



## **A Method of Ranking Content Contributors and Related System**

### **Field**

The present invention relates to a method of ranking content contributors,  
5 particularly but not exclusively, for real-estate matters, and a related system.

### **Background**

Transacting real estates can be a daunting and complex process, which typically  
involves numerous different parties including buyer, the buyer's agent and  
10 brokerage, seller, the seller's agent and brokerage, inspector, insurance agent,  
underwriter and others. Such transactions are traditionally communicated  
through channels such as person-to-person, telephone, email or voice mail.  
With the ushering in of the digital age, more and more of these transactions are  
however being conducted via specialised online platforms/websites set up for  
15 those purposes.

As a result, there is a growing trend of users going online to search for real  
estate information such as properties for sale and/or rent. Presently, there are  
online real estate portals, which are specialised or niche websites focusing on  
20 providing those real estate information. These real estate portals provide  
information such as property listings, related to property units for sale or rent,  
and featured agents, who are real-estate agents recommended for the portal  
users. Many existing real estate portals allow agents to advertise their  
properties on the websites for free or at a fee. The users can then search for a  
25 desired location, and a list of properties in the vicinity of the desired location will  
be displayed, and usually the advertising agents' contacts are included. If the  
users are interested in a property, they may then contact the specific agent to  
enquire for information.

30 Some websites offer advertising spaces to feature the agents as a "Specialized  
Agent" of a specific location and, in return, they often have to pay a premium  
price for subscription. This however may not accurately represent the  
knowledge expertise offered for the particular location to the benefit of the users.  
Users hence often encounter difficulties locating agents who are sufficiently



knowledgeable about an area to provide them with relevant information that may assist them in reaching a purchasing or renting decision.

5 In addition, while those existing websites may offer large amounts of real estate information and listings, they may not provide convenient means for users to easily locate the desired information pertaining to a real estate. Further, there's also the issue of the platform operators' willingness to share real estate information before new users submit their personal contact information, which precedes those platforms even yet providing any real value to the users.  
10 Moreover, for users to randomly select a suitable agent from the myriad of agents listed on the websites can be rather confounding and time consuming.

Therefore, one object of the present invention is to address at least one of the problems of the prior art and/or to provide a choice that is useful in the art.

15

### **Summary**

According to a 1st aspect of the invention, there is provided a method of ranking content contributors of an online platform. The method comprises receiving a selection of at least one reference location, defining a geographical boundary  
20 based on the selected at least one reference location, the geographical boundary includes at least one geographical location, and displaying a ranking of the content contributors. The ranking of the content contributors is based on points assigned to the content contributors for contributing information to the at least one geographical location.

25

Advantageously, the proposed method motivates content contributors to actively share/contribute related information/content to the users, and thus incentivises the content contributors to provide effective and useful information/assistance to the users. This beneficially results in win-win situations for both the users and  
30 content contributors. Additionally, quality of the contributed-content may be assured as they are rated by the community of users.

Preferably, the selected at least one reference location may be disposed on or within the geographical boundary, or the selected at least one reference location  
35 may be external to the geographical boundary. Further, the method may further

comprise assigning additional points to the content contributors, if the provided information are positively rated by the users. In addition, the method may also further comprise deducting points from the points assigned to the content contributors, if the provided information are negatively rated by the users.

5

Yet preferably, the provided information may include at least one of text, photos, video recordings, audio recordings, 3D radar telemetry, 3D scanning using laser triangulation data, stereoscopic data, and telemetry data. Moreover, the selected at least one reference location may be represented by information  
10 which includes at least one of a location name, a postal code and geographical coordinates.

Preferably, defining the geographical boundary may include defining a geometric shape on a map, wherein the geometric shape includes a circle, rectangle or  
15 triangle. Indeed, the geographical boundary may be any geometric shape or a shape corresponding to any existing known boundaries. Yet preferably, the geometric shape may include the selected at least one reference location. Alternatively, the selected at least one reference location may instead be outside of the geometric shape.

20

Further, the online platform may be accessible by users via a web-based device or a mobile application. More preferably, the online platform may be a real-estate web portal, and the content contributors may be real-estate agents. The method may further comprise recommending the content contributors based on  
25 the ranking to the users through the online platform. Further, the content contributors contributing information to the at least one geographical location may include at least one of providing comments, giving tips, and offering opinions through a question-and-answer format. Preferably, the method may further comprise displaying the information contributed by the respective content  
30 contributors, together with the ranking of the content contributors.

According to a 2<sup>nd</sup> aspect of the invention, there is provided a contributor ranking system for ranking content contributors of an online platform. The system comprises a request handler module for receiving a selection of at least one  
35 reference location, a boundary defining module for defining a geographical

boundary based on the selected at least one reference location, the geographical boundary includes at least one geographical location, and a display module for displaying a ranking of the content contributors. The ranking of the content contributors is based on points assigned to the content contributors for contributing information to the at least one geographical location.

