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INTERACTION BETWEEN AUDIENCE AND GAME PLAYERS DURING LIVE STREAMING OF GAMES

ABSTRACT

Watching others play video games is a popular online activity. Video of a game in progress for a particular game player or team is broadcast live to an online audience, along with a feed of text shared among spectators and game players. Currently, spectators can interact with other spectators and the game players by posting text or emoji. This disclosure describes techniques that enable spectators to provide game resources to particular game players as gifts. The resources can include any object within the game and can have an impact on the outcome of a game. Greater interactivity and engagement can be achieved.

KEYWORDS

- Video game
- Live streaming
- Massively Multiplayer Online Game (MMOG)
- Audience participation
- Online gift

BACKGROUND

Online video games can be played between as many as thousands of participants over a network, e.g., the Internet. Some live video streaming services enable online games to be watched live by an audience. For popular games and game players, the size of the audience can grow to the

tens of thousands or more. Currently, spectators in the audience have limited ability to interact with the game players or other spectators.

For example, some live video streaming platforms provide a live chat room facility that enables text and emoji to be exchanged between a spectator and other spectators or game players. Some live streaming platforms also support audio. There is no current way for a spectator, or a set of spectators, to participate in a game in a manner that can affect the game outcome. Similarly, there is no way for the strength of a game player to be influenced by the size or skill of her audience.

DESCRIPTION

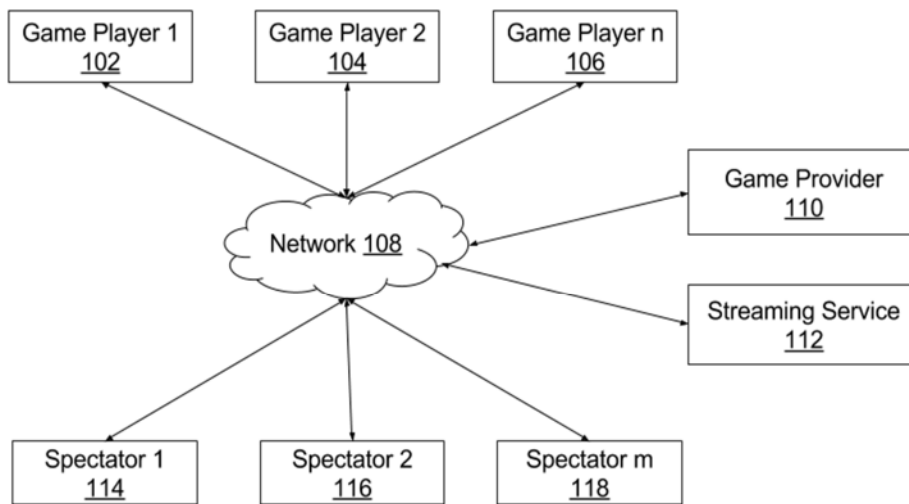


Fig. 1: Network Diagram

This disclosure describes techniques that allow a spectator or a group of spectators that are watching a live video stream of a game to gift game items or resources to game players. Fig. 1 shows an example of network-enabled gaming with features for spectators to provide a gift to game players. Several game players (102-106) participate in a game that is hosted by game

provider 110 via network 108, e.g., the Internet. The game provider coordinates gameplay between the multiple game players. In some instances, there may only be one game player that plays the game.

Gameplay is transmitted over the network to a streaming service (112) for the purpose of delivering a video of the gameplay to an audience. The video stream depicting the game originates from one or more of the game players or from the game provider. The audience comprises spectators (114-118) that watch the game as delivered by the streaming service over the network. In some cases, the game provider and the streaming service is the same entity. By communicating with the game provider over the network, a spectator that watches the game can select or purchase gifts and have those delivered to a game player of her choice, as described in detail below.

