



RITSUMEIKAN



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
- Title: Professor (Dr. of Engineering)
- Affiliation: College of Information Science and Engineering,
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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/2mnoxhbmw> (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)



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 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

立命館大学びわこ・くさつキャンパス
Campus Map Ritsumeikan University Biwako-Kusatsu Campus

立命館大学びわこ・くさつキャンパス
Campus Map Ritsumeikan University Biwako-Kusatsu Campus

| | | | | | | | |
|----------------------|------|-----------------------------------|-------------------|--|--------------|---|-----------------------------------|
| 1 アクトα サークルラボ | ACTα | 11 エクセル2 理工学部、生命科学部、薬学部の研究実験室。 | EXL2 | 21 サイエンスコア 生命科学部、薬学部の研究実験室、共同研究室、教員研究室、薬学部事務室など。 | SCIENCE CORE | 31 ユニオンスクエア 学生関連施設、生協食堂・ショップ、ホールなど。 | UNION SQUARE |
| 2 アクトμ 音楽練習場 | ACTμ | 12 エクセル3 理工学部の研究実験室。 | EXL3 | 22 セル 理工学部の研究実験室。 | CEL | 32 立命館大学BKCインキュベータ BKC INCUBATOR (独)中小機構による大学連携起業家育成施設(開発・実験・研究施設)、BKCリサーチオフィス。 | RITSUMEIKAN BKC INCUBATOR |
| 3 アクトβ サークルルームなど。 | ACTβ | 13 エポック立命21 多機能型セミナーハウス | EPOCH RITSUMEI 21 | 23 セントラルアーク BKC国際教育センター、言語教育企画課(BKC)、Beyond Borders Plaza、1階にBKC学生オフィス、学生サポートルーム、教員研究室など。 | CENTRAL ARC | 33 立命館大学ローム記念館 ROHM PLAZA 大会議室、教員研究室など。 | RITSUMEIKAN UNIVERSITY ROHM PLAZA |
| | ACTσ | | | | | 34 リンクススクエア 生協食堂・書籍部、2階に生命科学部事務室など。 | LINK SQUARE |

Experimental results: Examples of created tourist maps by Group A through C.



Group A



Group B



Group C

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

The image displays three photo gallery thumbnails and a map. The thumbnails are:

- View from 7th floor at Creation core**: Shows a view of a building complex. Description: "You can see Biwa lake." Location: 34.97948, 135.96429.
- Quins stadium**: Shows a large stadium. Description: "You can enjoy watching sports game." Location: 34.98244, 135.96129.
- Toricia**: Shows a long, modern building. Description: "This is a beautiful building in this university." Location: 34.98312, 135.96501.

The map on the right shows a university campus with various buildings and landmarks. A green line traces a path through the campus, connecting the locations of the three photos. Landmarks on the map include: 特別支援老人ホーム、ケースデンキ関西ロジ、立命館大学BKインキュベータ、立命館大学ローム記念館、メディアセンター、キャンビー、エポック立命21、立命館大学ひびこ・くさつキャンパス、立命館大学スポーツ健康科学部、フォレストハウス、カラーニングハウス、アクト、クエーションコア、草津若草、わかかさ、山本バイオリン教室、焼肉、青山中央公、無料 滋賀工場、津田上 料金所.

Experimental results:

Number of tourist attractions, time 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 statistical 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 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.