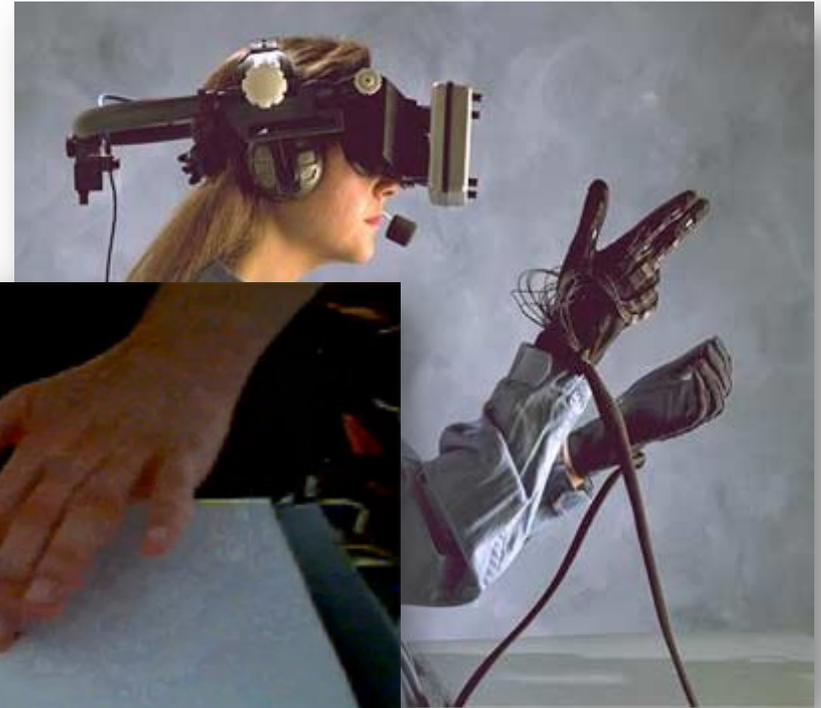
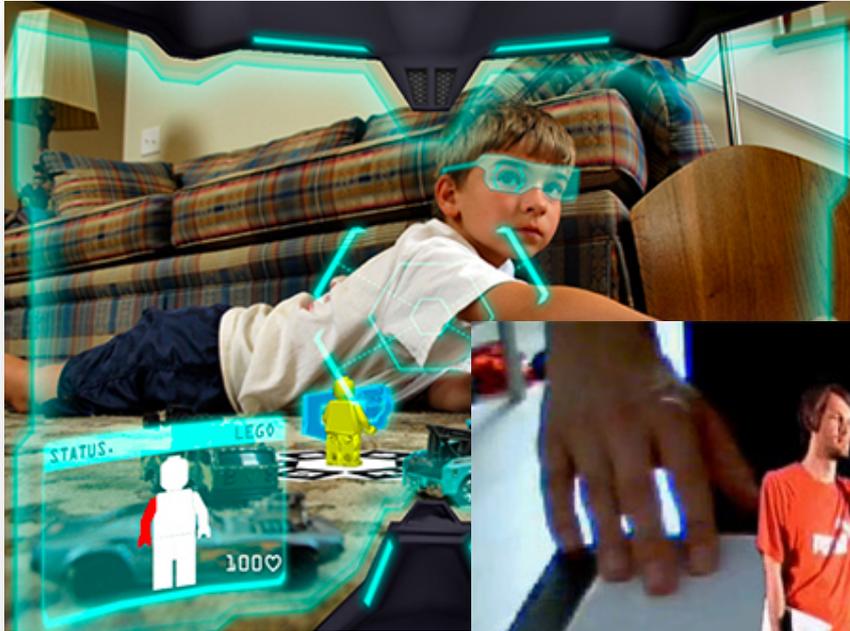


Augmented Reality: a Narrative, Symbiotic Approach in Combining Virtual and Physical Worlds

Jon A Preston, Jeff Chastine, Jeff Greene
Southern Polytechnic State University

Augmented Reality at ICIS 2012

Vision-Based Augmented Reality



Dynamic Narrative AR

What is possible if you cannot use display?

- Interactions become asynchronous between real and virtual worlds

What is possible if you cannot accept user input?

- Focus on real-world location as only input

Can you play without playing?

