

Instructional Media with Game Using Roblox to Support Senior Learners

Thanakrit Ngamwongvetchakul, Asst. Prof. Dr. Nalinpat Bhumpenpein, Asst. Prof. Dr. Nathaporn Utakrit

^aDao De Xin Xi Club, Building, 2nd floor Bang Khun Thian Sports Center Thonburi Community Housing 3 Rama II Road, Soi 62, Intersection 1-8 Samae Dam, Bang Khun Thian, Bangkok 10150, Thailand

^{b,c}King Mongkut's University of Technology North Bangkok, 1518 Pracharad Road, Wong Sawang, Bang Sue, Bangkok 10800, Thailand

Abstract

Roblox is well known amongst gamers for being an easy and fun online gaming platform for diverse game creation. To fulfil the learning activity using technological supports. Game is another instrument to improve cognitive learning and bring people to play in a team or individual preference. This project aims to develop and implement the Roblox game platform to enhance the learning experience of Bang Khun Thian senior students to improve learning motivation, adapt to new technology, and increase activity engagement.

Introduction

Roblox, a widely accessible and user-friendly platform, enables users to design and interact with customized virtual environments. The platform is the ultimate virtual universe that lets gamers or users to create, share experiences with friends, and be anything they can imagine. Although it is initially popular among younger audiences, Roblox has the potential to engage senior learners through its customizable, immersive worlds that facilitate cognitive and social interaction. Integrating instructional media with game-based learning on platforms like Roblox could enhance learning engagement, promote technology adoption, and improve overall well-being among older adults. The platform is free and allows users to design their own players' characters and scenes. A more advanced level can be achieved by addressing the features and options to choose from. A game tech savvy person can also pay to the platform for the super advanced level of features.

Methodology

In order to create a game, there are steps the users need to follow:

1. Register Roblox :

Register roblox to access the Roblox platform using Google Account or Roblox account

2. Open Roblox Studio :

Open roblox studio to create game

3. Start from a blank map :

Selected a blank map to start from an empty screen

4. Plan the structures :

Create the game structures how the game would play for example, a lobby for the starting point or a quiz room central

5. Create GUI :

Create a graphic Interface to design the scenes according to the planned structures

6. Create a question :

Make questions from what the students have already learned in the classroom to make into quizzes

7. Write a script for the answer :

Write the script of all answers. In the project, if the players choose the correct answer, they will pass to the next scene with the next question.

8. Write a script for the score and leaderboard :

Create the score board to view who's got the highest score

9. Write script for timer :

Create the timer to capture who can answer the quickest and most accurate.

10. Write a script for checkpoint :

If the answers are incorrect, they have to go back to the checkpoint to repeat the question again.

