Immersive Sims
A game design philosophy by hackers
and D&D nerds
H.A.C.K. online meetup
Whoami

Game developer

- Tech Manager at Supermassive Games @Guildford
- Gamelab: Hungarian Indie
- Stompy Bot: Canadian Indie

Hacker

- id tech lineage presentation @Lakat-LAN
- Open Source Games & Hacking in video games talks @camp++
- “Homo Ludens Ludens” /stf/
Disclaimer

- I haven’t played most of these games when they came out
  - Most of them didn’t click at first
  - I was more invested in action titles with twitch gameplay

- It is my new favourite as a gamer
  - I was working on a “boomer shooter” concept
  - Picked elements from other titles influenced by immersive sims
  - And/Or I had a similar thought process to their designers
  - Possibly due to my IT background and interest in hacking

- I find it intellectually challenging to design
What is this talk about?

**Immersive Sims**

- I think it is not a genre, but rather a **design direction**
  - Form of environmental design
  - Common narrative trappings
  - Game design philosophy

- I am currently working on my own definition

- **Guildford Interpretation of Immersive Sims**

- Researching relevant games

- My findings so far from the lense of connections to the **hacker subculture**
What is even a genre?

- Movies are a bit more clear-cut
- Video games have broad genres like action, adventure, etc.
  - We tend to focus on mechanics and design
  - Like First Person Shooter (states camera, and core mechanic)
  - And Real Time Strategy (so not turn based)
  - Or compare to other titles (Doom clone, Soulslike)
  - It can oversimplify or alienate newcomers (Roguelike, Metroidvania)

- End of the day it is just a label
  - Allowing for marketing and meaningful conversations
  - For gamers and developers alike
Berlin Interpretation of Roguelikes

High value factors

1. Random environment generation
2. Permadeath
3. Turn-based
4. Grid-based
5. Non-modal
6. Complexity
7. Resource management
8. Hack’n’slash
9. Exploration and discovery

Low value factors

1. Single player character
2. Monsters are similar to players
3. Tactical challenge
4. ASCII display
5. Dungeons
6. Numbers
My Approach to Research: Lenses

Production history (more passive)

■ Consuming podcasts, post-mortems
■ Archived articles, presentations
■ Gamasutra papers, Game Developer Conference videos

Ludonarrative (more active)

■ Reading and watching reviews
■ Lurking on forums and doing in-depth analysis
■ Empirical research: playing with the game(!) = GROK*

* To understand; Connotes intimate and exhaustive knowledge
http://catb.org/jargon/html/G/grok.html
Game Design Buzzwords

- Ludonarrative dissonance: story & mechanical meaning
- Bartle’s player taxonomy
- Ron Edwards’ GNS theory
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<th>Title</th>
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<th>Developer</th>
<th>Design Direction</th>
<th>First Person</th>
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What Counts as an Immersive Sim?

- Average gamer is unaware of it or finds the label silly
  - Calls them FPS-RPG hybrids, Stealth games
  - Even devs avoid it in mainstream marketing
- Even /r/immersivesim disagrees on definitions

1. First person perspective for immersion (classically)
2. Role playing game influence
3. Emphasis on system-driven gameplay

- There is a classic set of games most people agree on
  - Most of them can be traced to a group of developers
  - They are usually critically acclaimed cult classics
  - With huge influence on the games industry
Our Templates

The classics

- Ultima Underworld
- System Shock
- Thief
- Deus Ex
Ultima Underworld I & II (1992 / 1993)

- Developed by Blue Sky Prod before they became Looking Glass
- Granddaddy of Immersive Sims
- Has many artifacts or prior genres and games
- First person fantasy dungeon crawling
- Technological marvel at the time
- Steep learning curve due to its complexity
- Slower paced gameplay compared to pure action titles
- Emergent gameplay and simulation: **Dungeon Simulation**
Bica, sor`click.
Bica to thee also.
Tosa yeshor`click Thapa?
Yes.
Tosa yeshor`click Sseetharee?
Who is that?
Tosa `click yeshor`click. Tosa sorr?
No.
Isill yeshor`click Sseetharee!

