

(12) **United States Patent**
Kullman et al.

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- (54) **METHOD AND SYSTEM FOR COMMUNICATING LOCATION IN A CELLULAR WIRELESS SYSTEM**
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- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 437 days.

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(51) **Int. Cl.**
H04Q 7/20 (2006.01)

(52) **U.S. Cl.** **455/456.1**; 455/404.2;
455/456.3

(58) **Field of Classification Search** 455/456.1,
455/456.3, 457; 342/450
See application file for complete search history.

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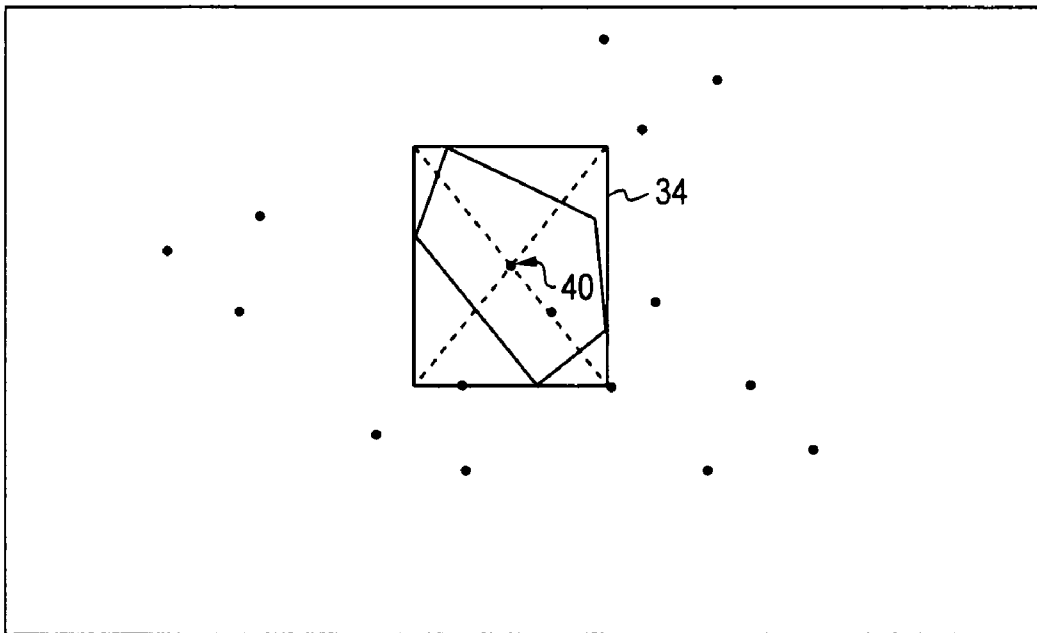
Primary Examiner—Charles N. Appiah

Assistant Examiner—Bryan Fox

(57) **ABSTRACT**

A method and system for communicating location information in a cellular wireless system. Each sector in a coverage area is characterized by a polygon of influence with respect to the other sectors. The polygon of influence is then used as a basis to characterize the scope or position of the sector and, particularly, the location of a mobile station that is operating in the sector. A location-based-service provider can then use that polygon of influence based location information to facilitate providing a location-based service.