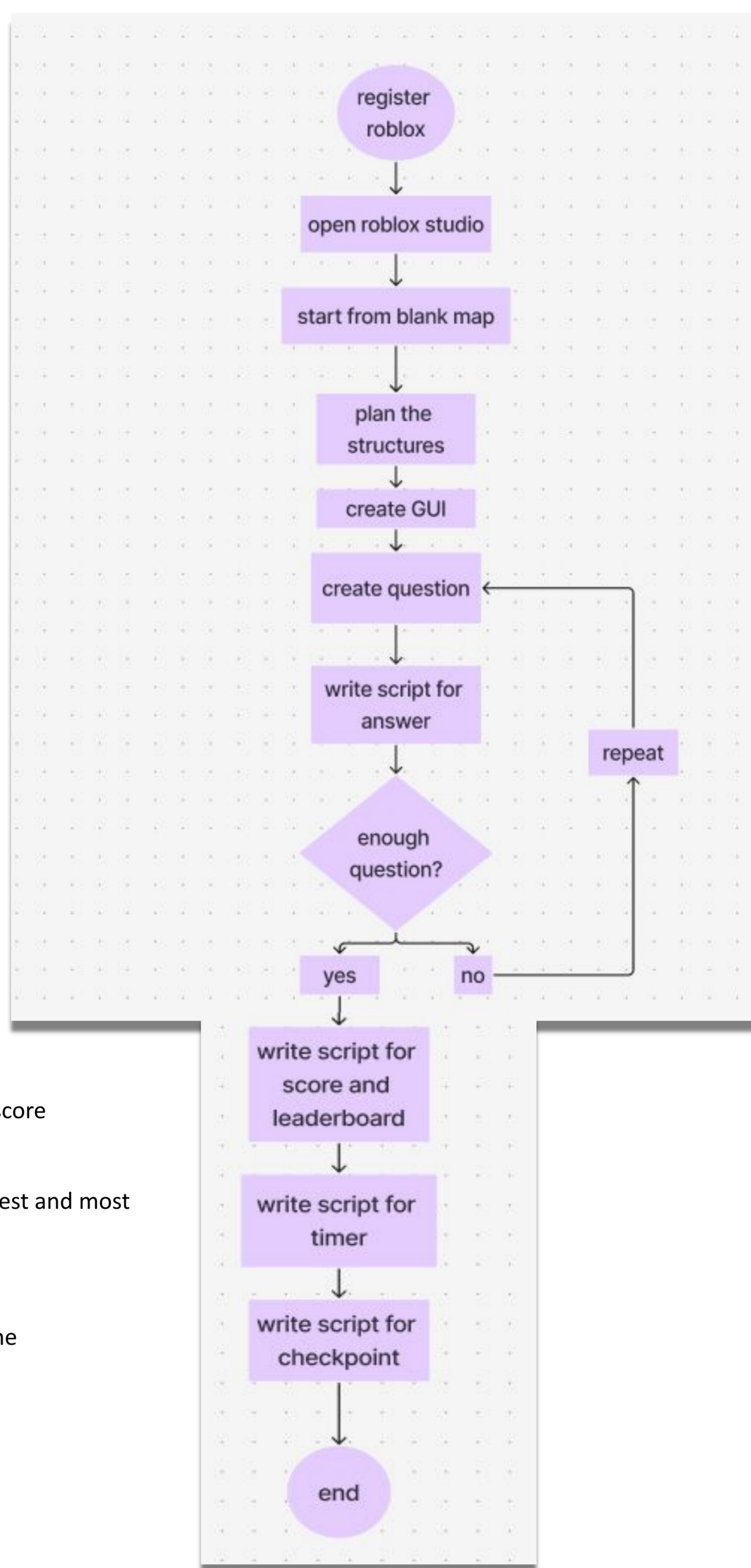


Figure 1: Flowchart

References

1. Roblox. (n.d.). About Us. <https://corp.roblox.com/>
2. ChatGPT. (n.d.). <https://chatgpt.com/>
3. Create and Learn <https://www.create-learn.us/blog/roblox-tutorial-how-to-make-a-game/>

