

EXHIBIT 10

(12) United States Patent
Maruyama et al.

(10) Patent No.: US 6,430,498 B1
(45) Date of Patent: Aug. 6, 2002

(54) **PORTABLE TERMINAL WITH THE FUNCTION OF WALKING NAVIGATION**

5,528,248 A * 6/1996 Sheiner et al. 342/357
 6,069,585 A * 5/2000 Lanciaux 342/443
 6,124,826 A * 9/2000 Garthwaite et al. 342/357.09

(75) Inventors: **Kishiko Maruyama; Shigeru Shimada**, both of Kodaira;
Toshiichirou Sasaki, Iwaki, all of (JP)

* cited by examiner

(73) Assignee: **Hitachi, Ltd.**, Tokyo (JP)

Primary Examiner—Yonel Beaulieu
 (74) *Attorney, Agent, or Firm*—Mattingly, Stanger & Malur, P.C.

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/613,634**

(22) Filed: **Jul. 11, 2000**

(30) **Foreign Application Priority Data**

Jul. 12, 1999 (JP) 11-197010

(51) **Int. Cl.⁷** **G01C 21/00**

(52) **U.S. Cl.** **701/200; 701/201; 342/357.01; 342/357.08; 340/980**

(58) **Field of Search** 701/200, 201, 701/202, 211, 212, 213, 214; 340/988, 995; 342/357.01, 357.06, 357.08, 443, 147; 367/118

(56) **References Cited**

U.S. PATENT DOCUMENTS

5,146,231 A * 9/1992 Ghaem et al. 342/419

(57) **ABSTRACT**

A portable terminal has a function of walking navigation. The direction of the destination is displayed by an indicating arrow that always points in the direction of the destination. In the navigation processing, the user enters data to select a menu and/or set retrieving conditions on the setup screen. At first, the user gets the location information of the portable terminal, represented by a latitude/longitude or coordinates and an altitude, for example. Then, the user gets the direction information of the portable terminal, which is the direction of the tip of the portable terminal as determined by a compass, a gyro, or a clinometer. The location information and the direction information are set as terminal information for the retrieving conditions. The system controls retrieving of the database and retrieves the information corresponding to the selected menu, such as route guidance.

