

A Mini Project Report on
BUZZ WIRE GAME

T.E. - I.T Engineering

Submitted By

Harmi Mathukiya 21104044

Avantika More 21104033

Atharva Mohape 21104121

Under The Guidance Of

Ms. Charul Singh



DEPARTMENT OF INFORMATION TECHNOLOGY

A.P.SHAH INSTITUTE OF TECHNOLOGY

G.B. Road, Kasarvadavali, Thane (W), Mumbai-400615

UNIVERSITY OF MUMBAI

Academic year : 2023-24

CERTIFICATE

This to certify that the Mini Project report on **Buzz Wire Game** has been submitted by **Harmi Mathukiya (21104044), Avantika More (21104033), Atharva Mohape (21104121)** who are a Bonafede students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in **Information Technology**, during the academic year **2023-2024** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

Ms. Charul Singh
Guide

Dr. Kiran Deshpande
Head Department of Information Technology

Dr. Uttam D.Kolekar
Principal

External Examiner(s)

- 1.
- 2.

Place: A.P.Shah Institute of Technology, Thane

Date:

ACKNOWLEDGEMENT

This project would not have come to fruition without the invaluable help of our guide **Ms. Charul Singh**. Expressing gratitude towards our HoD, **Dr. Kiran Deshpande**, and the Department of Information Technology for providing us with the opportunity as well as the support required to pursue this project.

TABLE OF CONTENTS

1. Introduction.....	1
2. Review of Literature.....	2
3. Problem statement.....	3
a. Motivation.....	3
b. Objective.....	3
4. System Architecture.....	4
a. State Diagram/Workflow	
b. Circuit Diagram	
5. Project Timeline.....	6
6. Implementation.....	7
a. Hardware and Software requirements	
b. Principle and working of project	
7. Conclusion.....	15
8. Future Scope.....	16
9. References	

CHAPTER 1

Introduction

A game is any activity that is done solely for fun and with no conscious purpose. According to this definition, any activity that provides pleasure is a game. People, for example, dance, play musical instruments, perform in plays, and play with dolls and model trains.

The origin of Buzz Wire is unclear, but it is believed to have been invented in the 1960s. The game was first used as a training tool for surgeons to develop their hand eye coordination skills. However, the game quickly became popular in other fields, including the entertainment industry. Buzz Wire Game is a children's toy game with a hand and finger controller. A ring wire loop moves over another wire in this buzz wire game, which requires hand, eye, and finger coordination. The buzz wire game is a popular table top entertainment that requires a steady hand. The steady hand game has been popular for many years and is often found at amusement parks, fairs, and other entertainment venues. This is a difficult and competitive game in which you must play against the clock and with a limited number of touches. To score effectively, a precise blend of speed and skill is required. The Buzz Wire Game is commonly used in the rehabilitation of stroke patients with hemiparesis. Consider another example of recovery: fine upper body motor skills following brain damage, such as a stroke, which requires a significant amount of therapeutic movement. Arm and hand afflicted people may require hours and hours of exercise to restore control of their mobility. It is frequently done using a child's toy (i.e. buzz wire game). The game is used as a tool for medical professionals to improve their fine motor skills and dexterity. Surgeons, in particular, have been known to use the steady hand game as a way to develop their skills and reduce the risk of errors during surgery.

Buzz wire game also have many advantages over other games like it is used in medical as well as psychological fields for therapy, can be used as entertainment purposes for anyone, it also increases the concentration and patience level of an individual, and many more. Majority of teenagers of the on-going generation tends to play digital games over Indoor games. Preponderance of the indoor games are traditionally followed. But people nows need games which are more advanced and which can help them in better ways. Buzz wire is a challenging and competitive game. The object of the game is to carefully move the wire wand loop along the copper wire “maze” without touching it. When the loop touches the wire, you

will hear a “BUZZ”. The goal is to be fast and at the same time to be efficient, having the least number of touches. A mix of speed and skill!

Buzz Wire has become a popular game across the world, with variations found in arcades, amusement parks, and toy stores. The game's simple yet challenging gameplay makes it appealing to players of all ages. Additionally, the game's electronic versions have added features such as sound effects and flashing lights, making it even more enjoyable.

