

CLAIMS

1. A method by a coder for building a motion vector list for motion vector prediction, wherein a current coding unit is partitioned into a first prediction block and a second prediction block, on left and right sides, and the current prediction block is the second prediction block on the right side, and the spatial neighboring blocks of the current prediction block comprise: a spatial neighboring block (A0) located at a bottom-left side of the current prediction block, a spatial neighboring block (A1) located at a left side of the current prediction block, a spatial neighboring block (B0) at a top-right side of the current prediction block, a spatial neighboring block (B1) at a top side of the current prediction block, and a spatial neighboring block (B2) at a top-left side of the current prediction block, wherein the spatial neighboring block (A1) is located inside the current coding unit and the method comprising:
 - a. adding a motion vector of the spatial neighboring block (B1) to the motion vector list when the spatial neighboring block (B1) is available;
 - b. adding the motion vector of the spatial neighboring block (B0) to the motion vector list when the spatial neighboring block (B0) is available and the motion vector of the spatial neighboring block (B0) is different from the motion vector of the spatial neighboring block (B1);
 - c. adding a motion vector of the spatial neighboring block (A0) to the motion vector list when the spatial neighboring block (A0) is available;
 - d. adding the motion vector of the spatial neighboring block (B2) to the motion vector list when the spatial neighboring block (B2) is available and the motion vector of the spatial neighboring block (B2) is different from the motion vector of the spatial neighboring block (B1);
 - e. adding a TMVP to the motion vector list when the TMVP is available; andwherein the current prediction block is predicated using the motion vector list.
2. An apparatus for building a motion vector list for motion vector prediction, wherein a current coding unit is partitioned into a first prediction block and a second prediction block, on left and right sides, and the current prediction block is the second prediction block on the right side, and the spatial neighboring blocks of the current prediction block comprise: a spatial neighboring block (A0) located at a bottom-left side of the prediction block, a spatial neighboring block (A1) located at a left side of the prediction block, a spatial neighboring block (B0) at a top-right side of

the prediction block, a spatial neighboring block (B1) at a top side of the prediction block, and a spatial neighboring block (B2) at a top-left side of the prediction block, wherein the spatial neighboring block (A1) is located inside the current coding unit and the apparatus comprises: a memory storage comprising instructions; and a processor in communication with the memory, wherein the processor execute the instructions to:

- a. add a motion vector of the spatial neighboring block (B1) to the motion vector list when the spatial neighboring block (B1) is available;
 - b. add the motion vector of the spatial neighboring block (B0) to the motion vector list when the spatial neighboring block (B0) is available and the motion vector of the spatial neighboring block (B0) is different from the motion vector of the spatial neighboring block (B1);
 - c. add motion vector of the spatial neighboring block (A0) to the motion vector list when the spatial neighboring block (A0) is available;
 - d. add the motion vector of the spatial neighboring block (B2) to the motion vector list when the spatial neighboring block (B2) is available and the motion vector of the spatial neighboring block (B2) is different from the motion vector of the spatial neighboring block (B1);
 - e. add a TMVP to the motion vector list when the TMVP is available; and
- wherein the current prediction block is predicated using the motion vector list.

3. A method by a coder for building a motion vector list for motion vector prediction, wherein a current coding unit is partitioned into a first prediction block and a second prediction block, on top and bottom sides, and the current prediction block is the second prediction block on the bottom side, and the spatial neighboring blocks of the current prediction block comprise: a spatial neighboring block (A0) located at a bottom-left side of the current prediction block, a spatial neighboring block (A1) located at a left side of the current prediction block, a spatial neighboring block (B0) at a top-right side of the current prediction block, a spatial neighboring block (B1) at a top side of the current prediction block, and a spatial neighboring block (B2) at a top-left side of the current prediction block, wherein the spatial neighboring block (B1) is located inside the current coding unit and the method comprising:

- a. adding a motion vector of the spatial neighboring block (A1) to the motion vector list when the spatial neighboring block (A1) is available;

b. adding the motion vector of the spatial neighboring block (B0) to the motion vector list when the spatial neighboring block (B0) is available;

c. adding the motion vector of the spatial neighboring block (A0) to the motion vector list when the spatial neighboring block (A0) is available and the motion vector of the spatial neighboring block (A0) is different from the motion vector of the spatial neighboring block (A1); and

d. adding the motion vector of the spatial neighboring block (B2) to the motion vector list when the spatial neighboring block (B2) is available and the motion vector of the spatial neighboring block (B2) is different from the motion vector of the spatial neighboring block (A1);

e. adding a TMVP to the motion vector list when the TMVP is available; and
wherein the current prediction block is predicated using the motion vector list.

4. An apparatus for building a motion vector list for motion vector prediction, wherein a current coding unit is partitioned into a first prediction block and a second prediction block, on top and bottom sides, and the current prediction block is the second prediction block on the bottom side, and the spatial neighboring blocks of the current prediction block comprise: a spatial neighboring block (A0) located at a bottom-left side of the current prediction block, a spatial neighboring block (A1) located at a left side of the current prediction block, a spatial neighboring block (B0) at a top-right side of the current prediction block, a spatial neighboring block (B1) at a top side of the current prediction block, and a spatial neighboring block (B2) at a top-left side of the current prediction block, wherein the spatial neighboring block (B1) is located inside the current coding unit and the apparatus comprises: a memory storage comprising instructions, and a processor in communication with the memory, wherein the processor execute the instructions to:

a. add a motion vector of the spatial neighboring block (A1) to the motion vector list when the spatial neighboring block (A1) is available;

b. add the motion vector of the spatial neighboring block (B0) to the motion vector list when the spatial neighboring block (B0) is available;

c. add the motion vector of the spatial neighboring block (A0) to the motion vector list when the spatial neighboring block (A0) is available and the motion vector of the spatial neighboring block (A0) is different from the motion vector of the spatial neighboring block (A1);

- d. add the motion vector of the spatial neighboring block (B2) to the motion vector list when the spatial neighboring block (B2) is available and the motion vector of the spatial neighboring block (B2) is different from the motion vector of the spatial neighboring block (A1);
- e. add a TMVP to the motion vector list when the TMVP is available; and
wherein the current prediction block is predicated using the motion vector list.