

3D Brick and Ball

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Abstract - Breakout Ball game is a widely used game which was developed in the 1970s. In Breakout, a layer of bricks lines the top third of the screen and the goal is to destroy them all. The project that is going to be implemented will consist of a game in which the player smashes a wall of bricks by deflecting the bouncing ball with a paddle. The paddle will only move in horizontal way and will be control.

I. INTRODUCTION

The 3D Brick and Ball game is designed to provide an exciting and challenging experience for players of all ages. In the game, the player must use a paddle to deflect a bouncing ball off the walls of a 3D brick wall. The paddle will move horizontally and can be controlled by either the mouse or the left and right arrow keys on the keyboard. The objective of the game is to break all the bricks in the wall before the ball falls out of the playing area. The game is designed to increase in difficulty as the player progresses, with different levels featuring different types of bricks and obstacles. For example, in later levels, players may encounter bricks that require multiple hits before they are destroyed, as well as bricks that are indestructible. Players must carefully strategize in order to succeed in destroying all the bricks in the wall. The game also features various power-ups and bonuses that can help the player advance faster, such as extra lives and extra points. In addition, the game features a leader board, allowing players to compete against one another to achieve the highest score.

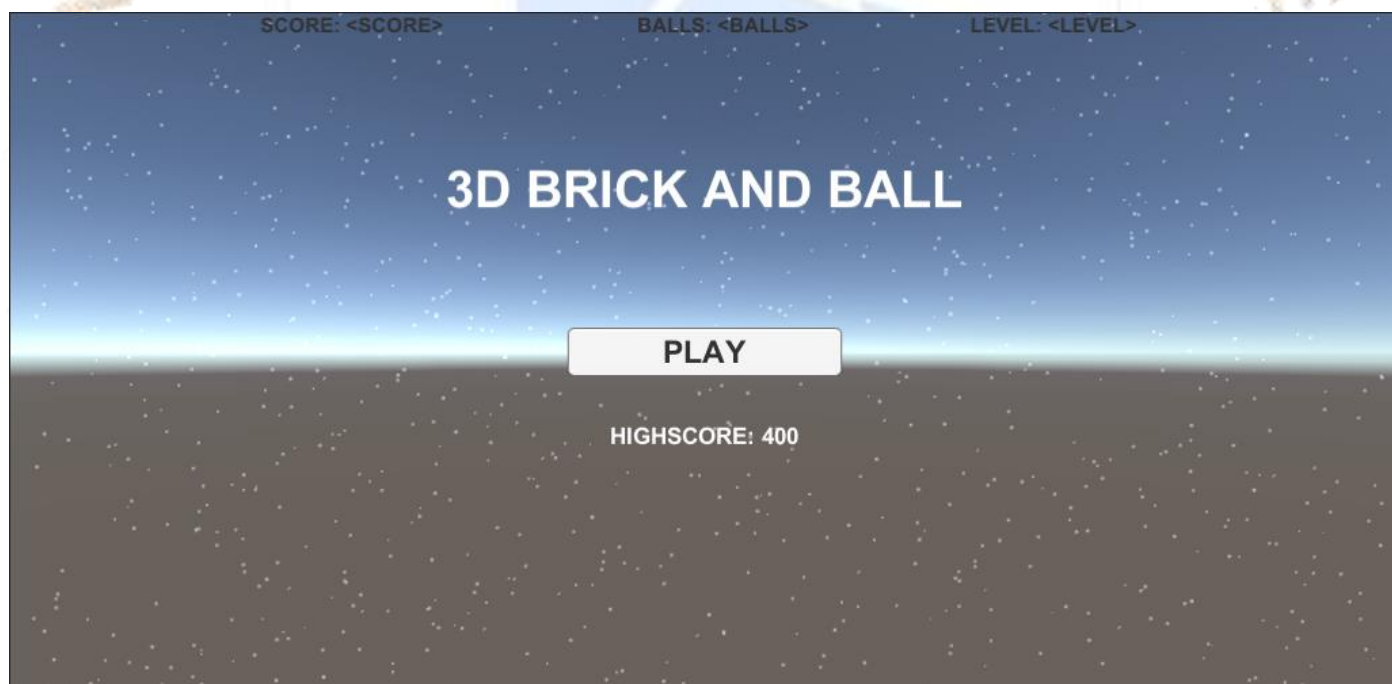


Fig. Starting interface of the game

II. LITERATURE SURVEY

[1] Robertson and Howells (2008)

An exploratory study into the use of game making within a class of 30, to develop opportunities for the children to achieve successful learning which is one of the four capacities set out under the CFE. Thematic analysis to characterize the breadth of children's learning under successful learner.

