

PING PONG GAME USING 8051 PYTHON PROGRAMMING LANGUAGE

A

Semester

Project

BACHELOR OF SCIENCE

IN

ELECTRICAL AND COMPUTER ENGINEERING

COMPUTER STREAM

Submitted

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03/August/2021

ABSTRACT

Ping pong game is one of the most famous arcade games, simulating table tennis. Each player controls a paddle in the game by dragging it vertically across the screen's left or right side. Players use their paddles to strike back and forth on the ball. Turtle is an inbuilt graphic module in Python. It uses a panel and pen to depict illustrations. We provide a more interesting and convenient way for people to play ping pong game on pc. In this paper, we propose an Augmented Reality game system (ARPP) for two players on the same pc.

The ping pong game is normally created by using python programming language and a pycharm to write all the codes. The experiment results show that the proposed game system can work effectively and provide winner results on the computer devices.

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CHAPTER - 1

INTRODUCTION

1.1 Background

Ping pang game is multiplayer game build on turtle module. Where two persons can play this game. You can simply run the file to play the game by downloading all the files that are necessary to the game. You need to download music effects also to get good experience with the game. Ping-Pong is a very popular game. People need to play it in some fixed physical locations and by connecting it with Wi-Fi. We provide a more interesting and convenient way for people to play Ping-Pong game on pc. In this paper, we propose an Augmented Reality game system (ARPP) for two players on the same pc where two persons can play this game. you can simply run the file to play the game by downloading all the files that are necessary to the game. You need to download music effects also to get good experience with the game.

The goal of the project was to create an active ping pong game which is controlled using the VGA board. To clearly understand how to do such a task one must understand what is required to undergo it. The method to interact with the machine is through a readable language which is VHDL. The VHDL language will act as an instruction set for the controls, display and movement for the ping pong program. The project overall purpose is to show how the applicability of the interface interaction is possible using the software. Each specified switch interacts with a role for a paddle. In this lab the paddles were used to move both up and down using the switches orientation. Since there are multiple switches, the ones used on either end were selected as the controls for the paddles.

1.2 Significance of the project

An intense game of ping pang game stimulates mental alertness and concentration and develops mental acuity. Improving reflexes, Due to the fast-paced, short-distance nature of the sport, both gross and fine muscle movements are improved. It's easy on the joints.

1.3 Statement of the Problem

Ping Pong is one of the most famous arcade games, simulating table tennis. Each player controls a paddle in the game by dragging it vertically across the screen's left or right side. Players use their paddles to strike back and forth on the ball. Turtle is an inbuilt graphic module in Python. It uses a panel and pen to depict illustrations.

1.4 objective

1.4.1 Main objective

- The project overall objective is to show how the applicability of the interface interaction is possible using the software. The ping pong paddles are each controlled by the users using the. Each specified switch interacts with a role for a paddle. In this project the paddles were used to move both up and down using the switches orientation. Since there are multiple switches, the ones used on either end were selected as the controls for the paddles.
- Design of ping pong game with turtle module where two players are played together.

1.4.2 Specific objective

Players use the paddles to hit a ball back and forth. The goal is for each player to reach eleven points before the opponent; points are earned when one fails to return the ball to the other.

- To simulate the design results.

1.5 Goal of the project

The goal of the project was to create an active ping pong game which is controlled using the the keyboard. To clearly understand how to do such a task one must understand what is required to undergo it. The method to interact with the machine is through a readable language which is python. The python language will act as an instruction set for the controls, display and movement for the ping pong program.

1.6 Relevance

Playing ping pong game has many relevance

- It boosts problem solving skills
- It increase creative output
- It improves moral and team building
- It reduces stress

- They improve our modes and etc...

1.7 Scope and limitation of the project

Scope

- The purpose of this project is to provide complete solution for effectively monitoring ping pong game that makes to play multiplayer on the same computer or pc.
- And when one player win or score 20 the screen will display that the game is end and that player is won.

Limitation

- The game is only played on one pc it's not connected via wifi with another pc
- It is not worked without running on python.

CHAPTER - 2

LITERATURE REVIEW

2.1 Review on ping pong game

The name "ping-pong" was in wide use before British manufacturer J. Jaques & Son Ltd trademarked it in 1901. The name "ping-pong" then came to describe the game played using the rather expensive Jaques's equipment, with other manufacturers calling it table tennis. A similar situation arose in the United States, where Jaques sold the rights to the "ping-pong" name to Parker Brothers. Parker Brothers then enforced its trademark for the term in the 1920s, making the various associations change their names to "table tennis" instead of the more common, but trademarked, term.[9]