33 Claims, 8 Drawing Sheets



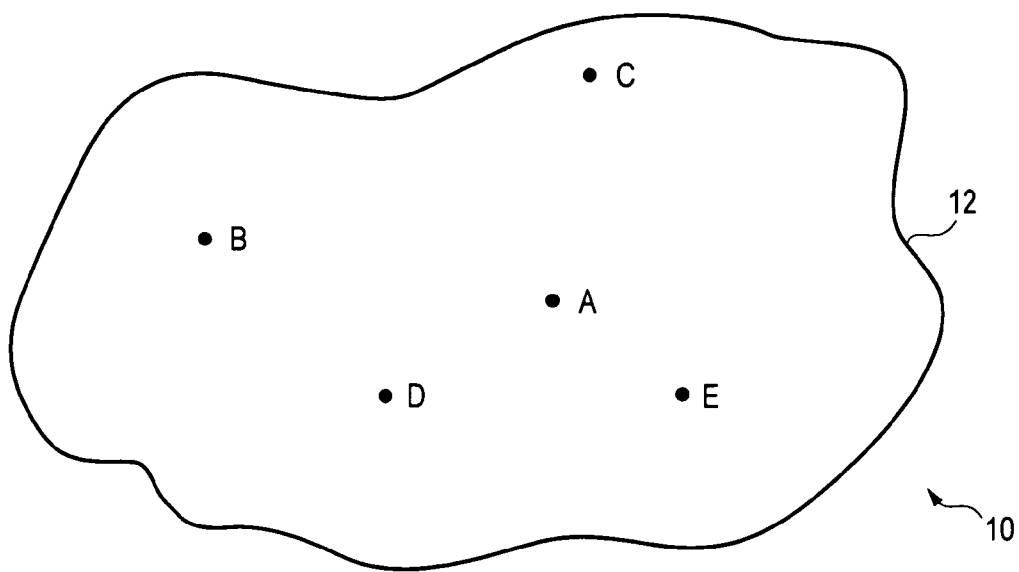


FIG. 1

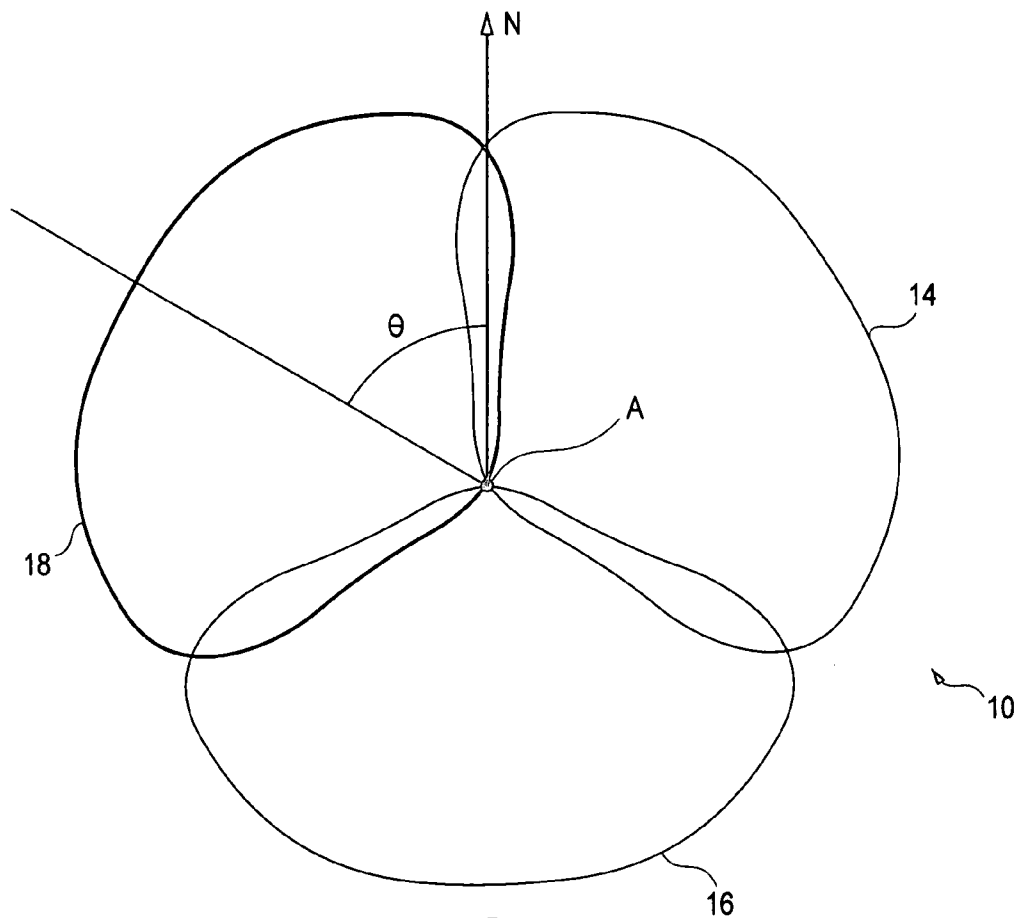


FIG. 2

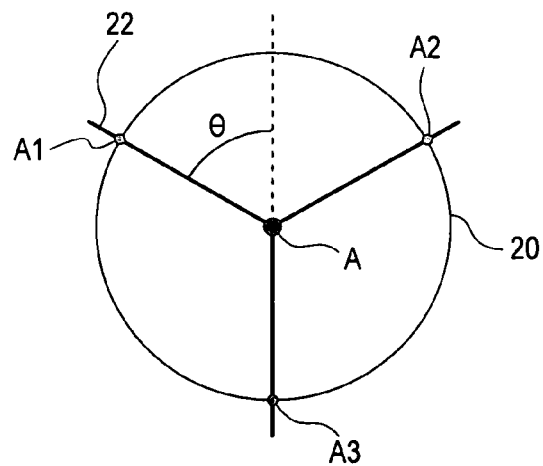


FIG. 3

