Mini Project on Quiz Game in C

Summer Internship Report(2019-20)

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING/

COMPUTER SCIENCE

Submitted by

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1st year
SEC A

Supervised by

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

KIET GROUP OF INSTITUTIONS, GHAZIABAD, UTTAR PRADESH

(Affiliated to Dr.A.P.J. Abdul Kalam Technical University, Lucknow, UP,India)

Session 2019-20

Certificate

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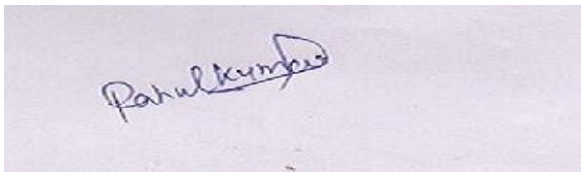
CERTIFICATE

This is to certify that the internship project report entitled, Mini Project on Quiz Game in C Programming Language submitted by Aastha Bisht in the Department of Computer Science & Engineering of KIET Group of Institutions, Ghaziabad, affiliated to Dr. A. P. J. Abdul Kalam Technical University, Lucknow, Uttar Pradesh, India, is a record of candidate summer internship work carried out by him / them under my supervision and guidance and is worthy of consideration for the same.

Signature of Supervisor:



Supervisor Name: Prof. Rahul Kumar

Date: 30.08.2020

PART - A

Introduction

This is a complete and error-free **Quiz Game Mini Project in C** designed as a simple console application. In this project, a number of questions are asked, and the user is awarded cash prize for each correct answer given. In quiz game, questions are chosen in such a a way that they cover all fields of a typical quiz contest.

Project overview

I have divided this mini project into many functions, and listed below are some of those which may help you understand the project better.

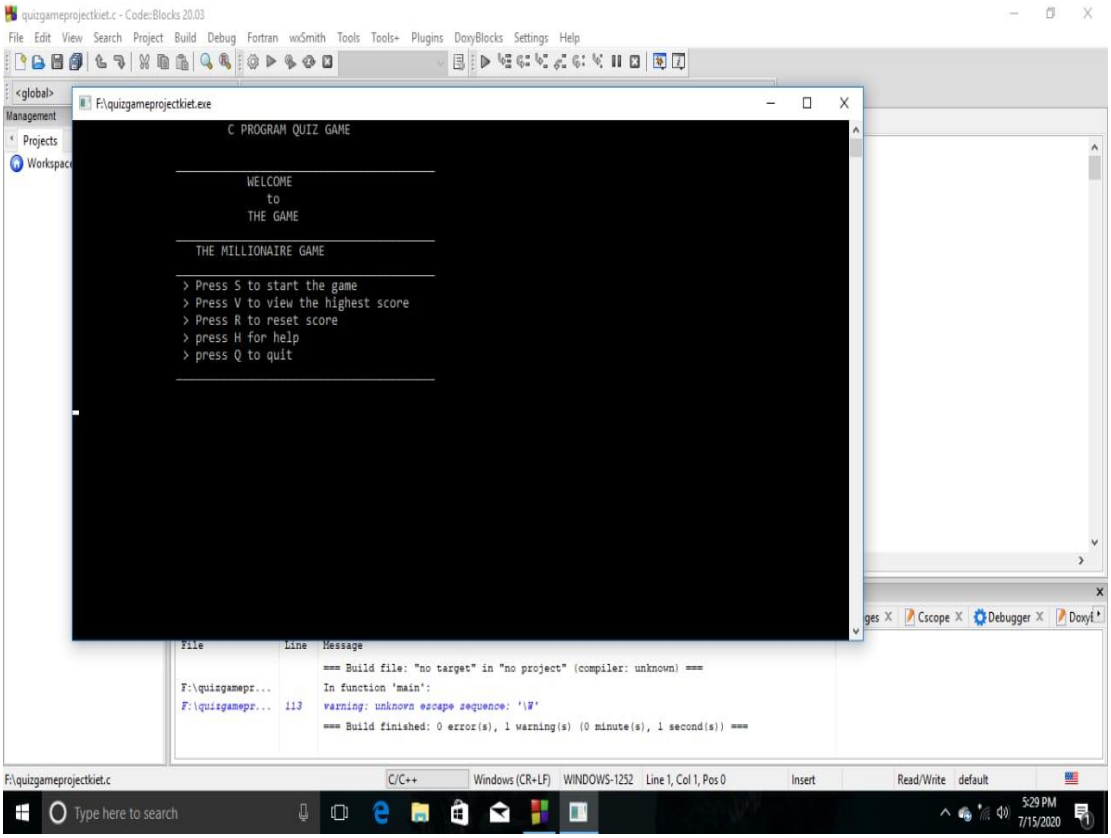
- edit_score() – adds the current cash prize won to the previous one upon giving the right answer to a question
- help() – help menu with game summary and rules
- reset_score() – to reset the highest score/cash prize to default
- show_record() – shows the highest cash prize won by a particular user
- show_score() – to view the highest score

In this quiz game mini project, you can store the user name, view the highest score secured by a user, and even reset the score. Additionally, to make the game look a little more interesting, it is divided into two rounds; user must pass the first round to reach the second one.