13 Claims, 10 Drawing Sheets

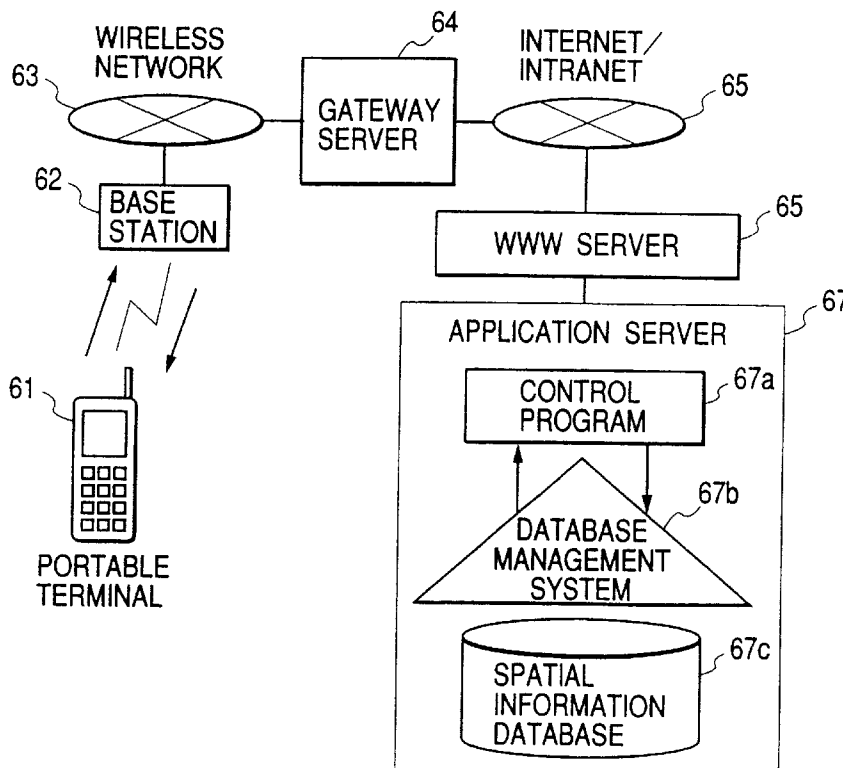


FIG. 1

