CLAIMS

1. A method comprising:
   - obtaining an occupancy information indicating if blocks of a 2D regular grid defined over a projection plane are associated with depth information of an orthogonal projection of at least one point of a point cloud onto said projection plane;
   - embedding said occupancy information in an image storing said depth information; and
   - encoding said image.

2. A device comprising means for:
   - obtaining an occupancy information indicating if blocks of a 2D regular grid defined over a projection plane are associated with depth information resulting of an orthogonal projection of at least one point of a point cloud onto said projection plane;
   - embedding said occupancy information in an image storing said depth information; and
   - encoding said image.

3. The method of claim 1 or the device of claim 2, wherein embedding said occupancy information in an image storing said depth information comprises shifting the depth information to be stored.

4. The method or the device of claim 3, wherein the method further comprises transmitting information to indicate that the depth information has been shifted.

5. The method or the device of claim 3, wherein said image storing depth information of points of the point cloud having the smallest distances from the projection plane.

6. The method or the device of claim 3, wherein said image storing depth information of points of the point cloud having the largest distances from the projection plane.

7. The method or the device of claim 3, wherein said image storing depth information representative of the difference between depth information of points of the point cloud having the largest distances from the projection plane and depth information of points of the point cloud having the smallest distances from the projection plane.

8. A method comprising:

- decoding an image storing depth information of an orthogonal projection of at least one point of a point cloud onto a projection plane;
- deriving an occupancy information from the decoded image, said occupancy information indicating if blocks of a 2D regular grid defined over said projection plane are associated with said decoded depth information.

9. A device comprising means for:

- decoding an image storing depth information of an orthogonal projection of at least one point of a point cloud onto a projection plane; and
- deriving and occupancy information from the decoded image, said occupancy information indicating if blocks of a 2D regular grid defined over said projection plane are associated with said decoded depth information.

10. The method of claim 8 or the device of claim 9, wherein said depth information comprises a codeword concatenating bits indicating for positions between a minimum depth and a maximum depth, along a projection line according to which said at least one point is projected onto said projection plane, whether or not the position is occupied.

11. The method of claim 8 or 10 or the device of claim 9 or 10, wherein the method further comprises a step of or the device further comprises means for receiving an information indicating if the depth information has to be shifted, and shifting the decoded depth information according to said received information.

12. A signal carrying a bitstream comprising depth information of an orthogonal projection of at least one point of a point cloud onto a projection plane, said depth information embedding an occupancy information indicating if blocks of a 2D regular grid defined over said projection plane are associated with said depth information.

13. The signal of claim 12, wherein said depth information comprises a codeword concatenating bits indicating for positions between a minimum depth and a maximum depth, along a projection line according to which said at least one point is projected onto said projection plane, whether or not the position is occupied.

14. A non-transitory processor-readable medium including instructions for causing one or more processors to perform the method of any one of claims 1, 3-8 or 10-11.

15. A non-transitory computer-readable medium comprising depth information of an orthogonal projection of at least one point of a point cloud onto a projection plane, said depth information embedding an occupancy information indicating if blocks of a 2D regular grid defined over said projection plane are associated with said depth information.