Preferably, the display module may further be configured for displaying the information contributed by the respective content contributors, together with the ranking of the content contributors.

According to a 3<sup>rd</sup> aspect of the invention, there is provided a real-estate web portal for displaying a ranking of content contributors to users, the portal comprising the system according to the 2<sup>nd</sup> aspect of the invention.

It should be apparent that features relating to one aspect of the invention may also be applicable to the other aspects of the invention.

These and other aspects of the invention will be apparent from and elucidated with reference to the embodiments described hereinafter.

20

### **Brief Description of the Drawings**

Embodiments of the invention are disclosed hereinafter with reference to the accompanying drawings, in which:

Figure 1 shows a webpage of an online platform for allowing Experts to contribute contents related to a specified location, which is based a method according to an embodiment of the invention;

Figure 2 is a flow diagram of a method for processing content contributed using the webpage of Figure 1;

Figure 3 shows a webpage for allowing users to rate content contributed using the webpage of Figure 1;

Figure 4 is a flow diagram of a method, according to the second embodiment, for assigning points to the contributed content with reference to Figure 3;

Figure 5 shows a webpage for allowing the users to search for Experts within a desired location;

Figure 6 is a flow diagram of a method to enable the functionality of the webpage of Figure 5;

Figure 7 is a flow diagram of a method for defining a geographical boundary to enable consolidation of related contributed content and prioritise the Experts within the boundary;

Figures 8 to 10 show representations of different geographical boundaries adoptable by the method of Figure 7;

Figure 11 is a block diagram of a system, which implements the webpages of Figures 1, 3 and 5; and

Figures 12 to 15 are accompanying tables for a working example to illustrate the embodiment of the invention.

### **Detailed Description of Preferred Embodiments**

According to an embodiment, a method (and a corresponding system 2702 which implements the method) for identifying, prioritising and recommending an expert, who is fairly knowledgeable about a location, to users is disclosed. The system 2702 is also termed as the "Contributor Ranking System". For ease of understanding subsequent description to this embodiment, the following terms are defined and applicable: (i). Experts – individuals/entities (i.e. agents) who contribute content for a location, (ii). Users – individuals (i.e. buyers) who utilise the method of the current embodiment to search for the Experts, and (iii). Community – everyone, including the Users and Experts. It should also be appreciated that the Users may also be the Experts.

The method according to this embodiment, enables the Users to more easily identify an Expert practising in an area/location of interest, and thus reduces the time and effort required to search for such an Expert. The respective operating concepts utilised by the method, are then described below.

### **Contribution of content to "Interesting Places"**

The method prioritises Experts who contribute content to geographical locations (abbreviated as "geo-location" hereinafter) and in this embodiment, they are known as "Interesting Places" in a neighbourhood. The "Interesting Place" is stored as a file entry in a location database on the system 2702, and tagged with the relevant metadata which include a name of the place and an associated geo-

location. For example, the "East-Coast café" is an "Interesting Place" which is located at a specific geo-location (e.g. an address). The "Interesting Place" is either an existing file entry stored in the location database, or one that is newly created by an Expert when he wishes to contribute associated information. The information contributed by the Experts are permitted, but not limited to, to be in any of the following formats: textual, photos, videos, audio recordings, 3D radar telemetry, 3D scanning using laser triangulation data, stereoscopic data or the like. Additionally, the information contributed includes any type of information contributed through submission, providing comments, giving tips, offering opinions through a question-and-answer format, and the like, as long as the information being contributed are associated to a geographical place/location.

#### **Scores tagged to "Interesting Places"**

Points are awarded to the Experts for each contribution of information to a location. Further, additional points are also awarded when any User positively rates the contributed-content (e.g. by clicking a "Mark as useful" button provided for this purpose). However, points are conversely deducted when any User negatively rates the contributed-content (e.g. by clicking a "Report as spam" button similarly provided for this purpose). It is to be appreciated that only Users who are identified by the system 2702 are allowed to rate the contributed-content. In the context of this embodiment, being "identified" specifically refers to the users who are registered with the system 2702. All points awarded to an Expert are then tagged to an "Interesting Place" for which the content is contributed. If a specified geo-location comprises multiple "Interesting Place", separate records of them are correspondingly maintained in the location database.

#### **Users identifying the location they are interested in**

Users communicate any location they are interested in to the system 2702 by providing a (common) name of the location, or any other forms of identification indicative of a specific geo-location (e.g. a street name, a building name, postal codes, places of interest or the like). It is also to be appreciated that the manner of indicating the geo-location is not limited to digitally dropping a pin (i.e. creating a placemark) onto a digital geographical map provided by the system 2702.