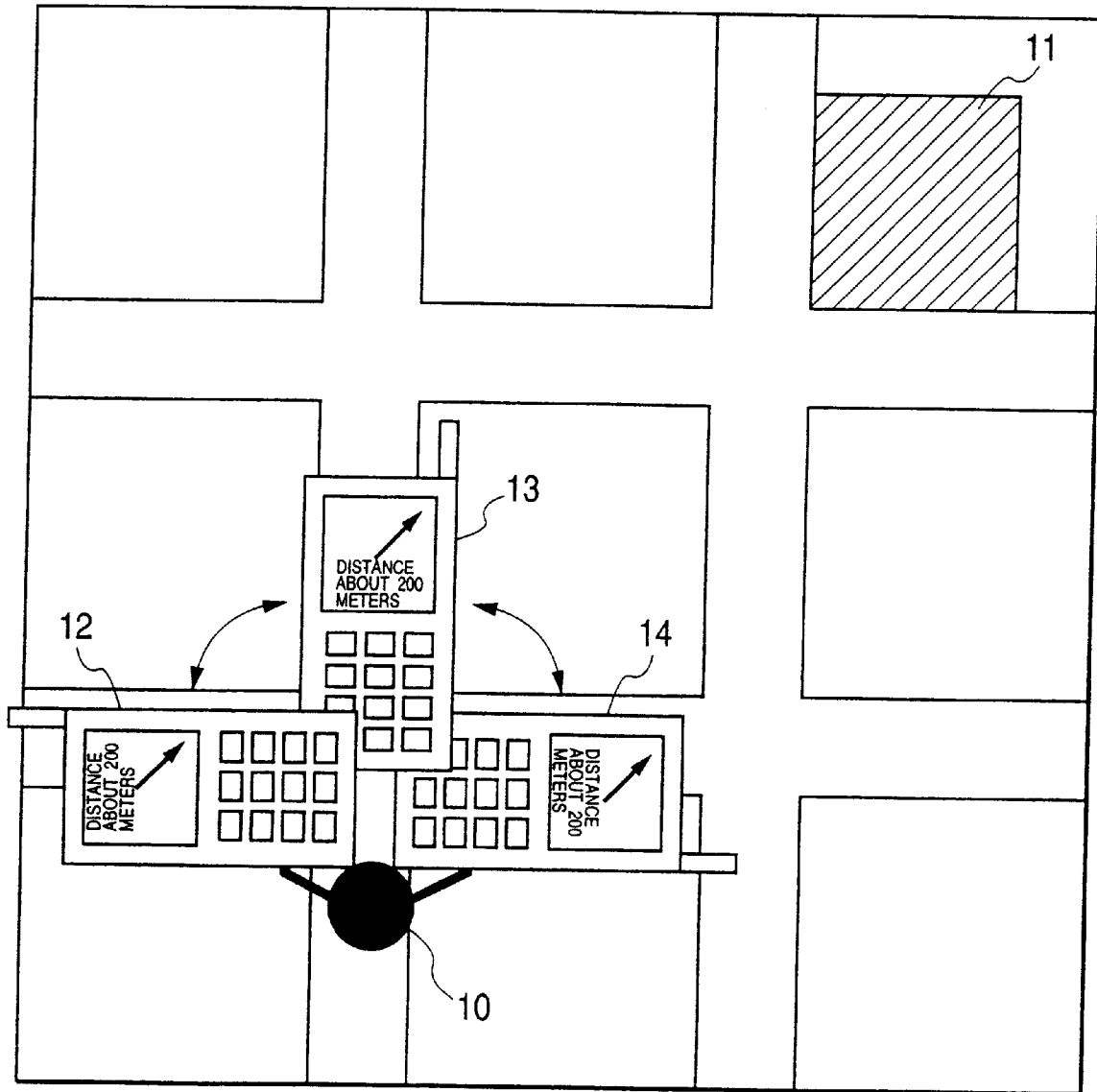


FIG. 2

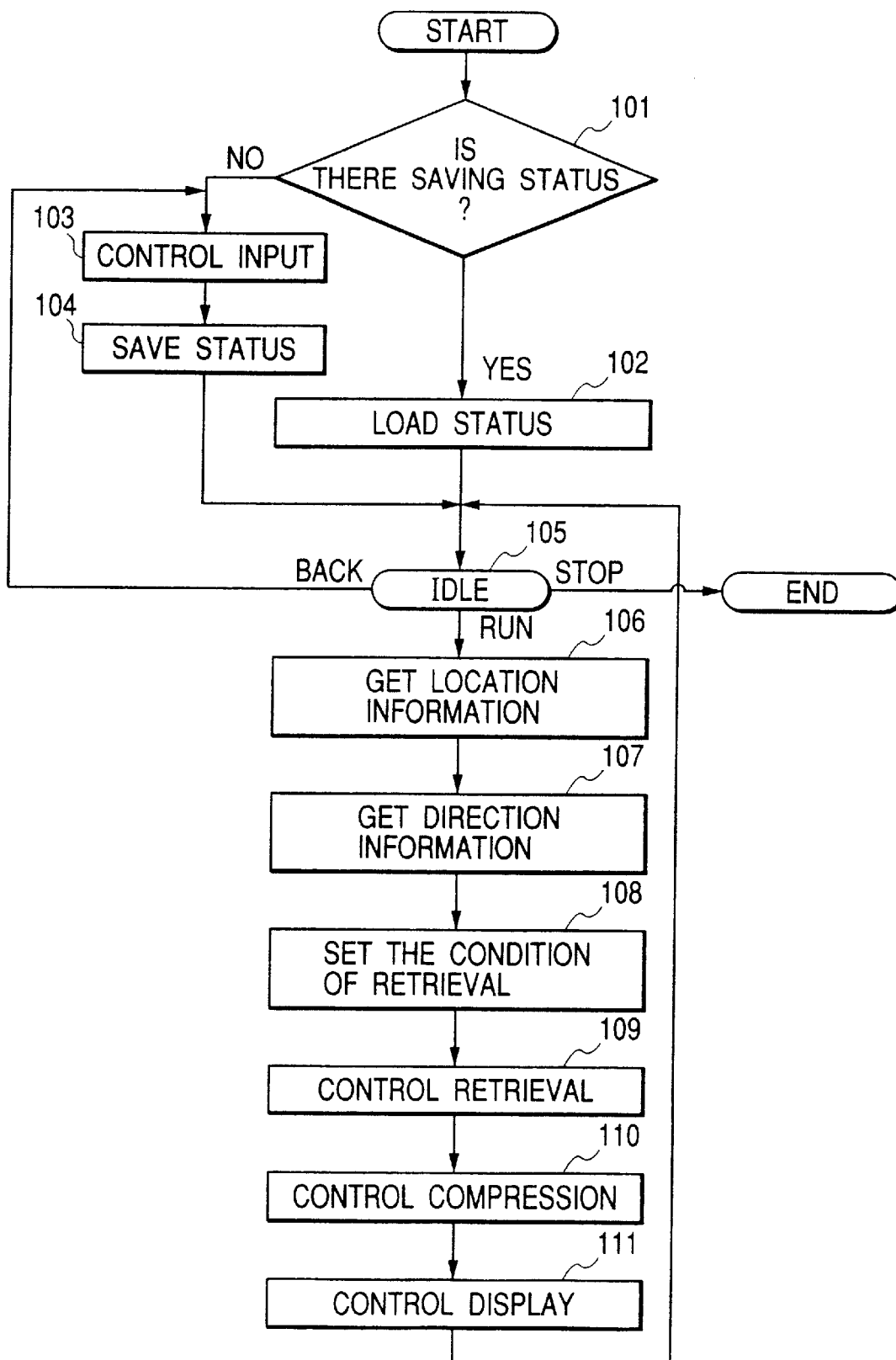


FIG. 3(a)