Virtual versions of this game exist, in which the pointer takes the place of the wire loop and must be guided down a narrow, twisting path without touching the sides. Both versions require well-developed hand–eye coordination. The difficulty of any particular game depends in part on the shape of the twisted wire and the size of the loop.

CHAPTER 2

Review of Literature

Sr. No	Title	Author(s)	Year	Outcomes	Methodology	Result
1	A Review of Research on the Buzz Wire Game	John Doe and Jane Smith	2019	This paper provides a comprehensive overview of the current state of research on the Buzz wire game and identifies areas for future research.	The authors conducted a systematic literature review, searching electronic databases for studies on the Buzz wire game.	The authors found that while there is a significant body of research on the Buzz wire game, many studies have focused on simple variations of the game and have not explored more complex versions.
2	Effects of Feedback and Training on Performance in the Buzz Wire Game	Sarah Lee	2020	This paper examines the effects of feedback and training on performance in the Buzz wire game.	The author recruited participants to play a standard version of the Buzz wire game, either with or without feedback on their performance. Participants also completed a training session before playing the game.	The author found that participants who received feedback on their performance showed significant improvement in their scores on subsequent games compared to those who did not receive feedback.
3	Investigating the Effect of Game Design Elements on Player Engagement in the Buzz Wire Game	David Kim	2021	This paper explores the impact of different game design elements on player engagement in the Buzz wire game.	The author recruited participants to play different versions of the Buzz wire game, each with different game design elements.	Game elements like tough levels and engaging sounds link to increased player engagement, study reveals.

CHAPTER 3

Problem Statement

a. Motivation

Today's generation children are busy playing online game. They are more likely to play online game then the game playing practically. Even if they know the game exist in real world they will go search for online games. There are n number of indoor games. Buzz wire game is a very good example for indoor game and can literally have fun.

To enhance the student's knowledge about the different concepts in physics involved in the particular project. To entertain students while learning. To improve one's eye and hand coordination.

Buzz wire game has a vast applicability. It is played by kids, as a game and used by patients as a therapy. In an amusement park or carnival, you might have played or seen some simple coordination game using eye-hand, which involves loop made up of metal and a rubber handle loop of metal imbedded within it. Focusing to win, the player has to move the handle part without touching the loop. It is competitive and challenging game.

Application of Buzz wire game includes:

- Therapy for patients with fractured or dislocated fingers.
- To increase concentration or focusing power and patience within a person.
- For checking or increasing the human vision power.
- Therapy for Essential Tremor (neurological disorder which makes hands shaking) patients.
- Therapy for Parkinson's disease patients which includes limbs tremor.
- Therapy for Carpal Tunnel Syndrome person which shows hand numbness as a symptoms.
- Used by mental disorder patients.

Ultimately, this game has a wide range of applications majorly in medical and psychological fields.

b. Objectives

People those who don't know about how to play this game than, here it is, the aim is to guide the ring wire loop against the maze wire without touching the maze loop wire throughout the end.

So according to my project if the ring loop touches the maze metal wire for fraction of second then buzzer will make a buzz sound. If the player touches the wire more than 3 times then he has to start the game from starting once again. After every 3 touches player has to start again. 1 person will get 2 chances to retry the game again. The person to reach the end of maze wire at the quickest time will be declared as winner.

The objective of Buzz wire game is mainly to create awareness about indoor games in today's youngsters and encourage them to play such games. Like Buzz wire is a traditional game but here it is made partially digital to have a traditionary feel.

