

OILU Tag: A Projective Invariant Fiducial System

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Abstract : This paper presents the development of a 2D visual marker, derived from a recent patented work in the field of numbering systems. The proposed fiducial uses a group of projective invariant straight-line patterns, easily detectable and remotely recognizable. Based on an efficient data coding scheme, the developed marker enables producing a large panel of unique real time identifiers with highly distinguishable patterns. The proposed marker Incorporates simultaneously decimal and binary information, making it readable by both humans and machines. This important feature opens up new opportunities for the development of efficient visual human-machine communication and monitoring protocols. Extensive experiment tests validate the robustness of the marker against acquisition and geometric distortions.

Keywords : visual markers, projective invariants, distance map, level sets

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