[2] Vos, van der Meijden and Denessen (2009)

This study compared the difference in learning between children playing games and children making games. 5 classes constructed the games and 4 classes played the games. The researcher took both lessons within four elementary schools comprised of 235 students from 9 classes split over 5th/6th grade age 10-12 years.

[3] Rosas et al. (2011)

This study looked at the benefits of using games consoles in the class with educational games. There were 3 groups the experimental group, an internal control group and an external control group. This study looked at the benefits of using games consoles in the class with educational games. There were 3 groups the experimental group, an internal control group and an external control group. Area of Language and math. 1274 children aged 6-8 years old participated.

[4] Miller and Robertson (2013)

This study looked at using games consoles in the class to enhance children's learning in math. 32 classes of P6 (9-10-year-old) children. The study compared as well as self-motivation between both groups. Class Teachers were given a one-hour training session with the brain training game and console. Children were involved some were control groups and other classes used the Brain Training game for 20 minutes a day for 9 weeks.

[5] Sim, MacFarlane and Read (2018)

This study looked at the use of educational software in class and measuring the fun and usability of it. They then used a tool to evaluate products with children (fun sorter). The software was not promising up to the children need. 25 children in one class age 7/8. Children were taken out of class in groups of 2 or 3 to do an activity with 1 of 3 pieces of software.

III. Stages of Game Development

Step 1 Planning: Before the writers begin writing, the designers begin designing, and the developers begin developing, an idea for a video game has to surface.

Step 2 Pre-Production: The next stage of game development, called pre-production, brainstorms how to give life to the many ideas laid out in the planning phase.

Step 3 Production: Most of the time, effort, and resources spent on developing video games are during the production stage.

Step 4 Testing: Every feature and mechanic in the game needs to be tested for quality control.

Step 5 Pre-Launch: The pre-launch stage is a stressful time for gaming studios. Questions of self-doubt may seep in as you wonder how the public will react to your first functional product.

Step 6 Launch: The months leading up to a game's anticipated launch date is mostly spent squashing large backlogs of bugs – some old, some new found in the testing stage.

Step 7 Post-Production: Post-Production is one of the most exciting times for any gaming studio. Years of hard work has finally paid off, and video game sales are (hopefully) pouring in. But even now, there's still work to be done.

IV. METHODOLOGY

Existing Systems

The existing system is a simple game to play with brick and ball. To make the game more efficient, the process is carried out in the VS Code suite. After the code is written, it needs to be run to initiate the game. This process is repeated for each level of the game. The complexity of the game increases with each level, thus requiring more human effort. Furthermore, retrieving the data is difficult as the records are stored in the VS projects and assets of the code. To make the game more efficient, an application has been developed to automate the game process. The application will be responsible for managing the records and assets of the game and for running the code. This application will reduce the effort of the users and make the game more efficient and easier to play.

Proposed System

The proposed system is an evolution of the existing system, designed to reduce code maintenance and save time in generating accurate results from the player's perspective. Using game engines such as the Unity game engine, the system is able to provide a best-in-class graphical user interface (GUI) that allows for efficient reporting. With the proposed system, players can take advantage of the latest technology and get the most out of their gaming experience. The system is designed to be easy to use and understand, allowing players to quickly get up to speed and begin playing with minimal effort. The system is also designed to be highly efficient, allowing for accurate results within a short amount of time. Additionally, the system provides players with a range of options when it comes to customizing their gaming experience and provides an enjoyable and rewarding experience every time.

