

**PROFESSIONAL TRAINING REPORT**  
**at**  
**Sathyabama Institute of Science and Technology**  
**(Deemed to be University)**

Submitted in partial fulfillment of the requirements for the award  
of Bachelor of Technology Degree in Information Technology

By

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# SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY  
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## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

### BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **GAYATHRI M (38120024)** who carried out the project entitled "**JUMBLE WORD GAME USING PYTHON TKINTER**" under my supervision from APRIL 2020 to JUNE 2020.

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## **DECLARATION**

I, **GAYATHRI M (38120024)** hereby declare that the Professional Training Report on “**JUMBLE WORD GAME USING PYTHON TKINTER**” done by me under the guidance of Y.Bevis Jinila **M.E.,Ph.D.**, at Sathyabama Institute of Science and Technology is submitted in partial fulfillment of the requirements for the award of Bachelor of Information Degree in Information Technology.

**DATE:**

**PLACE:**

**SIGNATURE OF THE CANDIDATE**

## **ACKNOWLEDGEMENT**

I am pleased to acknowledge my sincere thanks to **Board of Management of SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

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I wish to express my thanks to all Teaching and Non-teaching staff members of the **Department of INFORMATION TECHNOLOGY** who were helpful in many ways for the completion of the project.

# TRAINING CERTIFICATE



VERIFIED ✓

## CERTIFICATE OF COMPLETION

THIS IS TO CERTIFY THAT

GAYATHRI M

HAS SUCCESSFULLY COMPLETED

GAME DEVELOPMENT USING PYGAME

DATE: 01/04/2020

CERTIFICATE NUMBER: 6Z9713V72W95RXt8JS

\*THIS CERTIFICATE IS AUTO GENERATED

A handwritten signature in black ink, 'S.P. Balamurugan', is written over a circular blue stamp. The stamp contains the GUVI logo and the text 'GUVI CERTIFICATE OF COMPLETION' around the perimeter.

S.P. BALAMURUGAN  
CO-FOUNDER AND CEO

## **ABSTRACT**

Jumble word game is an application which is developed using python tkinter. This game application main functionalities are to check the user input and reset the word. This application contains an entry box, a label which contains the word in a shuffled form, check button and reset button. Entry box is used to get the user input and check button is used to check whether the user input matches with the actual answer. Reset button is used to generate subsequent word. If the user input is correct answer then message will be shown as "success" otherwise it will be shown as "sorry!.try again" inside the message box.

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# **CHAPTER-1**

## **INTRODUCTION**

Mobile platform is simply the software platform on top of the programs which can run an application or a game on a mobile device such as a phone, PDs and handheld computers. The mobile games are played using the technologies present on the device itself. And for networked games, there are various technologies in common use. For e.g. it includes text message, multimedia message or GPS location identification. These games are usually downloaded via the mobile operator's radio network, but in some cases are also loaded into the mobile handsets when purchased, via infrared connection, Bluetooth, or a memory card.

The mobile applications, specially games are becoming more user friendly as the time goes on. Smartphone users account for about 40% of the mobile phone market, considering the awareness among youngsters and the current trend as well as the cheaper rates. Many of these users enjoy playing games on their mobile phones. Having your favorite game in your mobile devices is in itself a mark of remarkable gesture.

It allows the users to download the games for free or at a cost which can add additional market value to a game. More and more games are being released to all gaming platforms including Nintendo Wii, Nitendo DS, Xbox 360, Playstation, PC, and moble devices. By having all these platforms for games to run in your phone, it creates big additional value for game developers.

### **1.1 OUTLINE OF THE PROJECT**

The main aim of this project report is to highlight the features as follows: -

- To show the details of graphics and design.
- To show how the user can work with the application.

This game application contains the following parts

- Label- It contains the word in the shuffled order to give an idea to find the word to find. By using shuffle class the word is arranged in shuffled form. Shuffle is one of the class random package.
- Entry box: This box is used to get the word as user input to validate the result. This is used as an entry point to the game.
- Check answer button: This button is used to check the user input is correct or not to find the result.
- Reset button: It is used to generate the subsequent words to find .This will give more chance to find new word.
- Message box: It will show the message as “success” if the user input is matches with actual result otherwise it will show the message as “sorry! try again”. Message box is one of the class in tkinter package.

