Fundamentals

of Shooter Game Design
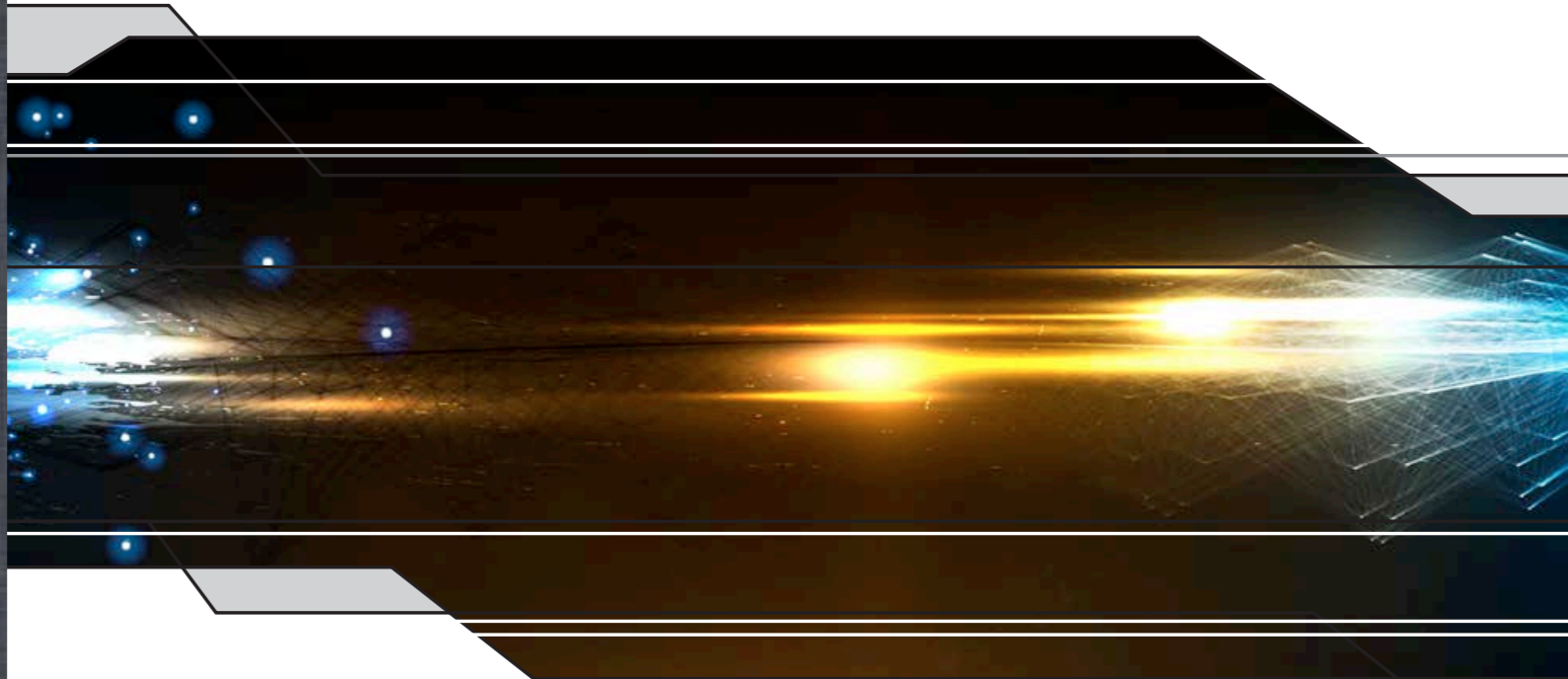
Ernest Adams

Founder of the IGDA

New Riders

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About the Author

Ernest Adams is a game design consultant and part-time professor at the University of Uppsala Campus Gotland in Sweden. He lives in England and holds a Ph.D. in computer science from Teesside University for his contributions to the field of interactive storytelling. Dr. Adams has worked in the interactive entertainment industry since 1989, and he founded the International Game Developers' Association in 1994. He was most recently employed as a lead designer at Bullfrog Productions, and for several years before that he was the audio/video producer on the *Madden NFL* line of football games at Electronic Arts. His professional website is at www.designersnotebook.com.

Acknowledgment

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2D Shooters

Summary

What are Shooter Games?

Reduced to its essentials, shooting is taking action at a distance with the aid of some kind of mechanical device. Therefore, shooter games are built around the player's ability to control the device to achieve the desired effect. Usually, but not always, the effect is destructive. Shooter games may be implemented in two dimensions or three, but if they're three-dimensional, the avatar is most often a person rather than a vehicle. 3D combat flight simulators aren't considered shooter games even though these vehicles shoot. In 2D games the term is more inclusive.

Aiming is a key skill, particularly if the game provides limited ammunition. In a typical shooting game, the player must focus attention on two places at once: incoming threats to the avatar (if any), and the target or targets.

As with most other genres, the degree of realism in shooter games varies considerably. At one end of the scale are infantry combat simulations, perhaps best exemplified by *America's Army* and various tactical shooter games; at the other are simple 2D shooters in abstract settings such as *Robotron: 2084* and similar arcade classics. Shooter games vary considerably both by gameplay and by camera model, and the different camera models can be implemented with different kinds of technology depending on the needs of the game and the available hardware. Because 3D shooters are by far the most popular kind today, and designing and playing them is radically different from designing and playing 2D shooters, I'm going to treat them separately.

SHOOTER GAMES

Shooter games present the majority of challenges as tests of the player's physical skills at hitting targets with projectiles and avoiding being hit by other projectiles. Exploration challenges are often present as well. Some subgenres require players to manage their ammunition and plan and execute tactical combat carefully.

Progression

Character progression in shooters typically takes the form of upgrades to equipment and armor throughout the game. Often, for example, the player starts with only a pistol (or even no weapon at all) and finds weapons along the way. Except for a few shooter-RPG hybrids, few shooters include significant upgrades to the avatar's personal attributes. When these occur, they are often characterized as specialized clothing or tools. Instead of leveling up and gaining more health points, the avatar simply finds better armor or more health.

Single-player shooter games tend to offer a linear progression through a series of levels or missions. Much of the time it is based around a story. Within a level, progress may be linear (the player can go only forward or back) or in an open world (the player has some freedom to choose her own path). Branching paths are rarer, except in tactical shooters that are set in buildings. Occasionally a linear level includes a hidden shortcut that, when discovered, allows the player to jump ahead, bypassing many obstacles and dangers.