Immersive Game Technologies

Week 4

Sections

1. Understanding immersion
2. Fundamentals of game mechanics
3. Elements of immersive game design
4. Immersive environments
5. Character design and roleplay
6. Multiplayer and social immersion
7. Immersive technologies – VR/AR/Haptic
8. Using Immersive Gaming for Good

1. Understanding Immersion

- General understanding: a digital or interactive experience that captivates and deeply engages players, drawing them into a fictional or virtual world to the point where they temporarily forget about the real world.

- Brown and Cairns 2004 defines different tiers between engrossment, engagement and total engagement.
- “extent to which a person’s cognitive and perceptual systems are tricked into believing they are somewhere other than their physical location” – Patrick et al. 2000, defining virtual reality in terms of presence.
- Mihaly Cziksentmihalyi, 1990, defines immersion as ‘Flow’, described as an occasion of optimal experience where we feel a sense of exhilaration, a deep sense of enjoyment, which we cherish for long and that becomes a landmark in our lives.

1. Understanding Immersion

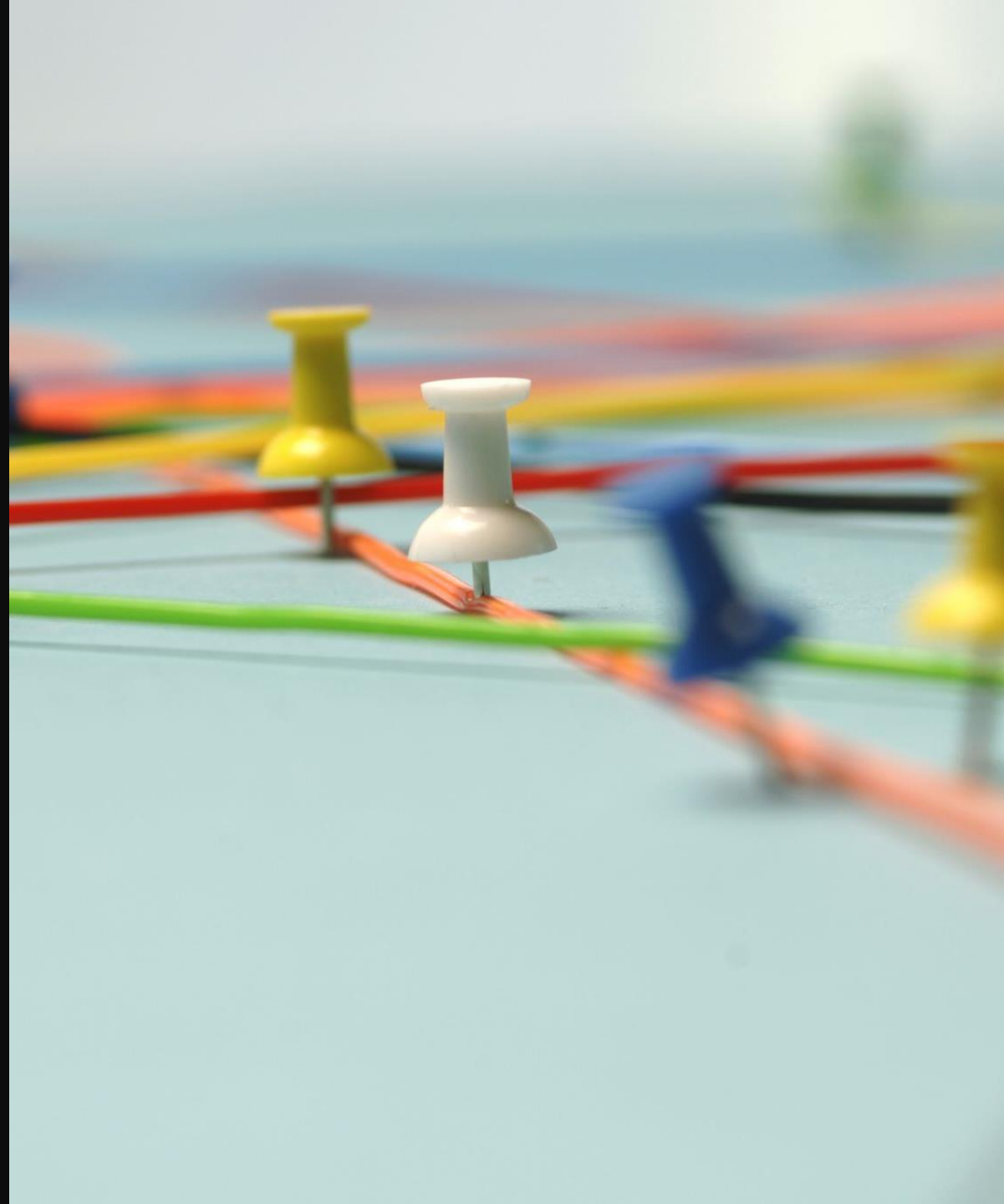
Spatial - **First person shooters** - **Open world** - **Racing games** - **Augmented by VR**	**Cognitive** - **Detective games** - **Card/Board games** - **Puzzle games (Portal, The Witness)**
Emotional - ‘emotioneering’ coined by Freeman 2003. - Walking sims	Social - Competitive vs Cooperative - MMOs, Farmville, Death Stranding

