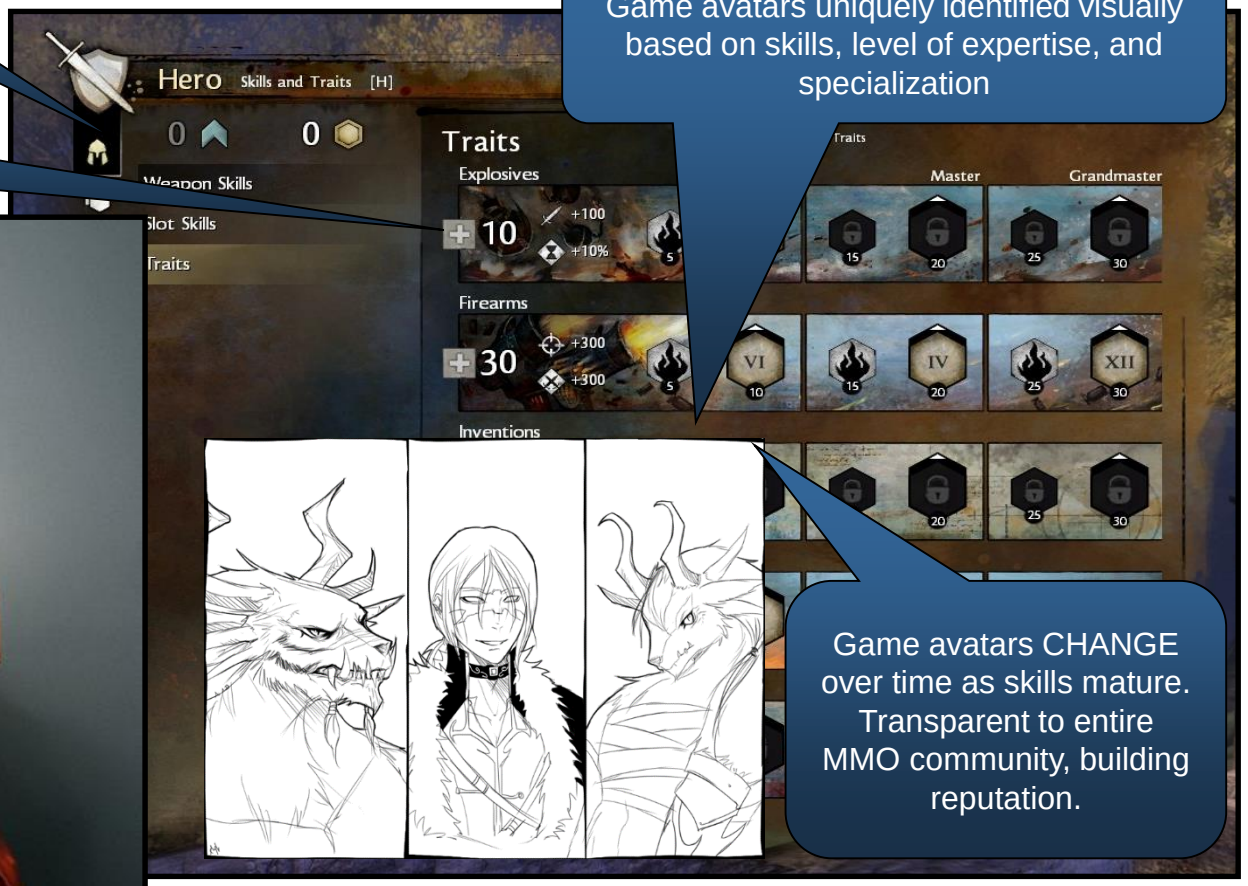
Empowering staff to dictate their career direction and showing them the skills and experiences needed to get where they want to go…

Specialization

Evolutionary Tree: Skills required to evolve or level-up

Game avatars uniquely identified visually based on skills, level of expertise, and specialization





Game avatars CHANGE over time as skills mature. Transparent to entire MMO community, building reputation.