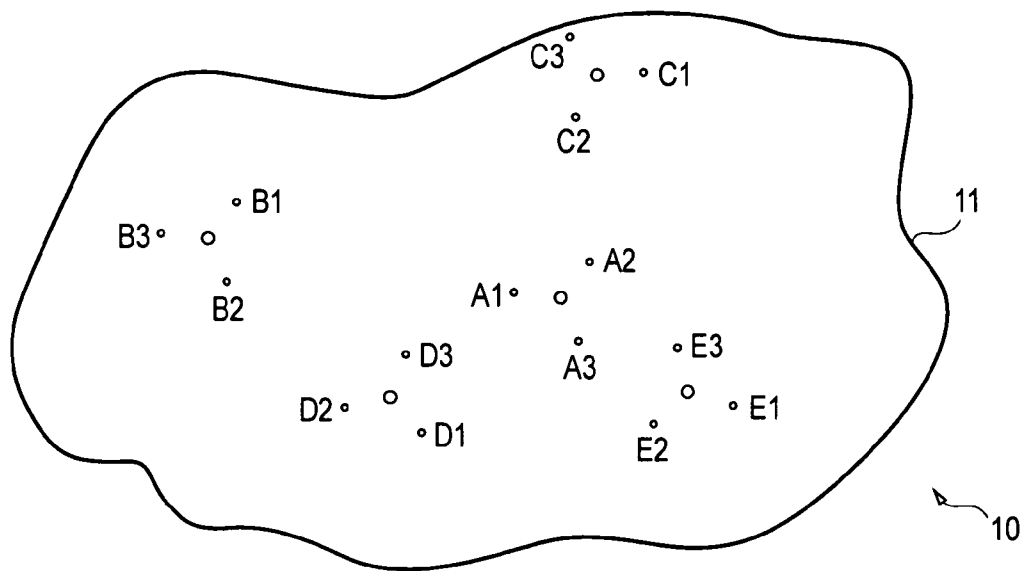


FIG. 4

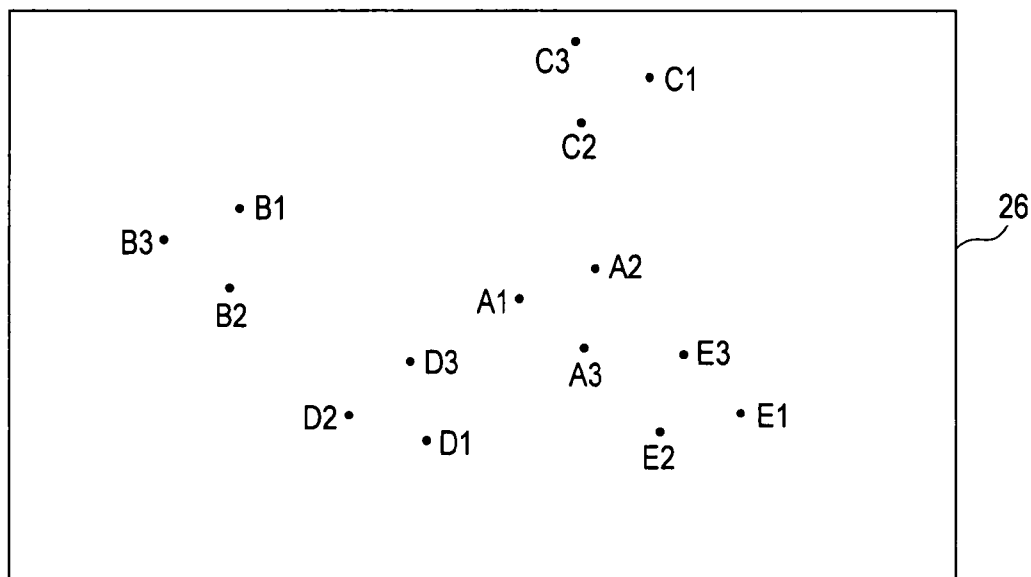


FIG. 5

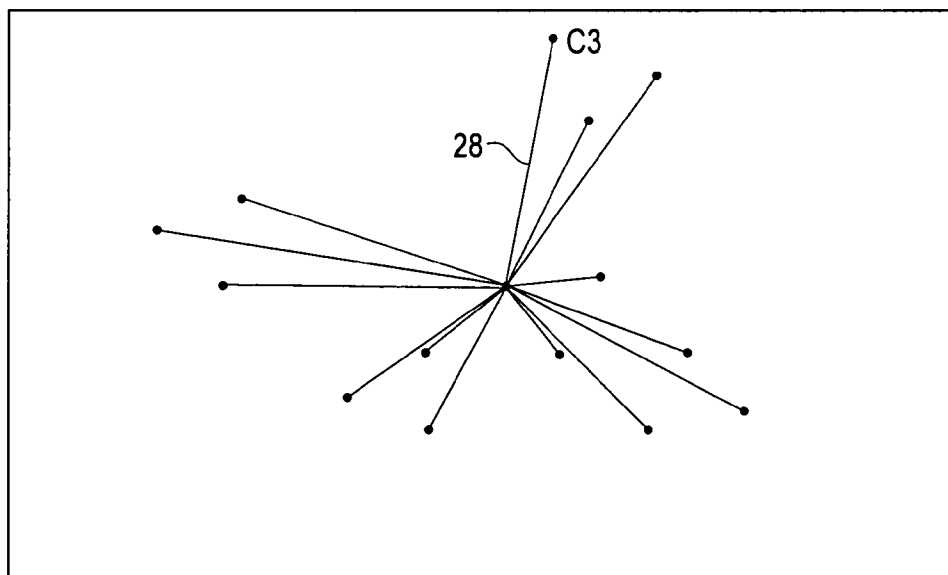


FIG. 6

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