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<tbody>
<tr><td colspan="2" align="center">日本―イスラエル　国際共同研究「レジリエントな社会のための ICT」
平成３０年度　年次報告書</td></tr>
<tr><td>研究課題名（和文）</td><td>観光客の流動パターンの把握と避難経路情報の提供</td></tr>
<tr><td>研究課題名（英文）</td><td>Tourists' Flow Patterns Identification and Information Provision for Safe Evacuation</td></tr>
<tr><td>日本側研究代表者氏名</td><td>Jan-Dirk Schmöcker</td></tr>
<tr><td>所属・役職</td><td>京都大学　工学研究科都市社会工学専攻　准教授</td></tr>
<tr><td>研究期間</td><td>平成 30 年 6 月 1 日　～　令和 3 年 5 月 31 日</td></tr>
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１．日本側の研究実施体制

氏名	所属機関・部局・役職	役割
Jan-Dirk Schmöcker	Associate Professor, Kyoto University, Department of Urban Management	PI, Overall co-ordination
Nobuhiro Uno	Professor, Kyoto University, Department of Civil and Earth Resource Engineering	Co-PI, Kyoto Experiments
Fumitaka Kurauchi	Professor, Gifu University, Department of Civil Engineering	Evacuation Route Design
Toshiyuki Nakamura	Associate Professor, Nagoya University, Institute for Innovation for Future Society.	Data Fusion and Travel Pattern Modelling
Junji Nishida	Japan Research Institute for Social Systems	Data Collection Experiment

２．日本側研究チームの研究目標及び計画概要

　　The main goal of the Japanese team for this fiscal year is the completion of "Experiment 1": Within a few areas of Kyoto that are busy with tourists Wi-Fi sensors

will be installed in order to measure tourist flows. For this experiment various preparation is required. We need to select the test site, purchase the equipment and discuss with representatives from Kyoto City. After the data collection, probably in November, we will start with the data analysis. We will firstly obtain models explaining flows, then advanced predicting flows and merging the collected data with other data sources such as cellular data and bus location records. We will hold a kick-off meeting with the Israeli counterpart in Kyoto and visit Israel in March next year. As the Israeli counterpart will conduct similar experiments around Tel Aviv with different sensors, the goal is to co-ordinate activities to some degree to allow for similar data modelling approaches and to be able to draw some general conclusions as to how accurate tourist flows can be estimated. During this year we will also prepare for subsequent work regarding using the data for understanding potential evacuation requirements.

3. 日本側研究チームの実施概要

To better understand the background and research objectives of the Israeli researchers, two workshops were held this year. In October the Israeli team visited Japan and we conducted a larger workshop open for wider participation as well as closed project meetings. During the visit of the Japanese team to Israel tourist and potential evacuation needs in Israel were studied.

During this first project year data on tourist flow patterns have been collected through Wifi-sensing technology. Sensors have been placed in Pontocho area as well as at Nishiki market in Kyoto. These places were chosen as they are popular and crowded tourist areas. Potential evacuation scenarios for these areas and information required will be studied in the next year. Further, the tests allow us to test re-identification of tourists with our technology. The two areas are frequently visited walking on the same day by visitors to Kyoto. Since March, our data collection was extended by placing in addition two sensors at Bar-Ilan University campus in Tel Aviv, Israel. The Israeli team is further placing Bluetooth sensors on the campus. Fusion of the datasets is currently ongoing. The on-campus tests are considered a proof-of-concept for larger applications. Basic and advanced analysis of this data is ongoing including merging with additional data sources.

以上