**Platforms and Player Modes**

**Platforms**

- Each game platform has distinct characteristics. The games developed for each platform differ in several important respects. The following are the various game platforms: arcade, console, computer, online, handheld, mobile, and tabletop.
- **Arcade**: Arcade games are stand-alone game systems found in public venues—such as malls and amusement parks. Most games are played standing up—with player controls consisting of buttons, joysticks, or a combination.
- **Console**: Console systems are usually played in the home, hooked up to a television set. The console platform is proprietary—which means that hardware manufacturers such as Sony, Microsoft, and Nintendo have control over what software is developed for their respective platforms.
- **Computer**: Computer games are played on desktop computers and laptops. The computer platform adds complexity to the development process due to non-standard setups and a variety of systems.
- **Online**: Online games are played on a computer platform or through a console system connected to the Internet. The largest online games involve thousands of simultaneous players, which sometimes requires that the information for the game be stored on several servers.
- **Handheld**: A handheld gaming device is a lightweight, portable game console with a built-in screen, game controls, and speakers. The small size of handheld devices makes it convenient for them to be taken with the player almost anywhere.
- **Mobile**: Mobile games are games designed for mobile devices, such as smartphones, tablets, and portable media players. Mobile devices have a wide range of connectivity features allowing wireless multiplayer games.
- **Tabletop**: Tabletop games are played on top of tables. These include board, card, and dice games, and even pen-and-paper games such as Dungeons and Dragons, where the game pieces literally consist of pens and paper.

**Time Intervals**

- Time intervals are time-dependent elements that affect the pacing of the game. This pacing affects whether the game is played reflexively or reflectively. The three basic (3) time intervals used in games are turn-based, real-time, and time-limited.
- **Turn-Based**: Games that are turn-based allow each player, whether artificially generated or human, to take a turn. Usually, the time allotted for each turn is unlimited. In traditional board and card games, players have as much time as they need to plan their moves.
- **Real-Time**: The opposite of a turn-based game is known as a real-time game. In this case, there is no time interval between turns. In fact, there are no turns at all. Real-time games are extremely popular online—partially due to the ability to communicate in real-time with other players.
- **Time-Limited**: A time-limited game is a compromise between turn-based and real-time games. Time-limited games limit the time each player has for their turn. In the case of some single-player puzzle games, a time limit is placed on the game itself.

**Player Modes**

- There are several possible player modes, which directly correlate to the number of people playing a game. The choice of the player mode—as well as the content—has a significant impact on how a game is played. The player modes are single player, two-player, local multiplayer, LAN-based multiplayer, and online multiplayer.
- **Single-Player**: Only one person can play a single-player game. Any additional players (usually opponents) in the game are known as artificial intelligence (AI) characters or non-player characters (NPCs).
- **Two-Player**: In two-player mode (also known as head-to-head game), two (2) players play against each other or team up to fight a common enemy. Early in the industry, players took turns playing against the game itself. Each player's experience of playing the game was identical to what it would have been in single-player mode.

- **Local Multiplayer**: In local multiplayer mode, all players sit in the same space and play the game on the same machine—sharing the same screen using separate input devices or controllers. This is a common mode of play on console systems, which allow for local play of up to four (4) players. Since all players share the same screen, each player can see what the other players are doing.
- **LAN-Based Multiplayer**: LAN-based games allow players to share the game on a local area network without sharing the screen or input device. With LAN-based games, it became possible to combine the networking capabilities of online mainframe games with personal computers that could be placed in one local area.
- **Online Multiplayer**: In online multiplayer mode, players connect their devices to the Internet and share the game. Online multiplayer games can be played by thousands of players simultaneously.
  - A **Massively Multiplayer Online Role-Playing Game** (MMORPG) persists 24 hours per day and maintain a subscription-based revenue model in which players pay a monthly fee to continue playing it.

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