Claims

1. A communications server apparatus for recommending one or more points-of-interest for a transport-related service to the user, the communications server apparatus comprising a processor and a memory, the communications server apparatus being configured, under control of the processor, to execute instructions in the memory to:

in response to receiving user data comprising a data field indicative of a location of the user and further in response to the communications server apparatus determining that there is no historical data associated with the user corresponding to transport-related services,

retrieve data representative of a map comprising the location; and

transmit, for receipt by the user communications device of the user, the data representative of the map for presenting the map via the user communications device to the user for determination of a point-of-interest on the map as a recommended origin location for the transport-related service; and

in response to the communications server apparatus determining that there is historical data corresponding to transport-related services in one or more data records, the historical data being associated with the user,

determine, based on the historical data, a first point-of-interest as a recommended origin location for the transport-related service;

determine, based on the historical data, a second point-of-interest as a recommended destination location for the transport-related service, the first point-of-interest and the second point-of-interest being paired to each other based on the historical data;

transmit, for receipt by the user communications device, data indicative of the first point-of-interest and data indicative of the second point-of-interest;

generate, based on the historical data, one or more data records comprising a plurality of candidate data fields having data for a corresponding plurality of further candidate points-of-interest;

receive, from the user communications device, input data indicative of information inputted by the user, the information being at least partially descriptive of a requested location by the user as an origin location or a destination location for the transport-related service,

generate, based on the input data, one or more data records comprising a plurality of further candidate data fields having data for a corresponding plurality of further candidate points-of-interest;

generate, in the one or more data records, for each further candidate data field of the plurality of further candidate data fields, at least two criteria data fields for at least two criteria of:

keyword;

region;

popularity;

timing; and

distance;

generate, in each criteria data field of the at least two criteria data fields, data indicative of an individual score associated with the corresponding criteria for a further candidate point-of-interest, wherein,

for the keyword, the individual score is determined based on a similarity between the information and one or more words descriptive of a name of the further candidate point-of-interest;

for the region, the individual score is determined based on a proximity between a first geographical region comprising the location of the user and a second geographical region comprising the further candidate point-of-interest;

for the popularity, the individual score is determined based on a number of times the further candidate point-of-interest is historically selected as the requested location based on the historical data;

for the timing, the individual score is determined based on a probability of the further candidate point-of-interest being selected by the user as the requested location at a defined time;

for the distance, the individual score is determined based on a distance between the location of the user and the further candidate point-of-interest;

generate, for each candidate data field, a resultant score for the corresponding further candidate point-of-interest based on the individual scores;

process data indicative of the resultant scores;

transmit, for receipt by the user communications device, data indicative of the plurality of further candidate points-of-interest for presentation of the plurality of further candidate points-of-interest, via the user communications device, in accordance with result of the processing of the data indicative of the resultant scores;

transmit, for receipt by the user communications device of the user, the data representative of the map for presenting the map via the user communications device to the user for determination of a point-of-interest on the map as a recommended origin location for the transport-related service by the user; and

receive, from the user communications device, based on the respective point-of-interests, a selected origin location and a selected destination location from the user.

2. The communications server apparatus as claimed in claim 1, wherein,

in response to the communications server apparatus determining that there is the historical data and further in response to receiving user data comprising a data field indicative of a time,

for determining the second point-of-interest as the recommended destination location, the communications server apparatus is further configured to determine,

based on the historical data, the second point-of-interest being paired to the first point-of-interest in a predetermined time interval comprising the time.

