

CLAIMS

1. An optically readable tag comprising;
a border region having an indicative outline shape; and
an encoding region, defined by the border region, the encoding region comprising a plurality of encoding shape objects, wherein data is encoded by relative sizes of the encoding shape objects, wherein data encoded on the optically readable tag is decoded based on determined relative sizes of the encoding shape objects.
2. An optically readable tag according to claim 1, wherein the border region comprises the indicative outline shape against a contrasting background.
3. An optically readable tag according to claim 1, wherein the border region encloses the encoding region.
4. An optically readable tag according to claim 1, wherein the encoding shape objects are circular objects.
5. An optically readable tag according to claim 1, wherein the data is encoded as binary data and the encoding shape objects have either a first size or a second size.
6. An optically readable tag according to claim 1, wherein the data is encoded as ternary data and the encoding shape objects have either a first size, a second size or a third size.
7. An optically readable tag according to claim 1, wherein the plurality of encoding shape objects comprises a reference marker and data is encoded by the sizes of the encoding shape objects relative to the reference marker.
8. An optically readable tag according to claim 7, wherein the reference marker indicates a start point of an encoding sequence of the encoding shape objects.
9. A method of decoding data encoded on an optically readable tag, the method comprising:

receiving an image of a scene comprising at least one optically readable tag;
identifying contours in the image;
detecting a border region having an indicative outline shape;
determining relative sizes of encoding shape objects within an encoding region defined by the border region; and
decoding data encoded on the optically readable tag from the relative sizes of the encoding shape objects.

10. A method according to claim 9, wherein detecting a border region comprises detecting the indicative outline shape.

11. A method according to claim 10, further comprising determining that a candidate region corresponding to the border region is an optically readable tag by determining a number of encoding shape objects within the encoding region and comparing the number of encoding shape objects with an expected number of encoding shape objects in an optically readable tag.

12. A method according to claim 9, wherein detecting a border region comprises identifying vertices of a border region having the indicative outline shape.

13. A method according to claim 9, wherein determining the relative sizes of the encoding shape objects comprises identifying a reference shape object and comparing the sizes of the encoding shape objects with the size of the reference shape object.

14. A computer readable medium carrying computer executable instructions which when executed on a processor cause the processor to carry out a method according to claim 9.

15. A system for decoding an optically readable tag, the system comprising a processor and a storage device, the storage device storing computer program instructions for causing the processor to:

receive an image of a scene comprising at least one optically readable tag;
identify contours in the image;

detect a border region having an indicative outline shape;
determine relative sizes of encoding shape objects within an encoding region defined by the border region; and
decode data encoded on the optically readable tag from the relative sizes of the encoding shape objects.

16. A system according to claim 15, the storage device further storing computer program instructions for causing the processor to detect a border region by identifying a region having the indicative outline shape.

17. A system according to claim 16, the storage device further storing computer program instructions for causing the processor to determine that a candidate region corresponding to the border region is an optically readable tag.

18. A system according to claim 17, wherein the storage device further stores instructions executable by the processor to determine that the candidate region is an optically readable tag by determining a number of encoding shape objects within the encoding region and comparing the number of encoding shape objects with an expected number of encoding shape objects in an optically readable tag.

19. A system according to claim 15, the storage device further storing computer program instructions for causing the processor to detect a border region by identifying vertices of a border region having the indicative outline shape.

20. A system according to claim 19, wherein the storage device further stores instructions executable by the processor to determine the relative sizes of the encoding shape objects by identifying a reference shape object and comparing the sizes of the encoding shape objects with the size of the reference shape object.