

CLAIMS

1. An apparatus for determining a prediction of a current block, for reconstruction of the current block, the apparatus comprising:

a prediction unit configured to detect whether or not a motion vector of a block adjacent to the current block has been determined by template matching, and configured to:

- if detected negatively, derive prediction of the current block according to the adjacent block,
- if detected positively, not to derive prediction of the current block according to the adjacent block.

2. The apparatus according to claim 1, configured for determining a motion vector to determine inter-prediction of a current block, for reconstruction of the current block, the prediction unit comprising:

a motion vector candidate list determination unit configured to form a list of candidate motion vectors for the current block by:

- detecting whether or not a motion vector of an adjacent block has been determined by the template matching,
- if detected negatively, including the motion vector of the adjacent block as a candidate into the list,
- if detected positively, not including the motion vector of the adjacent block as a candidate into the list, and

a motion vector determination unit configured to select an estimate of a motion vector from the list and determining the motion vector of the current block according to the estimate.

3. The apparatus according to claim 2, wherein the motion vector candidate list determination unit is configured to, if detected positively, include a replacement motion vector as a candidate in the list.

4. The apparatus according to claim 3, wherein the replacement motion vector is a motion vector of a block neighbor to the current block and different from the adjacent block.
5. The apparatus according to claim 2 or 3, further comprising

a motion vector refinement unit configured to apply a refinement of the selected estimate of the motion vector,

the motion vector candidate list determination unit is configured to, if detected positively, include into the list an estimate of the motion vector of the adjacent block obtained by the template matching before applying the refinement,

the motion vector determination unit is further configured to determine the motion vector of the adjacent block according to the estimate of the motion vector of the adjacent block after the refinement.
6. The apparatus according to claim 5, wherein the motion vector candidate list determination unit is configured to form the list for the current block while the motion vector refinement unit applies refinement to the adjacent block.
7. The apparatus according to claim 5 or 6, wherein

the motion vector candidate list determination unit is configured to, if detected positively,
 - if the adjacent block is located in the same picture as the current block, include in the list an estimate of the motion vector of the adjacent block obtained by the template matching before applying the refinement, and
 - if the adjacent block is located in a picture other than the current block, include in the list the motion vector of the adjacent block after applying the refinement to the adjacent block.
8. The apparatus according to any of claims 2 to 7, wherein

the motion vector candidate list determination unit is further configured to check whether a motion vector to be included into the list is already included in the list, and not including it into the list if affirmative, and

said checking is not performed when including in the list a motion vector of an adjacent block to be processed at least partially in parallel with the processing of the current block.

9. The apparatus according to claim 1, for determining intra-prediction of a current block, for reconstruction of the current block, the prediction unit comprising:

a reference sample determination unit for determining a set of reference samples for the current block including:

- detecting whether or not a motion vector of an adjacent block has been determined by the template matching,
- if detected negatively, including one or more samples of the adjacent block into the set of reference samples,
- if detected positively, not including any samples of the adjacent block into the set of reference samples, wherein

an intra-prediction unit for providing the prediction of the current block according to samples from the set of reference samples.

10. The apparatus according to any of claims 1 to 9, wherein the prediction unit is configured to, for reconstruction of the current block:

detect whether or not a motion vector of a surrounding block, which is located within a predetermined rectangular region defined with respect to the position of the current block, has been determined by the template matching.

11. A video decoder for decoding a plurality of pictures from a bitstream, comprising:

a bitstream parser for parsing the bitstream including control information,

the apparatus according to any of claims 1 to 10, and

a reconstruction unit for reconstructing the current block based on the prediction of the current block.

12. A video encoder for encoding a plurality of pictures into a bitstream, comprising:

the apparatus according to any of claims 1 to 10,

a bitstream former for including into the bitstream control information,

a reconstruction unit for reconstructing the current block based on the prediction of the current block and storing the reconstructed block in a memory.

13. The video encoder or decoder according to claim 11 or 12, wherein the control information includes:

a flag indicating whether or not the prediction unit is to detect whether or not a motion vector of an adjacent block has been determined by the template matching, and/or.

a replacement indicator indicating, if detected positively, how the prediction for the present block is determined.

14. The video encoder or decoder according to claim 13, wherein the control information is included in a sequence parameter set and/or in a slice header.

15. A method for determining a prediction of a current block, comprising:

detecting whether or not a motion vector of an adjacent block has been determined by the template matching,

if detected negatively, deriving prediction of the current block according to the adjacent block,

if detected positively, not deriving prediction of the current block according to the adjacent block.