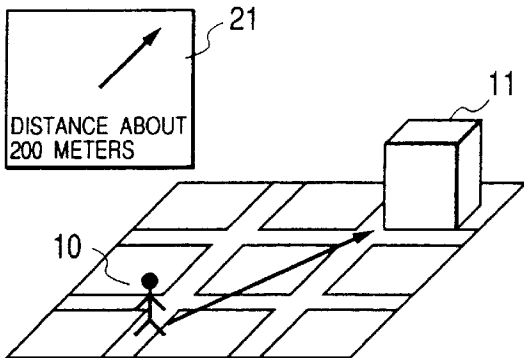


FIG. 3(b)

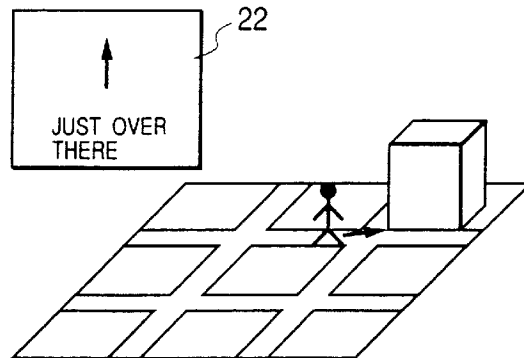


FIG. 3(c)

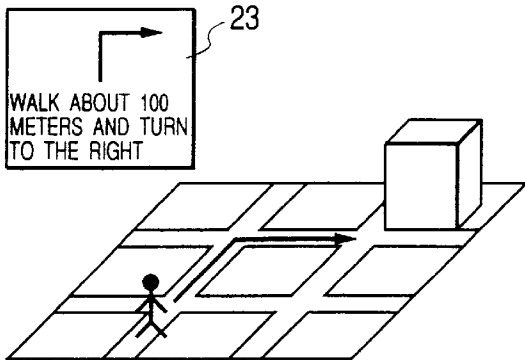


FIG. 3(d)

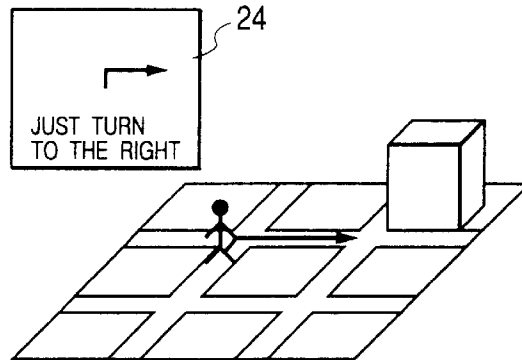


FIG. 3(e)

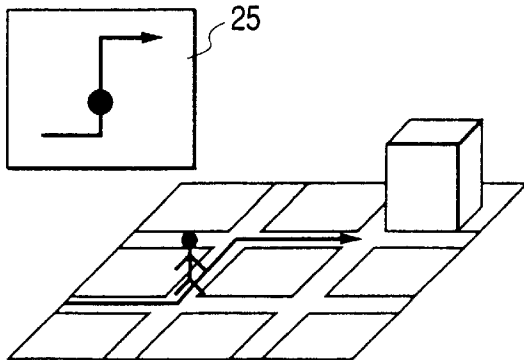
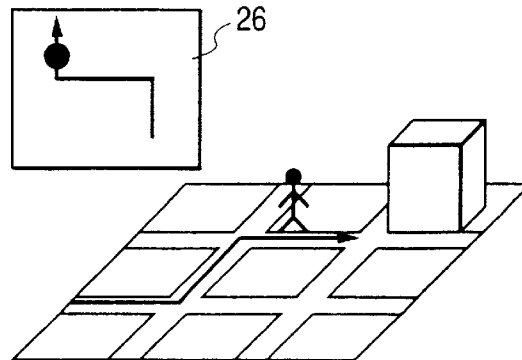


FIG. 3(f)



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.