SUMMARY

[4a] According to a first aspect of the present disclosure, there is provided a method for adaptively locating one or more moving objects relative to a target object, the method comprising:

identifying a latitude and longitude of a location of the target object, in response to a request message including location information of the target object;

identifying location information of a first moving object that is in proximity of the target object based on the identified latitude and longitude of the target object;

identifying, among road network partitions corresponding to a road network, a road network partition that encloses at least one second moving object, wherein the identification of the road network partition is based on:

an association directory that indicates a number of second moving objects on each road network partition of the road network partitions, and

the identification of the location information of the first moving object; and

adaptively locating the one or more moving objects relative to the target object based on the identified road network partition, wherein the one or more moving objects include at least one of the first moving object or the at least one second moving object.

[4b] According to a first aspect of the present disclosure, there is provided a system for adaptively locating one or more moving objects relative to a target object, comprising:

at least one processor; and

at least one memory including computer program code;

the at least one memory and the computer program code configured to, with the at least one processor, cause the system at least to:

identify a latitude and longitude of a location of the target object, in response to a request message including location information of the target object;

identify location information of a first moving object that is in proximity of the target object based on the identified latitude and longitude of the target object;

identify, among road network partitions corresponding to a road network, a road network partition that encloses at least one second moving object, wherein the identification of the road network partition is based on:

an association directory that indicates a number of second moving objects on each road network partition of the road network partitions, and

the identification of the location information of the first moving object; and

adaptively locate the one or more moving objects relative to the target object based on the identified road network partition, wherein the one or more moving objects include at least one of the first moving object or the at least one second moving object.

[5] According to a first example of the present disclosure, there is provided a method for adaptively locating a moving object relative to a target object, the method comprising: identifying a latitude and longitude of a location of the target object, in response to a request message including location information of the target object; identifying a location information of a moving object in the proximity of the target object based on the identified latitude and longitude of the target object; and adaptively locating the moving object relative to the target object based on the identified location information.

[6] According to a second example of the present disclosure, there is provided a system for adaptively locating a moving object relative to a target object, comprising: at least one processor; and at least one memory including computer program code; the at least one memory and the computer program code configured to, with the at least one processor, cause the system at least to: identify a latitude and longitude of a location of the target object, in response to a request message including location information of the target object; identify a location information of a moving object in the proximity of the target object based on the identified latitude and longitude of the target object; and adaptively locate the moving object relative to the target object based on the identified location information.

BRIEF DESCRIPTION OF THE DRAWINGS

[7] Embodiments and implementations are provided by way of example only, and will be better understood and readily apparent to one of ordinary skill in the art from the following written description, read in conjunction with the drawings, in which:

[8] Fig. 1 illustrates a system for adaptively locating a moving object relative to a target object according to various embodiments of the present disclosure.

[9] Fig. 2 is a schematic diagram of a locating server, according to various embodiments of the present disclosure.

[10] Fig. 3 is an overview of a process for adaptively locating a moving object relative to a target object, according to various embodiments.

CLAIMS

What is claimed is:

1. A method for adaptively locating one or more moving objects relative to a target object, the method comprising:

identifying a latitude and longitude of a location of the target object, in response to a request message including location information of the target object;

identifying location information of a first moving object that is in proximity of the target object based on the identified latitude and longitude of the target object;

identifying, among road network partitions corresponding to a road network, a road network partition that encloses at least one second moving object, wherein the identification of the road network partition is based on:

an association directory that indicates a number of second moving objects on each road network partition of the road network partitions, and

the identification of the location information of the first moving object; and

adaptively locating the one or more moving objects relative to the target object based on the identified road network partition, wherein the one or more moving objects include at least one of the first moving object or the at least one second moving object.

2. The method according to claim 1, wherein the step of identifying the latitude and longitude of the location of the target object further comprises:

identifying location information of the road network that the target object is travelling on; and

identifying a relative distance of a starting position of target object.

3. The method according to claim 2, wherein the step of adaptively locating the one or more moving objects relative to the target object based on the identified location information further comprises:

identifying the one or more moving objects in closest proximity to the target object when more than one moving object is identified.

4. The method according to claim 3, wherein the step of adaptively locating the one or more moving objects relative to the target object based on the identified location information further comprises

mapping the more than one moving object relative to the target object.

5. The method according to claim 2, further comprising:

mapping the location of the target object onto the road network to get its relative location in a road graph, wherein the road graph comprises the road network.

6. A system for adaptively locating one or more moving objects relative to a target object, comprising:

at least one processor; and

at least one memory including computer program code;

the at least one memory and the computer program code configured to, with the at least one processor, cause the system at least to:

identify a latitude and longitude of a location of the target object, in response to a request message including location information of the target object;

identify location information of a first moving object that is in proximity of the target object based on the identified latitude and longitude of the target object;

identify, among road network partitions corresponding to a road network, a road network partition that encloses at least one second moving object, wherein the identification of the road network partition is based on:

an association directory that indicates a number of second moving objects on each road network partition of the road network partitions, and

the identification of the location information of the first moving object; and

adaptively locate the one or more moving objects relative to the target object based on the identified road network partition, wherein the one or more moving objects include at least one of the first moving object or the at least one second moving object.

7. The system according to claim 6, wherein identifying the latitude and longitude of the location of the target object further comprises:

identifying location information of the road network that the target object is travelling on; and

identifying a relative distance of a starting position of target object.

8. The system according to claim 7, wherein adaptively locating the moving object relative to the target object based on the identified location information further comprises:

identifying the moving object in closest proximity to the target object when more than one moving object is identified.

9. The system according to claim 8, wherein adaptively locating the moving object relative to the target object based on the identified location information further comprises:

mapping the more than one moving object relative to the target object.

10. The system according to claim 7, further configured to:

map the location of the target object onto the road network to get its relative location in a road graph, wherein the road graph comprises the road network.