It is considered that the cause is unstable displaying the AR building on the AR marker cube in manipulation of the hanging the story. An area of AR marker cube visible with a Ovrvision is smaller than the area of AR multi-marker, therefore, the AR marker cube is easy to be invisible with the Ovrvision by hands of the subject in manipulation of changing the story. Accordingly, it is seeming to be difficult for the subject to perform manipulation of changing the story. In order to solve this problem, we will implement a method of object recognition with 3D sensor. The average score of the item ⑧ is higher than 4.0 and the standard deviation of that is lower than 0.8, therefore, it can be said that most subjects feel that the prototype system is highly intuitive.

4 CONCLUSION

In this paper, we showed the outline of the city planning simulation system using a Leap motion, Ovrvision and Oculus Rift CV1. Moreover, we implemented and evaluated the intuitive manipulations of AR buildings. As the result, we found the prototype system is intuitive. However, we found a problem of the changing story of AR building displayed on AR marker cube. In the future, we will solve this problem by implementing shape recognition with 3D sensor. As future work, we will try to implement shape recognition with 3D sensor. In addition, we will try to implement sunshine simulation and wind simulation. Moreover, we will consult an expert on the city planning and determine the finally function of this system.

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