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**Angwin et al.**

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(54) **PROVIDING POSITION INFORMATION TO A DEVICE**

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(52) **U.S. Cl.** ..... **701/213; 455/422; 455/456; 455/556; 370/312; 370/399; 709/224**

(58) **Field of Search** ..... 701/213, 214, 701/215; 709/224, 225, 242, 220, 228, 222, 328; 455/456, 422, 556, 457, 557; 370/392, 312, 399, 401

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*Primary Examiner*—Thomas G. Black

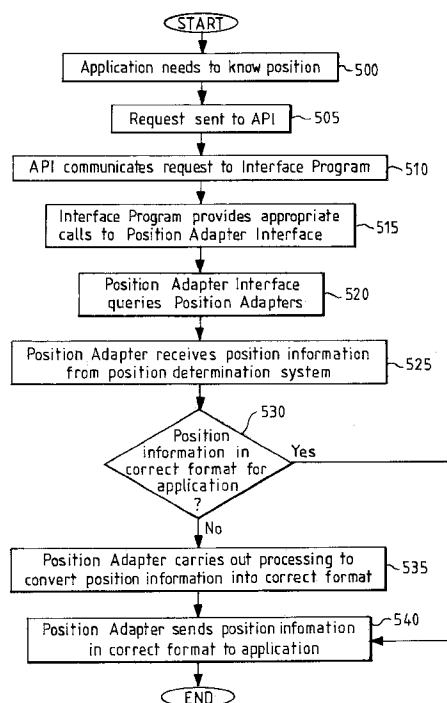
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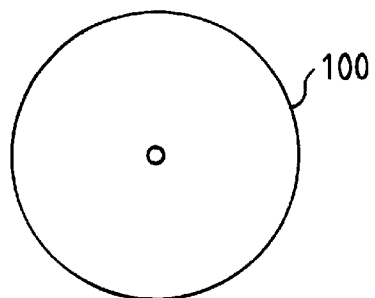
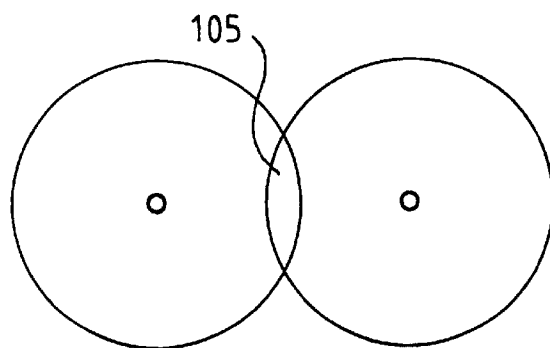
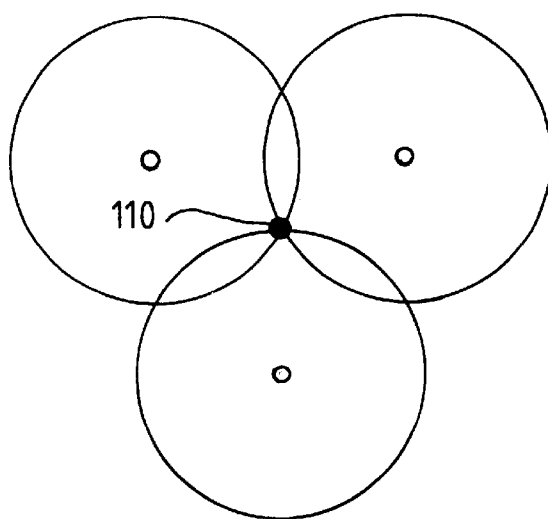
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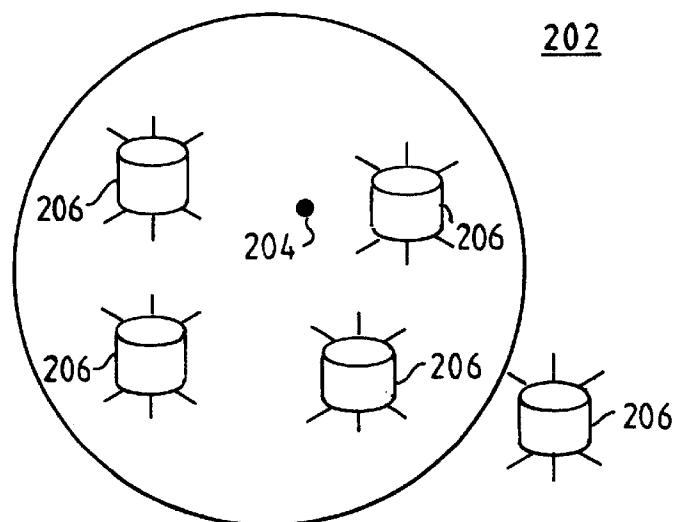
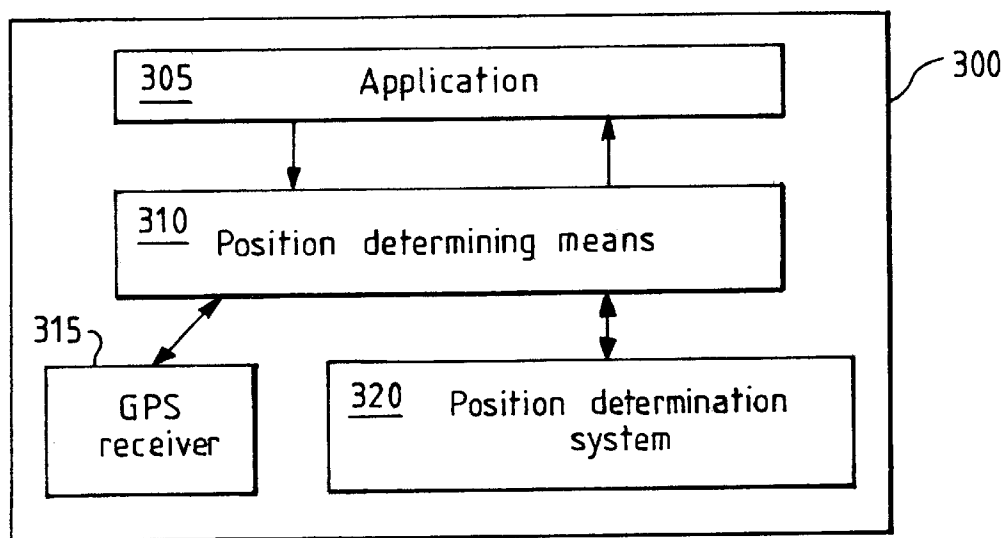
(57) **ABSTRACT**

