Parrot AR.Drone

When video games become reality

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Games with AR.Drone

The Parrot AR.Drone project is a proposal to extend the field of gaming. To the game console and game software we introduce a new element: A robot controlled by the player connected to the console via streaming video.

This device allows the exploration of a new field of possibilities in video games: The augmented reality.

That's what we want to engage with game developers.

Putting the real in the game and put the game in the real

Our slogan is "When videogame Became Reality". Our ambition is to merge the videogame and reality in two ways: The reality influence the game and the videogame influence the reality .... For example, linking characteristics of the real in the game using the target recognition by the computer of the AR. Drone and hanging element and behaviors of these virtual targets ... And symmetrically uses features of the game in the real to change the behavior of the flight of the AR. Drone when it receives a direct hit from a virtual enemies ...

The useful features of AR. Drone for gaming

Use the camera and the inertial of the UAV

The AR.Drone has a video camera and an inertial. It is used to maintain the UAV in flight and is very interesting for video games. It can track the position and orientation of the camera of the UAV in the 3D space. The game space and real space must be the same. We transmit all the characteristics of UAV in real: Distances are in meters, time in seconds, the speed of the UAV in meters per second ... The inertial platform allows to integrate the UAV in a virtual game. You can create games using the real position of the camera as the virtual camera for the 3D scenes of your game.

The recognition of tags and beacons

The AR. Drone recognizes tags 2D and 3D beacons, use them in your scenarios. 2D tags can be found in greater numbers in the same scene, you can use them on UAVs in flight or in the ground. The beacons are used to define 3D positioning between the UAV. Use the beacon when you want to turn around an object and define a more complete interaction.

Use the real scene

Leave plenty of room for real scene. To play the pilot fly in a real scene, avoiding to hit the ground and the obstacles. In a game against another AR.Drone the player can hide behind a tree, behind a car, it can also use the wind to get into a situation conducive to attack. As we read in the tales of fighter pilots can also hide in the sun and enjoy the glare of cameras opponent.

Change the flight characteristics of the AR. Drone

The AR. Drone is capable of preprogrammed maneuvers. Most important are the takeoff and landing, and the passage in stationary flight. There are also special effects when the drone is hit by a projectile, it can simulate a hit. You can change the behavior of the drone by playing on the control parameters, make it slower or make it faster when the pilot acquires bonus. You can also add a bias in order to eg simulate wind gusts.

Highlight the qualities of the pilot

Taking control of the AR.Drone is very simple the UAV is stabilized by its autopilot. More you pilot the AR.Drone more you can make progresses . The flight controls can be anything or nothing. It also can be proportional controls. A good pilot using proportional controls and settings for which limits the role of automation allows to perform very complex maneuvers.

Single player Games at one player

Robot : Our single player demo

One type of game is to fly the AR.Ddrone and in front of virtual enemies. The playable demo "Robots" is an example of the type of game that can be obtained. On this principle one can imagine games becoming more complex.

Save private Ryan

For example, a pilot is crashed in Vietnam ... It is surrounded by enemies ... You pilot an helicopter, which must first pass the defenses of the enemy, and then retrieve the soldier.

Blue Angels

You're part of an aerobatics. You follow your leader in maneuvers increasingly sophisticated.

Air crash

You should land on the Beacon. Unfortunately, failures occur, your UAV begins to turn on itself ... You have to fly the AR.Drone who becomes increasingly heavy flying.

Combining these methods

Sequences of games can be combined into a full script. You leave with a wing to rescue a pilot fallen behind enemy lines. Along the way you are attacked by enemies' planes ... Then you must pass through air defenses... Then land and get the fallen pilot into your UAV... Take off under enemy fire...

Back to your base with your helicopter that flies from bad to worse.. You must land on a runway littered on the roof of the hospital with prevailing wind.

Single player or multiplayer Games at one player or more

Races

As the famous Red Bull Air Races or the Reno air races you can create circuits with 2D tags for AR.Drone races. You can check with the vertical camera that we have flight over the tag. One can also verify that the altitude of transition from the tag is correct.

Replay

You can use the iPhone as a chronometer, and record data from the inertial to perform "replay" in 3D

Predefined circuits

One can also imagine standardized circuits on which players can compare their best times.

Network Games in network

Wifi network of several UAV

The most promising innovation is to create ad hoc wireless networks between two drones and two consoles to power for the first time play against each other with real gear.

Dog fights

As the ace of 14-18 with their SPAD, Fokker you compete between pilots. The recognition of tags will validate the registration of shooting like the camera on fighters aircraft.

Chose your plane

By configuring the flight parameters of the AR.Drone you can provide variation between gear types. Some may be faster. Other more heavily armed and more maneuverable.

Become a flying ace

Over the victories become a flying ace. Save your success enter the hierarchy of exceptional pilots as as Georges Guynemer, Manfred von Richthofen and Edward Mannock

Support from Parrot

Use the forum

Parrot can help you for your developments. Please if you have questions send us a post.

Help us to fix bugs quickely

If you find a bug we thank you for the report. Save the flight data so that we can reproduce the bug and promptly correct the AR.Drone software

Specific tags

If your development requires a special function, such as the recognition of a special tag. Send us a brief description of your game and describe the shape you want to recognize. We can integrate it on the AR.Drone software if possible.

Special maneuvers

You may also need special tricks in flight or special programming of the autopilot of the AR. Drone. Feel free to ask.