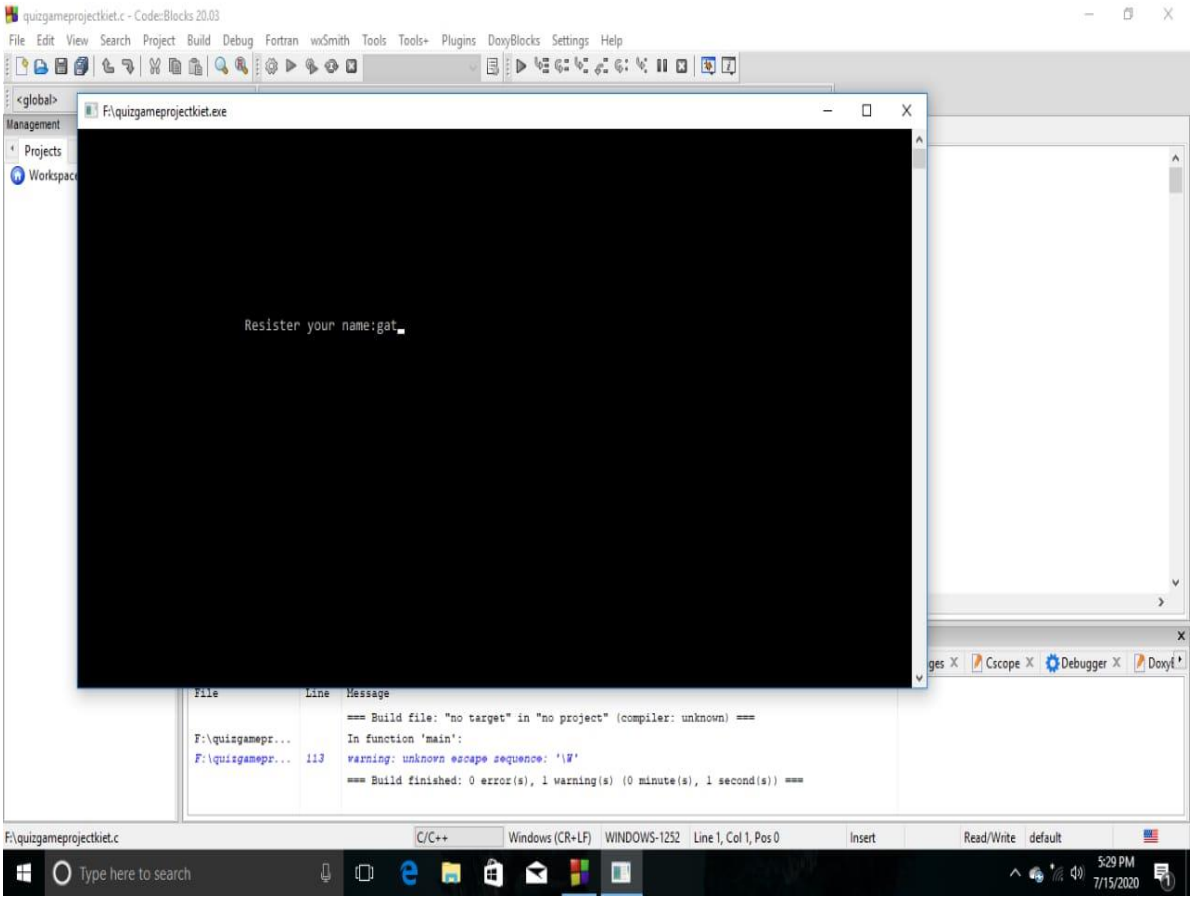
Of the 2 rounds I mentioned above, the first is called the Warm-up Round; the second is the Challenge round. In the warm-up round, the user is asked a total of three simple questions and they must be able to answer at least two of them correctly to enter the next round. If the user is not capable of doing that, he is not permitted to proceed further.

