

WHAT IS CLAIMED IS:

1. A method for generating a preamble, comprising:
 - identifying, by a computing system, a plurality of tiles from a first portion of a biomedical image that is derived from a tissue sample via a histopathological image preparer, each tile of the plurality of tiles acquired at one of a plurality of magnification factors and defined by a corresponding set of coordinates within the biological image, at least one of the plurality of tiles corresponding to at least a subset of the first portion;
 - providing, by the computing system, the plurality of tiles for concurrent display via a corresponding plurality of graphical user interface (GUI) elements;
 - detecting, by the computing system, an interaction with a GUI element from the plurality of GUI elements to modify presentation of a tile of the plurality of tiles;
 - identifying, by the computing system, a first change to a first set of coordinates defining the tile in response to the interaction with the GUI element;
 - determining, by the computing system, a second change to apply to a second set of coordinates defining each tile of a remainder of the plurality of tiles based on the first change to the first set of coordinates; and
 - updating, by the computing system, the displaying of the plurality of tiles in the corresponding plurality of GUI elements by applying the first change to the first set of coordinates for the tile upon which the interaction is detected and the second change to the second set of coordinates for each tile of the remainder of the plurality of tiles.
2. The method of claim 1, further comprising:
 - identifying, by the computing system, a second portion of the biomedical image based on the first change to be applied to the first set of coordinates defining the tile; and
 - determining the second change to apply to the second set of coordinates based on a comparison of the first portion and the second portion.

3. The method of claim 1, wherein the plurality of GUI elements comprises a first GUI element to display a reference tile of the plurality of tiles and one or more second GUI elements to display corresponding one or more other tiles of the plurality of tiles.
4. The method of claim 1, wherein detecting the interaction further comprises detecting the interaction to perform at least one of a zoom operation within the tile or a panning operation to move from the tile.
5. The method of claim 1, wherein identifying the plurality of tiles further comprises streaming, to a client device, the plurality of tiles corresponding to the first portion of the biomedical image for display on the client device via the corresponding plurality of GUI elements.
6. The method of claim 1, further comprising:
 - identifying, by the computing system, an annotation via a second GUI element of the plurality of GUI elements, the annotation identifying one or more pixel coordinates on a second tile of the plurality of tiles displayed via the second GUI element, the annotation indicating a presence of one or more conditions in an area on the tissue sample corresponding to the one or more pixel coordinates on the second tile; and
 - storing, by the computing system, in one or more data structures, an association between the annotation and the biomedical image.
7. The method of claim 5, further comprising generating, by the computing system, a plurality of indexed color values corresponding to the one or more pixel coordinates identified by the annotation; and
 - wherein storing the association further comprises storing the plurality of indexed color values as a map for the annotation.

8. The method of claim 5, further comprising updating, by the computing system, the displaying of the plurality of tiles in the corresponding plurality of GUI elements based on the annotation identified in the second tile displayed via the second GUI element.
9. The method of claim 1, further comprising:
- identifying, by the computing system, for a third tile of the plurality of tiles, a respective portion of the biomedical image;
 - applying, by the computing system, a color modification operation on the respective portion for the at least one tile, while maintaining a remaining portion of the biomedical image; and
 - updating, by the computing system, the displaying of the third tile in a corresponding GUI element of the plurality of GUI elements based on application the color modification operation to the respective portion.
10. The method of claim 9, further comprising:
- identifying, by the computing system, a source for the biomedical image from which the plurality of tiles is derived; and
 - selecting, by the computing system, from a plurality of color modification operations, the color modification operation based on the source identified for the biomedical image.
11. A system, comprising:
- a computing system having one or more processors coupled to memory, configured to:
 - identify a plurality of tiles from a first portion of a biomedical image that is derived from a tissue sample via a histopathological image preparer, each tile of the plurality of tiles acquired at one of a plurality of magnification factors and defined by a corresponding set of coordinates within the biological image, at least one of the plurality of tiles corresponding to at least a subset of the first portion;
 - provide the plurality of tiles for concurrent display via a corresponding plurality of graphical user interface (GUI) elements;

detect an interaction with a GUI element from the plurality of GUI elements to modify presentation of a tile of the plurality of tiles;

identify a first change to a first set of coordinates defining the tile in response to the interaction with the GUI element;

determine a second change to apply to a second set of coordinates defining each tile of a remainder of the plurality of tiles based on the first change to the first set of coordinates; and

update the display of the plurality of tiles in the corresponding plurality of GUI elements by applying the first change to the first set of coordinates for the tile upon which the interaction is detected and the second change to the second set of coordinates for each tile of the remainder of the plurality of tiles.

12. The system of claim 11, wherein the computing system is further configured to:

identify a second portion of the biomedical image based on the first change to be applied to the first set of coordinates defining the tile; and

determine the second change to apply to the second set of coordinates based on a comparison of the first portion and the second portion.

13. The system of claim 11, wherein the plurality of GUI elements comprises a first GUI element to display a reference tile of the plurality of tiles and one or more second GUI elements to display corresponding one or more other tiles of the plurality of tiles.

14. The system of claim 11, wherein the computing system is further configured to detect the interaction to perform at least one of a zoom operation within the tile or a panning operation to move from the tile.

15. The system of claim 11, wherein the computing system is further configured to stream, to a client device, the plurality of tiles corresponding to the first portion of the biomedical image for display on the client device via the corresponding plurality of GUI elements.

16. The system of claim 11, wherein the computing system is further configured to:
- identify an annotation via a second GUI element of the plurality of GUI elements, the annotation identifying one or more pixel coordinates on a second tile of the plurality of tiles displayed via the second GUI element, the annotation indicating a presence of one or more conditions in an area on the tissue sample corresponding to the one or more pixel coordinates on the second tile; and
 - store, in one or more data structures, an association between the annotation and the biomedical image.
17. The system of claim 15, further comprising:
- generate a plurality of indexed color values corresponding to one or more pixel coordinates identified by the annotation; and
 - store the plurality of indexed color values as a map for the annotation.
18. The system of claim 15, wherein the computing system is further configured to update the display of the plurality of tiles in the corresponding plurality of GUI elements based on the annotation identified in the second tile displayed via the second GUI element.
19. The system of claim 11, wherein the computing system is further configured to:
- identify, for a third tile of the plurality of tiles, a respective portion of the biomedical image;
 - apply a color modification operation on the respective portion for the at least one tile, while maintaining a remaining portion of the biomedical image; and
 - update the displaying of the third tile in a corresponding GUI element of the plurality of GUI elements based on application the color modification operation to the respective portion.
20. The system of claim 19, wherein the computing system is further configured to:

identify a source for the biomedical image from which the plurality of tiles is derived;
and
select, from a plurality of color modification operations, the color modification operation
based on the source identified for the biomedical image.