### **Geographical boundary setting**

After the geo-location is provided by a User, a geographical boundary is defined in a next step, by digitally setting up a fence of a predetermined perimeter  
5 around the geo-location (e.g. a 1km radius around the specific location) of a map. More specifically, the geographical boundary is defined by calculating a perimeter based on the selected geo-location. It will be apparent that the selected geo-location is used as a reference location. Importantly, it is to be appreciated that the shape of the defined geographical boundary is not limited to  
10 any geometric shape that utilises the geo-location as a reference point within/external to/residing on the circumference of the shape.

### **Scoring algorithm**

Once the geographical boundary is defined, the method is configured to identify  
15 all "Interesting Places" within the defined boundary. In addition, all the Experts who have prior made content contributions to any of the identified "Interesting Place" are also identified during this process. Thereafter, all points that are tagged to each of those "Interesting Places" are retrieved and sorted, and a summing of the associated tagged points to obtain respective scores of each  
20 identified Expert are performed. Consequently, the Experts are ranked accordingly based on their scores, and displayed in a list for viewing by the User.

Figure 1 illustrates an online platform in the form of a webpage 1700 for enabling  
25 the Experts to contribute contents related to a specified location, which is based on the method of the current embodiment. Particularly, the webpage 1700 includes an "Expert's place search" section 1702, and a "place identification" section 1704. The "Expert's place search" section 1702 allows an Expert to search for a location in a geographical region he wants to contribute content to,  
30 and he subsequently selects a desired location through the "place identification" section 1704. It will also be apparent that any of the above described sections 1702, 1704 may be omitted, rearranged or adapted (i.e. redesigned in terms of user-interface) in various manner. Thereafter, the webpage 1700 page transits to show a content contribution page 1706, which the Expert uses to add the  
35 content he wishes to contribute.

Accordingly, the Expert proceeds to contribute content related to the selected location under a textbox 1708 found in the content contribution page 1706. It will also be appreciated that contribution of content may also be performed  
5 through other types of input/GUI widgets as apparent to the skilled person. Specifically, the Expert is allowed to contribute content to, for instance, the nearest MRT station, nearby famous restaurant, convenient shopping place, nearby recreational park or the like that are within the vicinity of the selected location. An example would be that the Expert writes a review regarding a  
10 shopping mall situated in the selected location. It is to be highlighted that only Experts registered with the system 2702 are allowed to access and contribute contents. Further, it is to be appreciated that contribution of content is not limited to only writing reviews. The content is contributable in any, but not limited to, of the following ways: providing answers to questions posed by Users,  
15 giving related tips, supplying different types of information such as products/services, as well as providing the information in different forms such as textual, audio, video, photos, or the like.

When the Expert submits the contributed-content, he also identifies the location  
20 name and geo-location for associating with the contributed-content. The Expert identifies the geo-location by using, but not limited to, his current location or by digitally indicating a place on an electronic map.

Additionally, the contributed-content can be categorised by the Expert under  
25 various categories such as, but not limited to, shopping, recreation, food and beverages, transportation or the like, by selecting a different category label 1710, provided, for example as a pull-down bar, through the content contribution page 1706.

30 Figure 2 shows a flow diagram 1800 of a method for processing the content contributed by the Expert. At step S1802, a search request, regarding a location (for example a place), from the Expert is received, and at step S1804, upon identifying a place, the Expert then submits content(s) associated to the place. At final step S1806, the contributed-content is then stored (on a database).

Figure 3 illustrates a webpage 1900 for allowing users to rate content contributed by the Experts. Particularly, the webpage 1900 includes a "location-search" section 1902, a "location-identification" section 1904, and a "details-of-contributed-content" section 1906. Using the webpage 1900, a User enters a location under the "location-search" section 1902 to search for contributed-content associated to the desired location, and that location is consequently identified in the "location-identification" section 1904. Thereafter, once the location is identified, the available associated contributed-content (previously submitted by Experts) are retrieved and displayed in the "details-of-contributed-content" section 1906.

It is to be appreciated that Users are allowed to positively or negatively rate the contributed-content (i.e. provide ratings). For example, a contributed-content can be rated either as useful (i.e. give a positive rating), or as spam (i.e. give a negative rating). However, a User is only permitted to use this functionality for rating the contributed-content when he signs up as a registered user of the system 2702. It is to be appreciated that the rating of contributed-content is implementable in various ways understood to be possible by a skilled person, and the Users only need to know that they can rate contributed-content as positive or negative.

Figure 4 is a flow diagram 2000 of a method for assigning points to the contributed-content, which also takes into account whether the contributed-content are positively or negatively rated, as previously described in Figure 3. This method is implemented as a scoring algorithm (as afore described) in the system 2702, and provides a way to ensure quality of the contributed-content and therefore consequently, for the benefit of users, allows identification of Experts who submit valuable and accurate contents. It is to be appreciated that the quality and usefulness of any content submitted by the Experts are determined from the perspectives of the Users.