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## **1.2 TARGET AUDIENCE AND BENEFICIARIES**

The application is targeted towards teenagers who enjoy playing racing games and want a new twist on the racing game genre. Another audience that could have interest in the project is someone who is beginning to look at game development, particularly racing games and needs guidance on how to start. I would consider myself as a beneficiary as I have improved a lot of my existing programming skills and gained a lot of additional knowledge of various topics.

## **CHAPTER-2**

### **AIM AND SCOPE OF THE PROJECT**

#### **2.1 AIM OF THE PROJECT**

Jumbled-Letter Game is a kind of language game that is used to teach or to learn vocabulary in language learning, especially in English language teaching. The main activity of this game is the students arrange the new words or vocabulary from jumbled-alphabet letter in the target language. The teacher mentions specific words in native language and then the students arrange the word mentioned in the target language by using alphabet letter. The students are only given limited time to arrange the word so that they should arrange it as quickly as possible. The purpose of this game is to improve students' vocabulary mastery. Besides, it may improve students' memory of vocabulary. The students will easily recall the new vocabulary in the target language and spell it in the right order and letter.

#### **2.2 SCOPE OF THE PROJECT**

This gaming application can be having the scope like one user only can play at a time and limited words will be displayed based on the capability of mobile. And coming to the advantages this greatly helps in knowledge improvement and as well as increase the entertainment levels.

A word jumble is a word puzzle game that presents the player with a bunch of mixed up letters and requires them to unscramble the letters to find the hidden word. More complicated puzzles may have multiple solutions, requiring the player to parse jumbled words to find more than one hidden word. If you're solving anagrams, trying to unscramble words or playing a game of Words With Friends, these word jumble tips will help you win.

An example of a simple word jumble might be "d-a-r-h-c-l-e-t-a." If you found "cathedral," nice work! You're well on your way to word jumble success. If

you also found "ate," "eta," "hard," "late," or "trace," you're ahead of the game. Well done!

## **2.3 GAME DEVELOPMENT USING PYTHON TKINTER**

### **2.3.1 PYTHON**

Python is a widely used general-purpose, high level programming language. It was created by Guido van Rossum in 1991 and further developed by the Python Software Foundation. It was designed with an emphasis on code readability, and its syntax allows programmers to express their concepts in fewer lines of code.

Python is a programming language that lets you work quickly and integrate systems more efficiently.

### **2.3.2 TKINTER**

The Tkinter module ("Tk interface") is the standard Python interface to the Tk GUI toolkit from Scriptics (<http://www.scriptics.com>) (formerly developed by Sun Labs). Both Tk and Tkinter are available on most Unix platforms, as well as on Windows and Macintosh systems. Starting with the 8.0 release, Tk offers native look and feel on all platforms. Tkinter consists of a number of modules. The Tk interface is located in a binary module named `_tkinter` (this was `tkinter` in earlier versions). This module contains the low-level interface to Tk, and should never be used directly by application programmers. It is usually a shared library (or DLL), but might in some cases be statically linked with the Python interpreter. In addition to the Tk interface module, Tkinter includes a number of Python modules. The two most important modules are the Tkinter module itself, and a module called `Tkconstants`.

Tkinter is a Python binding to the Tk GUI toolkit. Tk is the original GUI library for the Tcl language. Tkinter is implemented as a Python wrapper around a complete Tcl interpreter embedded in the Python interpreter.

## **CHAPTER-3**

### **EXPERIMENTAL METHOD AND ANALYSIS**

#### **3.1 EXPERIMENTAL GAME THEORY AND ITS APPLICATION IN SOCIOLOGY AND POLITICAL SCIENCE**

Game theory, laboratory experiments, and field experiments are common and powerful tools in many social sciences [1]. However, applications in Sociology and Political Science remain scarce and scattered [2]. Yet, the combination of game theory with controlled experiments provides a powerful tool to better understand social and political processes, for example, [3–5]. The mathematical structure offered by game theory and the control offered by an experimental environment allow the researcher to isolate sociological and/or political phenomena to study their development and their effects. The relationship between game theory and experiments is twofold. On the one hand, game theory provides solid ground on which to design an experiment and a formal benchmark that serves as a measuring rod for a structured analysis of observed behavior. On the other hand, experiments can be used to test equilibrium predictions and to pinpoint shortcomings of theory as well as point to directions in which the theory can be adapted.