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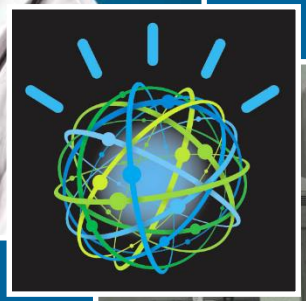
VIRTUAL LABS WITH REAL PATIENT INFORMATION

The game mimics the real thing



- Powered by patient's EMR
- Simulates the ACTUAL surgery
- Uses predictive analytics to challenge the surgeon on patient-specific risks

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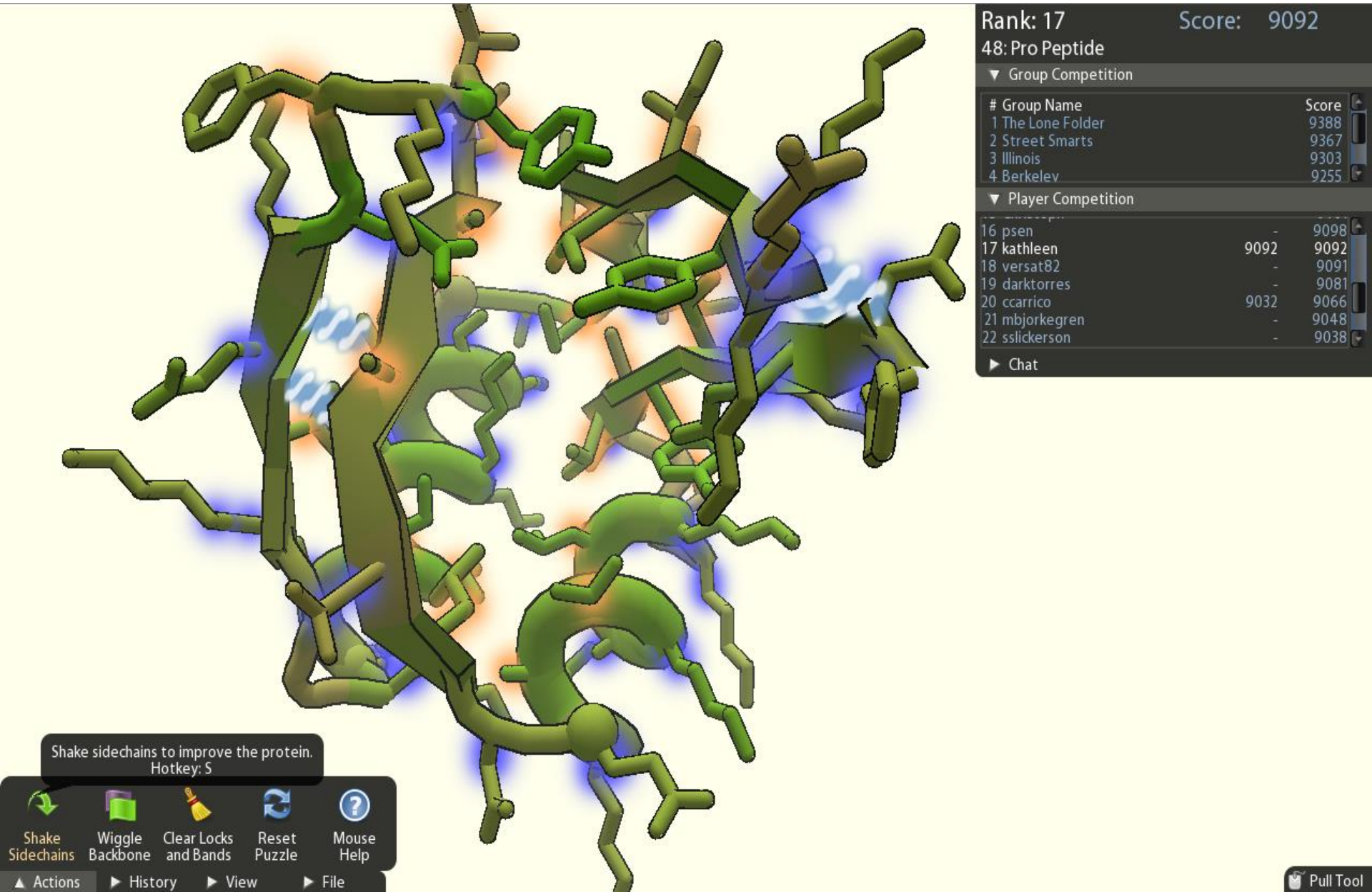
Rank: 17
Score: 9092
48: Pro Peptide
Group Competition
Group Name Score
1 The Lone Folder 9388
2 Street Smarts 9367
3 Illinois 9303
4 Berkeley 9255
Player Competition
16 psen - 9098
17 kathleen 9092 9092
18 versat82 - 9091
19 darktorres - 9081
20 ccarrico 9032 9066
21 mbjorkegren - 9048
22 sslickerson - 9038
Chat
Shake sidechains to improve the protein.
Hotkey: S
Shake Sidechains
Wiggle Backbone
Clear Locks and Bands
Reset Puzzle
Mouse Help
Actions
History
View
File
Pull Tool