At step S2002, the contributed-content as displayed is rated. More specifically, at step S2004, a decision is made whether the contributed-content has been rated as useful or spam. If the contributed-content is determined to be rated as useful (i.e. positively rated), then at step S2006, additional points are assigned

to the associated contributed-content. On the other hand, if the contributed-content is determined to be rated as spam (i.e. negatively rated), points are deducted to be subsequently from the pool of points assigned to the contributed-content at step S2010. For example, if a User finds a contributed-content useful,  
5 he rates the content as useful by clicking on a useful button (not shown) provided through the webpage 1900 of Figure 3. Conversely, the User is allowed to rate the contributed-content as spam. Users are however are not allowed to rate their own contributed-contents to avoid a biased situation whereby an Expert self-rates his own contributed-contents.

10 From either at step S2006 or step S2008, the flow of the method is directed to step S2010, in which the total points assigned to the contributed-content are summed to provide a final tally for the contributed-content. The top content contributors (i.e. Experts) in a specific location are then determined based on  
15 their total scores obtained. It is to be appreciated that this method of assigning scores to contributed-content allows the Community to assist in rating and reviewing Experts who can provide value-adding services to the Community, and thus more likely to accurately reflect the Experts' true knowledge of a location.

20 Figure 5 illustrates a webpage 2100 for allowing Users to search for Experts operating within a desired location. The webpage 2100 includes a "user-search" section 2102, and an "Expert-recommendation" section 2104. It will also be apparent that that any of the above described sections 2102, 2104 may be omitted, rearranged or adapted (i.e. redesigned in terms of user-interface) in  
25 various manners understood to be possible by the skilled person.

In the "user-search" section 2102, Users input any search parameter that is configured with some sort of geo-location information to search for a desired location. Based on the provided information, a list of Experts in that location is  
30 displayed in the "Expert-recommendation" section 2104. More specifically, the "Expert-recommendation" section 2104 includes detailed information of the recommended Experts practising in the specified area (based on the entered location). After assessing the information provided through the list, Users then select an Expert on the list to engage in further interaction.

In summary, Users need only to be aware that an Expert is easily locatable by indicating a desired location (in the "user-search" section 2102), or several of those locations as desired.

5 Figure 6 is a flow diagram 2200 of a method to enable the functionality of the webpage 2100 of Figure 5. In particular, a User enters one or more desired locations (e.g. by providing corresponding names or addresses) at step S2202 through a client interface, and this information is transmitted to the system 2702 at step S2204 for querying the relevant databases in order to retrieve the  
10 relevant results. Then at step S2206, after performing a search, the system 2702 obtains and returns the best match, in terms of providing results which include a suitable list of Experts practising in the location, and the associated contributed-content. At a final step S2208, the results are forwarded, and displayed through the client interface to the User.

15 Figure 7 is a flow diagram 2300 of a method for defining a geographical boundary to enable consolidation of related contributed-content and prioritise the Experts, associated with the content, within the defined boundary. At step S2302, when a User performs a location search as per Figure 5, the data and  
20 information (e.g. a corresponding section of a digital map) related to the location are retrieved. It is to be appreciated that the search is configurable to be for a single location or multiple locations. At step S2304, a geographical boundary, in respect of the desired location(s), is defined to facilitate the subsequent ranking of the Experts practising within the boundary.

25 At step S2306, the data corresponding to the Experts, and their respective contributed-contents, found within the defined boundary are retrieved. In further step S2308, the points that are assigned to the respective contributed-contents for each Expert summed up to obtain a cumulative score, and in a final step  
30 S2310, the Experts are then accordingly ranked based on the respective total scores. The ranking methodology disclosed for this embodiment ensures that the Users identify the Experts based on quality of their content contributions, which have been peer-rated by the Community and thus increases likelihood of identifying Experts who know a place/area sufficiently well. As a result, Users

are consequently able to locate genuine Experts practising at the specified location within one search, which is a more effective and efficient process.

Figures 8 to 10 illustrate representations of different types of geographical boundary utilised by the method of Figure 7. In particular, the geographical boundary adoptable is defined to be a geometric shape. Figure 8 shows a geographical boundary 2400 embodied in the form of a circle 2402 (i.e. a circular boundary), with a reference location 2404 (i.e. "The Bencoolen") designated as the centre of the circle 2402 having a predetermined radius 2406, which varies according to a geographical positioning of the selected reference location 2404.

On the other hand, Figure 9 shows a geographical boundary 2500 as a rectangle 2502 (i.e. a rectangular boundary). In particular, the rectangular boundary 2502 is configured with a predetermined length 2504 and width 2506. It is to be appreciated that the rectangular boundary 2502 is defined by selecting two separate reference locations 2508, 2510, which when connected consequently defines the width 2506 of the rectangle 2502. In this instance, the two reference locations 2508, 2510 lie on the defined boundary 2502. The length 2504 of the rectangle 2502 is then defined along two parallel streets on which the two reference locations 2508, 2510 are respectively indicated.