The next major innovation was by James W. Gibb, a British enthusiast of table tennis, who discovered novelty celluloid balls on a trip to the US in 1901 and found them to be ideal for the game. This was followed by E.C. Goode who, in 1901, invented the modern version of the racket by fixing a sheet of pimples, or stippled, rubber to the wooden blade. Table tennis was growing in popularity by 1901 to the extent that tournaments were being organized, books being written on the subject,[7] and an unofficial world championship was held in 1902. In those early days, the scoring system was the same as in lawn tennis.[10]

Although both a "Table Tennis Association" and a "Ping Pong Association" existed by 1910,[10] a new Table Tennis Association was founded in 1921, and renamed the English Table Tennis Association in 1926.[11] The International Table Tennis Federation (ITTF) followed in 1926.[1][12] London hosted the first official World Championships in 1926. In 1933, the United States Table Tennis Association, now called USA Table Tennis, was formed.[1][13]

2.2 Review on python

Python was conceived in the late 1980s[04] by Guido van Rossum at Centrum Wiskunde & Informatica (CWI) in the Netherlands as a successor to ABC programming language, which was inspired by SETL,[16] capable of exception handling and interfacing with the Amoeba operating system.[11] Its implementation began in December 1989.[15] Van Rossum shouldered sole responsibility for the project, as the lead developer, until 12 July 2018, when he announced his

"permanent vacation" from his responsibilities as Python's Benevolent Dictator For Life, a title the Python community bestowed upon him to reflect his long-term commitment as the project's chief decision-maker. In January 2019, active Python core developers elected a 5-member "Steering Council" to lead the project.[4] As of 2021, the current members of this council are Barry Warsaw, Brett Cannon, Carol Willing, Thomas Wouters, and Pablo Galindo Salgado.[20]

Python 2.0 was released on 16 October 2000, with many major new features, including a cycle-detecting garbage collector and support for Unicode.

Python 3.0 was released on 3 December 2008. It was a major revision of the language that is not completely backward-compatible. [17] Many of its major features were back ported to Python 2.6.x[18] and 2.7.x version series. Releases of Python 3 include the 2to3 utility, which automates (at least partially) the translation of Python 2 code to Python 3.[49]

Python 2.7's end-of-life date was initially set at 2015 then postponed to 2020 out of concern that a large body of existing code could not easily be forward-ported to Python 3.[16] No more security patches or other improvements will be released for it.[19] With Python 2's end-of-life, only Python 3.6.x[14] and later are supported.

Python 3.9.2 and 3.8.8 were expedited [15] as all versions of Python (including 2.7) had security issues, leading to possible remote code execution and web cache poisoning.

2.3 Review on pycharm

PyCharm is an IDE developed by JetBrains since 2010. Yes, the same company that developed IntelliJ, the de-facto default for Java. It costs \$89 per year for private people which is pretty expensive if you just get your feet wet with Python. It's pretty cheap if you consider that the editor/IDE is one of the most important tools of a professional software developer[9].

It is used by many Python developers as one can see in the number of StackOverflow questions (12,455), in the 2019 JetBrains Survey, and the 2019 StackOverflow survey.

CHAPTER - 3

METHODOLOGY

3.1 Basic Overview

We use python programming language for designing our game and pycharm in order to write all the python codes.

For successful completion of this project some steps have been followed to carry out different tasks. Different literatures were revised relating to this project and data has been collected from nearby system. Based on the data collected system model have been designed. Finally using appropriate software, the programming has been developed.

- Generally, the steps are described by the following block diagram.

