What is Augmented Reality, anyway?

Concepts

Since the inception of popular technology, either in science fiction or reality, a number of trends in the interaction between the human and the machine have evolved.

To tackle this process two concepts must be introduced:

Presence *and*

Shared reality

We will arrive to show that all sorts of new realities are variations of these parameters.

Robots

Perhaps the first relationship between humans and technology, if not in reality at least in SF, was the one between humans and robots.

This is the reality of the great Science Fiction writers of old like *Isaac Asimov*. In that case we may see how the human and the machine share what is our reality; simply the robot simulates the human, trying to reproduce its actions so to alleviate his efforts. The little children of those characters are of course the many cleaning robots or lawn-mowers by now part of the life of many of us. But we want to repeat nothing new is added: our presence is quite standard and the robot needs to share our reality... lest it breaks something!!

PARC

At the famous [Xerox laboratories of Palo Alto](#) there came the first attack to the unity of reality. Of course, even before windows and mouses, a user could pretend to be living in a terminal for some hours as an alternative to be living in her college - and many did it! , but we must admit the prothesis for the desktop and for the hand produced a much more forceful shake to our belief in a single reference world.
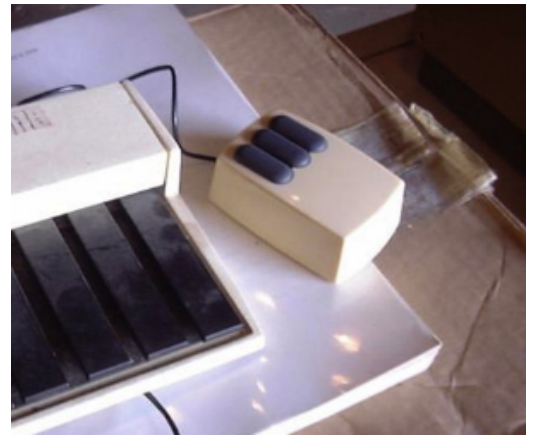
Artificial Intelligence and...

Later came two big bubbles, curiously at the opposite side of the picture: *Artificial Intelligence* and *Virtual Reality.*
By Artificial Reality we mean that process including so disparate technologies as *Speech Recognition*, *Expert Systems*, *Logic Programming,* and so on. All efforts that did not diverge much from what we have just mentioned: the robot life. It is quite evident the evanescent target of AI scientists is again to replicate the human: this time not so much for what regards its physical behavior, but rather his mental processes. So it is an intrinsically limited research: we know where we want to arrive, even if we do not know how to do it. I am sorry to say that this path did not produce offsprings as evolved as those in the robot lineage.

Virtual Reality

Quite at the same time another bubble exploded: [Virtual Reality](#).

Here however we totally change the picture. It is no longer the machine to adopt the human reality, but is it the reverse. By means of expensive googles and [Silicon Graphics](#) monitors and a lot of [VRML](#) modeling, a user could move in a real or imagined environment without moving from her chair, but adopting a suspension of disbelief of her real position.Abbastanza al tempo stesso un'altra bolla è esplosa: la [Realtà Virtuale](#).

The web
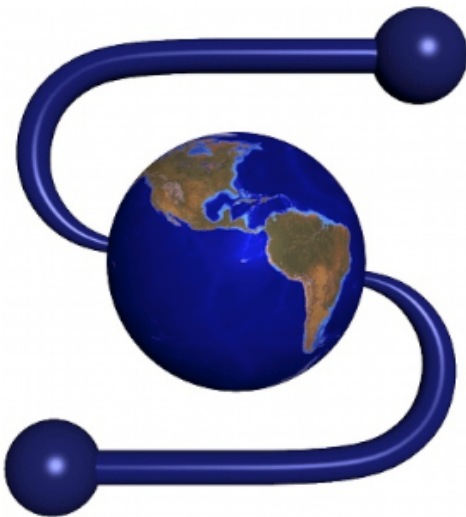
The technology was promising but the cost too high and at the same time a much duller but extremely more efficient technology came to the fore: the *web* and all, but those at [*Linden Lab*](#), were distracted. We must notice anyway that the web shares the same nature as VRML, by changing the position and shared reality of users. At the time people talked of having a [web site](#) in the same way as today people talk about Facebook.

Second Life

Virtual Reality, or a sort thereof, resurfaced not long ago in the bang bang of Second Life: at a certain time imagined as a gold mine for both its developers and inhabitants.

Of course it could not last long: when you sell something that is not limited it is obvious that the price very quickly will go to 0 and there is nothing less limited that the server memory allowances and the egos of dwellers. The end result everyone knows is that there was too much place for the people in the environment and all inhabitants ended up living in a deserted environment, what became more striking when people started to leave but left behind their creations.

The Social Networks and Facebook

And again a duller, but more efficient technology emerged: the Social Networks and finally Facebook.

We should note that those devices intrinsically change the position the user has and especially the shared reality of the community of users: perhaps what Second Life wanted unsuccessfully to do. At this time people, especially younger ones, define themselves by their Facebook profile and the number of "friends" as much as by their family, school or school mates.

Applicazioni per iPhone e smart-phone, e la Realtà Aumentata

When everything seemed settles, there came such devices like the [iPhone](#) that started to offer the possibility, and computation power, to mix reality with artifacts. We are here talking of [Augmented Reality](#), the buzzword of our times. The strategic technologies that enabled this development are the positioning, again!, of the device in terms of coordinates and heading, and the camera.

Mixed Realities and...

The most careful readers could note how those features ring a bell regarding the presence and shared reality we mentioned at the beginning. Still now it is neither the human to adapt to the reality of the machine, nor the machine to adapt to the world of the human but rather it is the realities themselves to be intertwingled: both the human and the machine share a reality that is properly neither real nor artificial, but a mixture thereof.

To say the truth, the artificial part that is populating augmented reality is, at the present time, extremely rough. We do not see, as yet, independent artificial entities populating our augmented realities!

Their inhabitants

Quite curiously, though, there emerged objects that are themselves part virtual, part real like the AR.Drone, a small copter that is driven by means of an iPhone and may take part to games just showing on the iPhone!, or the remarkable *Kinect* device that, by extending the *controller*, not just a hand but the full body, mix the worlds in its own way.

Anyone by now should see how the *Kinect* and the *AR.Drone* propose the same antinomy as artificial intelligence and virtual reality, or Second Life and Facebook, or television and car or much much other.