Figure 10 depicts a geographical boundary 2600 in the form of a triangle 2602 (i.e. a triangular boundary). The sides 2604a, 2604b, 2604c of the triangular boundary 2602 are defined by first selecting three separate reference locations 2606, 2608, 2610, and thereafter connecting the three reference locations 2606, 2608, 2610 in a manner apparent to a skilled person to form the respective sides 2604a, 2604b, 2604c of the triangle 2602. In this instance, the three reference locations 2606, 2608, 2610 form the respective apexes of the defined triangular boundary 2602; in other words, they 2606, 2608, 2610 also lie on the defined boundary 2602.

Figure 11 is a block diagram of the system 2702 (i.e. server system) for implementing the method of the current embodiment, and carries out bidirectional interaction with a client system 2704. In particular, the system 2702 includes and implements the following software modules: a Client Request

Handler 2706, a Consolidator Engine 2708 (which includes a sub-module for defining the geographical boundary), a Ranking/Scoring Engine 2710, a Contributed-contents Database 2712, an Experts Database 2714, a Locations Database 2716, and a Users Database 2718. On the other hand, the client system 2704 includes a Client Interface 2720.

The Client Request Handler 2706 is configured to receive requests transmitted from the Client Interface 2720 and returns appropriate responses. Requests from the Client Interface 2702 may include any of the following:

- (i). A request to display a list of recommended Experts for a particular location or multiple locations. This request is made by an Expert or a User;
- (ii). Submission of a contributed-content by an Expert; and
- (iii). Rating submitted for a specific contributed-content by a User;

The Locations database 2716 is configured to store entries and information related to all the locations, in which contributed-content may be attached to, if available. The information stored includes respective geo-location coordinates and location names.

The Experts Database 2714 is configured to store information pertaining to all Experts who have prior submitted contributed-content. It is to be noted that a contributed-content is always associated to a particular location. When an Expert submits a contributed-content for a location of interest, which does not yet exist in the Locations Database 2716, a new file entry corresponding to that Location is created and stored in the Locations Database 2716.

The Users Database 2718 is adapted to store data of Users, registered with the system 2702, who are allowed to rate an Expert's contributed-content through the Client Interface 2720 of the client system 2704. It is to be appreciated that while non-registered Users are still allowed to perform Expert searches using the system 2702, they however are not permitted to rate any of the contributed-content.

The Contributed-contents Database 2712 is configured to store all contributed-content submitted in association with a particular location. The contributed-

content include written contributed-contents, images, factsheets, technical information relating to any aspects of that location or the like. It is to be highlighted that the system 2702 is configured such that only Experts are permitted to contribute contents.

5

The Ranking/Scoring Engine 2710 is configured to compute the overall score for each Expert based on submitted user ratings in reference to the associated Expert's contributed-content.

10

In operation, when a User requests for a list of Experts to be displayed through the client interface 2702, the Client Request Handler 2706 instructs the Consolidator Engine 2708 to calculate an appropriate geographical boundary based on the reference location(s) as submitted in the User's request. The Consolidator Engine 2708 then retrieves all the stored available locations, situated within the defined geographical boundary, from the Locations Database 2716. For each of the retrieved locations, the Consolidator Engine 2708 proceeds to consolidate all related contributed-contents from the Contributed-contents Database 2712. The Consolidator Engine 2708 also subsequently consolidates information of all Experts, who own the consolidated contributed-content, from the Experts Database 2714. Next, the Consolidator Engine 2708 instructs the Ranking/Scoring Engine 2710 to rank all those Experts, and forwards a list of the ranked Experts to the Client Request Handler 2706, which transmits the list to the Client Interface 2720 of the client system 2704 to be displayed to the User.

25

An example to illustrate how the Experts practising in a specific area contribute content for places located within the area to be awarded points to subsequently rank them, according to the current embodiment, is described thereafter. More particularly, this example illustrates how Experts are identified in an area, how points are awarded for contributed-content, and finally how Experts are ranked based on scores derived from the accumulated points.

30

### **Scenario**

In this example, there are four Experts: A, B, C and D, who are considered to have fairly good knowledge of an area, which is termed the "Bugis" area.

35

Experts A, B, C and D are all registered with the system 2702 of the current embodiment, and hence, they are able to search for any places with a geo-location and contribute content to the "Bugis" area. It is to be appreciated that the places to be mentioned below, for which content are contributed, are all  
5 located in the "Bugis" area for the purpose of this example.

### **How Experts contribute contents**

Expert-A starts by contributing two contents for "Bugis Junction" ("Places 1") and is then awarded two points by the system 2702. Specifically, the following  
10 content contributions are made by Expert-A: (i). He uploads a photo of "Bugis Junction", and (ii). He contributes a text write-up on "Bugis Junction".