3. The communications server apparatus as claimed in claim 1 or 2, wherein,

in response to the communications server apparatus determining that there is the historical data and further in response to receiving the user data comprising the data field indicative of the location of the user,

for determining the first point-of-interest, the communications server apparatus is configured to:

determine whether there is data indicative of one or more historical origin locations for transport-related services comprised in the historical data;

if it is determined that there is the data indicative of the one or more historical origin locations,

define, based on the data indicative of the one or more historical origin locations, a historical origin location that is the closest in distance to the location of the user as the first point-of-interest; and

transmit, for receipt by the user communications device, data indicative of the historical origin location; and

if it is determined that there is no data indicative of the one or more historical origin locations,

determine data indicative of one or more historical destination locations comprised in the historical data;

define, based on the data indicative of the one or more historical destination locations, a historical destination location that is the closest in distance to the location of the user as the first point-of-interest; and

transmit, for receipt by the user communications device, data indicative of the historical destination location.

4. The communications server apparatus as claimed in claim 3,

wherein, for determining the data indicative of the one or more historical destination locations, the communications server apparatus is configured to determine the data indicative of the one or more historical destination locations associated with a predetermined historical period of time.

5. A method, performed in a communications server apparatus for recommending one or more points-of-interest for a transport-related service to the user, the method comprising, under control of a processor of the communications server apparatus:

in response to receiving user data comprising a data field indicative of a location of the user and further in response to determining that there is no historical data associated with the user corresponding to transport-related services,

retrieving data representative of a map comprising the location; and

transmitting, for receipt by the user communications device of the user, the data representative of the map for presenting the map via the user communications device to the user for determination of a point-of-interest on the map as a recommended origin location for the transport-related service; and

in response to determining that there is historical data corresponding to transport-related services in one or more data records, the historical data being associated with the user,

determining, based on the historical data, a first point-of-interest as a recommended origin location for the transport-related service;

determining, based on the historical data, a second point-of-interest as a recommended destination location for the transport-related service, the first point-of-interest and the second point-of-interest being paired to each other based on the historical data;

transmitting, for receipt by the user communications device, data indicative of the first point-of-interest and data indicative of the second point-of-interest;

generating, based on the historical data, one or more data records comprising a plurality of further candidate data fields having data for a corresponding plurality of further candidate points-of-interest;

receiving, from the user communications device, input data indicative of information inputted by the user, the information being at least partially descriptive of a requested location by the user as an origin location or a destination location for the transport-related service,

generating, based on the input data, one or more data records comprising a plurality of candidate data fields having data for a corresponding plurality of further candidate points-of-interest;

generating, in the one or more data records, for each candidate data field of the plurality of candidate data fields, at least two criteria data fields for at least two criteria of:

keyword;

region;

popularity;

timing; and

distance;

generating, in each criteria data field of the at least two criteria data fields, data indicative of an individual score associated with the corresponding criteria for a candidate point-of-interest, wherein,

for the keyword, the individual score is determined based on a similarity between the information and one or more words descriptive of a name of the candidate point-of-interest;

for the region, the individual score is determined based on a proximity between a first geographical region comprising the location of the user and a second geographical region comprising the candidate point-of-interest;

for the popularity, the individual score is determined based on a number of times the candidate point-of-interest is historically selected as the requested location based on the historical data;

for the timing, the individual score is determined based on a probability of the candidate point-of-interest being selected by the user as the requested location at a defined time;

for the distance, the individual score is determined based on a distance between the location of the user and the candidate point-of-interest;

generating, for each candidate data field, a resultant score for the corresponding candidate point-of-interest based on the individual scores;

process data indicative of the resultant scores;

transmitting, for receipt by the user communications device, data indicative of the plurality of further candidate points-of-interest for presentation of the plurality of further candidate points-of-interest, via the user communications device, in accordance with result of the processing of the data indicative of the resultant scores;

transmitting, for receipt by the user communications device of the user, the data representative of the map for presenting the map via the user communications device to the user for determination of a point-of-interest on the map as a recommended origin location for the transport-related service by the user; and

receiving, from the user communications device, based on the respective point-of-interests, a selected origin location and a selected destination location from the user.

6. The method as claimed in claim 5, wherein,

in response to determining that there is the historical data and further in response to receiving user data comprising a data field indicative of a time,

determining the second point-of-interest comprises determining, based on the historical data, the second point-of-interest being paired to the first point-of-interest in a predetermined time interval comprising the time.