1. Good! Wouldst thou like to barter?
2. That's nice. Excuse me, please.
3. Goodbye.

You see a servicable shortsword.
You see a damaged door.
You see a damaged door.
You see a servicable shortsword.
Underworld: Quick Summary

■ Narrative design
  → Plot is paper thin
  → Ultima lore is rich
  → Characters have mood, including “monsters”
  → Player is literally an Avatar

■ Game design and level design
  → Non linear gameplay favouring exploration
  → Objectives can be completed in any order
  → Multiple valid solutions for problems
  → In hindsight abundance of mechanics is bit of a “kitchen sink”
Legacy on First Person Shooters

"According to id Software programmer John Carmack, the game's engine was inspired by a technology demo of Looking Glass Studios'/Origin's first-person CRPG, Ultima Underworld: The Stygian Abyss from 1991. Carmack claimed he could make a faster renderer. In this he was successful. The Wolfenstein engine lacks many features present in the Underworld engine, such as height changes, sloped floors and lighting, but it runs well on relatively weak hardware."

/Sam Shahrani/
April 25, 2006
Gamasutra
System Shock

- Wears its hacker influence on its sleeves
  - Hacking minigames
  - Glider reference
  - Cyberspace

- Story summary
  - Nameless hacker protagonist
  - On the Citadel space station
  - Fighting a rogue AI named SHODAN

“You hear the sound of a security camera swiveling, and then the beep of it acquiring you as a target, so you duck behind the crate and then you hear the door open so you throw a grenade and run out of the way”
SHODAN’s Burgeoning Empire of Steel

- Restoration Bay > Cyborg Conversion
- Security cameras as eyes
- Mutated crew and fauna
The search engine for Webcams
Shodan is the world's first search engine for Internet-connected devices.

Explore the Internet of Things
Use Shodan to discover which of your devices are connected to the Internet, where they are located and who is using them.

Monitor Network Security
Keep track of all the computers on your network that are directly accessible from the Internet. Shodan lets you understand your digital footprint.

See the Big Picture
Websites are just one part of the Internet. There are power plants, Smart TVs, refrigerators and much more that can be found with Shodan!

Get a Competitive Advantage
Who is using your product? Where are they located? Use Shodan to perform empirical market intelligence.

81% of Fortune 100
Shodan is used around the world by researchers, security professionals, large enterprises, CERTs and everybody in between.

1,000+ Universities

Analyze the Internet in Seconds
Shodan has servers located around the world that crawl the Internet 24/7 to provide the latest Internet intelligence. Who buys Smart TVs? Which countries are building the most wind farms? What companies are affected by Heartbleed? Shodan provides the tools to answer questions at the Internet-scale.

Sample Report on Heartbleed
Double click to use DISPOSABLE LOGIC PROBE on an object in the 3d view.
Cyberspace
Exploring Citadel Station
System Shock: Quick Summary

■ Level and narrative design
  → Killed off everyone so they don’t have to do dialogue trees
  → **Environmental storytelling**
  → Audio logs and other methods are now game dev staples
  → Maze-like but “believable” space: lived in, utilitarian
  → Hacker is in SHODAN’s domain, traps make narrative sense

■ Game design and level design
  → Action heavy, only alternative is running away
  → Metroidvania: progression via collected items and opened doors
  → Objectives rather than key hunting
  → UI and controls are still a barrier for entry
  → Diegetic UI and player abilities
Shock: Influence on Immersive Sims

- Had a sequel with more emphasis on “RPG elements”
- Spawned spiritual successors

BioShock

Prey (2017)
Thief: The Dark Project

- Started as Dark Camelot
- A dystopian twist on Arthurian myth
- Stealth sections worked better than the action
- Became the main focus and the game was reworked
- Was praised for its atmosphere and world building
- First game to feature first person stealth
- Sneaking in the shadows (sound and light tech)
- More focused experience (especially second game)
- Popularised the term *frobbing* with fans

* To manipulate or adjust, to tweak; “Please frob the light switch”
Sound and Light Driven Systems

- Sprint *2
- Walk *1
- Crouch *0.5

/The Playing Field/

- Tools
  - Moss arrow (sound)
  - Water arrow (light)

/GMTK/
Figure 2.2
Your sword can be used to hack down doors if you don't have the keys and your lockpicks don't work.
Thief: Quick Summary

■ Narrative and level design
  → Named and voiced character: Garrett
  → Relies on cutscenes as well to deliver story
  → Eavesdropping, reading mails
  → Linear story, sprawling levels
  → Most buildings were designed as such first, gameplay second

■ Game design and level design
  → Stealth designed around light and sound
    - Cutting edge AI design at the time
    - Levels built to support this
  → Exploration and movement options are interesting
    - Rope arrow, vaulting
Theft: Influence on Immersive Sims