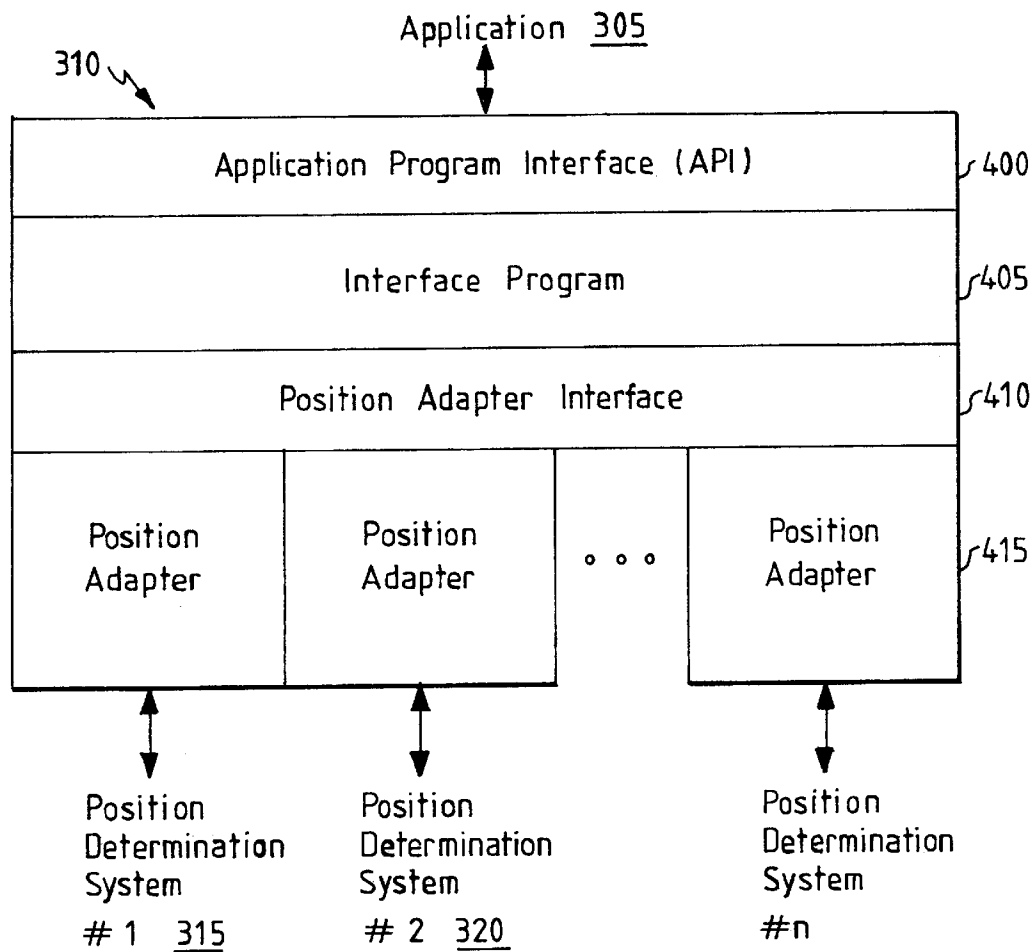
A system for providing position data in a pre-determined format to a device (e.g. a smartphone, laptop etc.), whereby the device is capable of executing an application. The system utilizes a plurality of position determination systems (e.g. GPS), which provide position data. The system further comprises an application program interface (API), which receives a request for position data from the application and passes this request to one of a plurality of position adapters. Each position adapter receives position data from a respective position determination system. The system further comprises an interface program providing data handling functions. The interface program determines whether the received position data is in a pre-determined format preferred by the application and if it is not, the respective position adapter creates position data in a pre-determined format.

