Amended Set of Claims

1. A method for coding video data, the method comprising:

coding information indicative of reference pictures that belong to a reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting a current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

constructing a plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set;

constructing an initial reference picture list based on the constructed reference picture subsets;

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list:

determining an index into at least one of the constructed reference picture subsets;

identifying a reference picture identified at an entry of the at least one of the constructed reference picture subsets based on the determined index; and

adding the identified reference picture in a current entry of the initial reference picture list to construct a modified reference picture list; and

coding the current picture based on the modified reference picture list.

2. The method of claim 1, wherein determining the index comprises:

coding a first syntax element to identify the at least one of the constructed reference picture subsets from which the reference picture is identified; and

coding a second syntax element that indicates the index into the at least one of the constructed reference picture subsets.

3. The method of claim 2, wherein the first syntax element comprises a modification_of_ref_pic_idc syntax element, and the second syntax element comprises a ref_pic_set_idx syntax element.

4. The method of claim 1,

wherein constructing the plurality of reference picture subsets comprises:

constructing a first reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and prior to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order;

constructing a second reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and subsequent to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order; and

constructing a third reference picture subset that identifies long-term reference pictures that are prior to the current picture in decoding order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and

wherein identifying the reference picture comprises:

identifying the reference picture in at least one of the first reference picture subset, the second reference picture subset, and the third reference picture subset.

5. The method of claim 1, further comprising:

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list:

moving reference pictures identified in the initial reference picture list in entries following the current entry to a next entry in the modified reference picture list.

6. The method of claim 1, further comprising:

coding a syntax element that indicates that the reference picture list modification is needed.

7. The method of claim 1,

wherein coding comprises decoding information indicative of reference pictures that belong to the reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting the current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

wherein coding comprises decoding the current picture based on the modified reference picture list.

8. The method of claim 1,

wherein coding comprises encoding information indicative of reference pictures that belong to the reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting the current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

wherein coding comprises encoding the current picture based on the modified reference picture list.

9. A device for coding video data, the device comprising a video coder configured to:

code information indicative of reference pictures that belong to a reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting a current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

construct a plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set;

construct an initial reference picture list based on the constructed reference picture subsets;

when reference picture list modification of the initial reference picture list is needed after construction of the initial reference picture list:

determine an index into at least one of the constructed reference picture subsets;

identify a reference picture identified at an entry of the at least one of the constructed reference picture subsets based on the determined index; and

add the identified reference picture in a current entry of the initial reference picture list to construct a modified reference picture list; and

code the current picture based on the modified reference picture list.

10. The device of claim 9, wherein to determine the index, the video coder is configured to:

code a first syntax element to identify the at least one of the constructed reference picture subsets from which the reference picture is identified; and

code a second syntax element that indicates the index into the at least one of the constructed reference picture subsets.

11. The device of claim 10, wherein the first syntax element comprises a modification_of_ref_pic_idc syntax element, and the second syntax element comprises a ref_pic_set_idx syntax element.

12. The device of claim 9,

wherein to construct the plurality of reference picture subsets, the video coder is configured to:

construct a first reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and prior to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order;

construct a second reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and subsequent to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order; and

construct a third reference picture subset that identifies long-term reference pictures that are prior to the current picture in decoding order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and

wherein to identify the reference picture, the video coder is configured to:

identify the reference picture in at least one of the first reference picture subset, the second reference picture subset, and the third reference picture subset.

13. The device of claim 9, wherein the video coder is configured to:

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list:

move reference pictures identified in the initial reference picture list in entries following the current entry to a next entry in the modified reference picture list.

14. The device of claim 9, wherein the video coder is configured to:

code a syntax element that indicates that the reference picture list modification is needed.

15. The device of claim 9, where in the video coder comprises a video decoder, and wherein the video decoder is configured to:

decode information indicative of reference pictures that belong to the reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting the current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

construct the plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set;

construct the initial reference picture list based on the constructed reference picture subsets;

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list:

determine an index into at least one of the constructed reference picture subsets;

identify the reference picture identified at the entry of the at least one of the constructed reference picture subsets based on the determined index; and

add the identified reference picture in the current entry of the initial reference picture list to construct the modified reference picture list; and

decode the current picture based on the modified reference picture list.