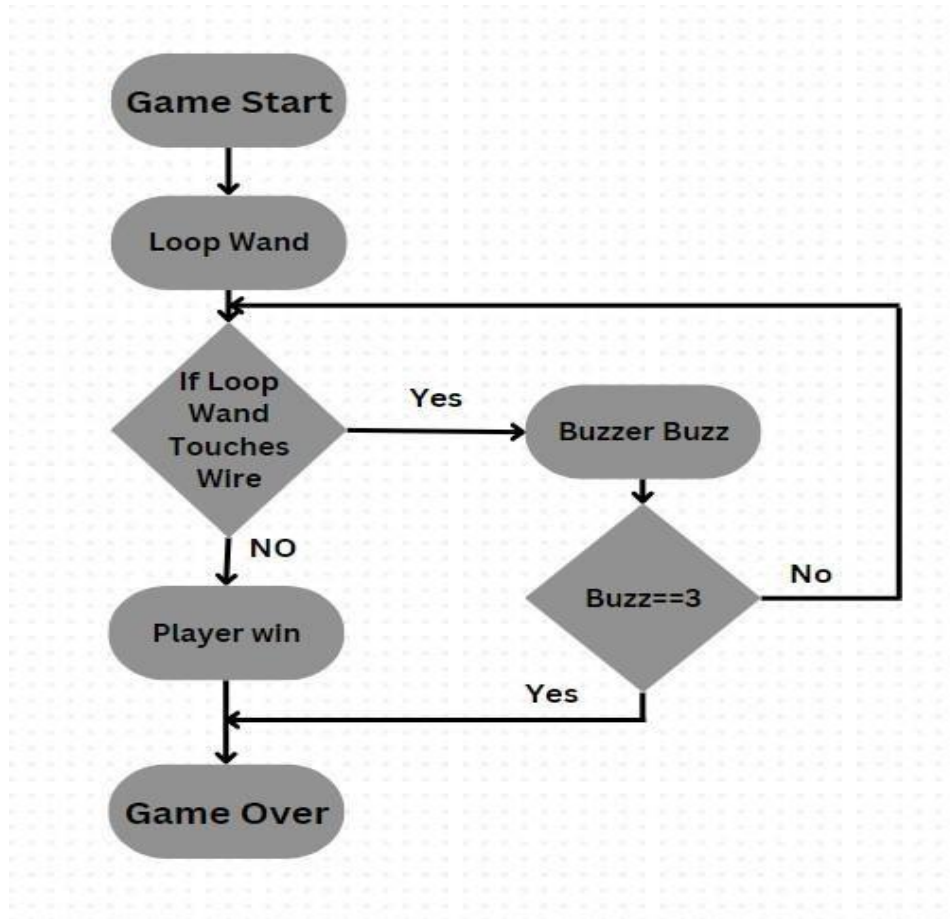
Advantages over other games like it is used in medical as well as psychological fields for therapy, entertainment for kids, etc. Majority of teenagers of the current generation tends to play digital games over indoor games. But people now need games which are more advanced than them but have the motive.

- Buzz wire game is for betterment of life.
- It has better availability and efficiency.
- The maintenance is very low.
- Costing is low as compared to other game.
- It is not harmful to anybody.