7. The method as claimed in claim 5 or 6,

in response to determining that there is the historical data and further in response to receiving the user data comprising the data field indicative of the location of the user,

wherein determining the first point-of-interest comprises:

determining whether there is data indicative of one or more historical origin locations for transport-related services comprised in the historical data;

if it is determined that there is the data indicative of the one or more historical origin locations,

defining, based on the data indicative of the one or more historical origin locations, a historical origin location that is the closest in distance to the location of the user as the first point-of-interest; and

transmitting, for receipt by the user communications device, data indicative of the historical origin location; and

if it is determined that there is no data indicative of the one or more historical origin locations,

determining data indicative of one or more historical destination locations comprised in the historical data;

defining, based on the data indicative of the one or more historical destination locations, a historical destination location that is the closest in distance to the location of the user as the first point-of-interest; and

transmitting, for receipt by the user communications device, data indicative of the historical destination location.

8. The method as claimed in claim 7,

wherein determining the data indicative of the one or more historical destination locations comprises determining the data indicative of the one or more historical destination locations associated with a predetermined historical period of time.

9. A communications system for recommending one or more points-of-interest for a transport-related service to the user, comprising a communications server apparatus, at least one user communications device and communications network equipment operable for the communications server apparatus and the at least one user communications device to establish communication with each other therethrough,

wherein the at least one user communications device comprises a first processor and a first memory, the at least one user communications device being configured, under control of the first processor, to execute first instructions in the first memory to transmit, for receipt by the communications server apparatus for processing, user data comprising a data field indicative of a location of the user; and

wherein the communications server apparatus comprises a second processor and a second memory, the communications server apparatus being configured, under control of the second processor, to execute second instructions in the second memory to:

in response to receiving data indicative of the user data transmitted by the at least one user communications device and further in response to that the communications server apparatus determines that there is no historical data associated with the user corresponding to transport-related services,

the communications server apparatus

retrieves data representative of a map comprising the location; and

transmits, for receipt by the at least one user communications device, the data representative of the map for presenting the map via the user communications device to the user for determination of a point-of-interest on the map as a recommended origin location for the transport-related service; and

in response to the communications server apparatus determining that there is historical data corresponding to transport-related services in one or more data records, the historical data being associated with the user,

determine, based on the historical data, a first point-of-interest as a recommended origin location for the transport-related service;

determine, based on the historical data, a second point-of-interest as a recommended destination location for the transport-related service, the first point-of-interest and the second point-of-interest being paired to each other based on the historical data;

transmit, for receipt by the at least one user communications device, data indicative of the first point-of-interest and data indicative of the second point-of-interest

generate, based on the historical data, one or more data records comprising a plurality of candidate data fields having data for a corresponding plurality of further candidate points-of-interest;

receive, from the user communications device, input data indicative of information inputted by the user, the information being at least partially descriptive of a requested location by the user as an origin location or a destination location for the transport-related service,

generate, based on the input data, one or more data records comprising a plurality of candidate data fields having data for a corresponding plurality of further candidate points-of-interest;

generate, in the one or more data records, for each candidate data field of the plurality of candidate data fields, at least two criteria data fields for at least two criteria of:

keyword;

region;

popularity;

timing; and

distance;

generate, in each criteria data field of the at least two criteria data fields, data indicative of an individual score associated with the corresponding criteria for a candidate point-of-interest, wherein,

for the keyword, the individual score is determined based on a similarity between the information and one or more words descriptive of a name of the candidate point-of-interest;

for the region, the individual score is determined based on a proximity between a first geographical region comprising the location of the user and a second geographical region comprising the candidate point-of-interest;

for the popularity, the individual score is determined based on a number of times the candidate point-of-interest is historically selected as the requested location based on the historical data;

for the timing, the individual score is determined based on a probability of the candidate point-of-interest being selected by the user as the requested location at a defined time;