16. The device of claim 9, wherein the video coder comprises a video encoder, and wherein the video encoder is configured to:

encode information indicative of reference pictures that belong to the reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting the current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

construct the plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set;

construct the initial reference picture list based on the constructed reference picture subsets;

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list:

determine an index into at least one of the constructed reference picture subsets;

identify the reference picture identified at the entry of the at least one of the constructed reference picture subsets based on the determined index; and

add identified reference picture in the current entry of the initial reference picture list to construct the modified reference picture list; and

encode the current picture based on the modified reference picture list.

17. The device of claim 9, wherein the device comprises one of:

a wireless communication device;

a microprocessor; and

an integrated circuit.

18. A computer-readable storage medium having stored thereon instructions that, when executed, cause a processor of a device for coding video data to:

code information indicative of reference pictures that belong to a reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting a current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

construct a plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set;

construct an initial reference picture list based on the constructed reference picture subsets;

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list:

determine an index into at least one of the constructed reference picture subsets;

identify a reference picture identified at an entry of the at least one of the constructed reference picture subsets based on the determined index; and

add the identified reference picture in a current entry of the initial reference picture list to construct a modified reference picture list; and

code the current picture based on the modified reference picture list.

19. The computer-readable storage medium of claim 18, wherein the instruction that cause the processor to determine the index comprise instructions that cause the processor to:

code a first syntax element to identify the at least one of the constructed reference picture subsets from which the reference picture is identified; and

code a second syntax element that indicates the index into the at least one of the constructed reference picture subsets.

20. The computer-readable storage medium of claim 19, wherein the first syntax element comprises a modification_of_ref_pic_idc syntax element, and the second syntax element comprises a ref_pic_set_idx syntax element.

21. The computer-readable storage medium of claim 18,

wherein the instructions that cause the processor to construct the plurality of reference picture subsets comprise instructions that cause the processor to:

construct a first reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and prior to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order;

construct a second reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and subsequent to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order; and

construct a third reference picture subset that identifies long-term reference pictures that are prior to the current picture in decoding order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and

wherein the instructions that cause the processor to identify the reference picture comprise instructions that cause the processor to:

identify the reference picture in at least one of the first reference picture subset, the second reference picture subset, and the third reference picture subset.

22. The computer-readable storage medium of claim 18, further comprising instructions that cause the processor to:

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list;

move reference pictures identified in the initial reference picture list in entries following the current entry to a next entry in the modified reference picture list.

23. The computer-readable storage medium of claim 18, further comprising instructions that cause the processor to:

code a syntax element that indicates that the reference picture list modification is needed.

24. A device for coding video data, the device comprising:

means for coding information indicative of reference pictures that belong to a reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting a current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

means for constructing a plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set;

means for constructing an initial reference picture list based on the constructed reference picture subsets;

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list:

means for determining an index into at least one of the constructed reference picture subsets;

means for identifying a reference picture identified at an entry of the at least one of the constructed reference picture subsets based on the determined index; and

means for adding the identified reference picture in a current entry of the initial reference picture list to construct a modified reference picture list; and

means for coding the current picture based on the modified reference picture list.

25. The device of claim 24, wherein the means for determining the index comprises:

means for coding a first syntax element to identify the at least one of the constructed reference picture subsets from which the reference picture is identified; and

means for coding a second syntax element that indicates the index into the at least one of the constructed reference picture subsets.

26. The device of claim 25, wherein the first syntax element comprises a modification_of_ref_pic_idc syntax element, and the second syntax element comprises a ref_pic_set_idx syntax element.

27. The device of claim 24,

wherein the means for constructing the plurality of reference picture subsets comprises:

means for constructing a first reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and prior to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order;

means for constructing a second reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and subsequent to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order; and

means for constructing a third reference picture subset that identifies long-term reference pictures that are prior to the current picture in decoding order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and

wherein the means for identifying the reference picture comprises:

means for identifying the reference picture in at least one of the first reference picture subset, the second reference picture subset, and the third reference picture subset.