The aim of the special issue is to encourage original research that seeks to study sociological or political phenomena using laboratory experiments that are based on game theoretical benchmarks and that seek mathematical modeling of game theoretical arguments to inspire experiments in the fields of Sociology and Political Science, and vice versa.

In a research article of the special issue, G. Bravo et al. experimentally study whether intermediaries can positively influence cooperation between a trustor and a trustee in an investment or trust game. Another article by L. A. Palacio et al. develops a game theoretical foundation for experimental investigations of the strategic role in games with nonbinding communication. In another article, L. Corazzini and M. Tyszler employ quantal response equilibrium (QRE) to find out the extent of confusion and

efficiency motives of laboratory participants in their decisions to contribute to public good. The article by S. A. Tulman utilizes QRE (i.e., noisy decision-making) and altruism-motivated players to investigate the “paradox of voter turnout” in a participation game experiment. Finally, in another article, B. Kittel et al. present a laboratory study in which they examine the role of the middle class on income distribution within the framework of a contest game.

We hope that the selection of articles in this special issue will help to inspire scholars in Sociology and Political Science to add mathematics to their tool box and adopt game theory and experimentation in their research methodology.

### **3.2 QUALITATIVE APPROACHES FOR STUDYING GAMES**

The first part looks at qualitative approaches for studying games. Games are seen as data and the research build understanding on games and how they work, provide experiences or information to its players. All chapters in this part consider games as systems. The data collection method in these approaches is playing a game or games that is under scrutiny. The methods also make assumptions about players or abstract them in some ways; for example, in Lankoski and Björk (chapter 3), the player is seen only in terms of what actions they can perform. These kinds of methods can arguably be seen as fundamental to much game research. Because in one degree or another, these often are needed to be able to use any of the other approaches; it can, for example, be difficult to understand play or player behavior in a game if one does not know what constitutes the gameplay. Lankoski and Björk (chapter 3) provide a method for analyzing and describing the core components, or primitives that regulate the gameplay of a game. Zagal and Mateas (chapter 4) present a formal analysis approach that focuses on describing time in games using the concept of temporal frames. Last, Sköld, Adams, Harviainen, and Huvila (chapter 5) describe methodology for analyzing games as information systems.

### **3.3 QUALITATIVE APPROACHES FOR STUDYING PLAY AND PLAYERS**

The second part, qualitative approaches for studying play and players, provides methods that focus on actual play or player experiences. The game(s) played provides

context but is not the main interest of study when using these methods. 6 Brown (6) introduces ethnomethodology where players are studied in their natural environments by, for example, observing play making field notes. The natural environment discussed in the chapter is online game worlds and forums. The chapter discusses especially challenges that the researchers encounter when studying intimate situations such as erotic role-play. The rest of chapters in this part deal with different interview methods. Cote and Raz (chapter 7) covers in-depth interviews, how to plan and conduct interviews, and how to analyze interview data using thematic analysis. The analysis approach is useful for all kinds of qualitative data. Eklund (chapter 8) focuses on group interviews, and Pitkänen (chapter 7) stimulated recall interview approach.

### **3.4 GAMIFICATION**

The main aim of gamification, i.e. the implementation of game design elements in real-world contexts for non-gaming purposes, is to foster human motivation and performance in regard to a given activity. Previous research, although not entirely conclusive, generally supports the hypothesis underlying this aim. However, previous studies have often treated gamification as a generic construct, neglecting the fact that there are many different game design elements which can result in very diverse applications. Based on a self denomination framework, we present the results of a randomized controlled study that used an online simulation environment. We deliberately varied different configurations of game design elements, and analysed them in regard to their effect on the fulfilment of basic psychological needs. Our results show that badges, leaderboards, and performance graphs positively affect competence need satisfaction, as well as perceived task meaningfulness, while avatars, meaningful stories, and teammates affect experiences of social relatedness. Perceived decision freedom, however, could not be affected as intended. We interpret these findings as general support for our main hypothesis that gamification is not effective per se, but that specific game design elements have specific psychological effects. Consequences for further research, in particular the importance of treatment checks, are discussed.