Example game with gift provision features

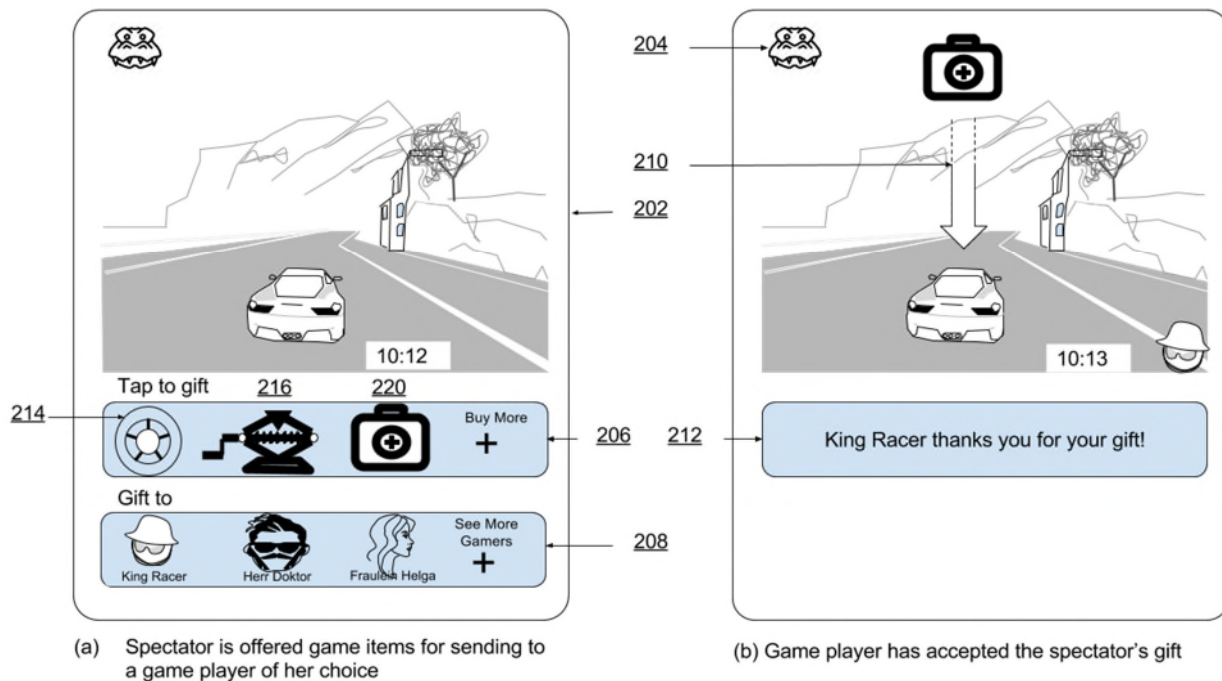


Fig. 2: Spectator's View

Consider for example a car-racing game, where a game player's objective is to win a car race. Fig. 2 shows the car-racing game as seen on the screen of a spectator. Fig. 2(a) shows an instant of time that precedes Fig. 2(b). The spectator witnesses the ongoing game in the gameplay screen (202). An avatar (204) identifies the spectator. As shown in Fig. 2(a), the spectator is provided a user interface with options to provide gifts. The spectator can select gifts to give to a game player from a section (206) of the user interface. The available gifts in this example are a spare wheel (214), a car-jack (216), and a health pack (220). These are resources that a game player can use during gameplay.

The spectator can purchase gifts, e.g., by utilizing real or virtual currency. The spectator can also see in a section (208) of the gameplay screen the game players who are currently participating in the games. In Fig. 2(a), game players are identified by their avatars, e.g., "King Racer", "Herr Doktor", "Fraulein Helga". The spectator selects a game player and a gift, and sends the gift by tapping on the particular gift item.

In the example of Fig. 2, the health pack is selected as the gift for the participant identified as "King Racer." Once a gift is sent, the spectator's screen indicates graphically, e.g., by an arrow (210), that the gift is offered to the selected game player. Once the game player accepts the gift, a message (212) is flashed across the spectator's screen acknowledging receipt of gift. The act of a spectator gifting an item to a player is visible, e.g., to other spectators. For example, spectators that send gifts, recipient players that receive gifts, and the gift items are visible on a contributors' leaderboard. In this way, a spectator achieves public recognition for the act of gifting. This can motivate other members of the online audience to engage more deeply in the game, e.g., by themselves sending gifts to their favored players.

