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

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- My laboratory's Web site: https://www.nisihara-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
- Edutainmeint
- Entertainment: https://tinyurl.com/r49366sb (demo)
- Multimedia on Cooking and Eating Activities: https://tinyurl.com/8vend223 (slides)

Research background (1/2)

- People often refer to a tourist map that shows tourist attractions to see when they got 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**.

Research background (2/2)

- 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 ther are familiar with the place.

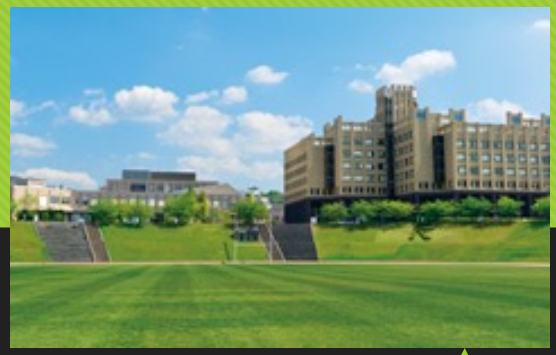
Two assumptions and a research objective

- (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 coversations.
- [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 touirst 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 : B**iwako-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.

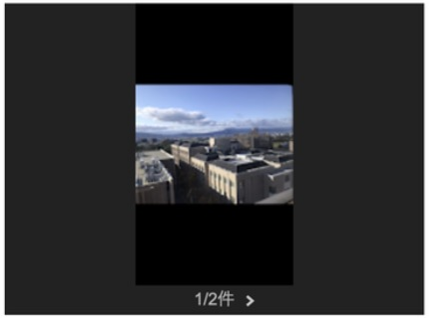
Group A

Group B

Group C

Experimental reuslts: Examples of tourist attractions obtained by Group C participants

View from 7th floor at Creation core



You can see Biwa lake.

34.97948, 135.96429

Quins stadium

You can enjoy watching sports game.

34.98244, 135.96129

Toricia

This is a beautiful building in this university.

34.98312, 135.96501

Experimental results: Number of tourist attractions, timu duration, and the proportion of unrevealed

	Group A (single person)	Group B (two without conversations)	Group C (with conversations)
# of tourist attractions	17.6	**18.1**	10.3

	Group A (single person)	Group B (two without conversations)	Group C (with conversations)
time duration for creating a map	32.1 minutes	28.6 minutes	**22.1 minutes**

	Group A (single person)	Group B (two without conversations)	Group C (with conversations)
proportion of unrevealed tourist attractions	68.3%	73.7%	**86.1%**

Testing of [H1a] and [H1b]

	Group A (single person)	Group B (two without conversations)	Group C (with conversations)
# of tourist attractions	17.6	**18.1**	10.3

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

Testing of [H2a] and [H2b]

	Group A (single person)	Group B (two without conversations)	Group C (with conversations)
proportion of unrevealed tourist attractions	68.3%	73.7%	**86.1%**

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

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 whe 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.