### **3.5 EXPERIMENTAL ECONOMICS**

Experimental economics is the application of experimental methods to study economic questions. Data collected in experiments are used to estimate effect size, test the validity of economic theories, and illuminate market mechanisms. Economic experiments usually use cash to motivate subjects, in order to mimic real-world incentives. Experiments are used to help understand how and why markets and other exchange systems function as they do. Experimental economics have also expanded to understand institutions and the law (experimental law and economics).

A fundamental aspect of the subject is design of experiments. Experiments may be conducted in the field or in laboratory settings, whether of individual or group behavior.

Variants of the subject outside such formal confines include natural and quasi-natural experiments.

## **CHAPTER 4**

### **RESULTS AND DISCUSSIONS , PERFORMANCE ANALYSIS**

Performance analysis is the technique of studying or comparing the performance of a specific situation in contrast to the aim and yet executed. In Human Resource, performance analysis can help to review an employee's contribution towards a project or assignment, which they allotted him or her.

#### **4.1 IMPORTANCE OF PERFORMANCE ANALYSIS**

Importance-performance analysis (IPA) is an accepted method for measuring service quality well known for its simplicity and stress-free application. Thus, IPA focuses on the gap between the customer expectation on the importance and judgment on performing specific attribute of service consumed.

We distinguish three basic steps in the performance analysis process: data collection, data transformation, and data visualization. Data collection is the process by which we get data about program performance from an executing program. Data collected in a file, either during or after execution, although in these situations it is presented to the user in real time. We can distinguish three basic data collection techniques:

##### **4.1.1 DATA COLLECTION**

- Profiles: It records the time spent in different parts of a program. This information, though minimal, is often invaluable for highlighting performance problems. Profiles are gathered automatically.
- Counters: It records either frequencies of events or cumulative times. The insertion of counters may require programmer intervention.

- Event: It records each occurrence of various specified events, thus producing large numbers of data. It produces traces either automatically or with programmer intervention.

#### **4.1.2 DATA TRANSFORMATON**

- The raw data produced by profiles, counters, or traces are in the form required to answer performance questions.
- Data transformations are applied, often with the goal of reducing total data volume.
- It can use transformations to find mean values or other higher-order statistics or to extract profile and counter data from traces.

#### **4.1.3 DATA VISUALIZATION**

- Although data reduction techniques are used in some situations to compress performance data to scalar values.
- This process can help from the data visualization techniques. It can apply both conventional and more specialized display techniques to performance data.
- Each of the various performance tools described in later sections incorporates a set of built-in transformations; the programmer can code transformation that is more specialized.

A trace is processed to produce a histogram giving a distribution of message sizes. Parallel performance data are multidimensional, comprising execution times, communication costs, and so on, for multiple program components, on different processors, and for different problem sizes., often necessary to explore the raw multidimensional data well known in computational science and engineering,

As we shall see, a wide variety of data collection, transformation, and visualization tools are available. When selecting a tool for a particular task, we should consider the following issues:

1. **Accuracy.** Performance data obtained using sampling techniques are less correct than data obtained by using counters or timers. With timers, one must take the accuracy of the clock into account.
2. **Simplicity.** The best tools in many circumstances are those that collect data automatically, with little or no programmer intervention, and that give convenient analysis capabilities.
3. **Flexibility.** It extends a flexible tool to collect more performance data or to offer different views of the same data. Flexibility and simplicity are often opposing requirements.
4. **Intrusiveness.** Unless a computer provides hardware support, performance data collection introduces overhead. We need to know of this overhead and account for it when analysing data.
5. **Abstraction.** A good performance tool allows it to examine data at a level of abstraction proper for the programming model of the parallel program. For example, when analysing an execution trace from a message-passing program, we wish to see individual messages, if someone can relate them to send and receive statements in the source program. However, this presentation is not right when studying a data-parallel program, even if the compilation generates a message-passing program. Instead, we see communication costs related to data-parallel program statements.

