This article I chose, *Mobile Phone-based Mixed Reality: The Snap2Play Game*, deals with a phone-based game that Tat-Jun Chin et al created called Snap2Play. This game is done with the hope that a game could be created that combines the physical world with the virtual. With this in mind, Chin et al used the phone's camera and a GPS sensor (now built into most, if not all, cellular phones). This game is a good example of how with advances in technology video games can be integrated into more of a interactive medium.

Snap2Play is a game which can be played by a single player or with multiple players. If there are multiple players, they can choose to help one another or to compete against one another. The game is played until a player reaches certain score, or until they decide they want to finish.

Snap2Play uses a cellular phone to give a player a destination where a “virtual card” can be found. This card is an image of a location near the player which is laid over the phone's camera image. The player then navigates to the location of the image and takes a picture. This picture is sent to a central server which compares the image to that of several images taken of the same location by a team ahead of time. If the images are determined to be of the same real-world object or place, this image is added to the server (if needed) so that future players' images can have a larger pool to compare to. If it is the same object or place, the player also “scores” in the game.

To do the comparison, Chin et al used a method of image comparison called SIFT. SIFT, as described in the reference *Distinctive Image Features from Scale-Invariant Key-Points*, uses a set of key-points from an image to determine if another image is of the same object. If both images contain a given amount of same key-points in a congruent formation. This allows for images to be more tightly zoomed in or out, or be tilted. It also allows for the objects to be partially obscured as not every key-point must be present in both images.

Snap2Play is considered by its makers to be a success. They are pleased with how it allows for the real and virtual to be combined with the camera. By having multiple ways for the player to use it, the game can also be used to see popular tourist attractions or to get exerciser while playing a game.