- Types of immersion as defined Bjork and Holopainen, Patterns in Game Design:

1. Understanding Immersion

- Ernest Adam's (Gamasutra) definitions further breaks it down and concentrates on player immersion techniques:

1) Tactical immersion – Skill-based immersion. Flow.
2) Strategic immersion – investment with the cerebral activities, closely related with cognitive immersion.
3) Narrative immersion – investment in the story, closely related with emotional immersion.



1. Immersion vs Addiction

Merriam-Webster definitions

- Immersion – instruction based on extensive exposure to surroundings or conditions that are native or pertinent to the object of study
- Addiction - a compulsive, chronic, physiological or psychological need for a habit-forming substance, behavior, or activity having harmful physical, psychological, or social effects and typically causing well-defined symptoms (such as anxiety, irritability, tremors, or nausea) upon withdrawal or abstinence
- Although they are different, Seah and Cairns 2008 does claim that immersive games have a strong co-relation with video game addiction.

2. Fundamentals of Game Mechanics

There are no fixed definitions, but mostly “systems of interactions between player and game” according to Wikipedia.

All games use mechanics.

Up to designer to design ones that are fun, engaging, immersive.

2. Some Examples of Game Mechanics

- Movement and Controls
- Objectives and Goals
- Feedback and Rewards
- Challenges and Obstacles
- Progresion and Levelling
- Resource Management
- Character Development
- Puzzles
- Turn-based vs Realtime
- Narrative

2. Single Player Vs Multiplayer Emphasis

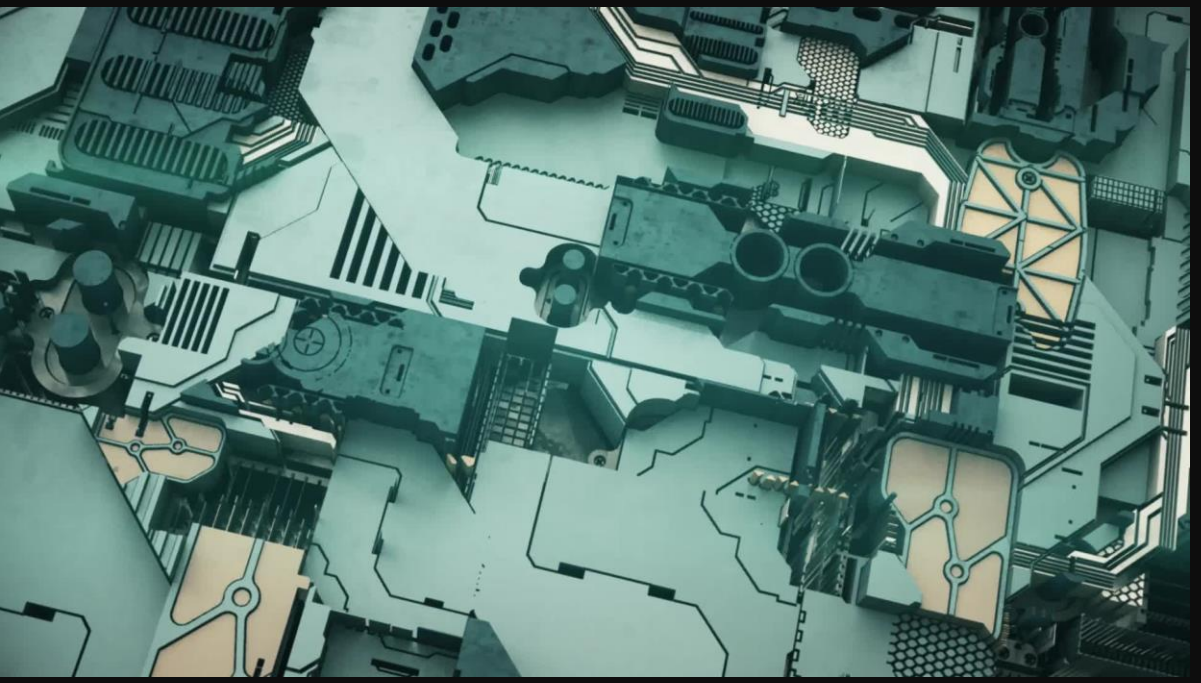
Single Player	Multiplayer
• Narrative Focused • AI Opponents • Pacing • Player Progress • Resource Management • Level Design	- Player Interaction - Balancing - Social dynamics - Skill-based - PVP - Matchmaking - Teamplay - Progression - Leaderboards and Rankings - Anti-cheating mechanisms