- Daily activities drive experience

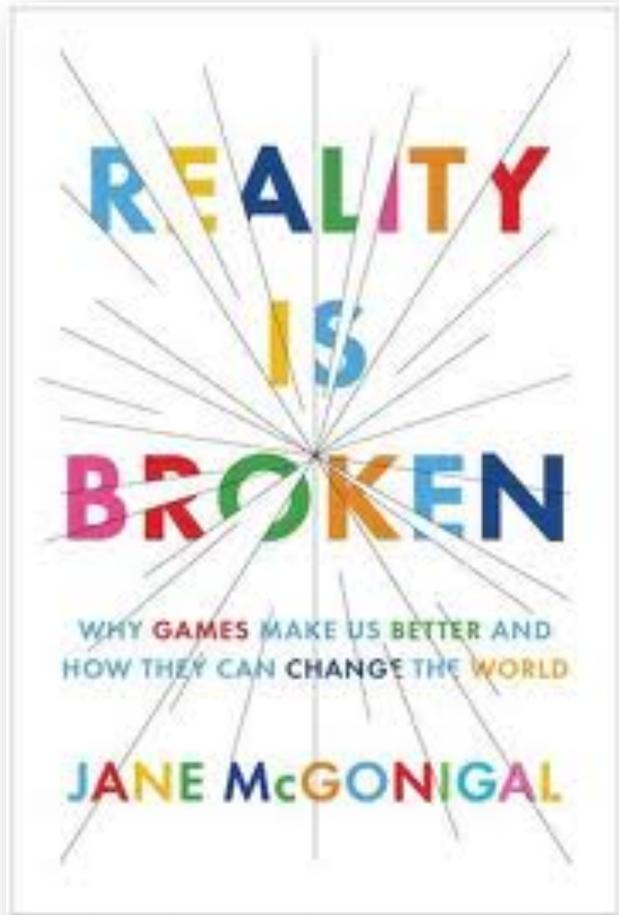
Can you influence behavior?

- Incentivize activities

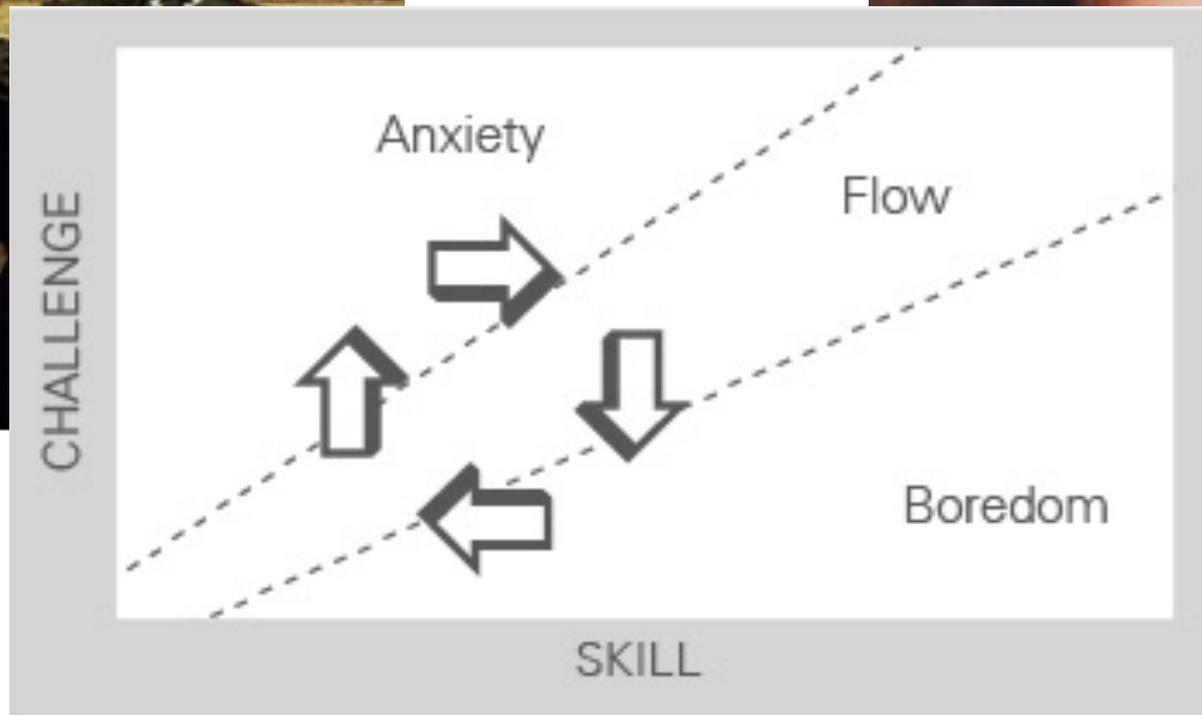
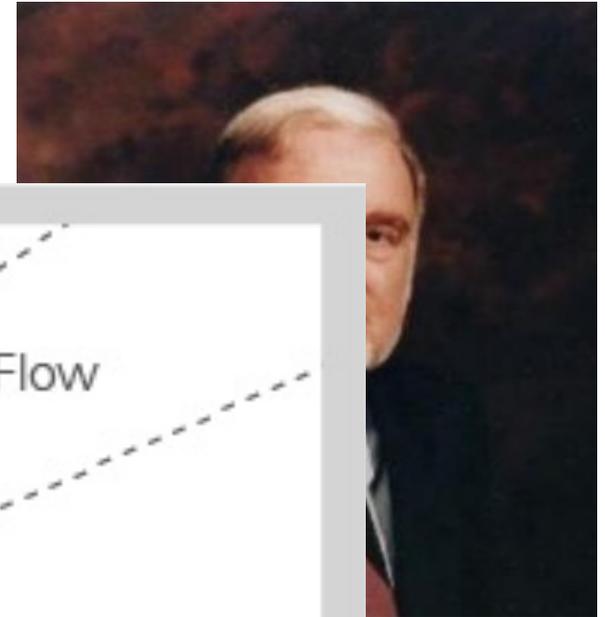
Geo-Location and Mobile Games



