

Acknowledgement

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We aspire to learn and discover more through our work.

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*Finally, a word of gratitude to our **family members** who have been a constant source of encouragement and love.*

DECLARATION

We are hereby declare that the project report entitled “Tom&Jerry Jawsaw Puzzle Game” was done under the guidance of Mr Rao Wakeel, is submitted in the partial fulfillment of the requirements of the award of the degree of Bachelor of Computer Science in University of Engineering & Technology during 2k14-2k18.

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Group MEMBERS

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ABSTRACT

The goal of our game project is to design a visual graphics game. We used unity for this purpose. Jigsaw Puzzle game is a puzzle, that test one's ingenuity and knowledge by stimulating problems by thinking. Since, the goal of solving this puzzle is to find a solution to a problem. Such type of puzzles are great for helping young brain develop and grow. They develop critical thinking for fitting the pieces together and completing the puzzle in a logical way, in order to arrive at the correct solution of the puzzle. The accomplishment of achieving a goal brings so much satisfaction to a child. The achievement of accomplishing an objective conveys such a great amount of fulfillment to a child. Our game will be liked by children, because it contains famous cartoons characters and it helps them to improve their analyzing skills.

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CHAPTER 1

Introduction

INTRODUCTION

This report describes the process involved in Jigsaw puzzle game using Unity and C#. Using Unity together with C#, we created a Jigsaw puzzle game where the objective for the user is to slide the blocks and complete the picture. This report discusses the game overview, including the description and game play, and then focuses on the game design, describing how the game is implemented and the programming functions and libraries used in the design.

Jigsaw puzzles were originally created by painting a picture on a flat, rectangular piece of wood, and then cutting that picture into small pieces with a jigsaw, hence the name. John Pillsbury, a London cartographer and engraver, is credited with commercializing jigsaw puzzles around 1760.[1] Jigsaw puzzles have since come to be made primarily of cardboard.

Typical images found on jigsaw puzzles include scenes from nature, buildings, and repetitive designs. Castles and mountains are two traditional subjects. However, any kind of picture can be used to make a jigsaw puzzle; some companies offer to turn personal photographs into puzzles. Completed puzzles can also be attached to a backing with adhesive to be used as artwork.

During recent years, a range of jigsaw puzzle accessories including boards, cases, frames and roll-up mats has become available that are designed to assist jigsaw puzzle enthusiasts.

CHAPTER 2

Game Overview

GAME OVERVIEW

2.0 Game Overview

The primary objective of the game is for the user to search for a way to complete the picture in given time (yet to be implemented). There are three levels in the game: Hard, Medium and easy. There are different number of columns and rows in each column. This section elaborates on the description of the game play and user controls.

2.1 Game Description

A jigsaw puzzle is a tiling puzzle that requires the assembly of often oddly shaped interlocking and tessellating pieces. Each piece usually has a small part of a picture on it; when complete, a jigsaw puzzle produces a complete picture. In some cases more advanced types have appeared on the market, such as spherical jigsaws and puzzles showing optical illusions.

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2.1.3 Environment

Image Key

On game screen in each level we placed an image key (Complete Picture).

Exit

Player clears game level by completing the puzzle. And win Screen is displayed.

2.2 User Manual

The player controls the blocks by clicking or touching on a block. User has to complete the picture same as given key.

CHAPTER 3

Game Design

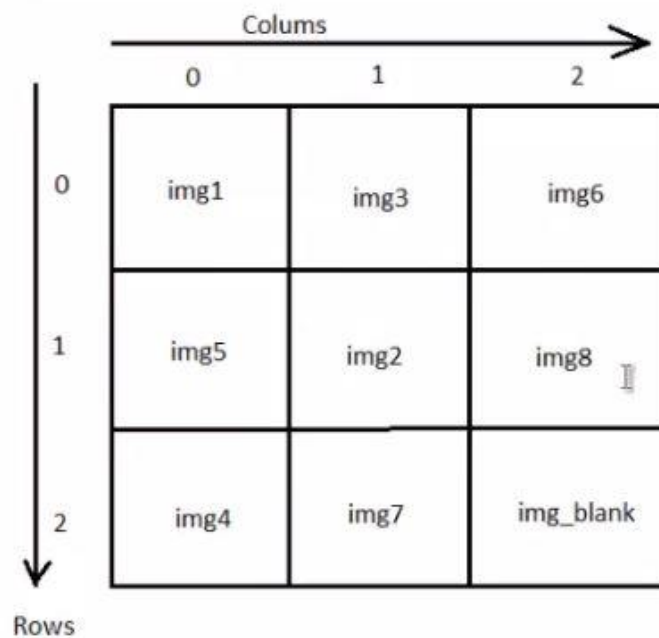
GAME DESIGN

Game Design

In creating the game, many different C# programming techniques are used for controlling objects. This section describes the methods of how the game is implemented.

3.1 Controlling Picture Blocks:

For **Easy Level** we have 9 images. We arranged the 9 parts as shown in figure. Blank image is at [2][2]. It plays an important role in movement of blocks.



For **Medium Level** we have 16 images. We arranged the 9 parts as shown in figure. Blank image is at [3][3].

Columns		0	1	2	3
Rows	0	img5	img1	img2	img3
	1	img9	img7	img8	img12
	2	img13	img6	img15	img11
	3	img14	img10	img16	img_blank

For **Hard Level** we have 25 images. We arranged the 9 parts as shown in figure. Blank image is at [4][4].

Columns		0	1	2	3	4
Rows	0	img6	img3	img4	img5	img10
	1	img11	img2	img13	img8	img9
	2	img16	img7	img14	img15	img20
	3	img21	img12	img23	img18	img19
	4	img22	img17	img24	img25	img_blank

For every level there is image key on the top of display. This image key is for hint to player and also for coding the completion of game.

By using following two conditions we control the movement of the image blocks.

	0	1	2
0	touch (1)	touch(2)	touch(3)
1	touch(4)	imgBlank	touch(5)
2	touch(6)	touch(7)	touch(8)

- **rowOfBlank!=rowOfTouch and columnOfBlank==columnOfTouch**
- **columnOfBlank!=columnOfTouch and rowOfBlank==rowOfTouch**

Same Conditions apply to above levels

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3.2 Collision Detection

We use component named collider on each block in order to give physical existence to each block in game.

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3.3 Hardware Configuration

Processor	- Pentium –III
Speed	- 1.1 Ghz
RAM	- 256 MB(min)
Hard Disk	- 500 MB

Key Board

- Standard Windows Keyboard

Mouse

- Two or Three Button Mouse

Monitor

- SVGA

3.5 Software Configuration

Operating System

:

Windows95/98/2000/XP

CHAPTER 4

Implementation

CHAPTER 5

Conclusion

CONCLUSION

4.0 Conclusion

In the game Tom&Jerry Jigsaw Puzzle, we have implemented a game environment that includes 2D viewing and objects with a moving camera, lighting and material variations, and texture mapping. To enhance the game environment we have also implemented advanced features such as collision detection. The key feature of our randomly generated maze makes our game original and the variety of game features makes the game more challenging but yet interesting and enjoyable to play with.

CHAPTER 6

Bibliography

BIBLIOGRAPHY

References

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- [3] <https://www.sourceeforge.com/>
- [4] <https://www.youtube.com/>