2. Retro Game Mechanics

- Why retro games are considered ‘hardcore’

1) Limited saves and checkpoint systems
2) High difficulty
3) Boss battles
4) Limited game information

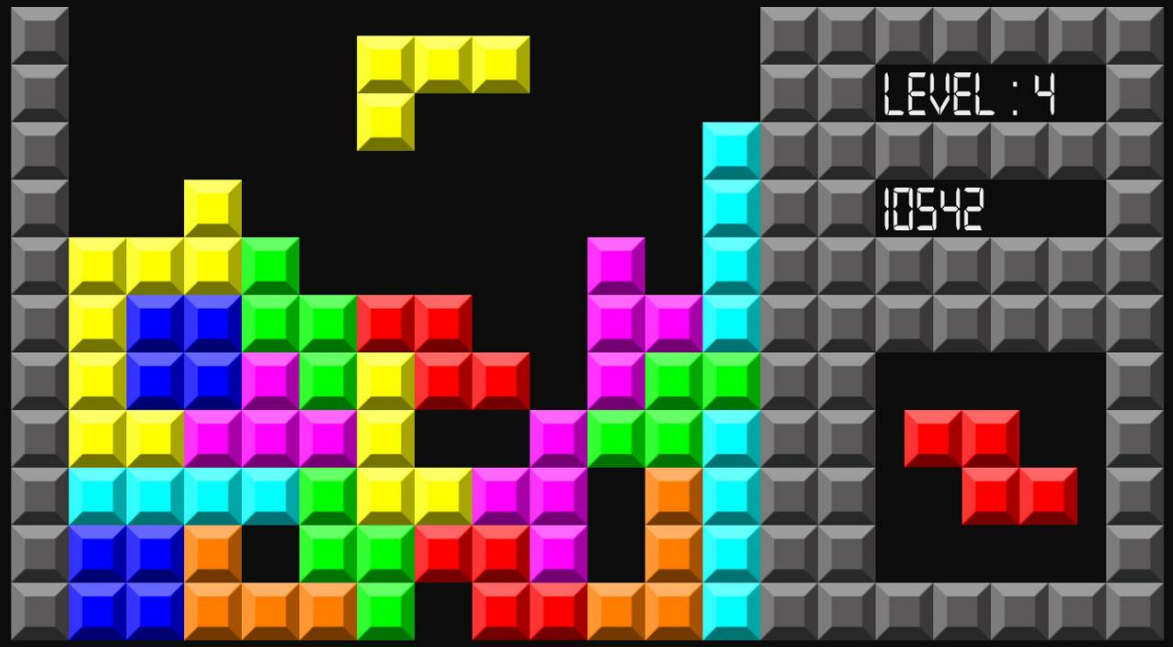
https://gamerant.com/video-games-90s-impossible-hard-beat/



2. Not all things old are bad

- Top 10 game mechanics that still stand out – 5 retro mechanics that work

1) Real time strategy (RTS)
2) Point and click adventures
3) 4X – explore, expand, exploit, exterminate (Civilization)
4) First person shooters (FPS)
5) Multiplayer



2. Case Study: Tetris

- 4 main game mechanics involved

1) Rotation system – down button will turn the tetrominoes
2) Randomizer – random order of spawning
3) Scoring system – points when line clears, extra for combos
4) Mobility – Placement of the tetrominoes

Mechanics Determine Genres

Different game genres

- RPG – skill trees, experience points, levelling up
- FPS – point and shoot, movement in virtual world
- Platformer – gather points, defeat horde adversaries
- Puzzles – solve puzzles to progress the game
- Simulation – repetitive rounds to experience realistic actions that is difficult to gain in the real world, skill-based

Some games may incorporate more than one genre (e.g. Fallout- RPG+FPS), making them hybrid.