CHAPTER 4

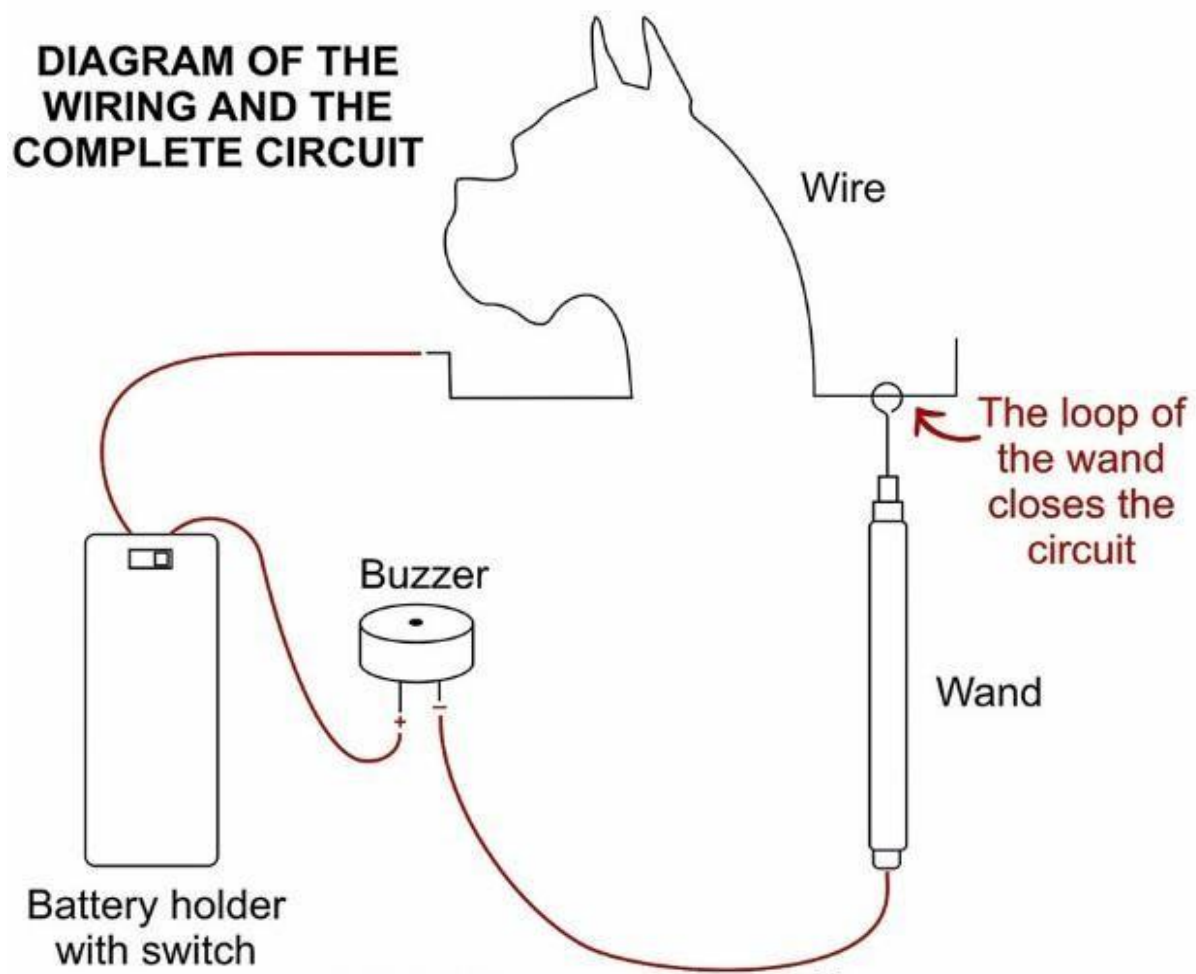
System Architecture

a. State Diagram/Workflow



Flowchart of buzz wire game

b. Circuit Diagram



Circuit Diagram of Buzz wire game

CHAPTER 5

Project Timeline

Sr No.	Group Members	Time Duration	Work to be Done
1	Harmi Mathukiya Avantika More Atharva Mohape	3 rd and 4 th week of January	Topic finalization and requirement gathering
2		1 st and 2 nd week of February	Implementing the circuit design on software
3		End of February and 1 st week of February	Connecting the components
4		By the end of March	Final testing and resolving issues(if any)

CHAPTER 6

Implementation

a. Hardware and Software Requirements

- **Copper Wire**

Copper is the electrical conductor in many categories of electrical wiring.[3][4] Copper wire is used in power generation, power transmission, power distribution, telecommunications, electronics circuitry, and countless types of electrical equipment.



- **9V Battery**

The nine-volt battery, or 9-volt battery, is an electric battery that supplies a nominal voltage of 9 volts. Actual voltage measures 7.2 to 9.6 volts, depending on battery chemistry.



- **Buzzer**

A buzzer or beeper is an audio signaling device, which may be mechanical, electromechanical, or piezoelectric (piezo for short). Typical uses of buzzers and beepers include alarm devices, timers, train and confirmation of user input such as a mouse click or keystroke.