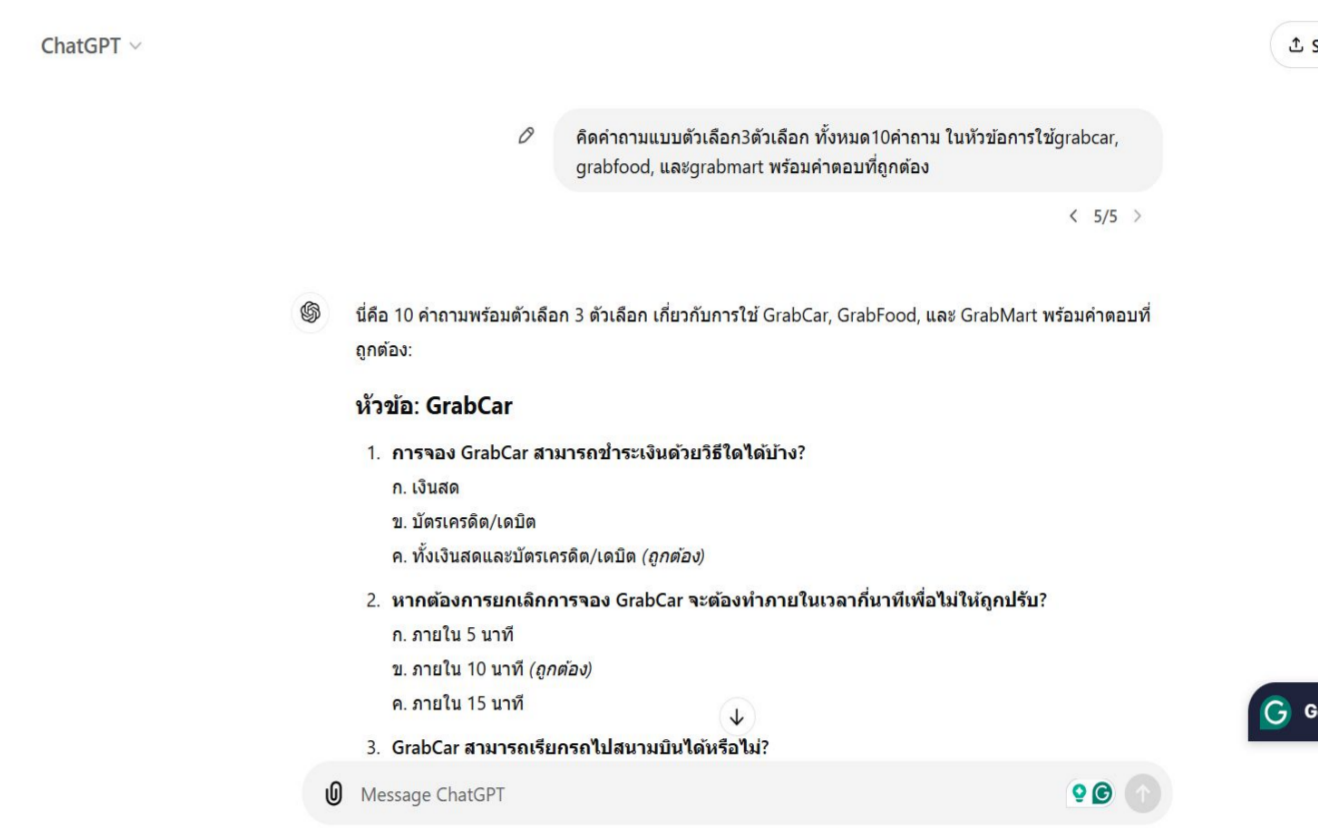


Figure 2: คำถามที่สร้างโดย ChatGPT

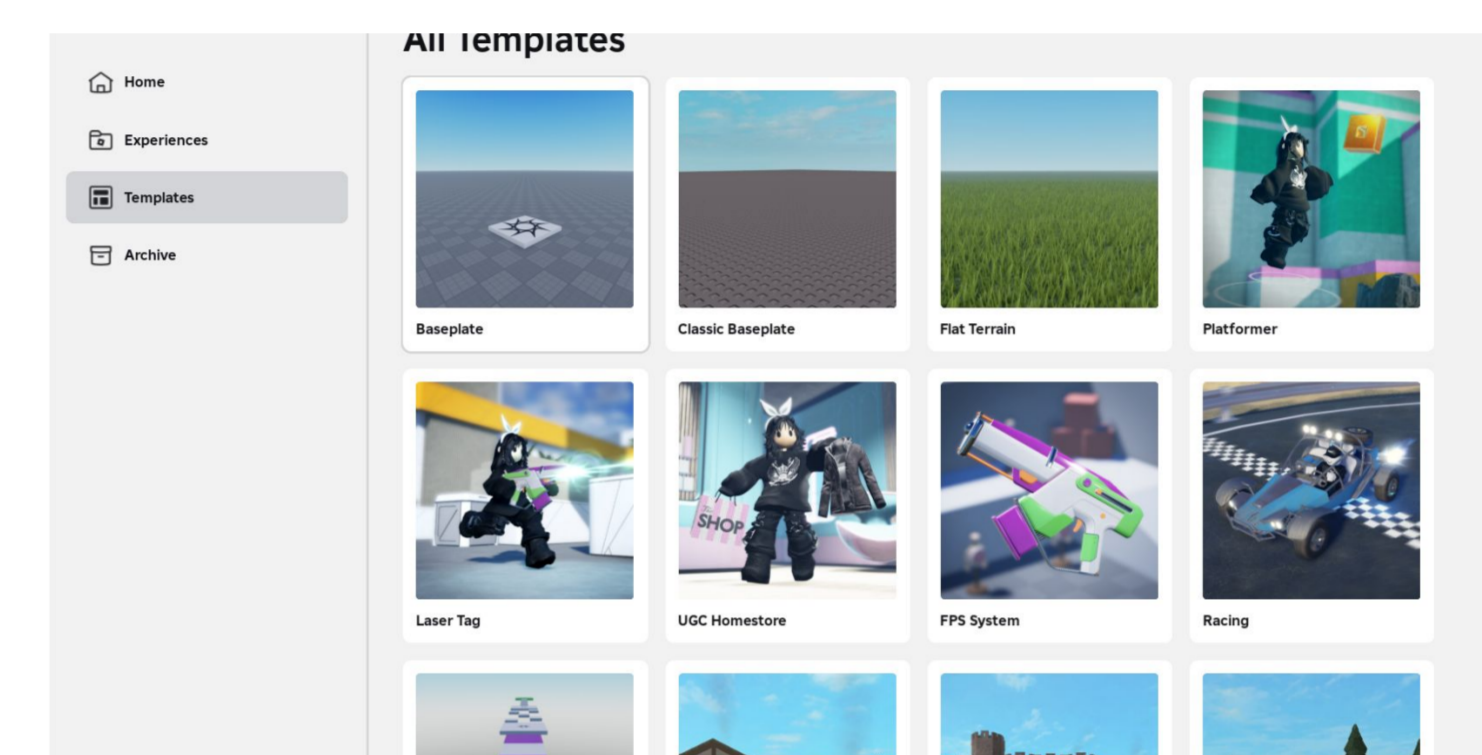


Figure 3: Roblox platform

Results

In conclusion, this project successfully demonstrated the effectiveness of game creation on online platforms. The results of this project shows that Roblox game offers notable benefits for senior students, particularly in terms of social engagement, cognitive stimulation, and adaptability to technology. Also really supports the viability of game-based learning as a tool for promoting lifelong learning and digital inclusion among older adults.

