ARTag's as Interaction Devices

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Augmented Reality Tags (ARTags) are a Fiduccial marker system that allow robust tag location in a 3D space. These tags have typically been used to enable augmented reality systems to locate graphical augmentations in the appropriate location. In this poster we discuss their use as an input device. Two forms of interaction are described: application specific interaction using low quality cameras and more generic interaction using higher quality cameras. In the former an ARTag is used to control a PowerPoint presentation running on a Tablet PC. Simple gestures are used to move the presentation forwards and backwards and were captured using the Tablet's built in camera. In the latter case gestures are used to control the cursor in a large screen display. The gestures are captured using a Point Grey Firefly camera. Three sets of gestures were designed and an evaluation was undertaken to determine which was the most effective. The results showed that the participants found absolute positioning easiest but this may not be the most effective approach in a collaborative setting. In such cases, relative positioning – which uses mouse like movement – would probably be the most appropriate approach. The benefit of using ARTags as an input device include: simple – albeit low security – authentication; ease of use and low cost. We envisage ARTags being used in scenarios where multiple users may want to interact with a public display – either collaboratively or individually - where recognising the user's identity is beneficial.