

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

REMARKS

Applicants thank the Examiner for the careful and thorough examination of the present application.

As an initial matter, Applicants note that it appears the Official Action of January 16, 2009 appears to include an error at Paragraph 6, which refers to a third prior art reference called "aloha." Given that this reference is not referred to anywhere else in the Official Action nor in the Notice of References Cited, Applicants have ignored it as a typographical error.

Applicants submit that all claims are patentable, and present arguments herein supporting such patentability.

I. The Claimed Invention

Independent Claim 1, for example, is directed to an 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 may comprise a database, and an image processor cooperating with the database for generating a reference geospatial image corresponding to the collected geospatial image. The environmental condition detecting system may further include a change detector cooperating with the image processor for detecting a change between the collected geospatial image and the reference geospatial image, and an environmental condition detector cooperating with the change detector for detecting the environmental condition associated with the collected geospatial image based upon the change

between the collected geospatial image and the reference geospatial image.

Independent Claim 10 is directed to a weather condition detecting system similar to Claim 1. Independent Claim 15 is a method counterpart to Claim 1.

II. The Claims Are Patentable

The Examiner rejected independent Claims 1, 10, and 15 over Oldroyd in view of Margolin. Oldroyd discloses a system for automatic image registration that includes a sensor collecting imagery from a mobile platform. The sensor also collects sensing parameters, e.g. field of view, resolution, and azimuth, and platform parameters. (Paragraph 48). The system also includes a reference database for storing reference images. The system extracts a "chip" from the reference images to compare to the corresponding collected image. The chip is warped or distorted to conform to the known geometry of the collected image, the distortion mimicking the perspective of the sensor in the collected image. (Paragraphs 37-38).

The Examiner correctly notes that Oldroyd fails to disclose 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, as recited by independent Claim 1, for example. The Examiner looks to Margolin to supply this deficiency of Oldroyd.

Margolin discloses a method for converting a digital elevation database into a polygon database. In the cited

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background portion of this patent document reference, Margolin discloses a system "that presents the pilot of an aircraft with a three-dimensional (3D) view of what is outside the aircraft, not obscured by darkness or weather." (Col. 2, lines 51-53).

For details of this pilot aid system, the cited portion of Margolin refers and incorporates by reference to U.S. Patent No. 5,566,073 to Margolin (Margolin '073). Margolin '073 discloses a pilot aid system that uses the aircraft's position, which is provided via a GPS receiver, and a geographical digital model to provide the pilot with a synthesized 3D third person projected view of the aircraft. (Col. 4, lines 62-67). More specifically, the system includes a CD-ROM database storing the geographical digital model. (Figure 2; and Col. 6, lines 30-34). The geographical model may comprise a digital elevation model (DEM). (Col. 16, lines 5-10). The system takes the DEM and converts the DEM to a visual polygon representation of the terrain, even adding coloration to each polygon for accurate representation of the terrain. (Col. 16, line 59 through Col. 17, line 36). In other words, the pilot aid system does not remove any weather condition, but rather generates a plain bare earth polygonal model for the pilot to view. In fact, the system does not manipulate any weather data at all to provide the 3D projection. The Examiner's stated motivation to combine is "to provide an enhanced image based upon the environmental condition." (Official Action of 1-16-2009 at 5).

Applicants submit that the Examiner's proposed combination fails to disclose each and every feature of the

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claimed invention. More specifically, the proposed combination fails to disclose an environmental condition detector cooperating with the change detector for detecting the environmental condition associated with the collected geospatial image based upon the change between the collected geospatial image and the reference geospatial image, as recited by independent Claim 1.

Applicants respectfully submit that it is clear that the neither of the two Margolin references makes up for the deficiencies of Oldroyd. Indeed, it appears that the great sum of the Margolin teachings in supplying this critical deficiency of Oldroyd is to say "weather." Applicants submit that the cited prior art references fail to disclose an environmental condition detector cooperating with said change detector 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, as recited by the independent claims.

Accordingly, it is submitted that independent Claims 1, 10, and 15 are patentable over the prior art. Their respective dependent claims, which recite yet further distinguishing features, are also patentable over the prior art and require no further discussion herein.

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CONCLUSIONS

In view of the arguments presented above, it is submitted that all of the claims are patentable. Accordingly, a Notice of Allowance is respectfully requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned at the telephone number listed below.

Respectfully submitted,



JACK GEORGE ABID
Reg. No. 58,237
Allen, Dyer, Doppelt, Milbrath
& Gilchrist, P.A.
255 S. Orange Avenue, Suite 1401
Post Office Box 3791
Orlando, Florida 32802
407-841-2330
407-841-2343 fax
Attorney for Applicants