- Second game was made by the same company
- Had sequels, one by Ion Storm (Studio behind Deus Ex)
- Spawned spiritual successors both AAA and now indie

Dishonored

Gloomwood
Production

Studios and their lineage

- **Looking Glass Studios**
  - Massachusetts-based
  - I am not fully subscribed to the “auteur theory”
  - Collaborative medium

- **0451 as a statement**
  - Now just a reference
MIT and Hacker Subculture

- Originated at Tech Model Railroad Club
- Entering restricted areas in a clever way without causing any major damages
  - Intellectual challenge
  - Overcoming limitations
  - Achieve novel outcomes
  - Spirit of playfulness
  - Exploration
Doug Church

- Attended MIT in the late 1980s
  - Left and went to work with LGS
  - Programmer by training

Ultima Underworld I & II, System Shock, Thief, Deus Ex

Warren Spector claims Doug coined the term Immersive Sim
System Dynamics

Created by Professor Jay Forrester of MIT

https://machinations.io/
Roots in Pen and Paper RPGs

Just like many other computer game genres

- “RPG elements” in the context of video games
  → We usually mean stats and experience point based leveling

Immersive Sims

- Take the emergent rule based nature of RPGs
  → Unparallelled player expression
  → Where problems set by the DM can be solved in creative, sometimes unexpected ways
Harvey Smith

“Pong & Dungeons and Dragons”

- Started in QA
- Writer, Designer
- Creative Director

System Shock, Deus Ex, Dishonored 1 & 2, Prey
World Building

“After the fall caused by an ideology with a figurehead”

/Chris Franklin/
Errant Signal
Types of Player Agency

Scripted

- Dialogue trees and choices
  - Branching, could use variables
  - But it is still predetermined

- Multiple scripted valid options
  - Fallout 2 temple of trials
  - Using a key or a lockpick on the door

Systemic >>
Systemic Design

How is this implemented?

- Interactions are not hard coded actor-to-actor
- Actors listen to inputs and have outputs as signals
- Awareness and consistent rules
Emergent Gameplay

"Refers to complex situations in video games, board games, or table top role-playing games that emerge from the interaction of relatively simple game mechanics"
Duke Nuke'em and Goldeneye hint at the possibilities of creating realistic environments and letting players interact with them however they wanted, but they don’t go far enough – in Duke, the environment was a gimmick, never affecting gameplay. Sure you could tell you were in a movie theater, but could you switch on a movie projector and blind an enemy so you could get the drop on him? And imagine how much cooler the game would have been if shooting a fire hydrant had done more than activate a new animation – what if the water could douse a fire? In Goldeneye, they did somewhat better at using players’ familiarity with certain kinds of real world spaces to enhance gameplay but we can and will go even further.

**Problems not Puzzles**

Players should never have to play that classic computer game, “Guess what was in the designer’s mind when he created this stupid puzzle.” They should never have to play that game but, all too often, that’s exactly what they get when they fire up their state of the art RPG.
Gameplay loop rhythm

“Staccato pacing”

- Planning and execution phases in **real time**
  → GO-GO-GO; stop and think; GO-GO-GO

Illustration originally by Mark Brown
Types of Immersion in Games

According to Ernest W. Adams (igda founder)
Staffan Björk & Jussi Holopainen: Patterns In Game Design

1. Tactical immersion / Sensory-motoric
2. Strategic immersion / Strategy, cognitive
3. Narrative immersion / Emotional

Immersive Sims could feature all of the above!
Diegesis

And “breaking the fourth wall”

- Interface exists in the fictional universe
  - Very little stands between player and the game world
  - UI heavy, but is justified + suspension of disbelief
Simulation in Games

Diverse super-category

- Approximate imitation of the operation of a system
- Immersive Sims are a subset of systemic games
- Not a software toy (Will Wright’s definition)
- The ‘sim’ part of the label causes confusion
  - Vehicle or job simulations
  - Management games
Abstract-O-Meter

Finding the balance

too abstract  just right  too realistic
Takeaways so far

■ Systems
  → Interconnected game mechanics
  → High reactivity to player actions

■ Exploration
  → Strong sense of place
  → Environmental storytelling

■ Tools
  → Problems to be solved instead of puzzles
  → Good tool has different use cases

■ Choices
  → High levels of player intentionality and agency
  → With specific goals and expectations in mind
Thanks for listening

To my ramblings

- Will continue my research
- Interested in feedback
- Let’s do Q&A!

mail@houruck.hu