Some mechanics that work

- Iron sights – right click to aim (Most FPS have this starting from MoH)
- Fog of war – RTS, create tension and fear against only assumptions and uncertainty
- Second chance – come back a second chance in case you make a mistake (Sekiro)
- Super moves/limit breaks – build up bar when you take hits, then unleash a super move when it's full (FF series)
- Freeflow combat system – Batman series, Shadows of Mordor
- Limb cutting – Dead Space
- AI partners – Bioshock Infinite, The Last of Us

Some that don’t

Unskippable cutscenes

Forced stealth segments

Quick-time events

Escort duty – partnership not implemented properly

Morality choices

Bad/lack of checkpoints

What are some of your favourite mechanics?

Menti: 5727 0879

3. Immersive Game Design Elements

- Graphics
- Audio
- Narrative

3. Graphics

- A diminished gain for modern games.
- Back in 90s when computing power was limited it was a big deal.
- Today good graphics contributes but is not a dealbreaker.
- But bad graphics (e.g. bad lip sync, broken polygons, wall-phasing) definitely breaks immersion.
- Graphics does not also have to be real to be immersive – Zelda series
- Jury's still out on immersiveness of photorealistic games in UE5

3. Audio

- Sound engineering is a little outside this course, but is an important element in game design towards immersion.
- Retro games used beeps and bleeps.
- Thanks to DirectX making plug and play multimedia in the 90s, audio has come a long way.
- Encompasses voice acting, sound effects and music soundtracks.

Other interesting links:

- Mortal Kombat sound design.
- History of Game Music

3. Story

- Narrative that can transport player into the game world.
- Similar to how books and movies work, but for games the narrative places the player as an active participant instead of passive observer.
- Sometimes a game doesn't need good graphics and audio to be immersive if the narrative is good. Examples: Fallout 1 and 2, DnD games.
- A good way to make stories interesting: show no tell, let player make own deductions.

Links of interest:

- Nonlinear Storytelling
- Telling Stories with Systems
- Walking Simulators influence on storytelling
- How Video Games Turn Players Into Storytellers

4. Immersive Environments

- Design of a game world that simulates real life in a different setting.
- All elements from immersive game design elements are included (graphics, audio, narrative elements), with the addition of interaction.
- Interaction comes in the form of player agency (freedom to explore, get involved and influence the world), interactive objects, destructible objects and engagement with AI (NPCs).
- Of course, attention to detail goes a long way.
- Main job responsibility of the environment artist.

Links of interest

- Creating Assets & Architecture for Game Environments
- Game Dev Q&A
- Designing NPCS

What’s your most memorable game world and why?

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5. Character Design and Roleplay

