

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3 – 15, 17 -21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oldroyd (US Pat Pub No 2005/0220363) in view of Stossel et al (MOSAIC: A model based change detection process) and further modified by Wolfson et al (US Pat No 6920233).

As for claims 1, 10, 15, Oldroyd shows a image detecting system where a collected geospatial image from a geospatial image sensor carried by an airborne platform, image detecting system comprising: a database (Fig 1, See Reference Image Data 28; Reference Dem Database 40); an image processor operable with database to generate a reference geospatial image corresponding to the collected geospatial image (Para 0049; analysis 24; Para 0069-0070; Para –76,transform 56); a change detector operable with image processor to detect a change between the collected geospatial image and the reference geospatial image (Para 0099 – 0101; See Fig 1, Image match 60, match function 62); Oldroyd does not explicitly states that an environmental condition detector operable with said change detector to detect the at least one environmental condition associated with the collected geospatial image based upon the change

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between the collected geospatial image and the reference geospatial image; at least one environmental condition comprising at least one weather condition.

Stossel et al explicitly states an environmental condition detector operable with said change detector to detect the at least one environmental condition (See Page 1115, 2.2 3D Geospatial change detection; 2.3 Detection of change to tree regions) associated with the collected geospatial image based upon the change between the collected geospatial image and the reference geospatial image (See Fig 2, processing flow for main components, Acquire image, Materials Database, Change Reporting); at least one environmental condition affected by weather condition (Page 1116, Col 1, lines 18 – 26 where weather condition is present); Wolfson et al explicitly states that one environmental condition comprising at least one weather condition (See Figure 3, environmental condition image is detected on Step 300; and weather image is generated based upon environmental condition on Step 312).

It would have been obvious for one of ordinary skill in the art, to modify Oldroyd et al as taught by Stossel et al for the purpose to provide a change detection system for environment condition, as taught by Stossel et al to Oldroyd et al. As further noted, Oldroyd et al and Stossel et al discloses the limitations set above but does not disclose the environmental condition as weather condition; However, Wolfson et al disclose the weather condition as the weather condition. Therefore, it would have been obvious for one of ordinary skill in the art to modify Oldroyd et al and Stossel et al as taught By Wolfson et al for the purpose of providing enhanced environment change detection system including weather condition as taught by Wolfson et al.

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As for claims 3 and 11, Oldroyd does not explicitly states that environmental condition comprise at least one weather condition and at least one weather condition relates to at least one of image obscuration and surface reflectivity and at least one environmental condition comprising at least one weather condition.

Stossel et al explicitly states at least one environmental condition affected by weather condition (Page 1116, Col 1, lines 18 – 26 where weather condition is present) and at least one weather condition relates to at least one of image obscuration and surface reflectivity (See Page 1113, 2. Mosaic overview); Wolfson et al explicitly states that one environmental condition comprising at least one weather condition (See Figure 3, environmental condition image is detected on Step 300; and weather image is generated based upon environmental condition on Step 312).

It would have been obvious for one of ordinary skill in the art, to modify Oldroyd et al as taught by Stossel et al for the purpose to provide a change detection system for environment condition, as taught by Stossel et al to Oldroyd et al. As further noted, Oldroyd et al and Stossel et al discloses the limitations set above but does not disclose the environmental condition as weather condition; However, Wolfson et al disclose the weather condition as the weather condition. Therefore, it would have been obvious for one of ordinary skill in the art to modify Oldroyd et al and Stossel et al as taught By Wolfson et al for the purpose of providing enhanced environment change detection system including weather condition as taught by Wolfson et al.

As for claim 4, 5,6, 12, 17, 18, Oldroyd shows at least one environmental condition comprises at least one of a time of day and a time of year (Para 0011); database comprises a

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geospatial scene model database (Para 0031; Para 0048-0049); an environmental condition detecting system according to Claim 5 wherein 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 (Para 0106; Fig 1, See Reference Image Data 28; reference orthoimage construction 44); Oldroyd does not explicitly states that environmental condition comprise at least one weather condition.