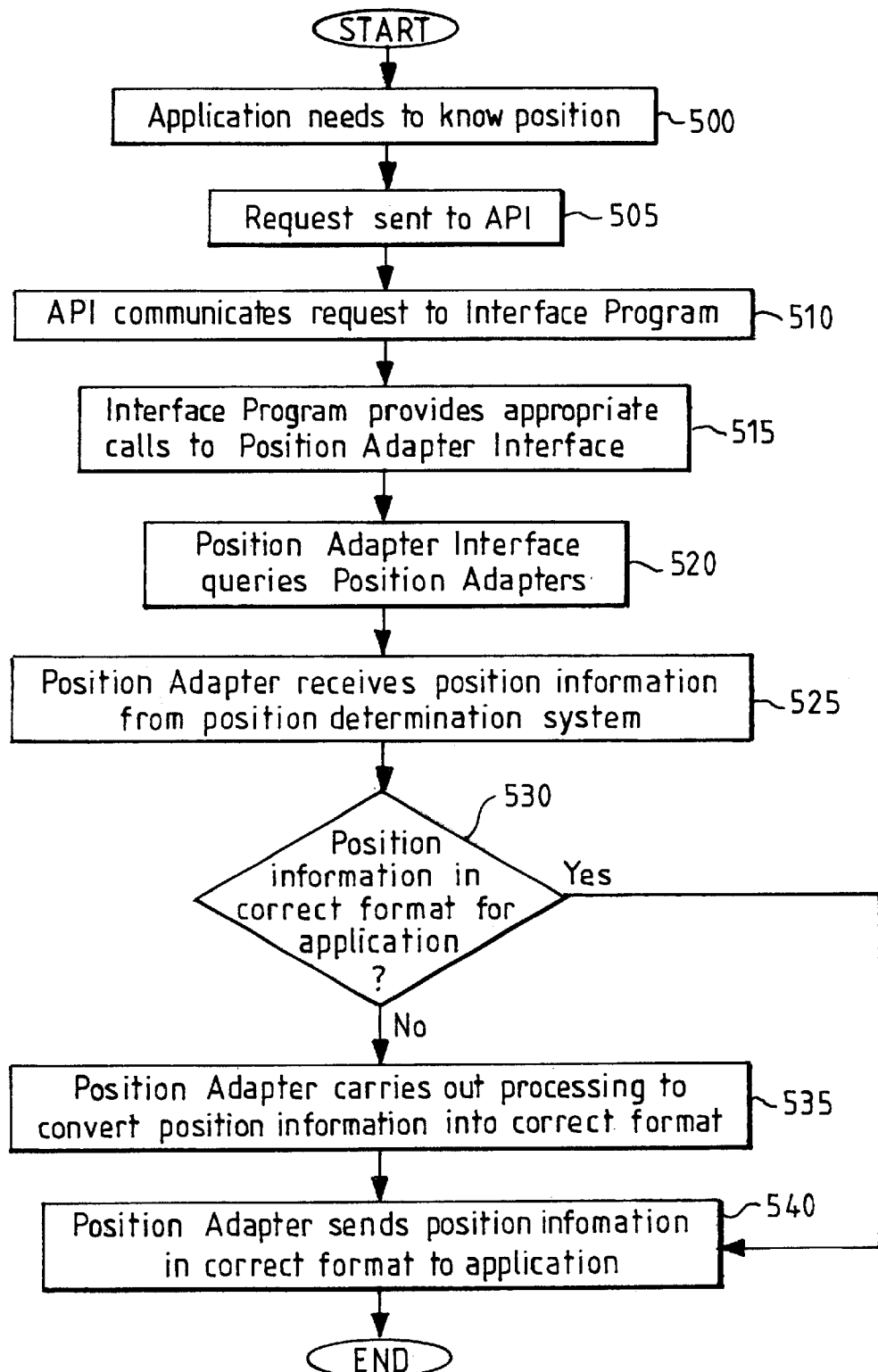
**31 Claims, 4 Drawing Sheets**



FIG. 1AFIG. 1BFIG. 1C

FIG. 2FIG. 3

FIG. 4

FIG. 5

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