[0030] FIG. 10E is a conceptual diagram that illustrates an example reference index source location to the left of an NxN partitioned CU.

FIG. 10F is a conceptual diagram that illustrates an example reference index source location to above of an NxN partitioned CU.

[0031] FIG. 11 is a flowchart that illustrates an example operation to generate a temporal candidate for a PU.

[0032] FIG. 12 is a flowchart that illustrates a first example operation to generate a candidate list for a PU.

[0033] FIG. 13 is a flowchart that illustrates a second example operation to generate a candidate list for a PU.

[0034] FIG. 14A is a conceptual diagram that illustrates an example spatial candidate source locations associated with a left PU of an example Nx2N partitioned CU.

[0035] FIG. 14B is a conceptual diagram that illustrates example spatial candidate source locations associated with a lower PU of a 2NxN partitioned CU.

[0036] FIGS. 15A-15D are conceptual diagrams that illustrate example spatial candidate source locations associated with PUs of an NxN partitioned CU.

DETAILED DESCRIPTION

[0037] A video encoder may perform inter prediction to reduce temporal redundancy between pictures. As described below, a coding unit (CU) may have a plurality of prediction units (PUs). In other words, a plurality of PUs may belong to the CU. When the video encoder performs inter prediction, the video encoder may signal motion information for the PUs. The motion information of a PU may include a reference picture index, a motion vector, and a prediction direction indicator. The motion vector may indicate a displacement between a video block of the PU and a reference block of the PU. The reference block of the PU may be a portion of the reference picture that is similar to the video block of the PU. The reference block may be in a reference picture indicated by the reference picture index and the prediction direction indicator.

[0038] To reduce the number of bits required to represent the motion information of the PUs, the video encoder may generate candidate lists for each of the PUs according to a merge mode or an advanced motion vector prediction (AMVP) process. Each candidate in a candidate list for a PU may indicate motion information. The motion information indicated by some of the candidates in the candidate list may be based on the motion information of other PUs. For example, the candidate lists may include "original" candidates that indicate motion information of PUs that cover specified spatial or temporal candidate locations. Furthermore, in some examples, the candidate lists may

example reference index source location ~~to the left of~~above an NxN partitioned CU 600. CU 600 is partitioned into PUs 602, 604, 606, and 608.

[0196] FIGs. 10A-10F are similar to FIGs. 9A-9F in that the video coder may be configured to determine the relevant reference picture index for the current PU from a PU that covers a reference index source location associated with the current PU. However, unlike the examples of FIGs. 9A-9F, each PU of a CU is associated with the same reference index source location. In other words, the reference picture index for all PUs in the CU may be derived from a single neighbor block outside the CU.

[0197] For instance, in the example of FIG. 10A, both PU 502 and 504 are associated with a reference index source location 506 that is to the left of CU 500. In contrast, in the example of FIG. 9A, PU 302 and 304 are associated with reference index source locations 306 and 308. Similarly, in the example of FIG. 10D, both PU 562 and PU 564 are associated with a single reference index source location 566 that is above CU 560. In the example of FIG. 10E, PUs 582, 584, 586, and 588 are associated with a single reference index source location 590 that is located to the left of CU 580. In the example of FIG. 10F, PUs 602, 604, 606, and 608 are associated with a single reference index source location 610 that is located above CU 600.

[0198] In other examples, the video coder may determine the reference picture indexes of temporal candidates of each PU of a CU from any other PU that is spatially located outside the CU. For example, the video coder may determine the reference picture indexes of temporal candidates of each PU of a CU from a PU that is located to the left, located above, located above and left, located above and right, or located below and left of the CU. The use of a single or multiple source locations outside the current CU to code information inside the current CU may be applied to the current CU or blocks of other types or at different levels.

[0199] FIG. 11 is a flowchart that illustrates an example operation 700 to generate a temporal candidate for a PU. A video coder, such as video encoder 20 or video decoder 30, may perform operation 700. FIG. 11 is merely one example of an operation to generate a temporal candidate for a PU.

[0200] After the video coder starts operation 700, the video coder may determine whether a PU that covers the reference index source location associated with the current PU is available (702). This disclosure may refer to the PU that covers the reference index source location as the reference index source PU. The reference index source PU may be unavailable for various reasons. For example, the reference index source PU