Believable agent in video games

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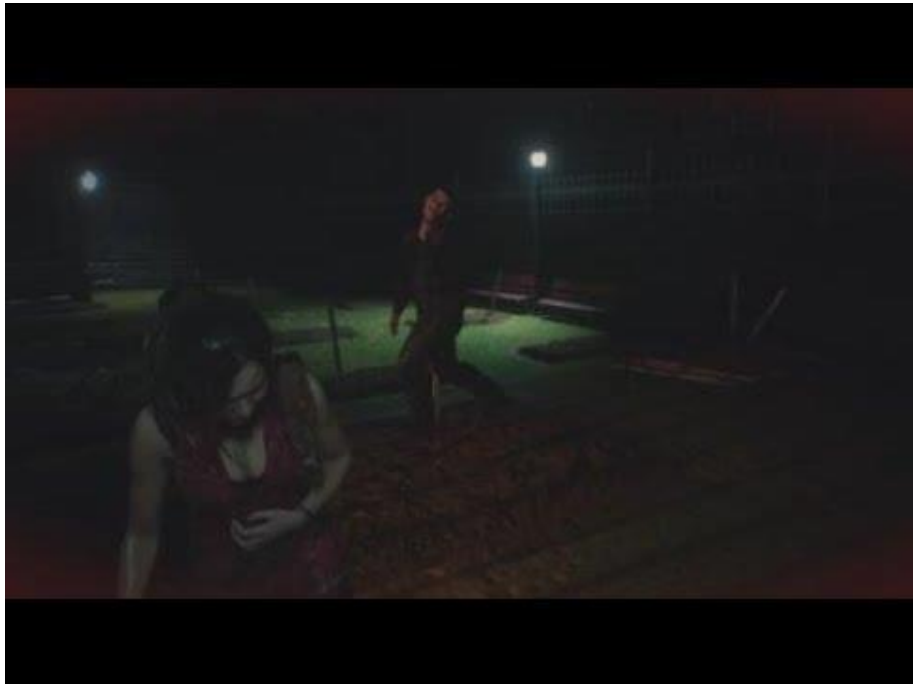
Zombie in Resident Evil (バイオハザード)

The zombie
- Walks unsteadily
- Bumps into walls
- doesn’t always take
  the shortest path to player

> looks **realistic** and makes the game **immersive**



A zombie in Resident Evil: Re2 (2019)

What is believability?

Definitions of believability

- Definition by the arts [4]

  *Believable characters' goal is to provide the **illusion of life***

  (Thomas and Johnston 1981)

- Believable behavior [3]

  In a case of a computer game, the believable behavior is a behavior that fits into game rules and corresponds to a character's personality.

What makes characters believable

Believability Dimensions [2]

- behavior coherence
- change with experience
- awareness
- behavior understandability
- personality
- emotional expressiveness
- social
- visual impact
- predictability

Believability of player AI [1]

- Player AI = AI that takes the role of a player

  e.g. CPU in fighting games

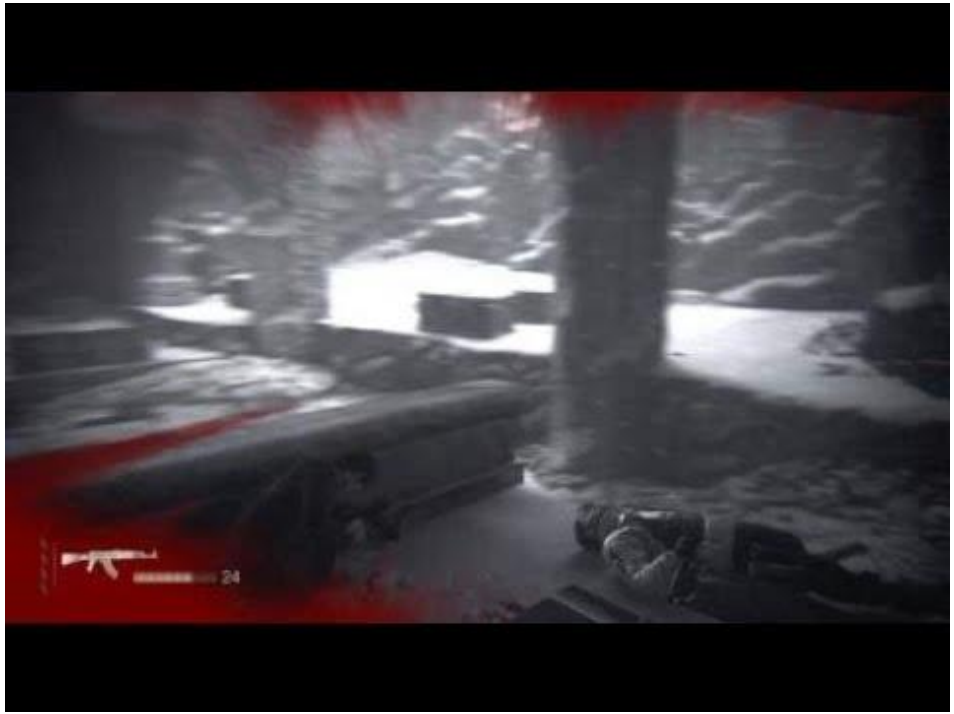
- Player AI needs different definition of believability.

