Intro to AR Game Design and Development

www.BrianSchrank.com
What AR is

What we want
What AR is

Gimmicky fun for minutes

What we want

Fully engaging human experience for hours

This took a while
So how can we develop for AR?
“Lateral Thinking with Withered Technology”
—Gunpei Yokoi (inventor of Game Boy)

How to design play with cheap well-understood tech?
Lateral Thinking with Emerging Technology
Lateral Thinking with **Emerging** Technology

Cartoon Network / Qualcomm

Handheld AR 2006-2010
Cartoon Network / Qualcomm

Handheld AR 2006-2010
Cartoon Network / Qualcomm

you taste like turkey :)

i love you master...
Cartoon Network / Qualcomm

Handheld AR 2006-2010
Handheld AR works well with

- Device (phone) as metaphor
  - Magnifying glass, fishing pole, storm cloud, etc.
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- Control mapping
  - Moving device affects focal point, bait position, wind direction, etc.
Handheld AR works well with

• Device (phone) as metaphor
  – Magnifying glass, fishing pole, storm cloud, etc.
• Control mapping
  – Moving device affects focal point, bait position
• Flexible-social bodies
  – Players freely move, share screens, tease, etc.
Handheld AR works well with

- Device (phone) as metaphor
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- Control mapping
  - Moving device affects focal point, bait position
- Flexible-social bodies
  - Players freely move, share screens, tease, etc.
- Virtual creatures
  - Little reactive creatures activate, charm the space
AR Game Dev DePaul
AFTER
THE
GODS
Hololens Game Dev DePaul

• First AR platform without any slippage
  – Virtual has equal *presence* as real
  – Presence vs. Immersion
Hololens Game Dev DePaul (Spring 2017)

• First AR platform without any slippage
  – Virtual has equal *presence* as real
  – Presence vs. Immersion

• What new kinds of play does it afford?
  – Device **and real-world** as metaphor?
    • Real table is also virtual boat, etc.
  – Flexible-social bodies **as input or environment**?
    • Your friend’s arm on table is bouncy platform, etc.
  – Use the **limited 30° FOV** as a quirky feature?
    • Don’t ignore the obvious flaw, play with it.
Hololens Game Dev DePaul (Spring 2017)

• First AR plaborm without any slippage
  – Virtual has equal presence
  – Presence vs. Immersion

• What new kinds of play does it afford?
  – Device and real-world as metaphor?
    • Real table is also virtual boat, etc.
  – Flexible-social bodies as input or environment?
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• Use the limited $30^\circ$ FOV as a feature?
  • Don’t ignore the obvious flaw, play with it.

Not
good
enough!
Lateral Thinking with **Emerging** Technology
Lateral Thinking with *Emerging* Technology

• What kinds of play does Hololens afford that Microsoft didn’t necessarily plan for?
  – Zany ideas
    • Whole bodies as worlds, platforms, instruments
Lateral Thinking with **Emerging** Technology

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  - Reckless ideas
    - Encouraging quick player movement across room
Lateral Thinking with **Emerging** Technology

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  – Reckless ideas
    • Encouraging quick player movement across room
  – Technical ideas
    • Any spherical object is on fire, rectangular objects spout water
Lateral Thinking with **Emerging** Technology

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  - Zany ideas
    - Whole bodies as worlds, platforms, instruments
  - Reckless ideas
    - Encouraging quick player movement across room
  - Technical ideas
    - Any spherical object is on fire, rectangular objects spout water
  - Adult ideas, theatrical ideas
    - Face-swapping, Mystique-play (continually changing)
Some Notes on VR Games
Some Notes on VR Games

Vengeance
(Fall 2003)
Initial Goals of Dumpy (2013)

- Invite everyone to have fun on platform
  - Pick-up-and-play

- Identify, use unique affordances of platform
  - Had to feel like a “Rift” game (not just a port)
  - Hands-free
  - Only input is head rotation
    - Ex. Looking down with wrecking ball hanging from face
Developing Dumpy

• Once toy was made, development was obvious: *smash lots of cartoon shit...*
Developing Dumpy

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• Hitting lots of cartoon shit into other shit
Developing Dumpy

• Once toy was made, development was obvious: smash lots of cartoon shit...
• Hitting lots of cartoon shit into other shit
• Setting up trunk swing mechanic to be useful in a new way every few seconds
Developing Dumpy

- Use varied **distance**. Look and Aim:
  - NEAR: First house is in your way, forcing you to smash it and learn how trunk works
  - NEAR BELOW: Boys running at you
  - NEAR ABOVE: UFOS coming at you
  - MID SIDE: Ice cream truck on building
  - MID AHEAD: House of Bad Boys
  - FAR: Blimp in sky. Distant houses, cars, UFOs
Developing Dumpy

• Use every **direction**. Look and Aim:
  – STRAIGHT: First bouncing soccer ball
  – SIDE: First Ice Cream Truck
  – UP: Inspiration: Inception bent city scene + Pinball
  – DOWN: Inspiration: Land of Lost desert scene + side hitting debris at cop cars (sort of like baseball)
Dumpy Art

- Fill the world quick! Artists way too slow
- Dumb fun creation process
  - Model, color, rig, animate boy **in 1 minute**
  - Bigger, dumber, and DUMBER, clear and DUMP
Dumpy Art

• Fill the world quick! Artists way too slow
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  – Model, color, rig, animate boy in 1 minute
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• Since I wasn’t “artist” I could do all the art fast in a really shitty way
  – If I spent more than “no time” on art it looked bad
A Moment Free from Darkness
VR Game Dev Class DePaul

- Use unique affordances of VR
  - Strong sense of presence and embodiment
  - Head position and rotation
- Create 3-4 very short games in 11 weeks
- Immerse player in fantastic:
  1. Bodies
  2. Spaces
  3. Playgrounds
  4. Final projects
VR Game Dev Class DePaul
Comments, Questions?

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