Games are Getting SMARTER

The intersection between Cognitive Computing and Gaming

TURNING CANNED GAMES INTO REAL EXPERIENCES

Games for Health will be Driven by Big Data & Real Processes

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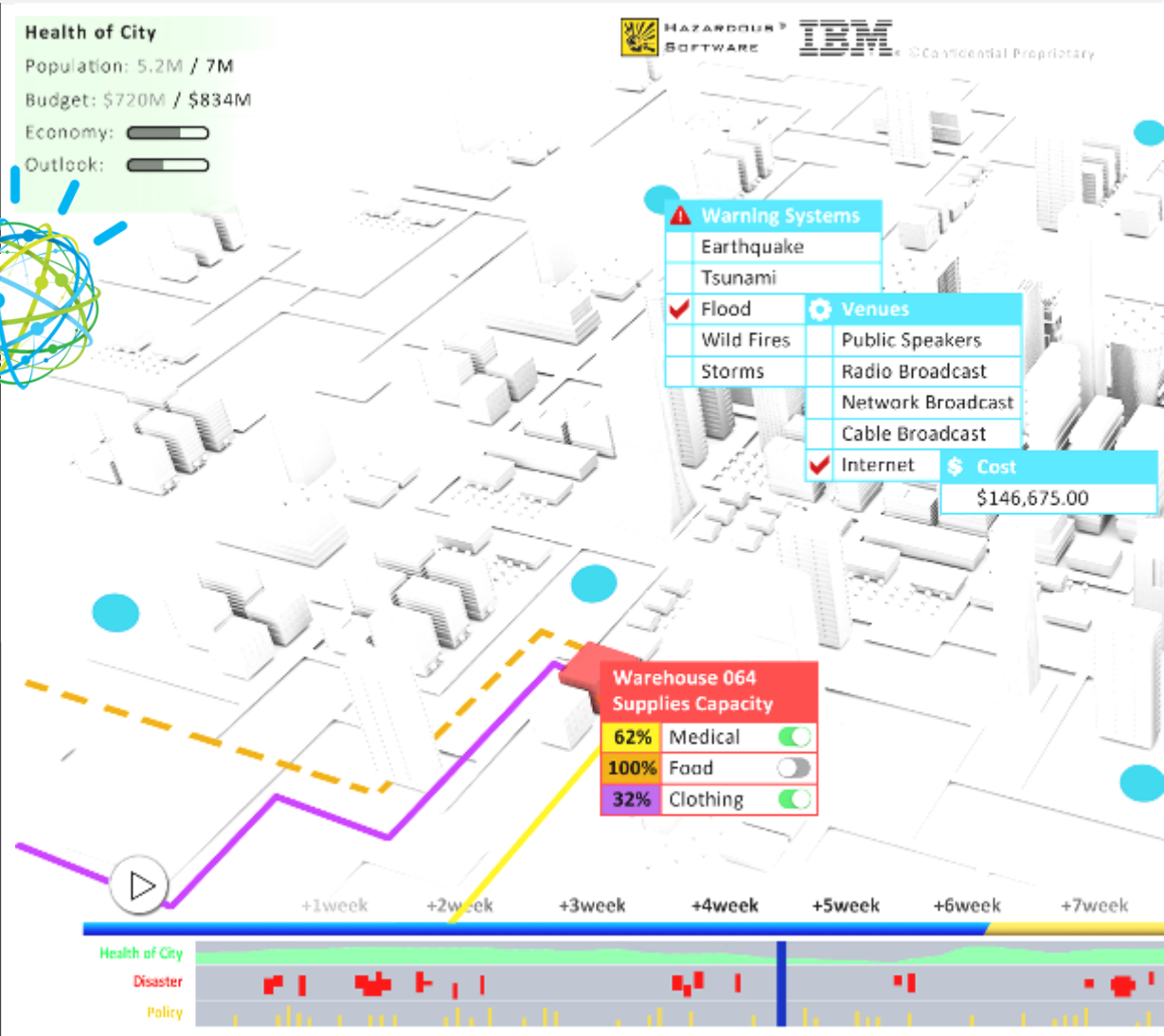
DIGITAL STRATEGY GAMES POWERED BY WATSON