## **4.2 WEB-BASED PERFORMANCE ANALYTICS**

Performance analytics is a field with huge discrete data sets that are grouped, organized, and aggregated to understand the data structure. Synthetic and real user

monitoring are the two most popular techniques to test the performance of websites; both these techniques use historical data sets to test performance.

In web performance analytics, statistical values that describe a central tendency (the odd number measure of central location) for the discrete data set under observation. We can use the statistical metric to test and analyse the data. These datasets have innumerable data points that are aggregated using different statistical approaches.

### **4.3 RESULTS AND DISCUSSION**

The Result and Discussion sections are the “meat” of most engineering reports. The role that they play in a lab report is obvious; in other types of reports, they can fulfill different purposes. In a design report, the results and discussion may involve an evaluation of the design or method used. In a feasibility or case study, the results and discussion section would involve measuring the feasibility or evaluating the success of one or more solutions. Not all reports, however, will include these components – proposals, for example, will likely not have any results to discuss, since it looks forward to action to be done in the future.

### **4.4 DESCRIPTION**

#### **4.4.1 AN INTERFACE OF THE GAME APPLICATION**

An interface of the game application is represented in Fig 4.1

- Label-The first part of this application is known as label. It contains the word in the shuffled form. Shuffle is one of the class which is imported from random package.
- Entry box-This box is used to get the user input to match with the exact output. This is used as an entry point to the application.
- Check Answer button-This button is used to check whether the user input matches with the actual output. This button is used to generate the result of the game.

- Reset button-This button is used to generate subsequent shuffled word. This is used to get more word to find.