Stossel et al explicitly states at least one environmental condition affected by weather condition (Page 1116, Col 1, lines 18 – 26) and at least one weather condition relates to at least one of image obscuration and surface reflectivity (See Page 1113, 2. Mosaic overview); Wolfson et al explicitly states that one environmental condition comprising at least one weather condition (See Figure 3, environmental condition image is detected on Step 300; and weather image is generated based upon environmental condition on Step 312).

It would have been obvious for one of ordinary skill in the art, to modify Oldroyd et al as taught by Stossel et al for the purpose to provide a change detection system for environment condition, as taught by Stossel et al to Oldroyd et al. As further noted, Oldroyd et al and Stossel et al discloses the limitations set above but does not disclose the environmental condition as weather condition; However, Wolfson et al disclose the weather condition as the weather condition. Therefore, it would have been obvious for one of ordinary skill in the art to modify Oldroyd et al and Stossel et al as taught By Wolfson et al for the purpose of providing enhanced environment change detection system including weather condition as taught by Wolfson et al.

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As for claim 7, 19, Oldroyd shows geospatial scene model database comprises at least one of terrain data, building data, and foliage data (Para 0055- 0069).

As for claim 8, 13, 20, Oldroyd shows the collected geospatial image has at least one geospatial collection value associated therewith (Para 0013- 0016; para 0075, Perspective analysis 50; perspective parameter 52); and wherein image processor 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 (Para 0049, analysis 24; Para 0069-0070,transform 56); Oldroyd does not explicitly states that environmental condition comprise at least one weather condition.

Stossel et al explicitly states at least one environmental condition affected by weather condition (Page 1116, Col 1, lines 18 – 26) and at least one weather condition relates to at least one of image obscuration and surface reflectivity (See Page 1113, 2. Mosaic overview); Wolfson et al explicitly states that one environmental condition comprising at least one weather condition (Para 0065, 0066; Fig 8A – 8C).

It would have been obvious for one of ordinary skill in the art, to modify Oldroyd et al as taught by Stossel et al for the purpose to provide a change detection system for environment condition, as taught by Stossel et al to Oldroyd et al. As further noted, Oldroyd et al and Stossel et al discloses the limitations set above but does not disclose the environmental condition as weather condition; However, Wolfson et al disclose the weather condition as the weather condition. Therefore, it would have been obvious for one of ordinary skill in the art to modify

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Oldroyd et al and Stossel et al as taught By Wolfson et al for the purpose of providing enhanced environment change detection system including weather condition as taught by Wolfson et al.

As for claim 9, 14, 21, Oldroyd 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 (Para 0011, 0048); Oldroyd does not explicitly states that environmental condition comprise at least one weather condition.

Stossel et al explicitly states at least one environmental condition affected by weather condition (Page 1116, Col 1, lines 18 – 26) and at least one weather condition relates to at least one of image obscuration and surface reflectivity (See Page 1113, 2. Mosaic overview); Wolfson et al explicitly states that one environmental condition comprising at least one weather condition (See Figure 3, environmental condition image is detected on Step 300; and weather image is generated based upon environmental condition on Step 312).

It would have been obvious for one of ordinary skill in the art, to modify Oldroyd et al as taught by Stossel et al for the purpose to provide a change detection system for environment condition, as taught by Stossel et al to Oldroyd et al. As further noted, Oldroyd et al and Stossel et al discloses the limitations set above but does not disclose the environmental condition as weather condition; However, Wolfson et al disclose the weather condition as the weather condition. Therefore, it would have been obvious for one of ordinary skill in the art to modify Oldroyd et al and Stossel et al as taught By Wolfson et al for the purpose of providing enhanced environment change detection system including weather condition as taught by Wolfson et al.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IAN JEN whose telephone number is (571)270-3274. The examiner can normally be reached on Monday - Friday 9:00-6:00 (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ian Jen/
Examiner, Art Unit 3664