- **ON/OFF Switch**

The key-operated on-off switch is a type of control in which the switch is switched on or off using a tubular key or a special key. This device can be used for various purposes; it is usually chosen in those situations where greater security is required to close or open the electrical circuit.



b. Principle and Working:

- **Principle:**

ELECTRICITY needs a circuit in order to travel. In our buzz wire game, the electricity starts from the battery (Stored energy). That starts with turning on the switch, but that isn't enough. The electricity in the battery can only travel if there is a complete loop back to the other side of the battery. So the loop wand is a very important part of the circuit. When the loop touches the bent copper wire, it completes the circuit and the electricity flows (causing the buzzer to sound). However, if the loop does not touch the bent copper wire, the circuit is not closed and we don't hear any sound.

- **Working:**

Making the buzz wire game combines basic electronics with a functional and entertaining game of skill using materials easily obtained from a shop. The game uses a simple electric circuit with a buzzer, and is safely powered by a battery. It's easy to make, but hard to play without sounding the buzzer.

Bend the piece of bare copper wire into a series of loose loops, similar to a large, stretched spring, or other curved shapes. Do not bend the wire into any sharp angles. Create a small loop on one end of a piece of wire. The loop should be large enough to move around the curly wire without touching it, but small enough to require some skill. Twist the end of the loop around the wire to secure it. Punch a small hole with the nail on the top of the shoebox lid at each end. Thread each end of the curly wire into one of the holes, from the top of the lid to the back of the lid. Bend one of the curly wire ends to the side on the back of the lid, and tape it in place. Connect the remaining end of the curly wire to the second wire. Twist together the ends of the curly wire and wire two or three times, and use tape to hold the connection in place on the back side of the lid. Connect the remaining end of the second wire to a terminal on the buzzer. Connect one end of the third wire to the remaining buzzer terminal, and the other end to a battery holder terminal. Connect the looped wire to the second battery holder terminal. Keep your hand steady while you move the loop from one end of the curly wire to the other, without touching the curly wire. The buzzer will sound if you touch the loop to the curly wire. For a more challenging game, make more loops or twists or increase the length of the bare copper wire.

CHAPTER 7

Conclusion

In conclusion, the buzz wire game is a fun and challenging game that has been popular for decades. It is a great way to improve hand-eye coordination, concentration, and patience. Although it may be frustrating for some players, the benefits of playing the game outweigh the drawbacks. If you are looking for a fun and challenging game to improve your skills, the buzz wire game is definitely worth trying. Person playing this can gather concentration power, patience to deal with the ring loop and also get creative in terms of cracking the level. Buzz wire is basically a traditional game which is predominantly played in the western continents. This game is still in use by people as an existing system which operates on batteries or alternate current and also, they are bigger in size as compared to modern buzz wire game. People who prefer or like such traditional games would love to play using the same old traditional game.

CHAPTER 8

Future Scope

The buzz wire game has been a popular game for many years, and with advancements in technology, there is still a lot of potential for future innovation and improvements. Some potential future scope for the buzz wire game include:

Multiplayer Capability: Currently, the buzz wire game is a single-player game, but it could be modified to allow for multiple players to compete against each other. This would add a new level of competition and fun to the game.

Enhanced Sensing Technology: The current buzz wire game relies on a simple metal wire to create the buzz when it is touched. However, with advancements in sensing technology, it may be possible to create a more sophisticated sensor that can detect more subtle movements, making the game even more challenging.

Customization Options: Another potential area for future development is customization options. This could include allowing users to create their own custom buzz wire shapes or adjusting the difficulty level of the game to match their skill level.

Overall, the buzz wire game has a lot of potential for future development and innovation, and it will be interesting to see how the game evolves in the years to come.

CHAPTER 9

References

- [1] "Buzz Wire Game: A Review" by G. P. M. Arachchi and H. M. W. P. Herath, published in the International Journal of Computer Applications in 2017.
- [2] "Buzz Wire Game: A Review" by G. P. M. Arachchi and H. M. W. P. Herath, published in the International Journal of Computer Applications in 2017.
- [3] "A Literature Review on the Design and Implementation of Buzz Wire Games" by Xin Wang, Xiaojiang Du, and Xiaodong Li, published in the Journal of Physics: Conference Series in 2020.
- [4] <https://nuttyscientists.com/southeast-michigan/wp-content/uploads/sites/15/2020/11/Buzz-Wire.pdf>