28. The device of claim 24, further comprising:

when reference picture list modification of the initial reference picture list is needed after the construction of the initial reference picture list:

means for moving reference pictures identified in the initial reference picture list in entries following the current entry to a next entry in the modified reference picture list.

29. The device of claim 24, further comprising:

means for coding a syntax element that indicates that the reference picture list modification is needed.

CLAIMS

Claim 1: A method for coding video data, the method comprising:

coding information indicative of reference pictures that belong to a reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting a current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

constructing a plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set, wherein constructing the plurality of reference picture subsets comprises:

constructing a first reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and prior to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes short-term reference pictures that are prior to the current picture in output order and cannot be used for inter-predicting the current picture;

constructing a second reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and subsequent to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes short-term reference pictures that are subsequent to the current picture in output order and cannot be used for inter-predicting the current picture; and

constructing a third reference picture subset that identifies long-term reference pictures that are prior to the current picture in decoding order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes long-term reference pictures that are prior to the current picture in decoding order and that cannot be used for inter-predicting the current picture;

after construction of the first, second, and third reference picture subsets, determining which reference pictures are usable for inter-prediction of the current picture based on which pictures are identified in the first, second, and third reference picture subsets;

subsequent to determining which reference pictures are usable for inter-prediction of the current picture, constructing an initial reference picture list based on reference pictures in

the first, second, and third reference picture subsets that are determined to be usable for inter-prediction of the current picture; and

based on reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list:

identifying a reference picture, wherein the reference picture is in at least one of the first, second, or third reference picture subsets;

adding the identified reference picture in a current entry of the initial reference picture list to construct a modified reference picture list; and

coding the current picture based on the modified reference picture list.

Claim 2: The method of claim 1, wherein identifying the reference picture comprises:

determining an index into at least one of the constructed reference picture subsets; and

determining the reference picture identified at an entry of the at least one of the constructed reference picture subsets based on the determined index.

Claim 3: The method of claim 2, wherein determining the index comprises:

coding a first syntax element to identify the at least one of the constructed reference picture subsets from which the reference picture is identified; and

coding a second syntax element that indicates the index into the at least one of the constructed reference picture subsets.

Claim 4: The method of claim 1, further comprising:

based on the reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list:

moving reference pictures identified in the initial reference picture list in entries following the current entry to a next entry to construct the modified reference picture list.

Claim 5: The method of claim 1, further comprising:

coding a syntax element that indicates that the reference picture list modification is needed.

Claim 6: The method of claim 1,

wherein coding comprises decoding information indicative of reference pictures that belong to the reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting the current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order; and

wherein coding comprises decoding the current picture based on the modified reference picture list.

Claim 7: The method of claim 1,

wherein coding comprises encoding information indicative of reference pictures that belong to the reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting the current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order; and

wherein coding comprises encoding the current picture based on the modified reference picture list.

Claim 8: A device for coding video data, the device comprising: memory configured to stored reference pictures; and

a video coder configured to:

code information indicative of reference pictures stored in the memory that belong to a reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting a current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

construct a plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set, wherein to construct the plurality of reference picture subsets, the video coder is configured to:

construct a first reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and prior to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes short-term reference pictures that are prior to the current picture in output order and cannot be used for inter-predicting the current picture;

construct a second reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and subsequent to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes short-term reference pictures that are subsequent to the current picture in output order and cannot be used for inter-predicting the current picture; and

construct a third reference picture subset that identifies long-term reference pictures that are prior to the current picture in decoding order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes long-term reference pictures that are prior to the current picture in decoding order and that cannot be used for inter-predicting the current picture;

after construction of the first, second, and third reference picture subsets, determine which reference pictures are usable for inter-prediction of the current picture based on which pictures are identified in the first, second, and third reference picture subsets;

subsequent to determining which reference pictures are usable for inter-prediction of the current picture, construct an initial reference picture list based on reference pictures in the first, second, and third reference picture subsets that are determined to be usable for inter-prediction of the current picture; and

based on reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list:

identify a reference picture, wherein the reference picture is in at least one of the first, second, or third reference picture subsets;

add the identified reference picture in a current entry of the initial reference picture list to construct a modified reference picture list; and

code the current picture based on the modified reference picture list.

