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Development of Pedestrian Model of Road Crossing Behavior based on Data obtained from Mixed-Reality Pedestrian Simulator Experiment

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We observed pedestrian road crossing behavior using Mixed Reality pedestrian simulator, which displays integrated view of real images and computer graphics and allows the pedestrian subjects to walk safely as shown in Fig.1.

The simulator tests were conducted under multiple conditions, including the presence or absence of parked vehicles, street trees, and guardrails, as well as varying road width and traffic volumes. The behavior data is analyzed from the perspective of safety attitude.

Using the data obtained, discrete choice based pedestrian model shown in Fig.2 is developed to simulate the road crossing behavior of pedestrians as shown in Fig.3, which will be utilized to increase the reality of multi-agent traffic simulation.

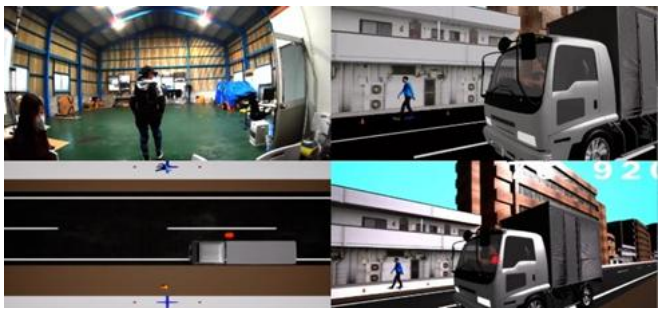

Fig.1 Observation of pedestrian road crossing behavior using Mixed Reality pedestrian simulator

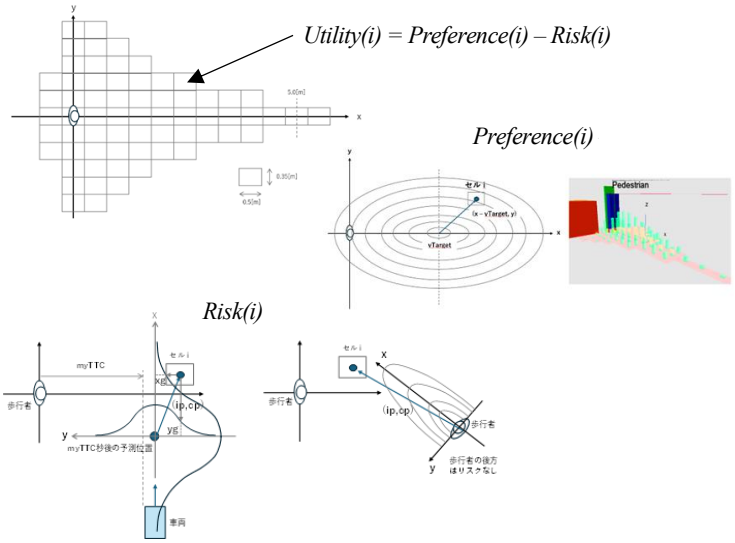

Fig.2 Discrete choice model of pedestrian

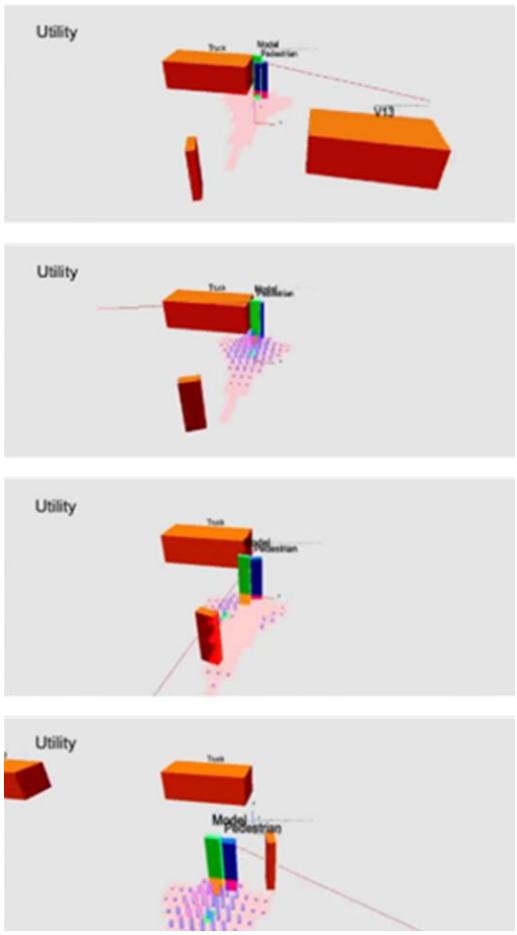

Fig.3 Comparison of road crossing behavior by proposed model and actual pedestrian