

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT J. LECHNER

Appeal No. 2005-2712
Application No. 10/408,302

ON BRIEF

Before FRANKFORT, BAHR, and NAPPI, Administrative Patent Judges.
FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 32 through 39, all of the claims remaining in the application. Claims 1 through 31 and 40 through 54 have been canceled.

As indicated on page 1 of the specification, appellant's invention relates to methods and apparatus associated with flight simulation and, more particularly, to methods and apparatus for generating a terrain model for display during a flight simulation. The claims on appeal address one aspect of the above-noted subject matter in that they are broadly

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directed to an automated flight simulation mission profiling apparatus (claim 32) and an automated method for determining a flight simulation mission profile (claim 36). Copies of independent claims 32 and 36 can be found in the Appendix attached to appellant's brief.

The sole prior art reference relied upon by the examiner in rejecting the appealed claims is:

Tang et al. (Tang) 6,134,500 Oct. 17, 2000

Claims 32 through 39 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Tang.

Rather than attempt to reiterate the examiner's full commentary with respect to the above-noted rejection and the conflicting viewpoints advanced by the examiner and appellant regarding that rejection, we make reference to the final rejection (mailed May 27, 2004) and the examiner's answer (mailed March 22, 2005) for the reasoning in support of the rejection, and to appellant's brief (filed December 30, 2004) and reply brief (filed May 2, 2005) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellant's specification and claims, to the applied prior art Tang patent, and to the respective positions articulated by appellant and the examiner. As a consequence of our review, we have made the determination that the examiner's rejection under 35 U.S.C. § 102(e) will be sustained. Our reasons for that determination follow.

In the examiner's view (final rejection, pages 2-3) Tang discloses a flight simulation method and apparatus like that broadly set forth in the claims on appeal. More specifically, the examiner has determined that Tang discloses a flight simulation method and apparatus with an input for receiving data at least partially defining a mission route (col. 4, lines 30-40), and a processing element that automatically determines an area containing the mission route for which terrain data is required, automatically divides the area into a plurality of regions based upon the mission route, and determines a respective resolution of the terrain source data for each region (col. 21, lines 35-49). In addition, the examiner has found that Tang discloses a flight simulation method and apparatus that receives data defining an aircraft platform and data regarding different types of points along the mission route, and uses the processing element to determine the area and resolution of regions within the area based at least partially upon the

aircraft platform and the different types of points along the mission route. The examiner has also determined that Tang discloses a flight simulation method and apparatus that receives adjustments to predetermined criteria initially used to determine the area containing the mission route and resolution of regions in the area and subsequently uses the processing element to determine an area and resolution of regions within the area based upon the adjusted criteria (col. 5, lines 13-27).

Appellant contends that Tang is directed to a system and method for generating a minimum-cost airline flight plan from a point of origin through a set of fixed points to a destination point, and is not directed to flight simulation like that described in the present application wherein the data input and the information determined by the processing element is used to generate a terrain model for display in a flight simulator during a flight simulation used by a pilot to prepare in advance for a mission prior to actually flying the mission.

While we would agree with appellant that Tang does not address a flight simulation in the sense of a terrain model for display in a flight simulator used by a pilot to prepare in advance for a mission prior to actually flying the mission, we also note that claims 32 through 39 on appeal are in no way limited to that particular form of “flight simulation.” Using the terminology “flight simulation” in its broadest sense, wherein each of the flight paths evaluated in Tang (before arriving at the optimal flight plan) represents a “flight

simulation" or simulated mission profile, we agree with the examiner that claims 32 through 39 on appeal are readable on the apparatus and method disclosed in Tang.

More specifically, Tang discloses an automated flight simulation mission profiling apparatus and an automated method for determining a flight simulation mission profile comprising

1) an input for receiving data at least partially defining a mission route (i.e., for receiving data concerning a point of origin, navigation fixed points and a destination point), and
2) a processing element that automatically determines an area containing the mission route for which terrain data is required (i.e., the "macro region" of Tang), automatically divides the area into a plurality of regions based upon the mission route (i.e., the

"feasible region" of Tang, flight restricted areas

and regions of safety concern where "overmountain driftdown"

or "overwater driftdown" may be an issue), and determines a respective resolution of the terrain source data for each region (e.g., col. 21, lines 35-49, wherein terrain source data is clearly at a higher resolution in the region where "overmountain driftdown" and/or "overwater driftdown" may be an issue than at other less critical points along the flight path evaluated).

We also note that the claims on appeal do not require that the apparatus and method determine an area containing the entire mission route, or that the entire mission route be divided into a plurality of regions, with a resolution being determined for all regions along the entire mission route. Nor do the claims on appeal necessarily require that the resolutions determined for each region be different from one another. Thus, evaluation of a mission route or flight path in Tang which traverses both an area where “overmountain driftdown” and “overwater driftdown” are safety concerns would involve or require automated flight simulation mission profiling wherein the processing element of the system automatically determines an area at least partially containing the mission route for which terrain data is required, automatically divides the area into a plurality of regions based upon the mission route (i.e., one where “overmountain driftdown” is an issue and one where “overwater driftdown” is an issue), and subsequently determines a respective resolution of the terrain source data for each such region.

In light of the foregoing, the examiner’s rejection of independent claims 32 and 36 under 35 U.S.C. § 102(e) as being anticipated by Tang will be sustained.

Like the examiner, we also find that Tang discloses using data defining an aircraft platform (e.g., aircraft performance data (col. 5, line 15 and col. 8, line 66 thru col. 9, line 3)) and uses that information in the processing function to determine the area and

the respective resolution of regions within the area based at least partially upon the aircraft platform. Again, note column 21, lines 30-54 and the reference therein to “certain two engine aircraft,” as well as to the need to view critical terrain areas that impose additional safety concerns for such aircraft and also require further processing element evaluation of data from a digital terrain data base to arrive at an eligible alternative route and a set of critical terrain points to the alternate in decreasing order of altitude, if one engine of the plane should fail. Accordingly, the examiner’s rejection of claims 33 and 37 under 35 U.S.C. § 102(e) as being anticipated by Tang will also be sustained.

In addition, Tang discloses that the input receives data regarding different types of points (e.g., fix points, restricted areas, critical terrain areas, etc.) along the mission route, and then uses the processing element to determine the area and resolution of regions within the area based at least partially upon the different types of points along the mission route, particularly the critical terrain points mentioned at column 21, lines 30-54). Thus, the examiner’s rejection of claims 34 and 38 under 35 U.S.C. § 102(e) as being anticipated by Tang will be sustained.

As for the rejection of dependent claims 35 and 39, we note that the system and method of Tang includes a processing element that is capable of determining, and does

determine, the area and the respective resolution of regions within the area based upon predefined criteria and additionally has an input which is adapted to receive adjustments to at least some of the predefined criteria such that the processing element determines the area and the respective resolution of regions within the area based upon the adjusted criteria. Note particularly, the "what-if analysis" referred to at column 7, lines 39-42 of Tang and at column 11, lines 24-29. On that basis, the examiner's rejection of claims

35 and 39 under 35 U.S.C. § 102(e) as being anticipated by Tang will also be sustained.

In light of the above discussion, and for the reasons fully set forth in the examiner's answer, we conclude that the examiner has made out a *prima facie* case of anticipation. Thus, the decision of the examiner to reject claims 32 through 39 of the present application is affirmed.

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No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

CHARLES E. FRANKFORT)
Administrative Patent Judge)
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) BOARD OF PATENT
JENNIFER D. BAHR) APPEALS
Administrative Patent Judge) AND
) INTERFERENCES
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