



Table War: A Tower-Defense Game Device with Augmented Reality Projection

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INTRODUCTION

This poster presents Table War, an augmented reality projection interactive game based on the theme of attack and defence battles in ancient Chinese cities. The design inspiration for this project was mainly from Kazuki Takahashi's comics, Yu-Gi-Oh! [1]. Besides, in a Chinese ancient book Mozi Feigong [2], a story was told: to talk King of Chu out of the idea of attacking Song, two organ-surgery masters: Mo Zi and Lu Ban, used all kinds to small objects imitating the war of attack and defense, so King of Chu ended up giving up the thought.

SYSTEM DESIGN

This interactive game device is based on the conquest of cities in Chinese ancient wars, and it combines the technology of AR projection with an interactive game.

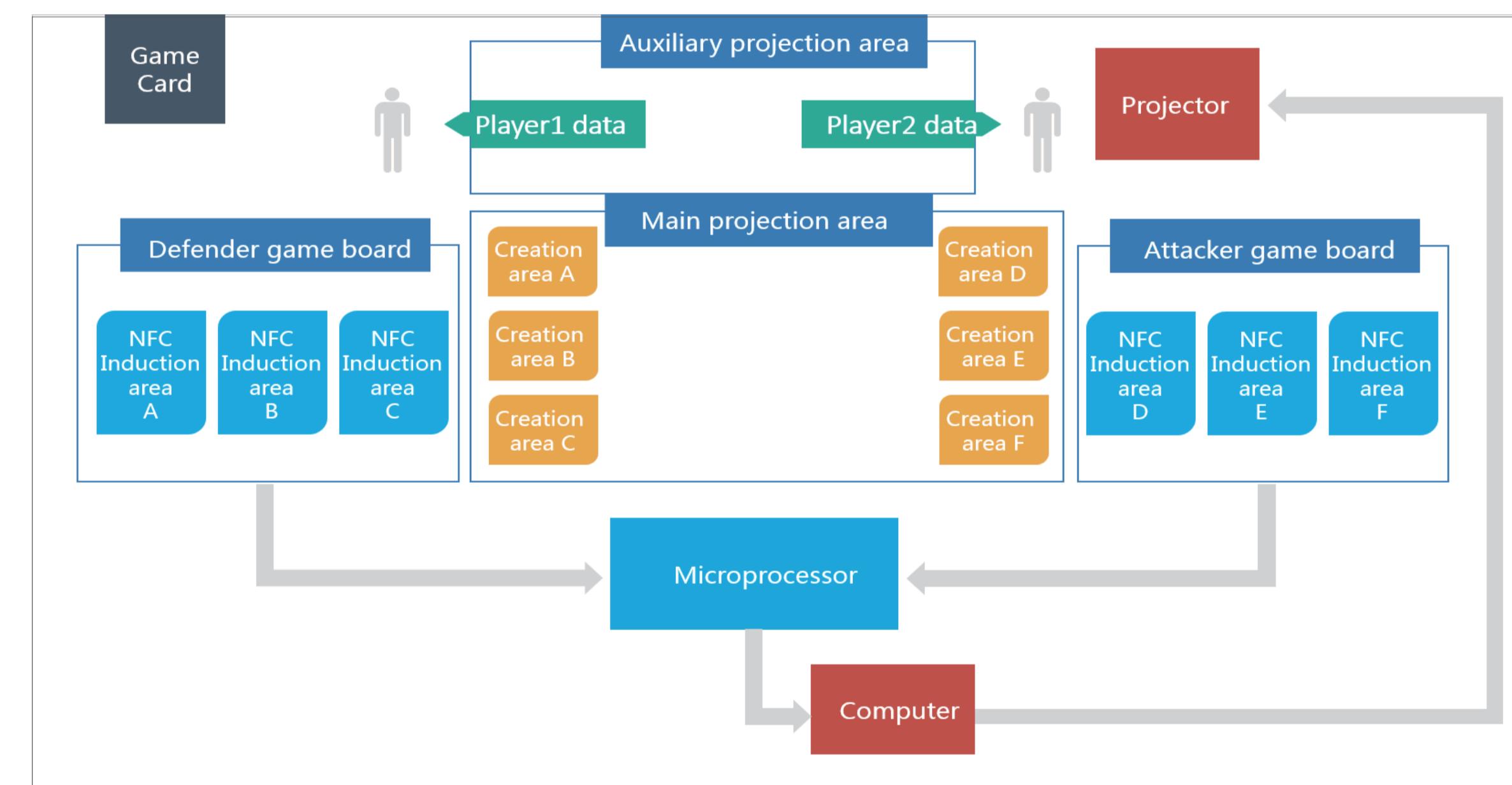