Claim 9: The device of claim 8, wherein to identify the reference picture, the video coder is configured to:

determine an index into at least one of the constructed reference picture subsets; and

determine the reference picture identified at an entry of the at least one of the constructed reference picture subsets based on the determined index.

Claim 10: The device of claim 9, wherein to determine the index, the video coder is configured to:

code a first syntax element to identify the at least one of the constructed reference picture subsets from which the reference picture is identified; and

code a second syntax element that indicates the index into the at least one of the constructed reference picture subsets.

Claim 11: The device of claim 8, wherein the video coder is configured to:

based on the reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list:

move reference pictures identified in the initial reference picture list in entries following the current entry to a next entry to construct the modified reference picture list.

Claim 12: The device of claim 8, wherein the video coder is configured to:

code a syntax element that indicates that the reference picture list modification is needed.

Claim 13: The device of claim 8, wherein the video coder comprises a video decoder, and wherein the video decoder is configured to:

decode information indicative of reference pictures that belong to the reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting the current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

construct the first, second, and third reference picture subsets;

after construction of the first, second, and third reference picture subsets, determine which reference pictures are usable for inter-prediction of the current picture based on which pictures are identified in the first, second, and third reference picture subsets;

subsequent to determining which reference pictures are usable for inter-prediction of the current picture, construct the initial reference picture list based on the reference pictures in the first, second, and third reference picture subsets that are determined to be usable for inter-prediction of the current picture; and

based on the reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list:

identify the reference picture;

add the identified reference picture in the current entry of the initial reference picture list to construct the modified reference picture list; and

decode the current picture based on the modified reference picture list.

Claim 14: The device of claim 8, wherein the video coder comprises a video encoder, and wherein the video encoder is configured to:

encode information indicative of reference pictures that belong to the reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting the current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

construct the first, second, and third reference picture subsets;

after construction of the first, second, and third reference picture subsets, determine which reference pictures are usable for inter-prediction of the current picture based on which pictures are identified in the first, second, and third reference picture subsets;

subsequent to determining which reference pictures are usable for inter-prediction of the current picture, construct the initial reference picture list based on the reference pictures in the first, second, and third reference picture subsets that are determined to be usable for inter-prediction of the current picture; and

based on the reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list:

identify the reference picture;

add the identified reference picture in the current entry of the initial reference picture list to construct the modified reference picture list; and

encode the current picture based on the modified reference picture list.

Claim 15: The device of claim 8, wherein the device comprises one or more of:

a wireless communication device comprising at least one of a display configured to display the current picture or a camera configured to capture the current picture;

a microprocessor; or

an integrated circuit.

Claim 16: A non-transitory computer-readable storage medium having stored thereon instructions that, when executed, cause a processor of a device for coding video data to:

code information indicative of reference pictures that belong to a reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting a current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

construct a plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set, wherein the instructions that cause the processor to construct the plurality of reference picture subsets comprise instructions that cause the processor to:

construct a first reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and prior to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes short-term reference pictures that are prior to the current picture in output order and cannot be used for inter-predicting the current picture;

construct a second reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and subsequent to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes short-term reference pictures that are subsequent to the current picture in output order and cannot be used for inter-predicting the current picture; and

construct a third reference picture subset that identifies long-term reference pictures that are prior to the current picture in decoding order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes long-term reference pictures that are prior to the current picture in decoding order and that cannot be used for inter-predicting the current picture;

after construction of the first, second, and third reference picture subsets, determine which reference pictures are usable for inter-prediction of the current picture based on which pictures are identified in the first, second, and third reference picture subsets;

subsequent to determining which reference pictures are usable for inter-prediction of the current picture, construct an initial reference picture list based on reference pictures the

first, second, and third reference picture subsets that are determined to be usable for inter-prediction of the current picture; and

based on the reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list:

identify a reference picture, wherein the reference picture is in at least one of the first, second, or third reference picture subsets;

add the identified reference picture in a current entry of the initial reference picture list to construct a modified reference picture list; and

code the current picture based on the modified reference picture list.

