# Assignment 4 – An AR Application: Project report

## Current Trends in Gaming 2022

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**Unity assets:** The AR game utilizes Unity assets such as the Galaxy Umbrella developed for assignment 3, a wizard, and a lobster simulating a bullet. Some particles, such as the explosion and fire, are Unity assets. It is present throughout the game as an asset used by the player in order to shoot enemies. The wizards also shoot projectiles which are bullets.

**Player interaction:** Player interaction is achieved through the use of touch input, allowing the player to open and close the umbrella with one tap, and double tap to attack enemies. The umbrella can only be used for attack if it is folded. However, if the umbrella is opened it can be used as a shield against enemies attacks. This allows for a simple and intuitive control scheme for the player to engage with the game.

**Anchors:** Enemies are anchored to random points (far enough from the player) on the planes detected with the camera, providing a dynamic and unpredictable gameplay experience. This also allows for the game to take place within the player's real-world environment, adding to the immersion of the AR experience.

**Image tracking:** By going to a picture with an hourglass, the enemies bullets slow down for 10 seconds, and the screen becomes gray-ish. Image tracking is therefore utilized as a power up tool. This is called the super-lobster mode, and shown by a floating lobster on the image.

**Ray casting:** Raycasting is used to detect when an enemy is hit, allowing for accurate and responsive enemy destruction when the player attacks.