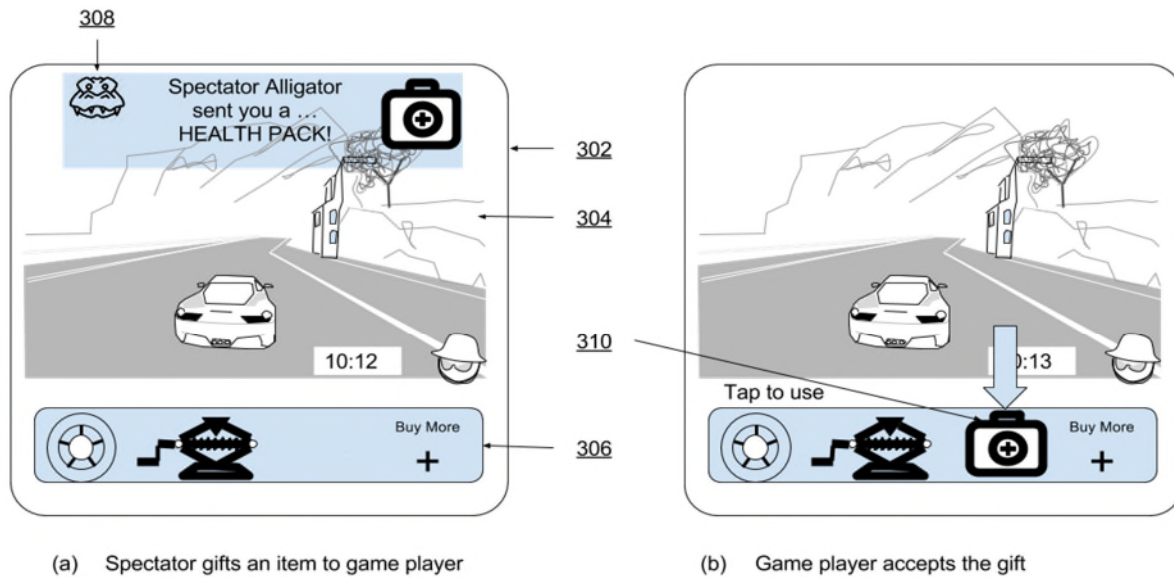


Fig. 3: Game player's View

The process of receiving a gift is correspondingly reflected in the game player's screen (e.g., the game player "King Racer"), shown in Fig. 3. Fig 3(a) shows an instant of time that precedes Fig. 3(b). The game player sees the gameplay screen (302) that is divided into multiple sections. A first section (304) shows a video of visuals from the game under progress. A second section (306) shows game resources that are available for use during the gameplay by the game player. The game is being watched by a spectator, whose presence is indicated by a third section (308) that includes an avatar (e.g., alligator) representative of the spectator.

In the example shown in Fig. 3(a), the spectator "Spectator Alligator" has sent the game player a health pack. This gift of the resource "health pack," is conveyed to the game player via the message in the third section (308), as shown in Fig. 3(a). As shown in Fig. 3(b), the game player sees the resource sent by Spectator Alligator appear in their game resources, e.g., health pack (310) is added to the game player's available resources. The game player can accept or reject the

resource e.g., by tapping on the health pack, or the resource can be automatically added to the resources available to the game player.