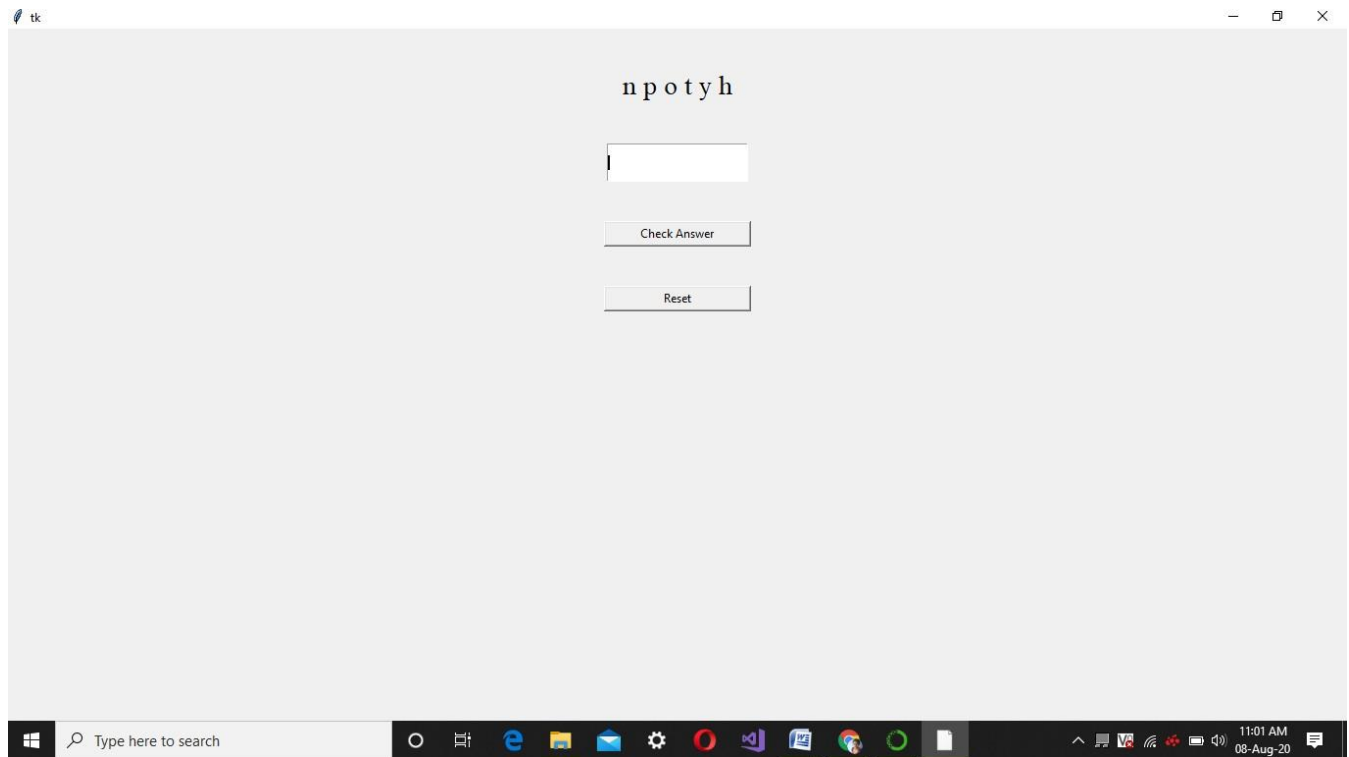


Fig 4.1 Overview of the game application

#### 4.4.2 GENERATION OF RESULT OF THE GAME

- Message box- This is a component which is used in tkinter to generate the result of the game. When the answer which is provided via entry box is evaluated as true then it will show the message as “success” (Fig 4.2) otherwise “Sorry! try again”(Fig 4.3).