V. RESULTS

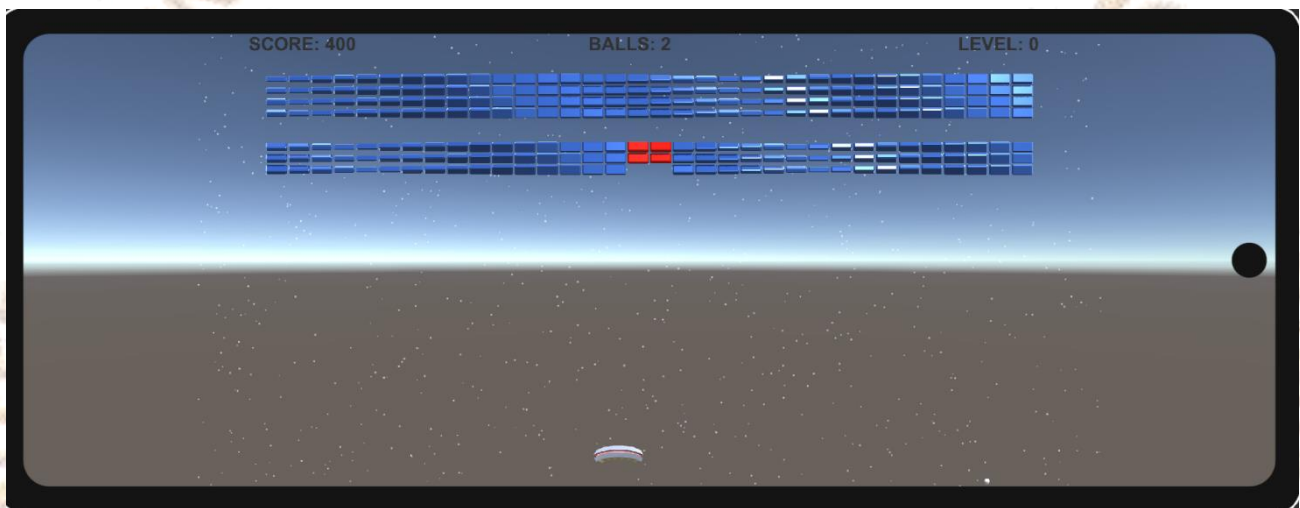


Fig. Level 1

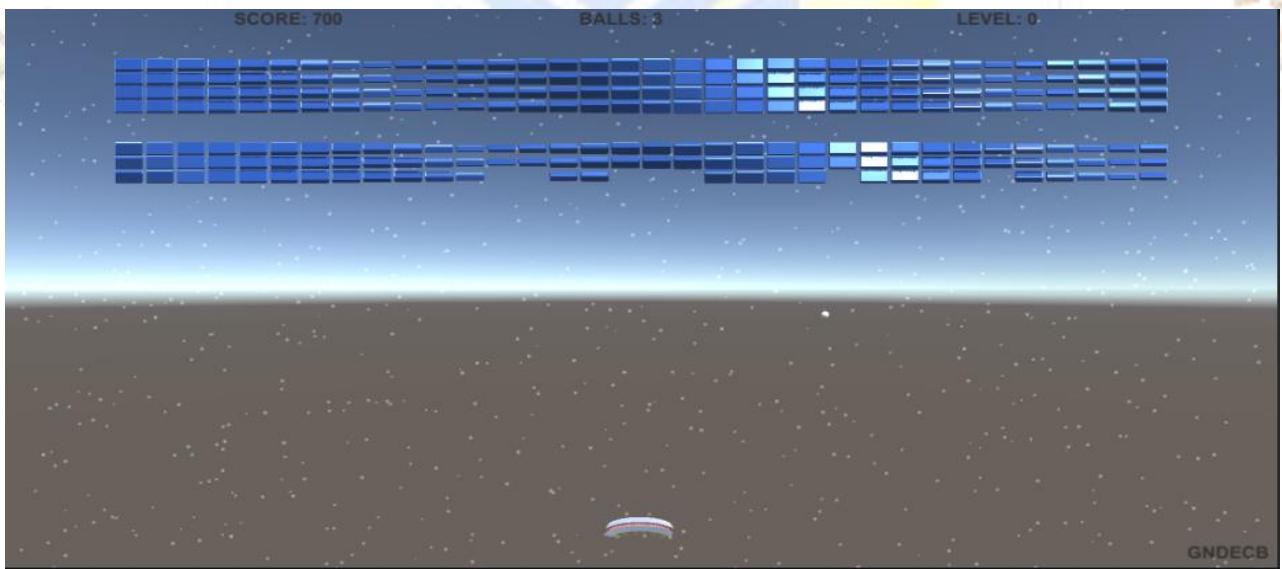


Fig. Level 2

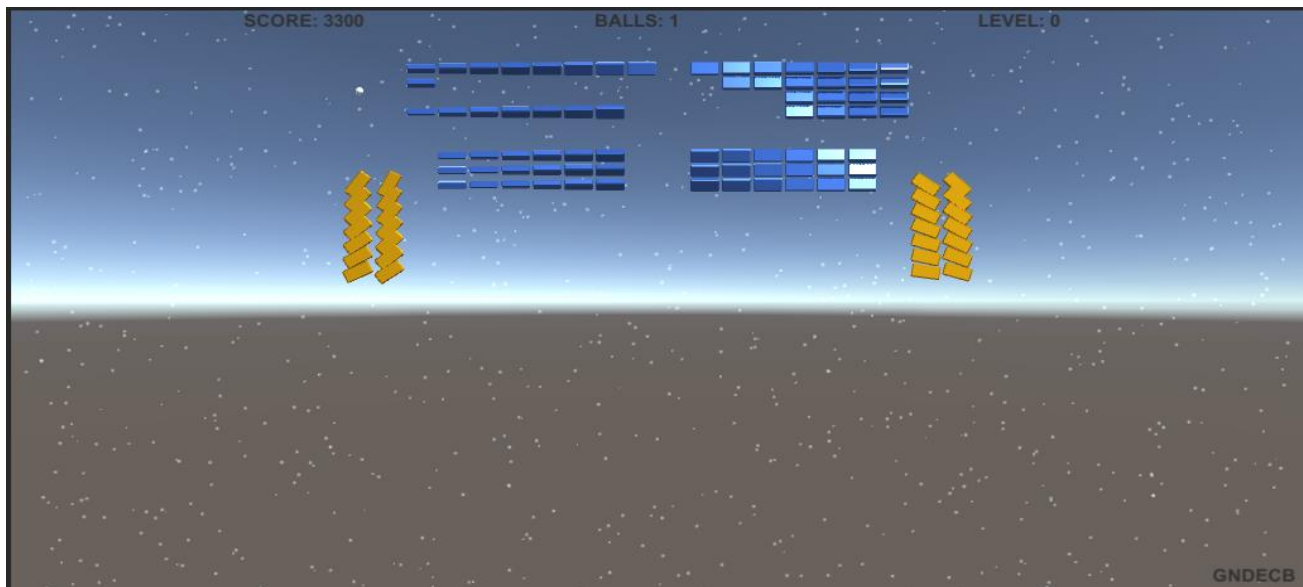


Fig. Level 3

VI. CONCLUSIONS

Ultimately, 3D Brick and Ball has been a great success, and we hope that more educational games can help students learn and engage with the material more effectively. We also hope that these games can inspire students to keep learning and exploring new concepts. In addition, we believe that these types of educational games have the potential to spark creativity and encourage students to think critically and outside the box. Through fun and interactive gameplay, students can gain new insight into topics that they might have otherwise found boring or overwhelming.

VII. REFERENCES

1. Robertson, J. & Howells, C, (2008), Computer games design: Opportunities for successful learning. *Computers & Education*, 50, 559-578.
2. Vos, N., van Der Meijden, H. and Denessen, E. (2009). Effects of constructing versus playing an educational game on student motivation and deep learning strategy use. *Computers and Education*, Vol. 56, No. 1, pp.127-137.
3. Rosas, R., Nussbaum, M., Cumsille, P., Marianov, V., Correa, M., Flores, P., Grau, V., Lopez, X., Lopez, V., Rodriguez, P., & Salinas, M. (2011). Beyond Nintendo.
4. Miller, D.J. and Robertson, D.P. (2013). Educational benefits of using game consoles in a primary classroom: A randomized controlled trial. *British Journal of Educational Technology*.
5. Sim, G., Macfarlane, S. and Read, J. (2018). All work and no play: Measuring fun, usability, and learning in software for children. *Computers and Education*, Vol. 46, No. 3, pp. 235-248.