

# Room AR Game

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This project is an augmented reality game, which has 3 levels. In the beginning of the game, it detects the planes and asks user to put the room on a detected plane. After creating the room the game will start. The user can go inside the room and do the instructions which are given by a butterfly. The story of the game is about the monsters who want to attack the room and come inside the room from the real world. After killing them the user earns coins and can buy furniture for the room.

The game is consisted of many scripts and functions. In the following are described some of the scripts which are used in this project:

- ***AR Scripts:***

***ARSessionOrigin:*** An ARSessionOrigin is the parent for an AR setup. It contains a Camera and any GameObjects created from detected features, such as planes or point clouds.

***ARRaycastManager:*** Manages an XRRaycastSubsystem, exposing raycast functionality in ARFoundation.

***ARSession:*** Controls the lifecycle and configuration options for an AR session

***ARInputManager:*** Manages the lifetime of the XRInputSubsystem

***ARPlaneManager:*** Creates, updates, and removes GameObjects with ARPlane components under the ARSessionOrigin's trackablesParent.

- ***Canvas Scripts:***

Canvas scripts control the buttons and texts and... of each script. Every canvas has its own canvas script. Canvas scripts play an important role in this game.

- ***Other Scripts:***

***PlacementManager:*** Puts the room where the user taps, if the ray from the center of the screen hits a detected plane.

***GameData:*** Contains variables of the game which are used by other scripts.

***QRButtons:*** Contains functions for restart and quit buttons.

***ShootScript:*** Kills the monster and produces smoke, if the ray from the center of the screen hits the monster.

***Blink:*** This script is for blinking texts.

***RoomCollider:*** The user's health decrease, if the user can't kill the monster and it hits the room.

***SpawnMonster:*** Creates new monsters randomly from different locations.

***ScoreBoard:*** Shows the number of earned coins.

***HealthBoard:*** Shows the user's health level.

***TimeBoard:*** Shows the remained time.

***PlayerNear:*** Detects if the player is near the butterfly or not.

***DoorControl:*** Opens and closes the door.

***DoorNear:*** Detects if the user is near the door or not.

***Rotation:*** Rotates the small furniture in the menu to have a better look.