Game Effects

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Game Programming

- Rendering
- Looping and control
- Math
- Animation
- Physics
- Behaviour and navigation (AI)
- Effects
- Networking
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- Rendering
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- **Effects**
- Networking
Effects

- Visual effects
  - Post-processing
  - Particle systems
- Sound effects
Depth of Field

https://en.wikipedia.org/wiki/File:Dof_blocks_f4_0.jpg
Depth of Field (cont'd)

https://www.nintendo.com/games/detail/octopath-traveler-switch/
Bloom

https://en.wikipedia.org/wiki/Bloom_(shader_effect)
Post Processing (before)

https://docs.unity3d.com/Manual/PostProcessingOverview.html
Post Processing (after)

https://docs.unity3d.com/Manual/PostProcessingOverview.html
Particle systems
Built-in particle systems
DEMO: 2D Game Kit

- Steps:
  - Open scene “Zone 5”
  - Show the particle system of “HealthParticles”
    - Adjust different modules
Performance issues

- Complex geometries
- Transparent
- Lots of instances
Object pooling

● Don't destroy objects if not necessary
  ○ Disable only

● Instantiate new objects if necessary
DEMO: 2D Game Kit

- Steps:
  - Open scene “Zone 5”
  - Show the particle system of “DustBuff”
  - Explain “Object Pool”
Control the timing of spawning effects

- By the editor tool
  - Animation events
- By customized codes
DEMO: 2D Game Kit

- Steps:
  - Open scene "Zone 5"
  - Explain how "DustBuff" is spawned
    - Show the animation "Ellen_Run"
Visual effect graph
Sound Effects
Visual effects vs. sound effects

- What’s the major differences between these two types of effects?
Visual effects vs. sound effects

- What’s the major differences between these two types of effects?

“created a method of almost automatically generating vibration patterns from a game’s sound effects.”
Audio middlewares: FMOD
Audio middlewares: Wwise
Unity Package: Timeline
Q & A