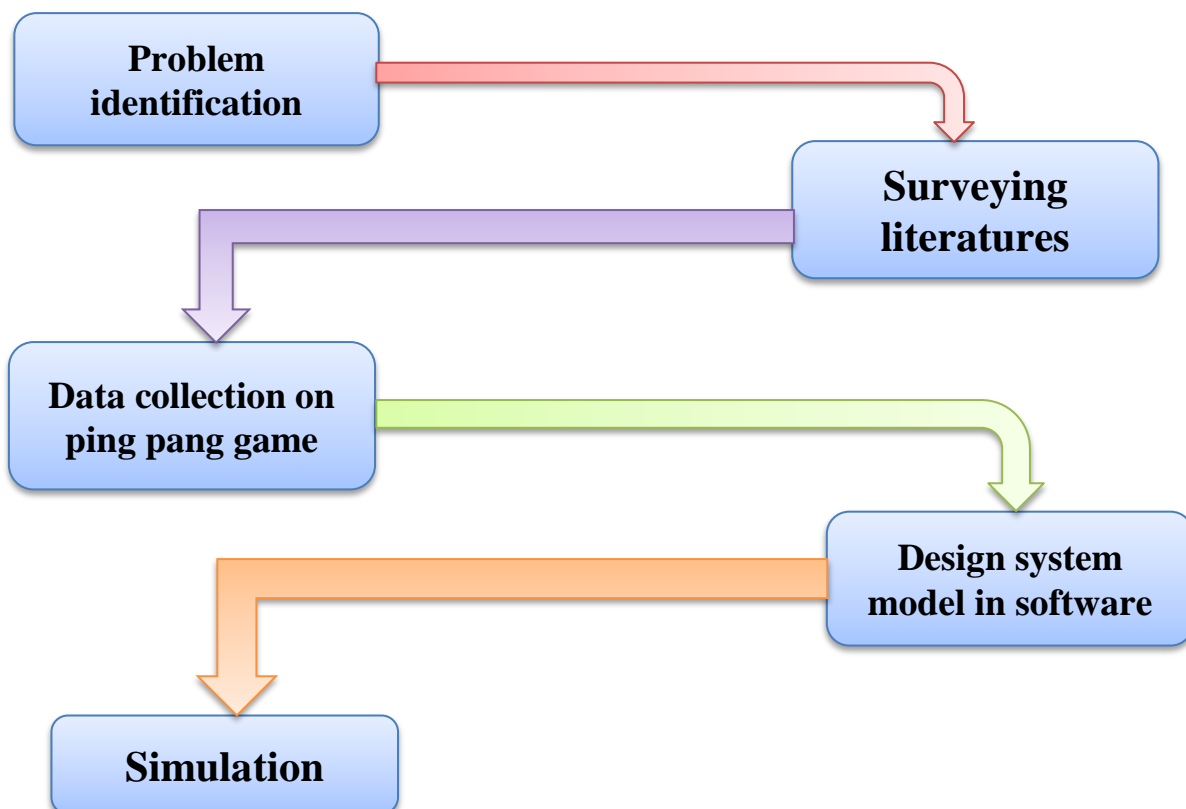


Fig 3.1 steps for completion of the project

3.2 SOFTWARE REQUIREMENTS

- We have used python programming language for simulation of our project and pycharm community for writing the code.

3.2.1 Python Programming Language

Python is an interpreter, object-oriented, high-level programming language with dynamic semantics. Its high-level built in data structures, combined with dynamic typing and dynamic binding; make it very attractive for Rapid Application Development, as well as for use as a scripting or glue language to connect existing components together. Python's simple, easy to learn syntax emphasizes readability and therefore reduces the cost of program maintenance. Python supports modules and packages, which encourages program modularity and code reuse. The Python interpreter and the extensive standard library are available in source or binary form without charge for all major platforms, and can be freely distributed.

Applications of Python

Python supports cross-platform operating systems which makes building applications with it all the more convenient. Some of the globally known applications such as YouTube, BitTorrent, DropBox, etc. use Python to achieve their functionality.

- Web development
- Game Development
- Machine Learning and Artificial Intelligence
- Desktop GUI
- Web Scraping Applications

3.2.2 Pycharm Community

PyCharm is an integrated development environment used in computer programming, specifically for the Python language. It is developed by the Czech company JetBrains. We can run PyCharm on Windows, Linux, or Mac OS. Additionally, it contains modules and packages that help programmers develop software using Python in less time and with minimal effort. Further, it can also be customized according to the requirements of developers.

CHAPTER - 4

ACTIVITY AND SCHEDULE

4.1 ACTIVITY

While developing the project starts from the documentation to the implementation we use the following case tools:

Activity	Week one	Week two	Week Three	Week four	Week five	Week Six	Week Seven
Prepare							
proposal							
Presentation of proposal							
Data collection							
System model design							
Software development							
Simulation of the model							
Project Presentation							

Table 4.1: Activity Schedule

4.2 SCHEDULE

4.2.1 Cost schedule

- **Hardware cost**

No	Material	Amount	Price per unit	Total price
1	A4 size paper	1 Destin	100 Birr	100Birr
2	Pen	4	20 Birr	20 Birr

3	Flash disk	1	210 Birr	210 Birr
4.	For Print	40 sheet	2 Birr	80 Birr
6	Dell pc	1	10,000 Birr	10,000 Birr
Total	10,300.00 birr			

Table 4.2 Hardware cost in the project

- **Software cost**

No	Material	Price per unit
1	Microsoft office 2010	Free
2	Python 3.88	Free
3	pycharm	Free
4	Visual studio	Free
Total	00.00 Birr	

Table 4.3 Software cost in the project

4.3 Conclusion

The design of ping pong game was successfully carried out and tested effectively. The system did not pose extra-ordinary constraint and no any other components are needed so everyone can use this game by running on his pc. Finally, the project was challenging because it needs deep knowledge of python coding. gave an exposure into the practical application of theoretical knowledge in solving problems associated with design and construction of the game.

More importantly, the knowledge of python programming is applied in this project, additionally, this project promotes interests in python programming learning concepts. Actually the class did not cover this knowledge, students recognized it as a useful tool in solving real-world problems and decided to explore the topic.

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