Figure 1: The Device Structure of Table War



Figure 2: The Projection Sample Image and Main Projection Area

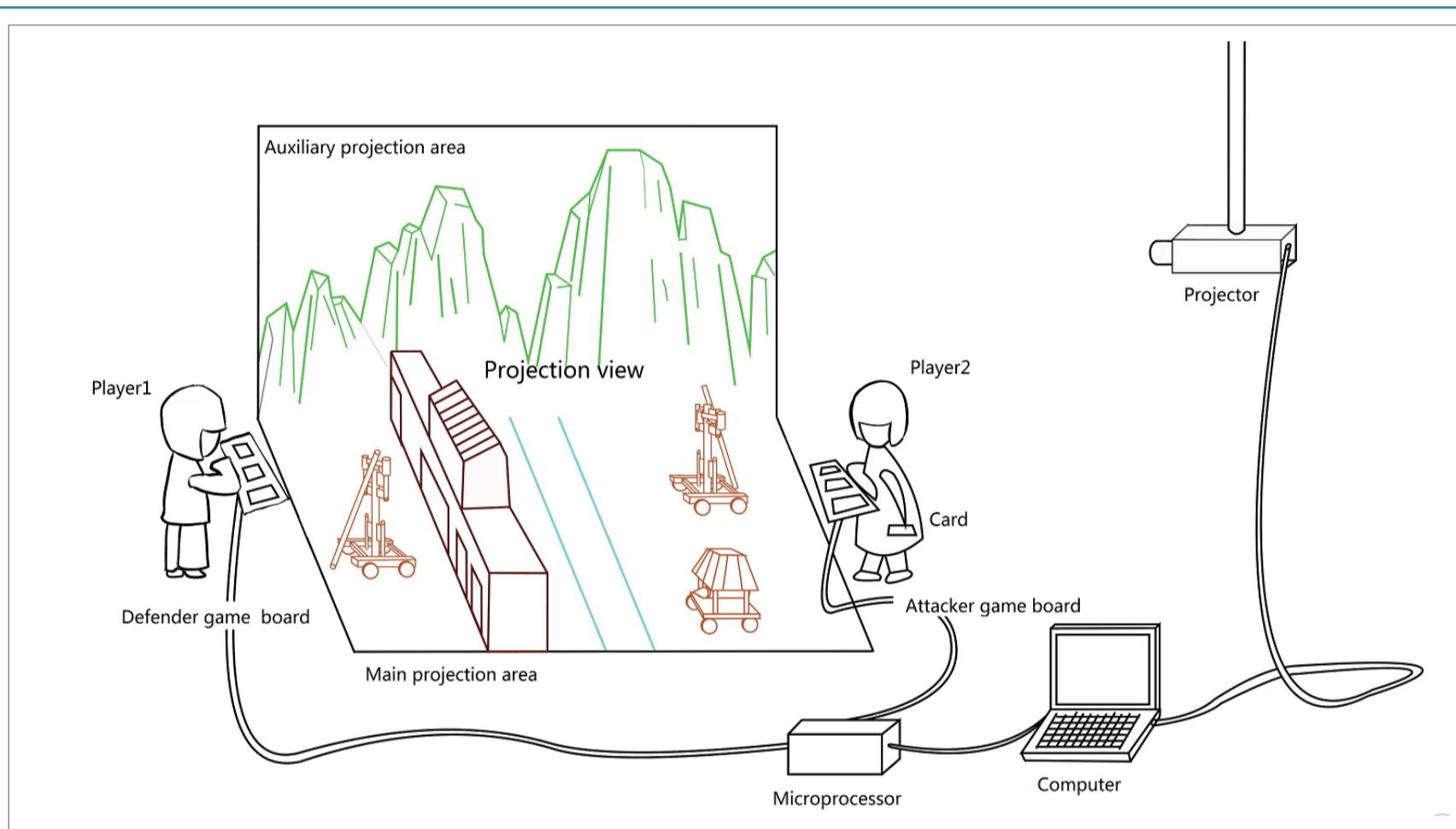


Figure 3: Players Playing Table War

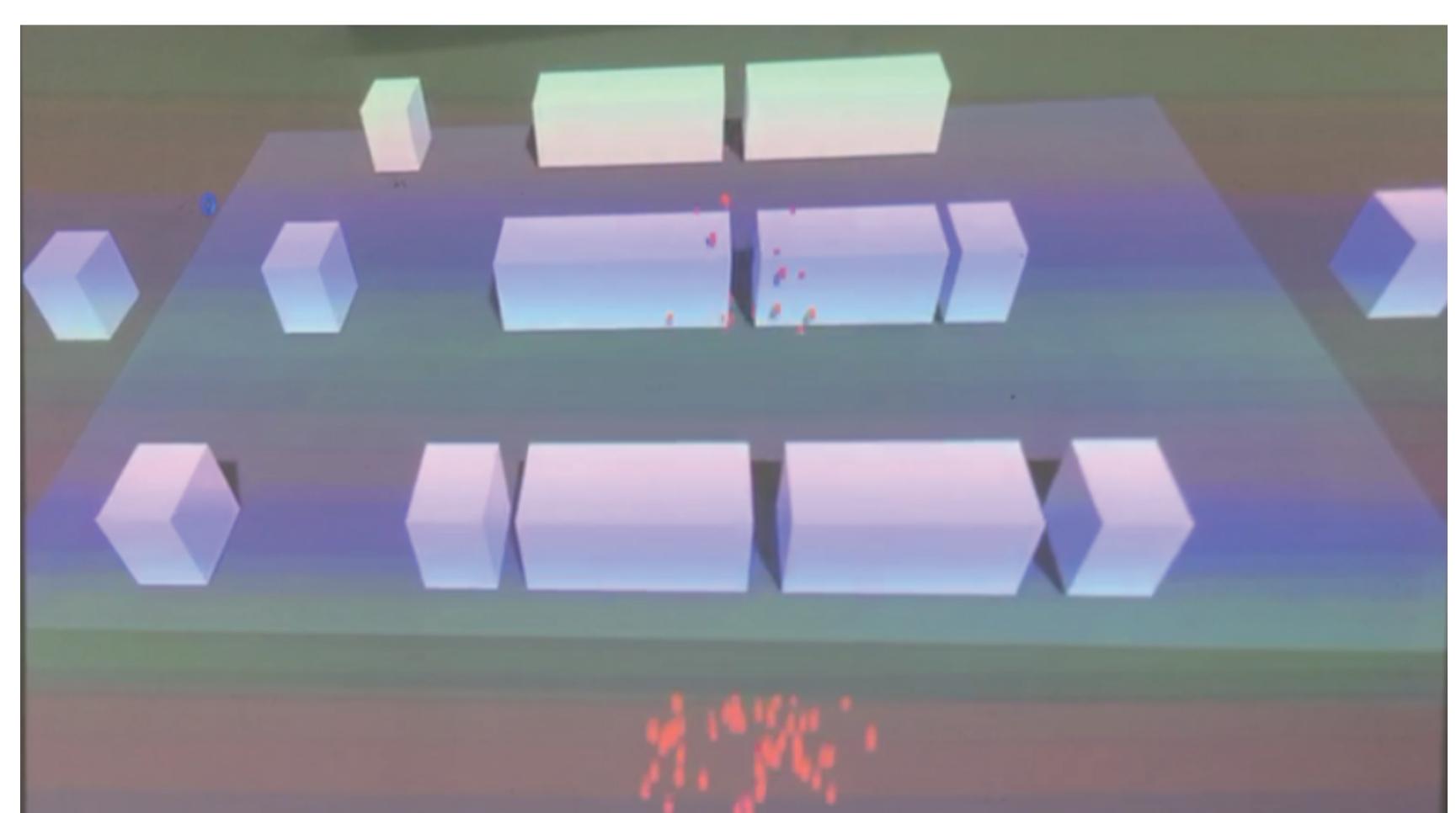


Figure 4: The Projection Effect

- (1) Device structure. Table War consists of eight parts (shown in Figure 1).
- (2) Interactive mode. This game is designed to enable real-time competition (shown in Figure 3).
- (3) Application (shown in Figure 1).