Expert-A also contributes content for "Bugis Village" ("Places 2") and is awarded a point. The content contributed is in the form of a text write-up on the "Bugis  
15 Village". Further, Expert-A contributes content for "Bugis MRT" ("Places 3") and is awarded a point. Similarly, the content contributed is in the form of a text write-up on "Bugis MRT".

Expert-A then proceeds to contribute content for "Waterloo Temple" ("Places 4")  
20 and is awarded a point for this effort. In particular, the content contribution is made by providing a text write-up on the "Waterloo Temple". It is to be appreciated that multiple places may be tagged to a single geo-location. In this instance, "Bugis Junction", and "Bugis MRT" have the same geographical coordinates, and are thus tagged to the same geo-location.

25 Referring now to Expert-B, he contributes content for "Bugis Junction" (i.e. "Places 1") and is awarded a point in respect of this. In particular, Expert-B uploads a video which provides information about "Bugis Junction".

30 Expert-B then makes four content contributions for the "Waterloo Temple" (i.e. "Places 4"), and is consequently awarded four points for his efforts. The contributions are made by providing a text write-up on the "Waterloo Temple", and uploading three photos of the "Waterloo Temple".

On the other hand, Expert-C contributes four contents for "Bugis Junction" (i.e. "Places 1"), and is subsequently awarded four points. He provides two text write-ups of "Bugis Junction", and uploads two photos of a restaurant operating in "Bugis Junction".

5

Expert-C also contributes two contents relating to "Bugis Village" (i.e. "Places 2"), and for this, he is awarded two points. The content contributions are made by uploading a video on "Bugis Village", and providing a text write-up on "Bugis Village".

10

Expert-D contributes a single content for "Bugis Junction" (i.e. "Places 1") by providing a text write-up, and is thus awarded only a point. Expert D also contributes a single content for "Bugis Village" (i.e. "Places 2"), and is awarded a point for putting up a text write-up on "Bugis Village".

15

All of the points awarded to the respective Experts A, B, C, and D, for their contributions made in respect of the places in the "Bugis" area, are accordingly summarised in a table 2800 of Figure 12.

#### 20 **How Users rate reviews**

User-Z is a registered user who is permitted to read all the contributed-contents made by Experts A, B, C, and D, and rate the contributed-contents as positive/negative, if he wishes to.

25 On reading the contributed-contents through the Client Interface 2720 of the client system 2704, User-Z likes one of the content for "Bugis Junction" (i.e. "Places 1"), which is contributed by Expert-A. User-Z then proceeds to rate that particular content as positive by clicking on the "Mark as Useful" button (not shown) provided next to the contributed-content. An additional consequential  
30 point is thus awarded to Expert-A in respect of this place.

User-Z also likes one of the content on "Bugis Village" (i.e. "Places 2") contributed by Expert-A and rates the content as positive by clicking on the "Mark as Useful" button provided next to that contributed-content. One further  
35 point is awarded to Expert-A in respect of this place.

Further, User-Z also considers one of the content on "Bugis Junction" (i.e. "Places 1") contributed by Expert-C to be inappropriate information. User-Z then rates the content as negative by clicking on the "Report as Spam" button (not shown) provided next to that contributed content. In consequence, a point is then to be deducted from the points awarded to Expert-C in respect of this place (i.e. "Bugis Junction").

Thereafter, the system 2702 records the ratings given by User-Z to the contributed-content, and the corresponding points are then to be added to/deducted from the contributed-content. As a result, the total tally of points awarded to Experts changes whenever a User rates their contributed-content, be it positively or negatively. A table 2900 in Figure 13 shows the respective total points awarded to the Experts A, B, C, and D, after User-Z rates the associated contributed-content.

#### **How Scores are computed for Experts ranking**

On the other hand, User-Z is a member of the public who is researching about the "Bugis" area as he wishes to acquire a real-estate property in the area, and hopes to find more related information/experts to aid in his decision making process. User-Z is also a registered user of the system 2702, and is able to browse through the contents contributed by Experts, and permitted to rate the contributed-contents as positive/negative. In this example, User-Z is interested in "The Bencoolen Condominium" ("Places 5") located in the "Bugis" area, and therefore wishes to know more about the places in the vicinity of "The Bencoolen Condominium". User-Z subsequently keys in a search parameter corresponding to "The Bencoolen Condominium" into the Client Interface 2720 of the client system 2704, which transmits the search parameter to the system 2702. On that basis, the system 2702 determines the location of "The Bencoolen Condominium", and thereafter defines a geographical boundary 2402, 2502, 2602 in respect of "The Bencoolen Condominium", based on a predetermined perimeter. It is apparent that in this instance, "The Bencoolen Condominium" is the reference location used to initiate determination of the geographical boundary, which may be defined using any of the ways afore described in Figures 8 to 10.