BEFORE

AFTER



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The Future of Serious Game design is ***MODULAR***

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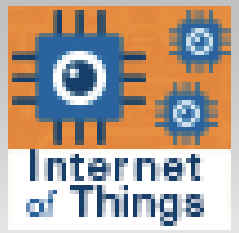
ADVANCED GAMES FOR HEALTH

Games that can capture a patient's personal metrics and integrates them into their EMR to provide health practitioners with ongoing streams of real time patient data



Internet of Things

Connected Devices: This lets your apps communicate with and consume data collected by your connected devices, sensors, and gateways. Apps can then use our real-time & REST APIs to communicate with your devices.

Cloudant

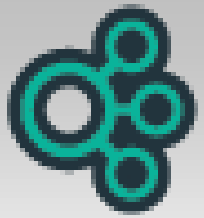
Game State: Cloudant NoSQL DB provides access to a fully managed NoSQL JSON data layer that's always on. This service is compatible with CouchDB, and accessible through a simple to use HTTP interface for mobile and web applications

Big Insights for Hadoop

Personalization: Mine data for completed quests/learning to optimize gameplay & to understand player behaviors in order to create custom evolutionary journeys. Examines what a player's gameplay choices and preferences to understand their personality and behaviors.

Dash DB

Player Progressions: Mines near-time data to make determinations on when to introduce events (quests, promotions, item counts). Also can be used to monitor player behaviors and target "griefer" or , disenfranchised employees.



Cloud Integration

Firewalls: Bluemix Cloud Integration enables users to integrate cloud services with enterprise systems of record. Bluemix Cloud Integration exposes the backend systems of record as ReST APIs to be used by applications

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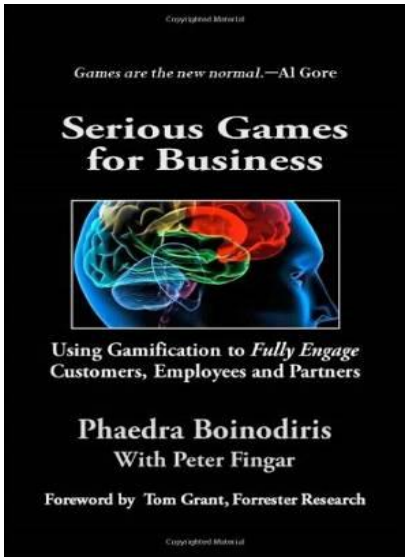

Serious Games for Business

By Phaedra Boinodiris &

Peter Fingar