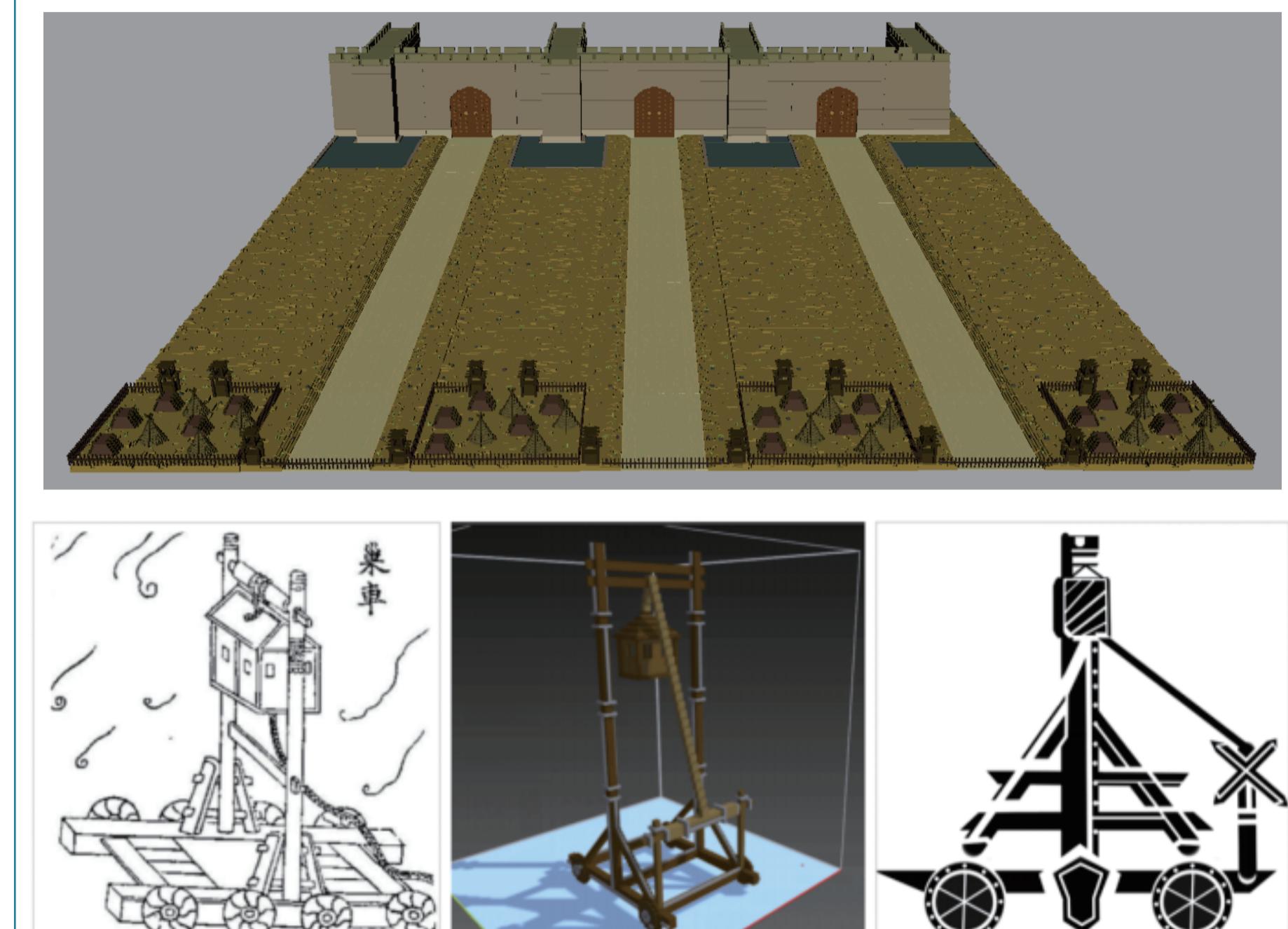


Figure 5: The Blueprint of Model

- (4) Projection and appreciation (shown in Figure 4).
- (5) Game card design. The design style for the cards is from The Study of Han Stone Relief in Lunan (shown in Figure 5).

CONCLUSION

We have made a two-player real-time card game in virtual reality and have achieved Projection-Based AR. In the future, we will continuously improve Table War from game content, interactive scale, game categories, AR and etc.

REFERENCES

1. YadenSword. 2017. Yu-Gi-Oh! World Championship 2017 Duelo de Realidad Aumentada (Exhibición)(14 August 2017). Retrieved February 9, 2018 from: <https://www.youtube.com/watch?v=UmZJ0GgulbE>
2. Wang X W. Mo-tse Jian Gu and Whole Renaissance of Mo-tse Studies from 1930s to 1960s[J]. Academic Exchange, 2006.