

In re Patent Application of
GARCEAU ET AL.
Serial No. **11/328,678**
Filed: **JANUARY 10, 2006**

In the Claims:

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Currently amended) A environmental condition detecting system to detect at least one environmental condition associated with a collected geospatial image from a geospatial image sensor carried by an airborne platform, the environmental condition detecting system comprising:

a database;

an image processor operable ~~cooperating~~ with said database to generate ~~for generating~~ a reference geospatial image corresponding to the collected geospatial image;

a change detector operable ~~cooperating~~ with said image processor to detect ~~for detecting~~ a change between the collected geospatial image and the reference geospatial image;
and

an environmental condition detector operable ~~cooperating~~ with said change detector to detect ~~for detecting~~ the at least one environmental condition associated with the collected geospatial image based upon the change between the collected geospatial image and the reference geospatial image, the at least one environmental condition comprising at least one weather condition.

2. (Canceled).

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3. (Currently amended) An environmental condition detecting system according to Claim 1 ~~Claim 2~~ wherein the at least one weather condition relates to at least one of image obscuration and surface reflectivity.

4. (Currently amended) An environmental condition detecting system according to Claim 1 wherein the at least one environmental condition further comprises at least one of a time of day and a time of year.

5. (Original) An environmental condition detecting system according to Claim 1 wherein said database comprises a geospatial scene model database.

6. (Original) An environmental condition detecting system according to Claim 5 wherein said geospatial scene model database comprises three-dimensional (3D) scene model data; and wherein each of the collected geospatial image and the reference geospatial image comprises respective two-dimensional (2D) image data.

7. (Original) An environmental condition detecting system according to Claim 5 wherein said geospatial scene model database comprises at least one of terrain data, building data, and foliage data.

8. (Currently amended) An environmental condition detecting system according to Claim 5 wherein the collected geospatial image has at least one geospatial collection value

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associated therewith; and wherein said image processor is operable to generate ~~generates~~ the reference geospatial image based upon synthetically positioning a virtual geospatial image sensor within a geospatial scene model based upon the at least one geospatial collection value.

9. (Original) An environmental condition detecting system according to Claim 8 wherein the at least one geospatial collection value comprises at least one of a geospatial collection position, a geospatial collection orientation, and a geospatial collection field-of-view.

10. (Currently amended) A weather condition detecting system to detect at least one weather condition associated with a collected geospatial image from a geospatial image sensor carried by an airborne platform, the ~~environmental~~ weather condition detecting system comprising:

a geospatial scene model database;

an image processor ~~cooperating~~ operable with said database to generate ~~for generating~~ a reference geospatial image corresponding to the collected geospatial image;

a change detector ~~cooperating~~ operable with said image processor to detect ~~for detecting~~ a change between the collected geospatial image and the reference geospatial image;
and

a weather condition detector ~~cooperating~~ operable with said change detector to detect ~~for detecting~~ the at least one weather condition associated with the collected geospatial

image based upon the change between the collected geospatial image and the reference geospatial image.

11. (Currently amended) An ~~environmental~~ weather condition detecting system according to Claim 10 wherein the at least one weather condition relates to at least one of image obscuration and surface reflectivity.

12. (Currently amended) An ~~environmental~~ weather condition detecting system according to Claim 10 wherein said geospatial scene model database comprises three-dimensional (3D) scene model data; and wherein each of the collected geospatial image and the reference geospatial image comprises respective two-dimensional (2D) image data.

13. (Currently amended) An ~~environmental~~ weather condition detecting system according to Claim 10 wherein the collected geospatial image has at least one geospatial collection value associated therewith; and wherein said image processor is operable to generate ~~generates~~ the reference geospatial image based upon a synthetically positioned ~~positioning~~ a virtual geospatial image sensor within a geospatial scene model based upon the at least one geospatial collection value.

14. (Currently amended) An ~~environmental~~ weather condition detecting system according to Claim 13 wherein the at least one geospatial collection value comprises at least one of a geospatial collection position, a geospatial

collection orientation, and a geospatial collection field-of-view.

15. (Currently amended) A environmental condition detecting method to detect at least one environmental condition associated with a collected geospatial image from a geospatial image sensor carried by an airborne platform, the environmental condition detecting method comprising:

using an image processor cooperating with a database for generating a reference geospatial image corresponding to the collected geospatial image;

detecting a change between the collected geospatial image and the reference geospatial image; and

detecting the at least one environmental condition associated with the collected geospatial image based upon the change between the collected geospatial image and the reference geospatial image, the at least one environmental condition comprising at least one weather condition.

16. (Canceled).

17. (Currently amended) An environmental condition detecting method according to Claim 15 ~~Claim 16~~ wherein the at least one environmental condition further comprises at least one of a time of day and a time of year.

18. (Original) An environmental condition detecting method according to Claim 15 wherein the database comprises a geospatial scene model database including three-dimensional

(3D) scene model data; and wherein each of the collected geospatial image and the reference geospatial image comprises respective two-dimensional (2D) image data.

19. (Original) An environmental condition detecting method according to Claim 18 wherein the geospatial scene model database comprises at least one of terrain data, building data, and foliage data.

20. (Original) An environmental condition detecting method according to Claim 18 wherein the collected geospatial image has at least one geospatial collection value associated therewith; and wherein generating the reference geospatial image is based upon synthetically positioning a virtual geospatial image sensor within a geospatial scene model based upon the at least one geospatial collection value.

21. (Original) An environmental condition detecting method according to Claim 20 wherein the at least one geospatial collection value comprises at least one of a geospatial collection position, a geospatial collection orientation, and a geospatial collection field-of-view.