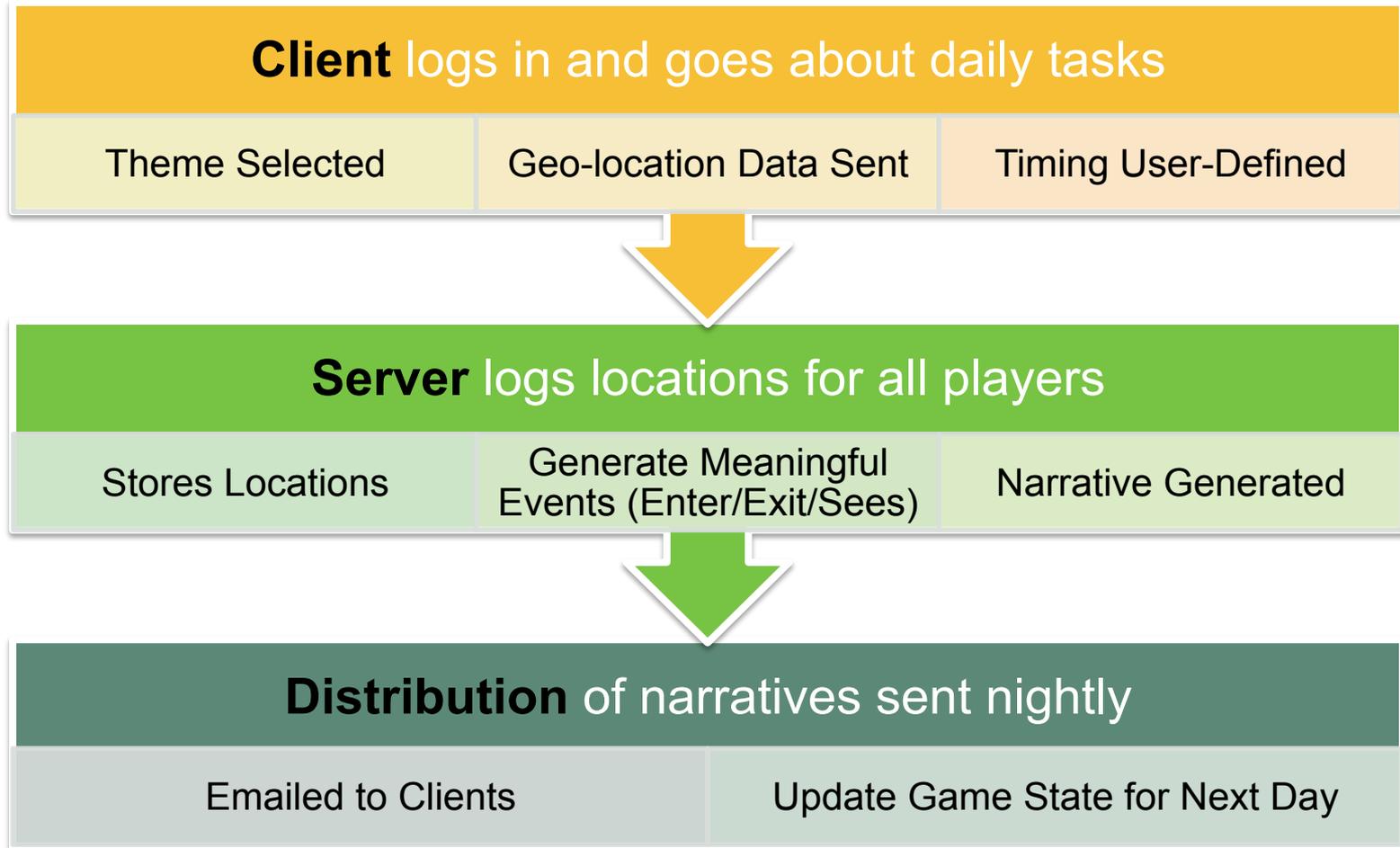
Gamification and Motivation



Positive Psychology and Flow



Process



Login/Password	In-Game Name	Favored Genre	Gender
Jeff	L3tr-8	Cyber-punk	M
Lillian	Queen Elisha	High Fantasy	F
Joshua	Vlaad	Goth	M

Details based upon where player goes and who they saw (and randomness)

At the end of the day...

SERVER



All day...

Login
GPS/Time 1
GPS/Time 2
...

Login
GPS/Time 1
GPS/Time 2
...

Login
GPS/Time 1
GPS/Time 2
...



Jeff



Lillian



Joshua

CLIENTS



Jeff



Lillian

Graphics and hyperlinks (to other's narratives) also possible

Events

- **login:** records the ID, theme and gender of the player
- **entered:** the player has entered a building or other physical space, such as campus
- **stayed:** a meta event that determines the length of time in a space
- **exited:** the player has left a physical space
- **near:** the player has encountered another player; this event contains the IDs of both players

Narrative Templates

Cyberpunk

I saw <X> and something about <POS-PRONOUN> avatar made me feel lightheaded and hungry. I followed <P-PRONOUN> for a bit, my vision spooling, before finally losing sight of <P-PRONOUN>.

Horror

<X> passed by me and I could smell <POS-PRONOUN> fear and terror. I followed <P-PRONOUN> as long as I could, but <PRONOUN> seemed to be moving faster and faster.

High-Fantasy

<X> passed by me and I could smell <POS-PRONOUN> fear and revulsion. It bolstered me to continue onwards.

Sample Output

The Journey of Lawlzaar (Cyberpunk theme)

I spent a long time hunting through random files and data debris, coming up with nothing useful. It took hours to hunt through the data streams in the ancillary core, but I found nothing but garbled data and worthless junk. The time spent in the ancillary core revealed nothing important. No news about the Quantum Zero infection or background information on Aegis001. I found an ancillary data core and it looked