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**United States Patent**

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(12) **United States Patent**  
**Angelucci et al.**

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(54) **HIGH-DENSITY TWO-DIMENSIONAL GRAPHIC CODE, AND CODING SYSTEM AND DECODING SYSTEM BASED ON SAID CODE**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 42 days.

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See application file for complete search history.

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(57) **ABSTRACT**

A two-dimensional graphic code includes a plurality of characters printed on a medium, arranged so that they are contiguous to one another and organized in a primary reading direction and a secondary reading direction. Each character is defined by a respective matrix of dots having selectively one between a high brightness level and a low brightness level and includes a respective usable submatrix and a respective separation region. The usable submatrix includes at least two contiguous dots both having the low brightness level, and the separation region is configured so as to outline the respective usable submatrix all along two adjacent sides.

**8 Claims, 3 Drawing Sheets**