In this instance, the geographical boundary is configured to be a circle having a radius of two kilometres, with the "The Bencoolen Condominium" as the designated reference location (i.e. centre of the circular boundary). Once the  
5 geographical boundary is defined, the system 2702 identifies all places, located within the geographical boundary, which have associated contributed-contents prior provided by the Experts. According to this example, the system 2702 then identifies "Bugis Junction" (i.e. "Places 1"), "Bugis Village" (i.e. "Places 2") and "Bugis MRT" (i.e. "Places 3") to be within the defined geographical boundary.  
10 The "Waterloo Temple" (i.e. "Places 4") is however determined to be external to the geographical boundary, and is thus excluded.

Once the system 2702 has identified the relevant places of interests and retrieved the associated contributed-content, all the points awarded to each  
15 Expert are summed up, in respect of the identified places. Accordingly, for each Expert, only points awarded for contents contributed for "Bugis Junction" (i.e. "Places 1"), "Bugis Village" (i.e. "Places 2") and "Bugis MRT" (i.e. "Places 3") are taken into consideration. The respective scores of the Experts A, B, C, and D, after summing are shown in a table 3000 in Figure 14.

20

#### **How the system recommends Experts to Users**

Based on the Experts' content contribution for the places of interest (i.e. "Bugis Junction", "Bugis Village", and "Bugis MRT") found within the geographical boundary of "The Bencoolen Condominium" (i.e. "Places 5"), it is evident from a  
25 table 3000 of Figure 30 that Expert-A has the highest score of six, followed by Expert-C with a score of five, and Expert-D and Expert-B have a score of two and one respectively.

Based on the determined ranking, the system 2702 recommends the Experts to  
30 User-Z. Particularly, priority of the recommendation made corresponds to an order of the highest score achieved in the ranking list, and thus the top ranked Expert (i.e. Expert-A) is recommended first to the User-Z, over the other Experts (i.e. Experts C, D and B). This is depicted in a table 3100 of Figure 31. Notwithstanding the recommendation of Expert-A, User-Z also has the option to

choose other Experts over Expert-A, if he wishes, according to the ranking sequence shown in the table 3100 of Figure 15.

Advantageously, the proposed method encourages and motivates Experts to  
5 actively share/contribute related information/content to users, and thus as a whole, collectively incentivises the Experts to provide effective and useful information/assistance to the users, which may eventually result in win-win situations for both the users and Experts alike. In addition, quality of the contributed-content may be assured as they are rated by the community of  
10 users.

The described embodiments should however not be construed as limitative. It is also to be appreciated that the method is not limited to applicable for only real-estate matters; the method may also be used in areas where the combinatory  
15 utilisation of the concepts of social networking, user review and local search are required, for example, seeking for restaurants or barber shops in the neighbourhood. In other words, the method is broadly applicable for ranking content contributors of an online platform which may include an online community/e-community that may either be reached by the users via web-based  
20 devices/portals or through use of mobile applications. It is further to be appreciated that the method may also be applicable for use in other types of environments, and not restricted to only being deployed on a website/web portal. For example, the environment may be one comprising any electronic devices or any combination of hardware/software that are able to interact with the system  
25 2702, which then recommends Experts through performance of the proposed method, according to the embodiment. Alternatively, the environment may comprise software applications that are installed in electronic devices such as mobile devices (e.g. smartphones), game consoles, or the like.

30 Further, the server system 2702 may also comprise any combination of hardware/software that will advantageously facilitate performance of the proposed method. Yet further, the client system 2704 may comprise any combination of hardware/software that is able to interact with the server system 2702. These systems 2704 may include television-based systems or other  
35 equivalent systems, which the proposed method may be implemented in. For

clarification sake, television-based systems or other equivalent systems include any form of electronic devices and systems that are configured to be able to access either private networks (i.e. Intranets) or the Internet to reach the online communities/e-communities. For instance, Smart TV is one example of the  
5 above mentioned television-based systems, through which a user can utilise to access the Internet/Intranets.

Moreover, points may also be awarded to the Experts when users shared their contributed contents. Also, the Experts may also earn points through their own  
10 efforts by performing, but not limited to, the following activities such as contributing information to a location/place or sharing the information.

In addition, in respect of the step of defining the geographical boundary, a set of geographical boundary profiles may alternatively be pre-stored in the system  
15 2702, and the geographical boundary profiles may include shapes of any existing known boundaries (e.g. boundaries of states/districts/cities, circumference of a street/road, boundary of a landmark, and etc) or any other predefined geometric shapes.

20 Thus when a user has selected a reference location, and subsequently communicates it to the system 2702, the proposed method then determines an appropriate geographical boundary to use, from the set of pre-stored profiles, in which the reference location is determined to be encompassed by or disposed on the perimeter of the selected geographical boundary. On the other hand, if  
25 the reference location is determined to be encompassed by or disposed on the perimeter of multiple possible geographical boundaries, the user may then select the boundaries he is interested in.

