An idea for having an additional camera, a downward facing camera, on a mobile device so as to use items located at ground level to trigger augmented reality effects.

William J. G. Overington

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This paper puts forward an idea that could potentially be of use in some augmented reality systems.

The idea is that in addition to the forward facing camera in a mobile device that there could also be a downward facing camera in the mobile device.

The reason for this is that a person could view the screen with the screen being in a vertical plane, with the real environment image being gathered from the forward facing camera, whilst simultaneously the downward facing camera could be reading QR codes or the like that are in the horizontal ground level plane of the real environment.

The idea arose in that I was thinking about how an augmented reality bronze sculpture could be implemented at a location, such as a flat area in a public square. I thought that a number of QR codes set out along the circumference of a circle could each be used to trigger a view of the augmented reality bronze sculpture, data being obtained in response to the trigger, either from a local application or over the internet. I thought of the possibility that the QR codes could, for such a public art application, be made of bronze and be of small paving stone size so that the circumference of the circle could be implemented as a sequence of groups each of a number of small paving stones and then a small paving stone size bronze QR code. How many QR codes would be along the circumference of the circle would depend upon the situation, but I am thinking of something like eighteen QR codes so that there would be a QR code every twenty degrees around the circle. The size of the circle would depend upon the space available for the piece of public art: I am thinking of something like around ten metres in diameter.

There could potentially be various other applications for use of such an additional downward facing camera in augmented reality applications, such as perhaps for direction signs for museums and art galleries.

It is possible that two additional cameras, each capable of being used as a downward facing camera, could be desirable in those mobile devices with which a person could view the screen with the screen being in a vertical plane with the person being able to choose to have the screen in either a portrait orientation or in a landscape orientation.

The idea arose as part of thinking about a possible way to produce an augmented reality work of art. I do not know if the idea of an additional camera, a downward facing camera, on a mobile device is original, yet I thought it worth producing this paper in case the idea is original and could be of use.