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(71) 申请人: 腾讯科技(深圳)有限公司 (TENCENT TECHNOLOGY (SHENZHEN) COMPANY LIMITED) [CN/CN]; 中国广东省深圳市南山区高新区科技中一路腾讯大厦 35 层, Guangdong 518057 (CN)。

(72) 发明人: 张云飞 (ZHANG, Yunfei); 中国广东省深圳市南山区高新区科技中一路腾讯大厦 35 层, Guangdong 518057 (CN)。

(74) 代理人: 北京德琦知识产权代理有限公司 (DEQI INTELLECTUAL PROPERTY LAW CORPORATION); 中国北京市海淀区知春路 1 号学院国际大厦 7 层, Beijing 100083 (CN)。

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(54) Title: VEHICLE-ROAD COLLABORATION SYSTEM, VEHICLE-ROAD COLLABORATION-BASED ELEVATION CONVERSION AND UPDATING METHOD AND APPARATUS, AND STORAGE MEDIUM

(54) 发明名称: 车路协同系统、基于车路协同的高程转换更新方法、装置及存储介质

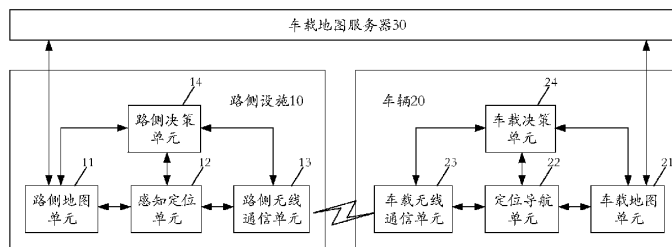


图 2

- | | |
|---|--|
| 10 Roadside facility | 21 Vehicle-mounted map unit |
| 11 Roadside map unit | 22 Positioning navigation unit |
| 12 Sensing positioning unit | 23 Vehicle-mounted wireless communication unit |
| 13 Roadside wireless communication unit | 24 Vehicle-mounted decision-making unit |
| 14 Roadside decision-making unit | 30 Vehicle-mounted map server |
| 20 Vehicle | |

(57) Abstract: A vehicle-road collaboration system, comprising: a roadside facility (10), a vehicle (20) on a road, and a vehicle-mounted map server (30), wherein a roadside map unit (11) is deployed in the roadside facility (10), and according to surrounding road network information of the roadside facility (10), the roadside map unit (11) converts absolute elevation information of a surrounding road of the roadside facility (10) into a roadside map-based relative elevation representation; a vehicle-mounted map unit (21) is deployed in the vehicle (20), and according to surrounding road network information of the vehicle (20), the vehicle-mounted map unit (21) converts absolute elevation information of a surrounding road of the vehicle (20) into a vehicle-mounted map-based relative elevation representation; the vehicle-mounted map server (30) separately communicates with the roadside map unit (11) and the vehicle-mounted map unit (21), and update and maintain a conversion relationship between the roadside map-based relative elevation representation and the vehicle-mounted map-based relative elevation representation for the same road, so that the updated conversion relationship is synchronized to the vehicle-mounted map unit (21).

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SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG,
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IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT,
RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI,
CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

本国际公布:

— 包括国际检索报告 (条约第21条(3))。

(57) 摘要: 一种车路协同系统, 包括: 路侧设施 (10)、道路上车辆 (20) 和车载地图服务器 (30), 路侧设施 (10) 中部署有路侧地图单元 (11), 路侧地图单元 (11) 根据路侧设施 (10) 的周边路网信息, 将路侧设施 (10) 周边道路的绝对高程信息转换为基于路侧地图的相对高程表示; 车辆 (20) 中部署有车载地图单元 (21), 车载地图单元 (21) 根据车辆 (20) 的周边路网信息, 将车辆 (20) 周边道路的绝对高程信息转换为基于车载地图的相对高程表示; 车载地图服务器 (30) 分别与路侧地图单元 (11) 和车载地图单元 (21) 通信, 并针对同一道路基于路侧地图的相对高程表示与基于车载地图的相对高程表示之间的转换关系进行更新维护, 以将更新后的转换关系同步至车载地图单元 (21) 中。