to be fairly untouched. Datastreams were still glowing like a hundred incandescent spiderwebs. I pushed my way through one of the side access ports. At the back of the ancillary core there were a number of open terminals. I left through one of them. I found an ancillary data core and it looked to be fairly untouched. Datastreams were still glowing like a hundred incandescent spiderwebs. I pushed my way through one of the side access ports. I departed through an empty node. I found an ancillary data core and it looked to be fairly untouched. Datastreams were still glowing like a hundred incandescent spiderwebs. I pushed my way through one of the side access ports. Rune stopped me and we discussed the Quantum Zero infection. He didn't believe that it was as dangerous as all the 'runners seemed to think. Shambling Horror flew past me, leaving arcs and trails of light. Scott flagged me down and we looked at each other's avatars. He had decided upon leather wings, hooves, and a spined tail. Mine wasn't nearly as imaginative. At the back of the ancillary core there were a number of open terminals. I left through one of them. Luigi flagged me down and we looked at each other's avatars. he had decided upon leather wings, hooves, and a spined tail. Mine wasn't nearly as imaginative. Jtux flew past me, leaving arcs and trails of light.

Sample Output

The Journey of Lawlzaar (Cyberpunk theme)

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Visualizing the Clients



Where We Are

- Heterogeneous clients
- Server to collect and manage events
- Narratives Generated

- Positive experience of players in tests

We've proven non-visual AR is possible.

Where We're Going

- Manage states between days
- Expand possible interactions
- Explore small interactions among players
 - Vibration notification
 - Mini-games
 - 'Trading' and inventory management

Please Join Us!



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