Yet additionally, it is appreciated that multiple reference locations may be used  
30 to define and map the geographical boundary, as afore described. However, multiple boundaries (i.e. the boundaries may be spaced apart or overlapping) may also be defined based on the multiple reference locations, as opposed to defining only one geographical boundary as described above, which is to define the boundary by joining all the reference locations to form the perimeter of a  
35 geometric shape (refer to Figures 8 to 10).

The skilled person would also appreciate that the geographical boundary may be drawn in various ways, in respect of the reference location(s). Particularly, the proposed method only requires a reference location(s) (which is provided by the user), and thereafter utilises the provided reference location(s) to set up the geographical boundary/boundaries.

Yet further, identifying the users by the system 2702 for the purpose of allowing them to rate the contributed content is not limited to only identifying those users who are registered with the system 2072. Other ways of identifying the users may include identification through browser cookies, through tracking device ID of a device used by a user to access the system 2702 or the like. Therefore, it is appreciated that as long as a user has some form of identification with the system 2705, that user is then permitted to rate the contributed content.

Moreover according to another variation, it is to be highlighted that subsequent to the ranking of the Experts, the system 2702 may, in addition to recommending the ranked Experts for a specific location, also recommend the associated contents contributed by the Experts. Simply put, this means that based on the ranking as generated, the system 2702 may recommend a list of Experts in a location or/and a list of the Experts' associated contributed contents. It is further to be appreciated that displaying the recommendations to the users may be effected/implemented in various manners, as will be apparent to skilled persons.

While the invention has been illustrated and described in detail in the drawings and foregoing description, such illustration and description are to be considered illustrative or exemplary, and not restrictive; the invention is not limited to the disclosed embodiments. Other variations to the disclosed embodiments can be understood and effected by those skilled in the art in practising the claimed invention.

## Claims

1. A method of ranking content contributors of an online platform, the method comprises:
  - 5 receiving a selection of at least one reference location;
  - defining a geographical boundary based on the selected at least one reference location, the geographical boundary includes at least one geographical location; and
  - displaying a ranking of the content contributors,
  - 10 wherein the ranking of the content contributors is based on points assigned to the content contributors for contributing information to the at least one geographical location.
2. The method of claim 1, wherein the selected at least one reference  
15 location is disposed on or within the geographical boundary.
3. The method of claim 1, wherein the selected at least one reference location is external to the geographical boundary.
- 20 4. The method of any preceding claim, further comprises assigning additional points to the content contributors, if the provided information are positively rated by the users.
5. The method of any preceding claim, further comprises deducting points  
25 from the points assigned to the content contributors, if the provided information are negatively rated by the users.
6. The method of any preceding claim, wherein the provided information includes at least one of text, photos, video recordings, audio recordings, 3D  
30 radar telemetry, 3D scanning using laser triangulation data, stereoscopic data, and telemetry data.
7. The method of any preceding claim, wherein the selected at least one reference location is represented by information which includes at least one of a  
35 location name, a postal code and geographical coordinates.

8. The method of any preceding claim, wherein defining the geographical boundary includes defining a geometric shape on a map, wherein the geometric shape includes a circle, rectangle or triangle.

5

9. The method of claim 8, wherein the geometric shape includes the selected at least one reference location.

10. The method of claim 8, wherein the selected at least one reference location is outside of the geometric shape.

10

11. The method of any preceding claim, wherein the online platform is accessible by users via a web-based device or a mobile application.

12. The method of claim 11, wherein the online platform is a real-estate web portal.

15

13. The method of any preceding claim, wherein the content contributors are real-estate agents.

20

14. The method of any preceding claim, further comprises recommending the content contributors based on the ranking to the users through the online platform.

15. The method of any preceding claim, wherein the content contributors contributing information to the at least one geographical location includes at least one of providing comments, giving tips, and offering opinions through a question-and-answer format.

25

16. The method of any preceding claim, further comprises displaying the information contributed by the respective content contributors, together with the ranking of the content contributors.

30

17. A contributor ranking system for ranking content contributors of an online platform, comprising:

35

a request handler module for receiving a selection of at least one reference location;

a boundary defining module for defining a geographical boundary based on the selected at least one reference location, the geographical boundary  
5 includes at least one geographical location; and

a display module for displaying a ranking of the content contributors,

wherein the ranking of the content contributors is based on points assigned to the content contributors for contributing information to the at least one geographical location.

10

18. The system of claim 17, wherein the display module is further configured for displaying the information contributed by the respective content contributors, together with the ranking of the content contributors.

15

19. A real-estate web portal for displaying a ranking of content contributors to users, the portal comprising the system of claim 17.