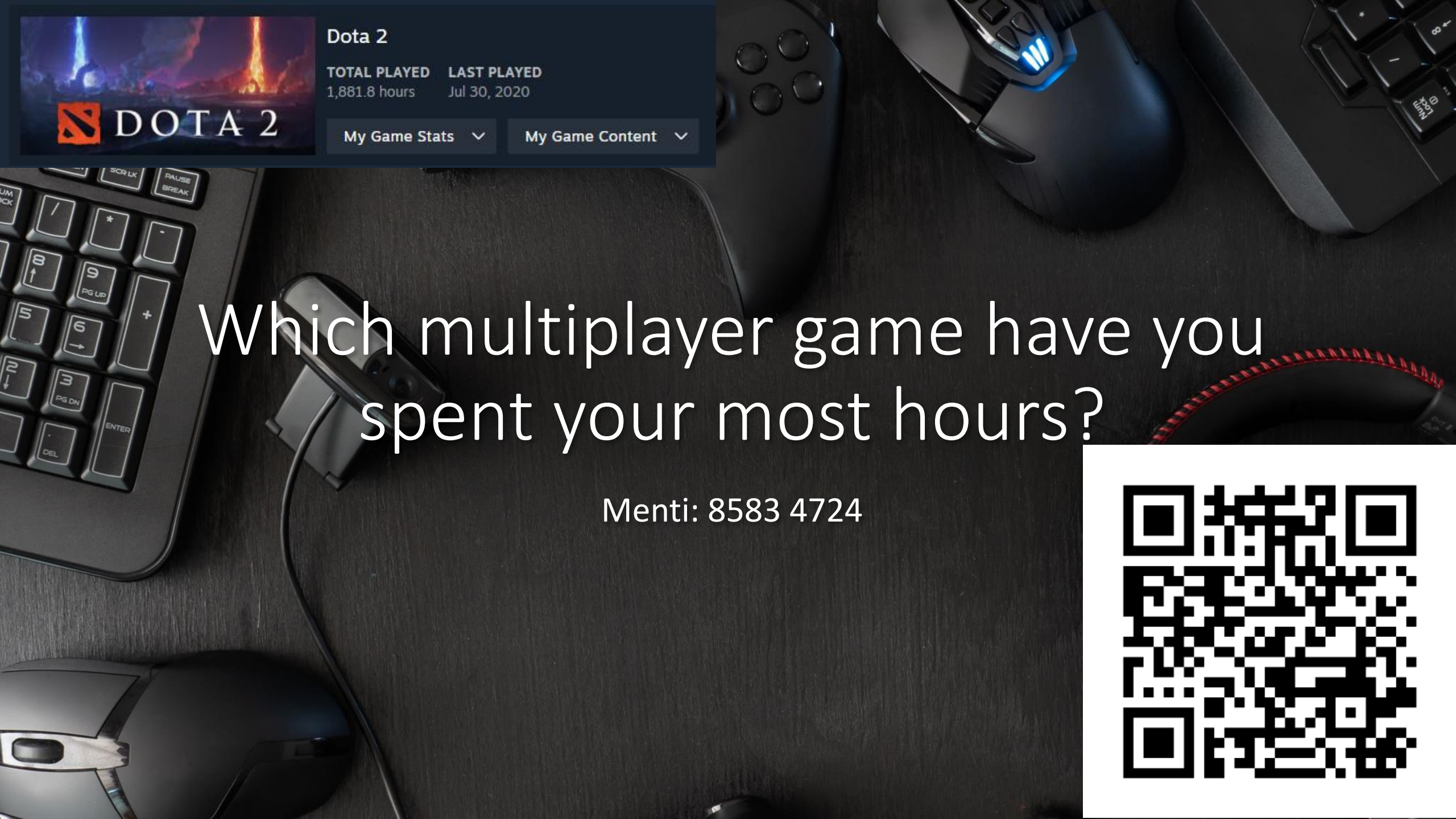
Character design	Roleplay
Personality Backstory Character customization Skill progression Visual progression	Choice and consequences in the story Dialogue options Multiple endings Main quest and subquests Key point: allows for emotional and intellectual investment in a player's avatar to build a form of agency and attachment.
How to create a likable hero One question to ask when roleplaying 6 Tips to Fleshing Out a Character Search AI Character generator – FOTOR, Veed	

6. Multiplayer and Social Immersion

- The level of engagement players experience interacting with other players in a shared gaming environment.
- Can be collaborative, competitive or social immersion.
- Earliest iterations involve split screens, then as networks advanced became over local area networks and later through the Internet.
- Competitive ones immerse players in the competition, much like real sports. It is why e-sports is popular. Fanbases also form around teams and viewers congregate for large games.
- Collaborative ones immerse players with a sense of community – play with friends, make friends with strangers, tackle challenges together.
- Social ones focus on interaction, communication and building relationships with other players.
- Engaging points: sense of belonging, teamwork, a chance to show off skills, each iteration has a different experience, rewards

How multiplayer games work?

Top 12 Best Multiplayer Games



Which multiplayer game have you spent your most hours?

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7. Immersive Technologies

- Augmented Reality
- Virtual Reality (without googles?)
- Haptic

- AI – blockadelabs, luma, NERFs (maybe another lecture on emerging game dev technologies?)

Using Immersive Gaming For Good

Gaming can make a better world

Conclusion

For further study:

1) What Does "Immersion" Actually Mean?
2) The Unwritten Rules Of Roleplaying & Immersion In Gaming
3) The Rise of the Systemic Game
4) What Makes a Game Immersive? | Engagement, Escapism and Immersion in Game Design
5) How To Make a Game Immersive

Reading List

"A Grounded Investigation of Game Immersion", Emily Brown and Paul Cairns, UCL Interaction Centre.

"Immersion, Make and Break the Game – a Study on the Impact of Immersion", Tom Anderson and Hampus Stromsholm, Malmo University.

"Flow and Immersion in Video Games: The Aftermath of a Conceptual Challenge", Lazaros Michailidis, Emili Balaguer-Ballester, Xun He, Bournemouth University.