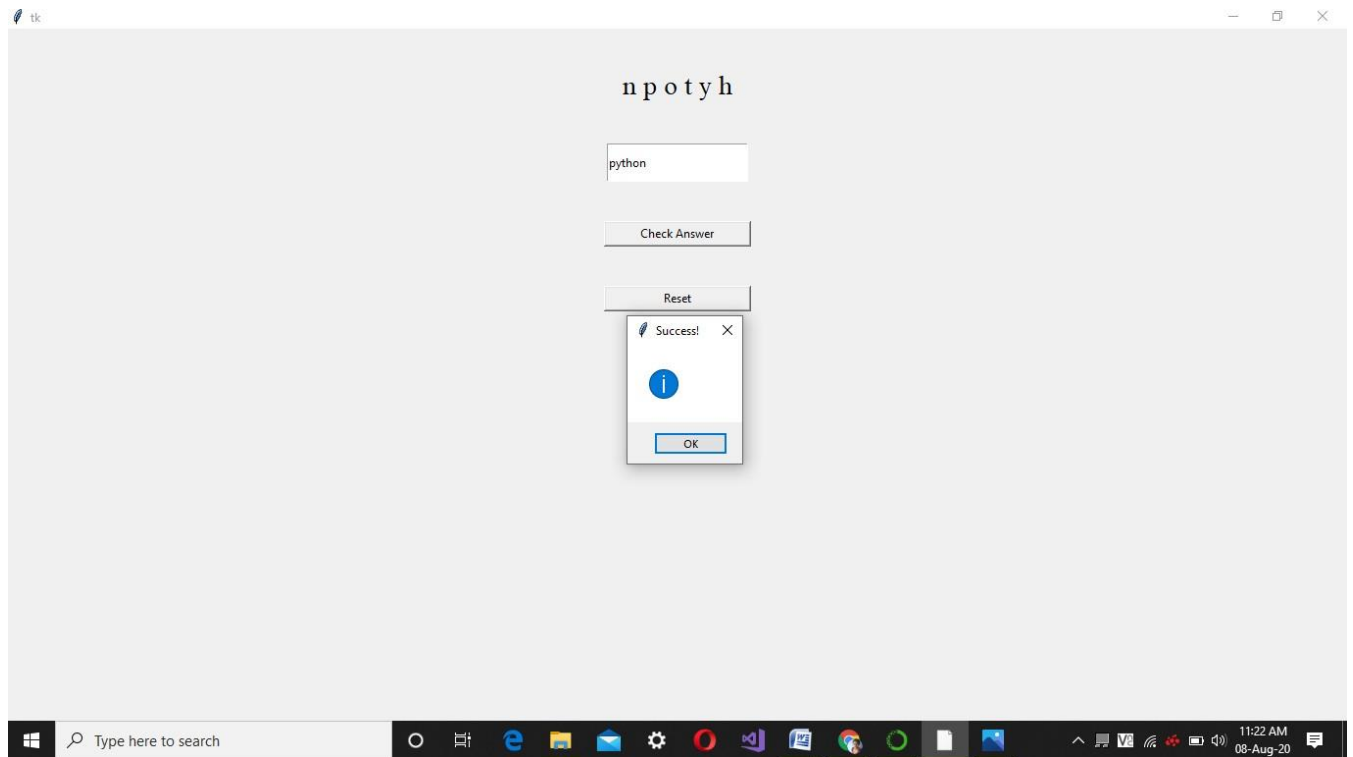


Fig 4.2 Correct input

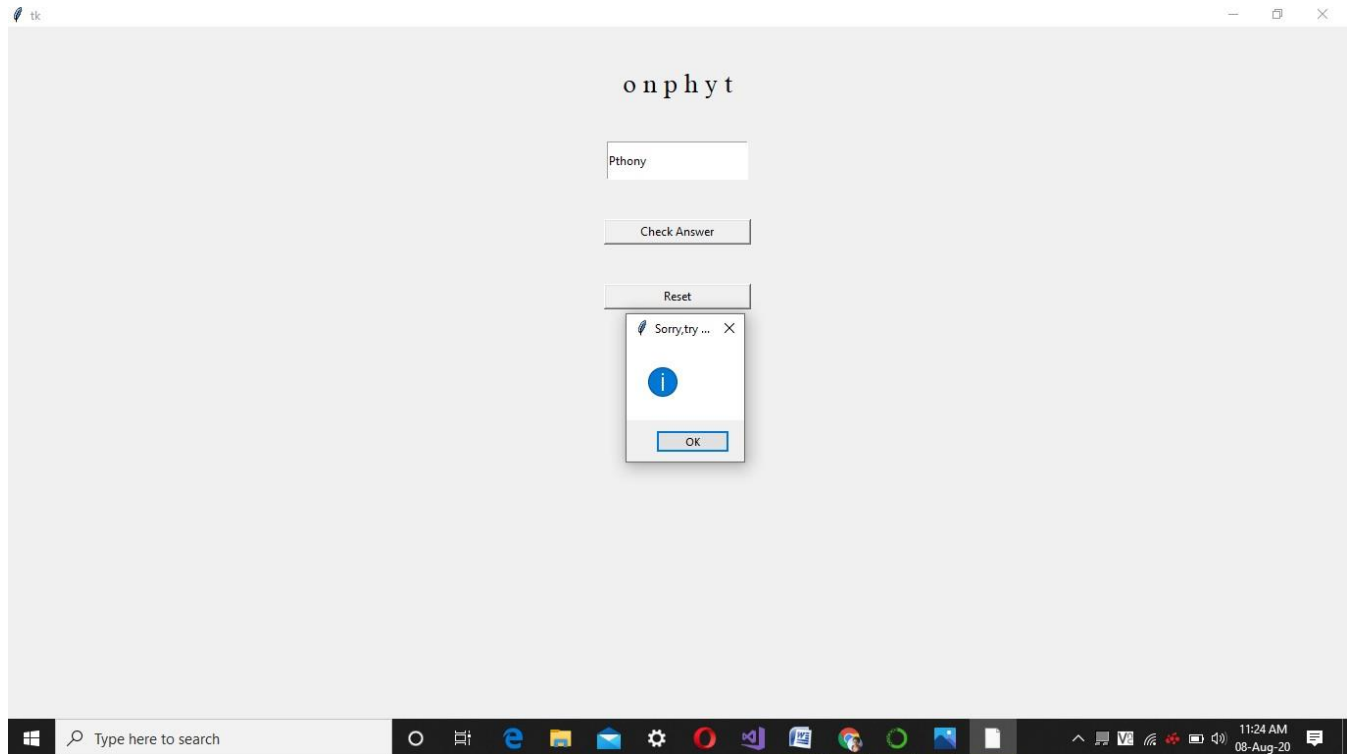


Fig 4.3 Wrong input

### **4.3 SOFTWARE REQUIREMENTS**

Operating System: Windows 2000/XP or higher

Software application: Python IDLE

Packages:Random,tkinter

Classes:messagebox,shuffle

### **4.4 HARDWARE REQUIREMENTS**

Processor: Pentium Processor IV or higher

RAM: Minimum 1 GB RAM

Hard Disk: 60 GB Hard Disk or more

Mouse: Optical Mouse

Keyboard: 104 keys

## CHAPTER 5

### 5.SUMMARY AND CONCLUTIONS

#### 5.1 SUMMARY POINTS

- **RISK AND SUPPORT** : Games, as other ICT tools, should be used when the learning of the content is supported, when teachers feel at ease using them and are confident, ready to risk having a few ‘failed’ sessions till they get it right.
- **EMBED AND PLAN:** Game choice should involve careful consideration of related theoretical context relevant to curriculum and learning outcomes. There should be clear tangible learning objectives with tasks suitable in supporting students in developing specific skills and knowledge.
- **NURTURE and TRUST:** These innovative pedagogies should be part of the school plan for developing teachers’ skills and make happier students.

#### 5.2 CONCLUSION

Thinking of the game as a part of a bigger educational process is really in the core mind-set that this project wants to promote. Games can do many things very well, but they certainly cannot do everything at once. Especially not without solid supporting structures around them. Throughout the project and the case studies we built this was true. As each teacher build he r or his story these processes were discussed and reflected upon and we will be referring to these and link back to them.

This project aimed as much at using alternative and innovative methods to teach through coding digital games and playing games as part of learning, as at developing the skills of teachers in extending academic goals to

understand, support and include the whole child: not only their academic subject skills but also social, emotional and behavioural skills.

Some key factors have been identified which have enabled the teachers at the schools we saw to take steps towards better embedding games into their lessons. Many of these factors have been highlighted as the factors needed to bring about teacher change.