Claim 17: The non-transitory computer-readable storage medium of claim 16, wherein the instructions that cause the processor to identify the reference picture comprise instructions that cause the processor to:

determine an index into at least one of the constructed reference picture subsets; and

determine the reference picture identified at an entry of the at least one of the constructed reference picture subsets based on the determined index.

Claim 18: The non-transitory computer-readable storage medium of claim 17, wherein the instruction that cause the processor to determine the index comprise instructions that cause the processor to:

code a first syntax element to identify the at least one of the constructed reference picture subsets from which the reference picture is identified; and

code a second syntax element that indicates the index into the at least one of the constructed reference picture subsets.

Claim 19: The non-transitory computer-readable storage medium of claim 16, further comprising instructions that cause the processor to:

based on the reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list:

move reference pictures identified in the initial reference picture list in entries following the current entry to a next entry to construct the modified reference picture list.

Claim 20: The non-transitory computer-readable storage medium of claim 16, further comprising instructions that cause the processor to:

code a syntax element that indicates that the reference picture list modification is needed.

Claim 21: A device for coding video data, the device comprising:

means for coding information indicative of reference pictures that belong to a reference picture set, wherein the reference picture set identifies the reference pictures that can potentially be used for inter-predicting a current picture and can potentially be used for inter-predicting one or more pictures following the current picture in decoding order;

means for constructing a plurality of reference picture subsets that each identifies zero or more of the reference pictures of the reference picture set, wherein the means for constructing the plurality of reference picture subsets comprises:

means for constructing a first reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and prior to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes short-term reference pictures that are prior to the current picture in output order and cannot be used for inter-predicting the current picture;

means for constructing a second reference picture subset that identifies short-term reference pictures that are prior to the current picture in decoding order and subsequent to the current picture in output order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes short-term reference pictures that are subsequent to the current picture in output order and cannot be used for inter-predicting the current picture; and

means for constructing a third reference picture subset that identifies long-term reference pictures that are prior to the current picture in decoding order and that can potentially be used for inter-predicting the current picture and one or more of the one or more pictures following the current picture in decoding order, and excludes long-term reference pictures that are prior to the current picture in decoding order and that cannot be used for inter-predicting the current picture;

means for determining which reference pictures are usable for inter-prediction of the current picture based on which pictures are identified in the first, second, and third reference picture subsets after construction of the first, second, and third reference picture subsets;

means for constructing, subsequent to determining which reference pictures are usable for inter-prediction of the current picture, an initial reference picture list based on reference pictures in the first, second, and third reference picture subsets that are determined to be usable for inter-prediction of the current picture;

means for identifying a reference picture, wherein the reference picture is in at least one of the first, second, or third reference picture subsets based on reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list;

means for adding the identified reference picture in a current entry of the initial reference picture list to construct a modified reference picture list based on reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list; and

means for coding the current picture based on the modified reference picture list based on reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list.

Claim 22: The device of claim 21, wherein means for identifying the reference picture comprises:

means for determining an index into at least one of the constructed reference picture subsets; and

means for determining the reference picture identified at an entry of the at least one of the constructed reference picture subsets based on the determined index.

Claim 23: The device of claim 22, wherein the means for determining the index comprises:

means for coding a first syntax element to identify the at least one of the constructed reference picture subsets from which the reference picture is identified; and

means for coding a second syntax element that indicates the index into the at least one of the constructed reference picture subsets.

Claim 24: The device of claim 21, further comprising:

means for moving reference pictures identified in the initial reference picture list in entries following the current entry to a next entry to construct the modified reference picture list based on the reference picture list modification of the initial reference picture list being needed after the construction of the initial reference picture list.

Claim 25: The device of claim 21, further comprising:

means for coding a syntax element that indicates that the reference picture list modification is needed.

Claim 26: The device of claim 13, further comprising a display configured to display the decoded current picture and one or more of the reference pictures.

Claim 27: The device of claim 14, further comprising a camera configured to capture the current picture that is encoded and the reference pictures.