  Player AI is believable if it gives the illusion of being controlled by a player

Example: Uncharted 4: A Thief's End (2016)

- Enemy force uses strong tactics
- The tactics requires **teamwork**

> They look really smart to players

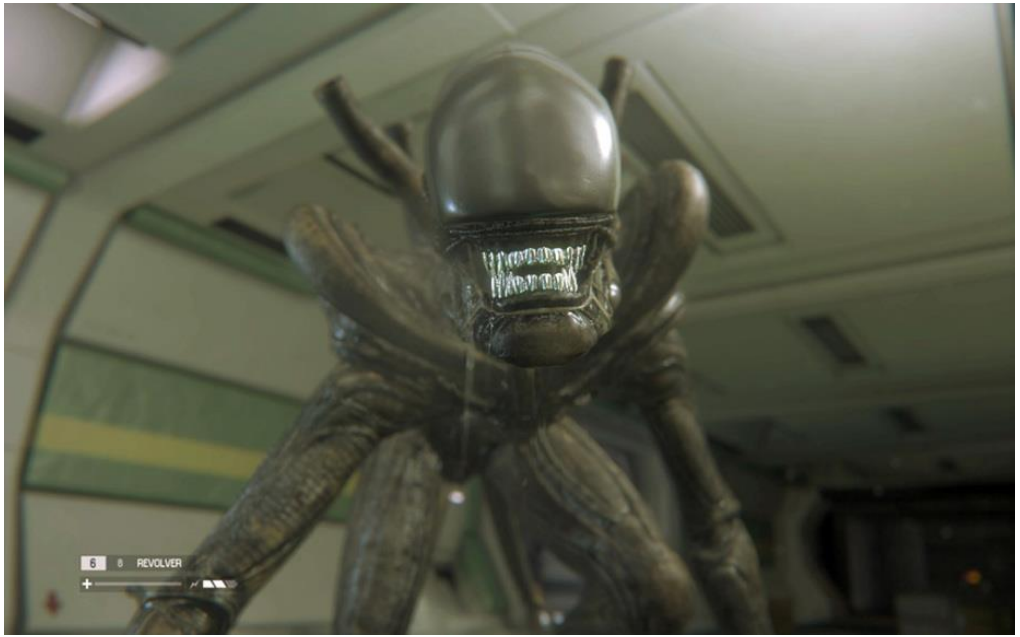


Mercenary who work as a team

Example: Alien: Isolation (2014)

Alien(Xenomorph) that **learns** player's movement

> It adds depth to its intelligence
> It enhances fear



The AI of Alien: Isolation | AI and Games
https://www.youtube.com/watch?v=Nt1XmiDwxhY

References

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[3] Andrey S, Aleksandr Z, and Victor F. (2019). Applying Behavior characteristics to decision-making process to create believable game AI. Procedia Computer Science, 156, 404–413.

[4] Fabien T, Cedric B, Pierre L, and Olivier M. (2010). The challenge of believability in video games:

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Thank you for listening!