- Senior management leaders team provided teachers with time to learn to use and play with technologies: this is helping to improve teachers' self-efficacy and confidence.
- Giving support to guide the use of technology and help build confidence.
- Giving teachers freedom and trust thus enabling teachers to take risks and experiment with ICT.
- Encouraging teachers to meet and support one another through sharing ideas and knowledge.
- Providing technical support.
- Recognising and valuing teachers as professionals by giving more responsibility to enable CPD and career progression.
- Creating a culture of shared responsibility at all levels of the school, including the Headteacher, class teachers and support staff.
- Making funds available to purchase ICT.
- Encouraging teachers to use online spaces (Blogs, School websites) to share ideas and scale up.

## REFERENCES

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- [7]www.udemy.com
- [8]www.keltron.orgs
- [9]www.ambientinsight.com

## APPENDIX

### A.SOURCE CODE

```
import tkinter
from tkinter import*
import random
from tkinter import messagebox
from random import shuffle
answer=["python","java","opencv","jupyter","database","tkinter","google","youtube","what
sapp"]
words=[]
for i in answer:
    word=list(i)
    shuffle(word)
    words.append(word)
def initial():
    global words,answer,num
    num=random.randint(0,len(words))
    lbl.configure(text=words[num])
def ans_check():
```

```

global words,num,answer
user_input=e1.get()
if user_input==answer[num]:
    messagebox.showinfo("Success!")
    Reset()
else:
    messagebox.showinfo("Sorry,try again")
    e1.delete(0,END)
def Reset():
    global words,num,answer
    num=random.randint(0,len(words))
    lbl.configure(text=words[num])
    e1.delete(0,END)
root=tkinter.Tk()
root.geometry("500x500")
lbl=Label(root,font='times 20')
lbl.pack(pady=30,ipady=10,ipadx=10)
answer2=StringVar()
e1=Entry(root,text=answer)
e1.pack(ipady=10,ipadx=10)
button1=Button(root,text="Check Answer",width=20,command=ans_check)
button1.pack(pady=40)
button2=Button(root,text="Reset",width=20,command=Reset)
button2.pack()
root.mainloop()

```