IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: **GARCEAU ET AL.**	) Examiner: **I. JEN**
Serial No. **11/328,678**	) Art Unit: **3664**
Filing Date: **JANUARY 10, 2006**	)
For: **ENVIRONMENTAL CONDITION DETECTING SYSTEM USING GEOSPATIAL IMAGES AND ASSOCIATED METHODS**	) Attorney Docket No. **GCSD-1780 (51454)**

PRE-APPEAL BRIEF REQUEST FOR REVIEW

MS AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the final Office Action of August 10, 2009, and in connection with the Notice of Appeal filed concurrently herewith, please consider the remarks set out below.

REMARKS

As an initial matter, Appellants acknowledge the provisional non-statutory double patenting rejection based upon co-pending application nos. 11/328,677 and 11/328,676, which are assigned to the Assignee of the present application, Harris Corporation. Appellants filed Terminal Disclaimers in each of the '677 and '676 applications to overcome the double patenting rejections therein based upon the present application. As such, it is respectfully requested that the double patenting rejection of the present application be withdrawn.

Based upon the arguments presented below, Appellants respectfully request the Pre-Appeal Brief Conference Panel reconsider and withdraw the Examiner's rejections of the claims. Appellants submit that neither of the applied references discloses 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 and submit that the Examiner's proposed combination is improper.

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 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 8-10-2009 at 4).

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

Appellants 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."** Again, Appellants strenuously note that the Margolin references do not teach *detecting the environmental condition associated with the collected geospatial image based upon the change between the collected geospatial image and the reference geospatial image*, but rather disclose generating a 3D pilot with zero manipulation of environmental data, i.e. the environmental data is simply not disclosed. In summary, Appellants submit that the cited prior art references fail to disclose the environmental condition detector cooperating with the 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.

Moreover, Appellants respectfully submit that the Examiner's proffered motivation to combine is cursory and inapplicable to the primary reference Oldroyd. Specifically, the Margolin references provide a polygonal database conversion method and a pilot aid system that provides a third person view of the aircraft, using, of course, polygonal databases to render the 3D environment. The primary reference makes no mention of polygonal databases; therefore, Appellants submit that a person of ordinary skill in the art would not likely seize on polygonal database conversion method to fix the deficiency of Margolin when Oldroyd does not use polygonal databases. Further, even if the Margolin references taught detecting the environmental condition associated with the collected geospatial image based upon the change between the collected geospatial image and the reference geospatial image, which the above arguments establish that they do not, the rationale that the person of ordinary skill in the art would take this theoretical enhancement technique "to provide an efficient method for converting a database," (Official Action of 8-10-2009 at 4), makes little to no sense. Hence, Appellants submit that the proposed combination is improper.

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.

Respectfully submitted,

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