for the distance, the individual score is determined based on a distance between the location of the user and the candidate point-of-interest;

generate, for each candidate data field, a resultant score for the corresponding candidate point-of-interest based on the individual scores;

process data indicative of the resultant scores;

transmit, for receipt by the user communications device, data indicative of the plurality of further candidate points-of-interest for presentation of the plurality of further candidate points-of-interest, via the user communications device, in accordance with result of the processing of the data indicative of the resultant scores;

transmit, for receipt by the user communications device of the user, the data representative of the map for presenting the map via the user communications device to the user for determination of a point-of-interest on the map as a recommended origin location for the transport-related service by the user; and

receive, from the user communications device, based on the respective point-of-interests, a selected origin location and a selected destination location from the user.

10. The communications server apparatus as claimed in claim 1,

wherein, for processing the data indicative of the resultant scores, the communications server apparatus is configured, based on the data indicative of the resultant scores, to generate, in the one or more data records, ranking data indicative of an ordering of the plurality of further candidate points-of-interest according to the resultant scores for the plurality of further candidate points-of-interest; and

wherein, for transmitting the data, the communications server apparatus is configured to transmit the data indicative of the plurality of further candidate points-of-interest for presentation of the plurality of further candidate points-of-interest, via the user communications device, in an order in accordance with the ranking data.

11. The communications server apparatus as claimed in claim 1 or 10,

wherein, for processing the data indicative of the resultant scores, the communications server apparatus is configured, based on the data indicative of the resultant scores and, for each further candidate point-of-interest of the plurality of further candidate points-of-interest, to compare the resultant score against a threshold value indicative of matching relevancy of the further candidate point-of-interest to the requested location; and

wherein, for transmitting the data, the communications server apparatus is configured to transmit the data indicative of the further candidate points-of-interest having resultant scores determined to be equal to or above the threshold value.

12. The communications server apparatus as claimed in any one of claims 1, 10 or 11, wherein, for generating the resultant score, the communications server apparatus is configured to generate the resultant score by weighted sum of the individual scores.

13. The communications server apparatus as claimed in any one of claims 1 or 10 to 12, wherein the at least two criteria comprises the region, and, in response to the individual score for the region being determined to be indicative of the first

geographical region and the second geographical region being in different countries, the communications server apparatus is further configured to exclude the further candidate point-of-interest.

14. The method as claimed in claim 5,

Wherein processing the data indicative of the resultant scores comprises generating, based on the data indicative of the resultant scores, in the one or more data records, ranking data indicative of an ordering of the plurality of further candidate points-of-interest according to the resultant scores for the plurality of further candidate points-of-interest; and

wherein transmitting the data comprises transmitting the data indicative of the plurality of further candidate points-of-interest for presentation of the plurality of further candidate points-of-interest, via the user communications device, in an order in accordance with the ranking data.

15. The method as claimed in claim 5 or 14,

wherein processing the data indicative of the resultant scores comprises comparing, based on the data indicative of the resultant scores and, for each further candidate point-of-interest of the plurality of further candidate points-of-interest, the resultant score against a threshold value indicative of matching relevancy of the further candidate point-of-interest to the requested location; and

wherein transmitting the data comprises transmitting the data indicative of the further candidate points-of-interest having resultant scores determined to be equal to or above the threshold value.

16. The method as claimed in any one of claims 1, 14 or 15, wherein generating the resultant score comprises generating the resultant score by weighted sum of the individual scores.

17. The method as claimed in any one of claims 1, or 14 to 16, wherein the at least two criteria comprises the region, and, in response to the individual score for the region being determined to be indicative of the first geographical region and the second geographical region being in different countries, the method further comprises excluding the further candidate point-of-interest.

18. A computer program or computer program product comprising instructions for implementing the method as claimed in any one of claims 5 to 8, or 14 to 17.

19. A non-transitory storage medium storing instructions, which when executed by a processor cause the processor to perform the method as claimed in any one of claims 5 to 8, or 14 to 17.