Example communication flow

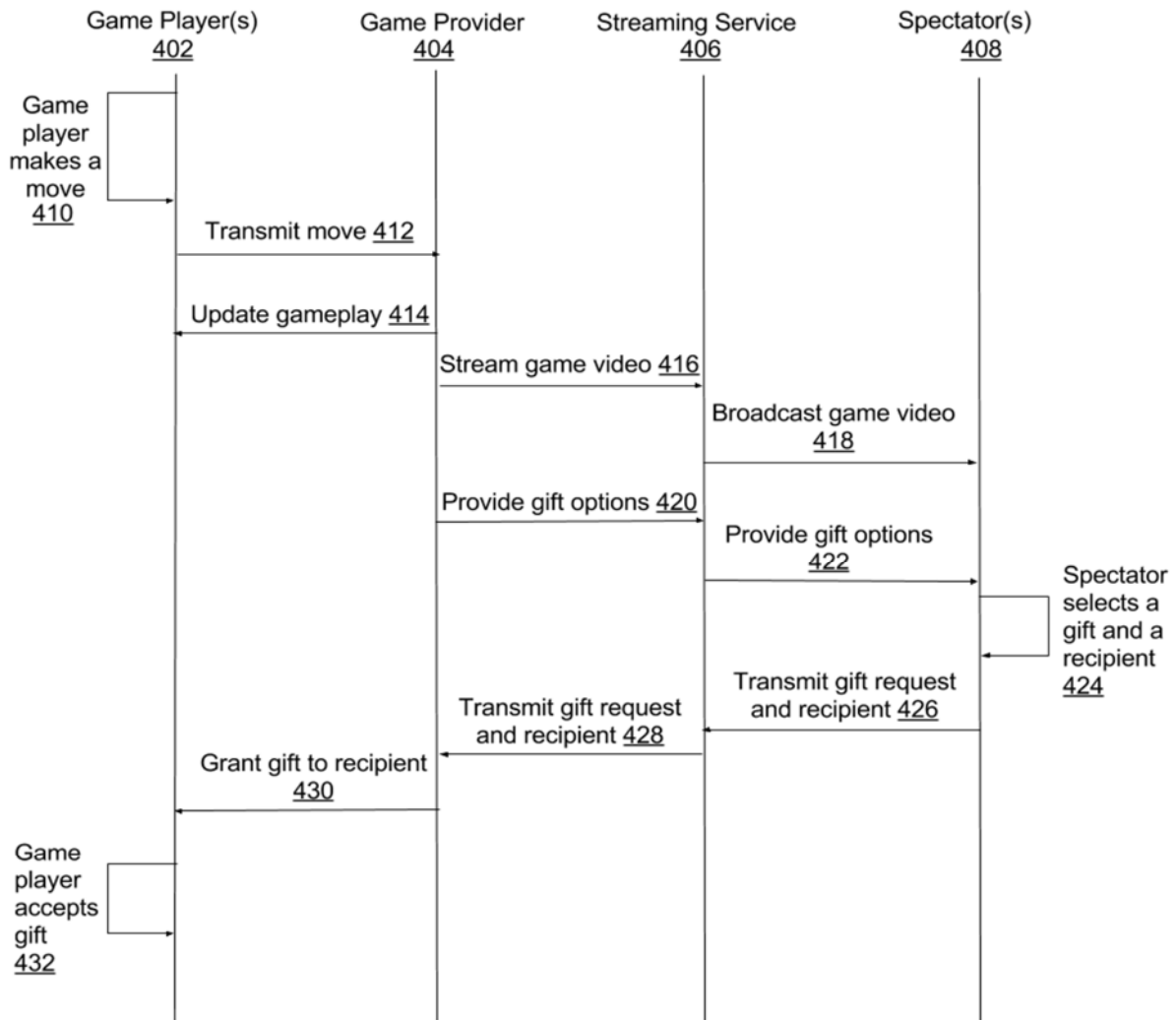


Fig. 4

Fig. 4 shows example communications interchanged between game players (402), game provider (404), streaming service (406), and spectators (408). At first, a game player makes a move (410), e.g., in the car-racing game, King Racer turns her steering wheel. The game player's

latest move is transmitted (412) to the game provider. The game provider updates gameplay (414) at each game player's console based on the received moves. The game provider also streams the game video (416) to the streaming service. In some implementations, the game provider and the streaming service are the same entity. The streaming service broadcasts the game video (418) to the spectator.

The game provider provides gift options (420) to the streaming service, which in turn provides the gift options (422) to the spectator. For example, provision of gift options can be implemented as an application programming interface (API) that enables game features related to game resources to be made available to spectators through the streaming service. The spectator selects a gift and recipient (424) and transmits her gift request to the streaming service (426). The streaming service transmits the gift request to the game provider (428). The game provider sends the gift (430) to the recipient game player. The recipient accepts the gift (432) and can utilize it during gameplay.

Gifts from spectators can enable the game player to enhance her position in the game. Further, spectators can influence gameplay by selecting different gifts and game players to send the gifts to, providing them with an element of interactivity and indirect participation in the gameplay. The publicly visible nature of gift giving incentivizes spectators to give gifts, which deepens spectator involvement in a game. The game player is motivated to engage more deeply with her audience. Deeper audience and game player involvement encourages both to consistently come back to the game. Revenue opportunities can open up for the streaming service and the game provider, e.g., from gifts sold. The revenue can be shared with popular game players.

CONCLUSION

The techniques described in this disclosure enable a spectator of an online game to transmit gifts to participants of the game. By doing so, spectators engage more deeply with the game and are given a chance to affect its outcome. This allows the online audience to become more involved with the game, watch more content, and consistently come back to the gaming-and-viewing platform. The techniques of this disclosure also allow a game player to engage more deeply with her audience, by providing him with the motivation and tools to become more popular or entertaining. Rather than gameplay being merely a solo or limited multiplayer effort, the strength of a player can derive at least partially from the size or skill of her following.