Do the number of creators and their conversations affect re-evaluation of a familiar place in making a tourist map?

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Short resume of the presenter

- Name: Yoko Nishihara
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- My laboratory’s Web site: https://www.nishihara-lab.org/
Topics of research interest of our group

- Human-Computer Interaction: https://tinyurl.com/2mnxhbmw (demo)
- Natural Language Processing: https://tinyurl.com/2yspn5k8 (slides)
- Comic Computing
- Edutainment
- Entertainment: https://tinyurl.com/r49366sb (demo)
- Multimedia on Cooking and Eating Activities: https://tinyurl.com/8vend223 (slides)
People often refer to a tourist map that shows tourist attractions to see when they go sightseeing.

**A tourist map is indispensable for sightseeing.**

A well-known tourist place often has many tourist attractions or a few tourist attractions that cannot be missed.

On the other hand, **a place where newly promotes itself as a tourist place must begin with discovering tourist attractions to be included in a tourist map.**
Even if a place is not currently a sightseeing place, the place may have valuable spots known only by people familiar with the place.

We call such a spot an unrevealed tourist attraction.

To discover unrevealed tourist attractions, the help of people who are familiar with the place is necessary.

However, it may be difficult for them to spontaneously list spots that would be tourist attractions for others because they are familiar with the place.
Two assumptions and a research objective

- (1) Each individual is influenced by his/her partner and can re-evaluate a place to list spots as tourist attractions if two people look for spots together instead of him/herself.

- (2) The re-evaluation will be conducted efficiently if they have conversations when looking for such places.

The authors analyze the effects of the number of people and their conversations on the re-evaluation of a place in creating a tourist map.

It means the authors try to study about collaborative decision making when mapping new places.
Hypotheses of this paper

- [H1a]: The number of tourist attractions will be larger if two people create a tourist map without any conversations than if a single person creates it.

- [H1b]: The number of tourist attractions will be larger if two people create a tourist map with conversations than if without conversations.

- [H2a]: The proportion of unrevealed tourist attractions increases if two people create a tourist map without any conversations, rather than a single person creates it.

- [H2b]: The proportion of unrevealed tourist attractions increases if two people create a tourist map with conversation than when without any conversations.
Hypotheses testing experiments

- **Experimental procedures**
  1. The experimenter instructs participants on how to make a tourist map.
  2. The participants walk around a place for 45 minutes and take photos of what they consider to be tourist attractions.
  3. The participants upload the photos to Google map, write the title and description of the photos, and complete to make the tourist map.

- **Experiment location**: Biwako-Kusatsu campus of Ritsumeikan University.

- **Participants**: 35 students who belonged to the campus for more than one year.

- **Experiment groups**
  - Group A: 7 participants. Each of them makes a tourist map alone.
  - Group B: 7 pairs, 14 participants. Each of pairs makes a tourist map without conversations.
  - Group C: 7 pairs, 14 participants. With conversations.
How to judge whether a place is unrevealed

1. If a spot is a facility described on a campus map published by the university, the spot should be regarded as a famous tourist attraction that everyone knows well.

2. Even a spot is that mentioned in (1), if there is a description of personal memories or impressions, a new perspective of enjoying the spot will be added. It should be regarded as an unrevealed tourist attraction is found in creating a map.

3. If a spot is not described on the campus map, the spot should be regarded as an unrevealed tourist attraction.
Referred map of Biwako-Kusatsu campus
Experimental results:
Examples of created tourist maps by Group A through C.
Experimental results: Examples of tourist attractions obtained by Group C participants

- **View from 7th floor at Creation core**: You can see Biwa lake.
- **Quins stadium**: You can enjoy watching sports game.
- **Toricia**: This is a beautiful building in this university.
## Experimental results:
Number of tourist attractions, timu duration, and the proportion of unrevealed

<table>
<thead>
<tr>
<th></th>
<th>Group A (single person)</th>
<th>Group B (two without conversations)</th>
<th>Group C (with conversations)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of tourist attractions</td>
<td>17.6</td>
<td>18.1</td>
<td>10.3</td>
</tr>
<tr>
<td>time duration for creating a map</td>
<td>32.1 minutes</td>
<td>28.6 minutes</td>
<td>22.1 minutes</td>
</tr>
<tr>
<td>proportion of unrevealed tourist attractions</td>
<td>68.3%</td>
<td>73.7%</td>
<td>86.1%</td>
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Testing of [H1a] and [H1b]

- [H1a] and [H1b] were not valid.
- This is because it took time to think about unrevealed tourist attractions, which reduced the number of tourist attractions on the maps.

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Testing of [H2a] and [H2b]

- [H2a] and [H2b] should be valid.
  - A significant difference was not obtained by statistical testing.
- It is necessary to increase the number of experiments in the future to conduct statistical analysis.

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Conclusions

- We analyzed the effects of the number of creators and their conversations on re-evaluating the familiar place in making a tourist map as a collaborative decision making study.

- We found that when two participants made a tourist map with conversations, the tourist map has more unrevealed tourist attractions than that made by a single person.

- As a future work, we would conduct interviews to deepen the findings.