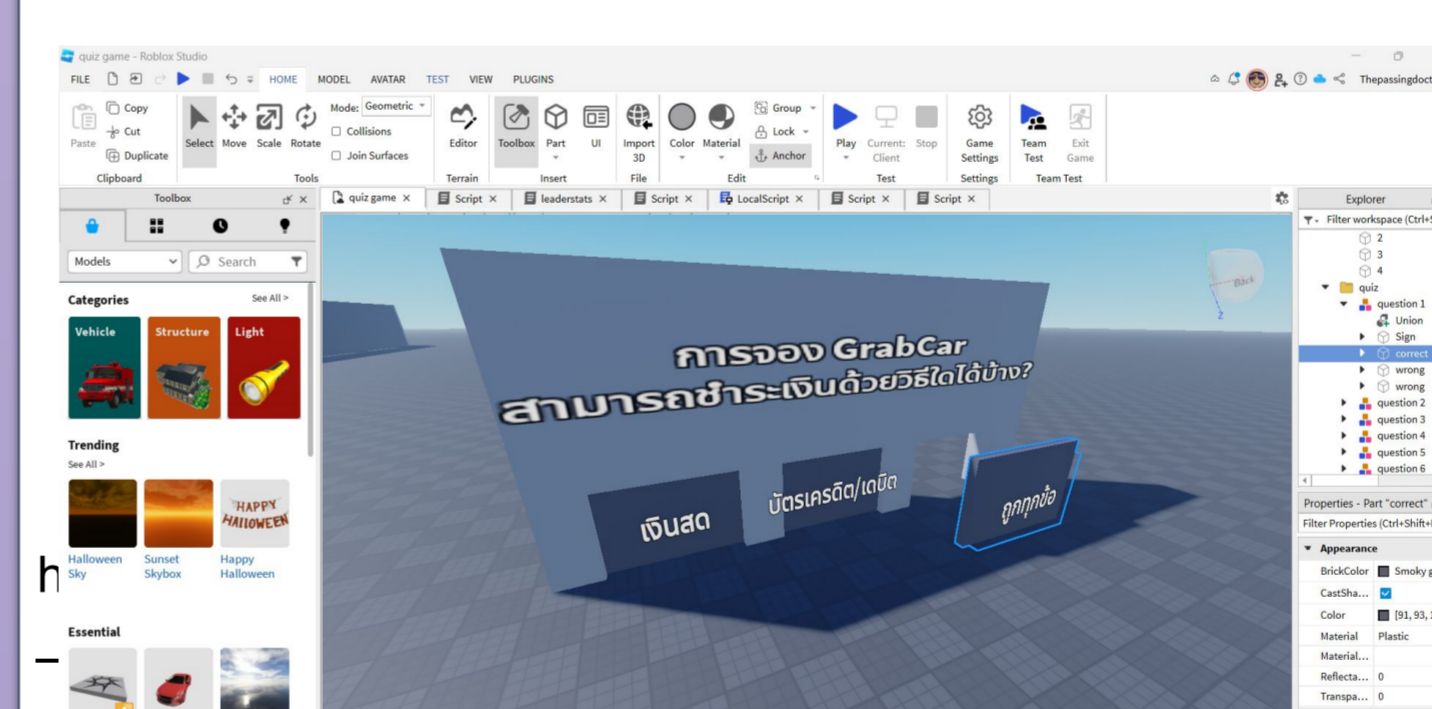


Figure 4: Quiz creation

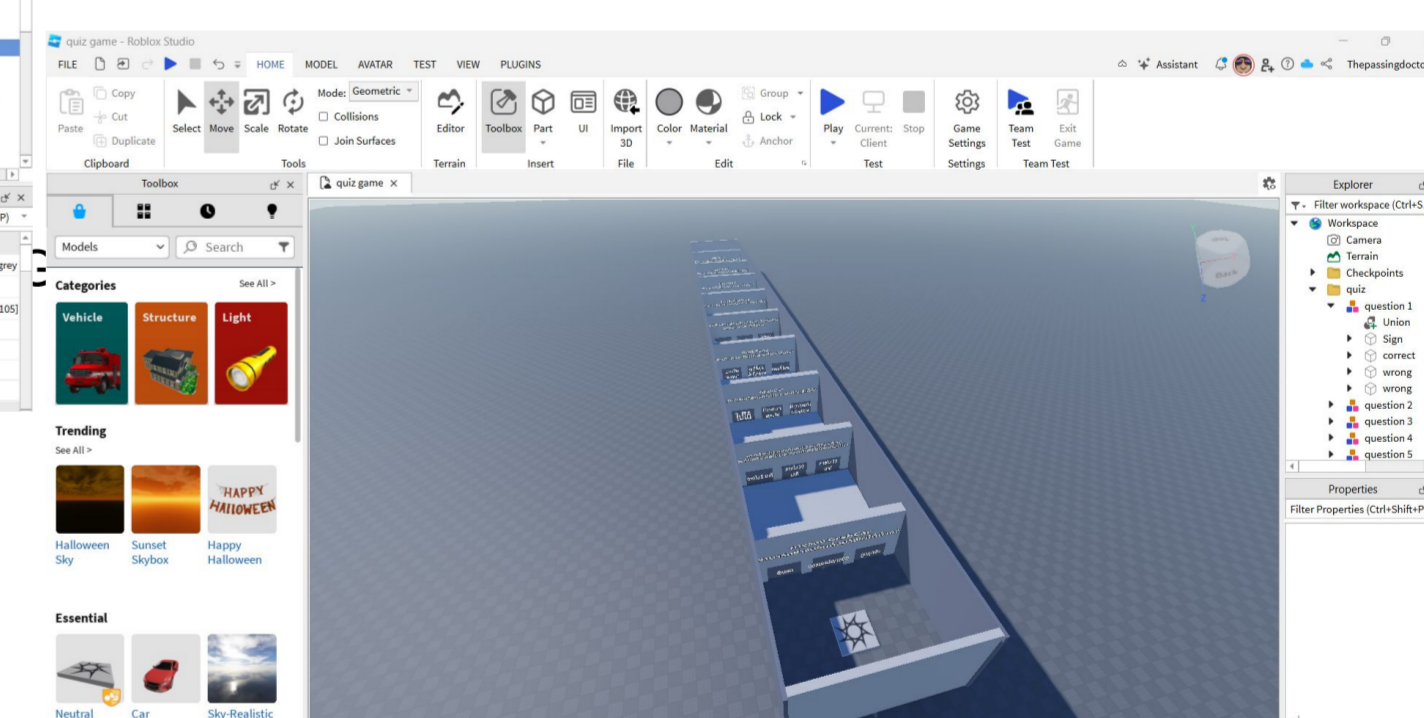


Figure 5: Scene creation

Conclusion

This study demonstrates the potential of using Roblox as a game-based instructional platform to support the learning needs of elderly individuals. By offering an interactive and customizable environment, Roblox facilitates an engaging and accessible experience that encourages elderly learners to participate actively, enhancing their cognitive skills, motivation, and comfort with digital technology.

Acknowledgements

This cooperative program focuses on user experience and accessibility for the elderly and is founded by the Dao De Xin Xi Club. To begin, I would like to extend my deepest gratitude to Mr. Arthirusst Phisuttanabavo, my mentor, and the Dao De Xin Xi Club for sharing their knowledge and insights that contributed immensely to the project's success. Furthermore, I would like to extend my sincere gratitude to the cooperative internship advisors, Asst. Prof. Dr. Nathaporn Utakrit and Asst. Prof. Dr. Nalinpat Bhumpenpein, for dedicating their valuable time to site visits and providing support throughout the internship.

It is especially my pleasure to acknowledge and express my gratefulness to Asst. Prof. Dr. Nathaporn Utakrit for her expert guidance on data analysis for the elderly, as well as her continuous support and valuable advice. The assistance she provided helped the project achieve its objectives, and her insightful suggestions and feedback enhanced the quality and accuracy of the final deliverable. As well as acknowledging all the efforts and contributions of all the individuals and teams involved in this project, I would like to thank them for their efforts. As a result of their collective effort and collaborative spirit throughout the cooperative program, an excellent working environment was maintained.