In the second and more interesting round of this quiz game in C, the user will be asked questions continuously, and for each right answer given, they will earn $100,000! The game ends when the user's cash prize piles up to $1 million. For each question asked, there are 4 options, namely A, B, C and D. There are no negative markings, so the user's accumulated cash money won't be deducted for wrong answers to the questions.

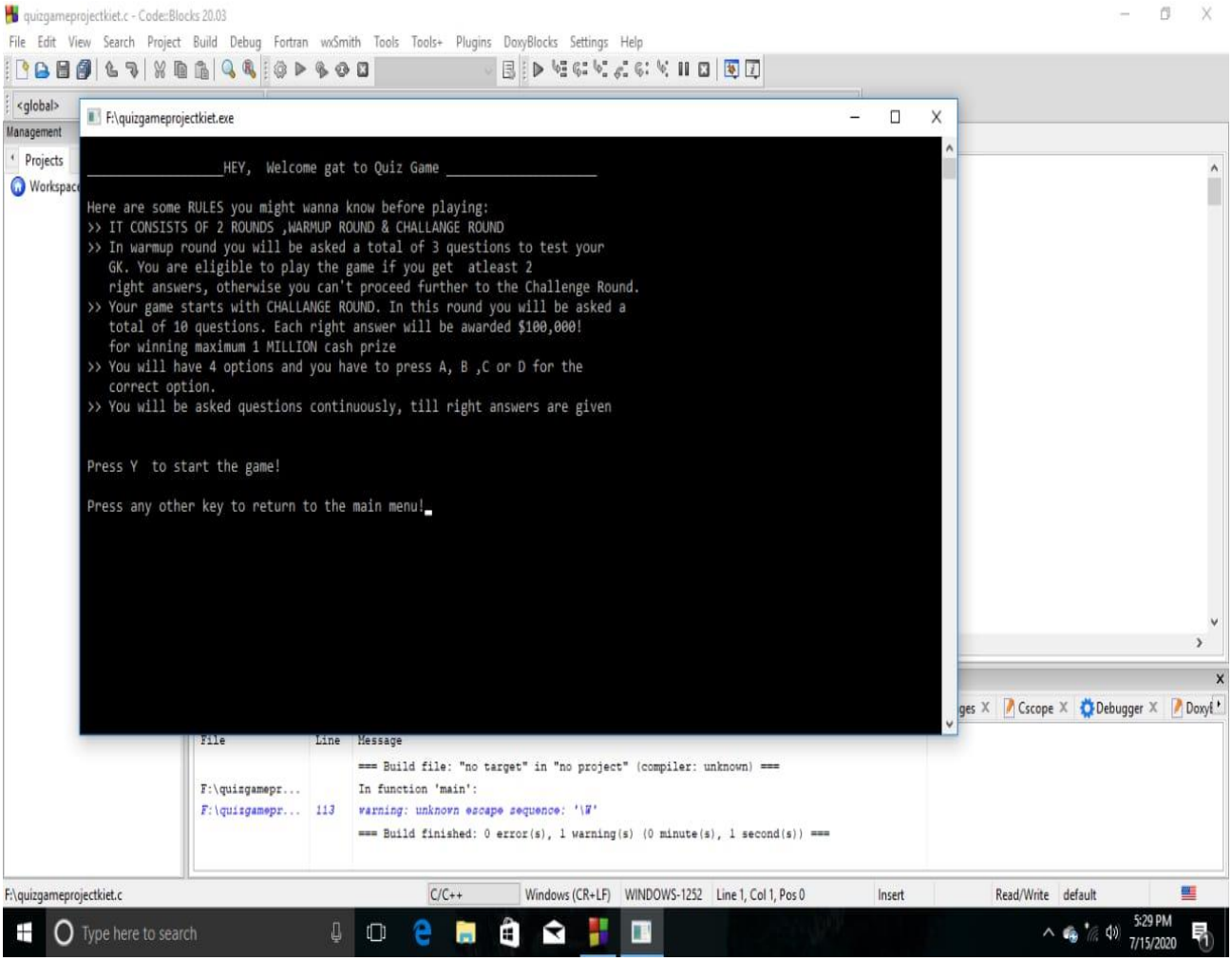
Implementation



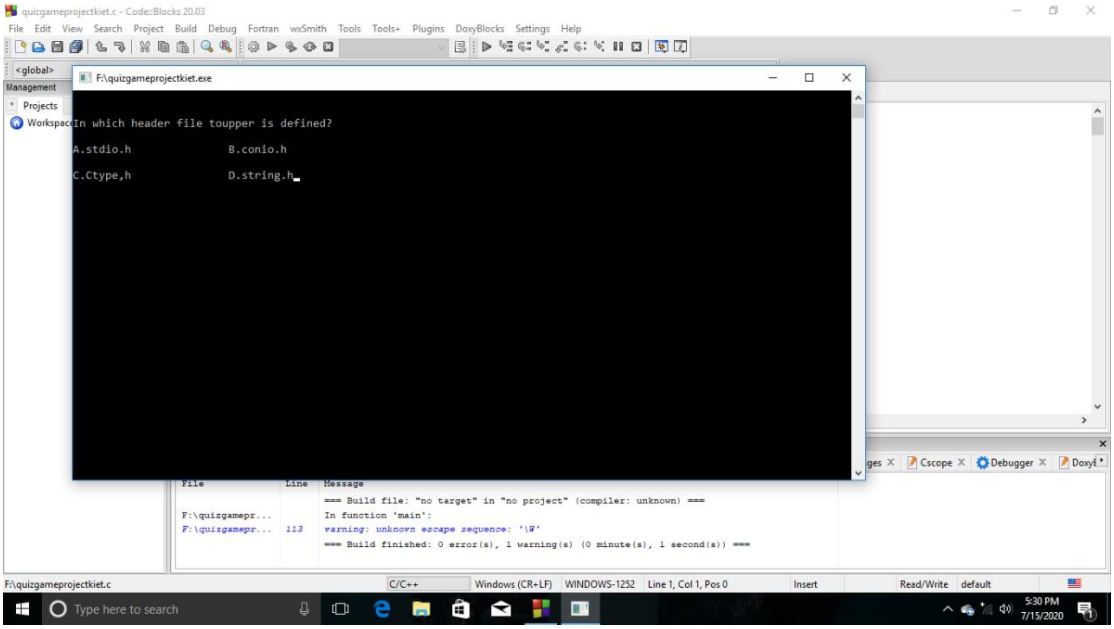
Menu of game . Here player can choose to start the game or see the highest score ,reset it , help , or quit the game

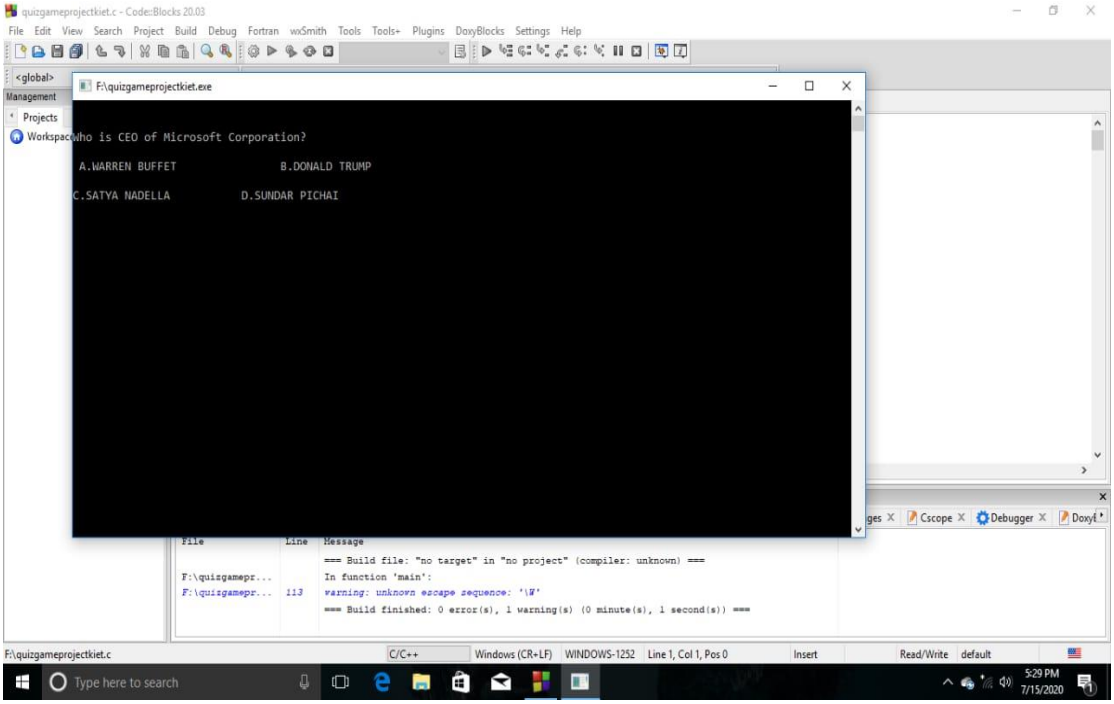


Player registers his/ her name

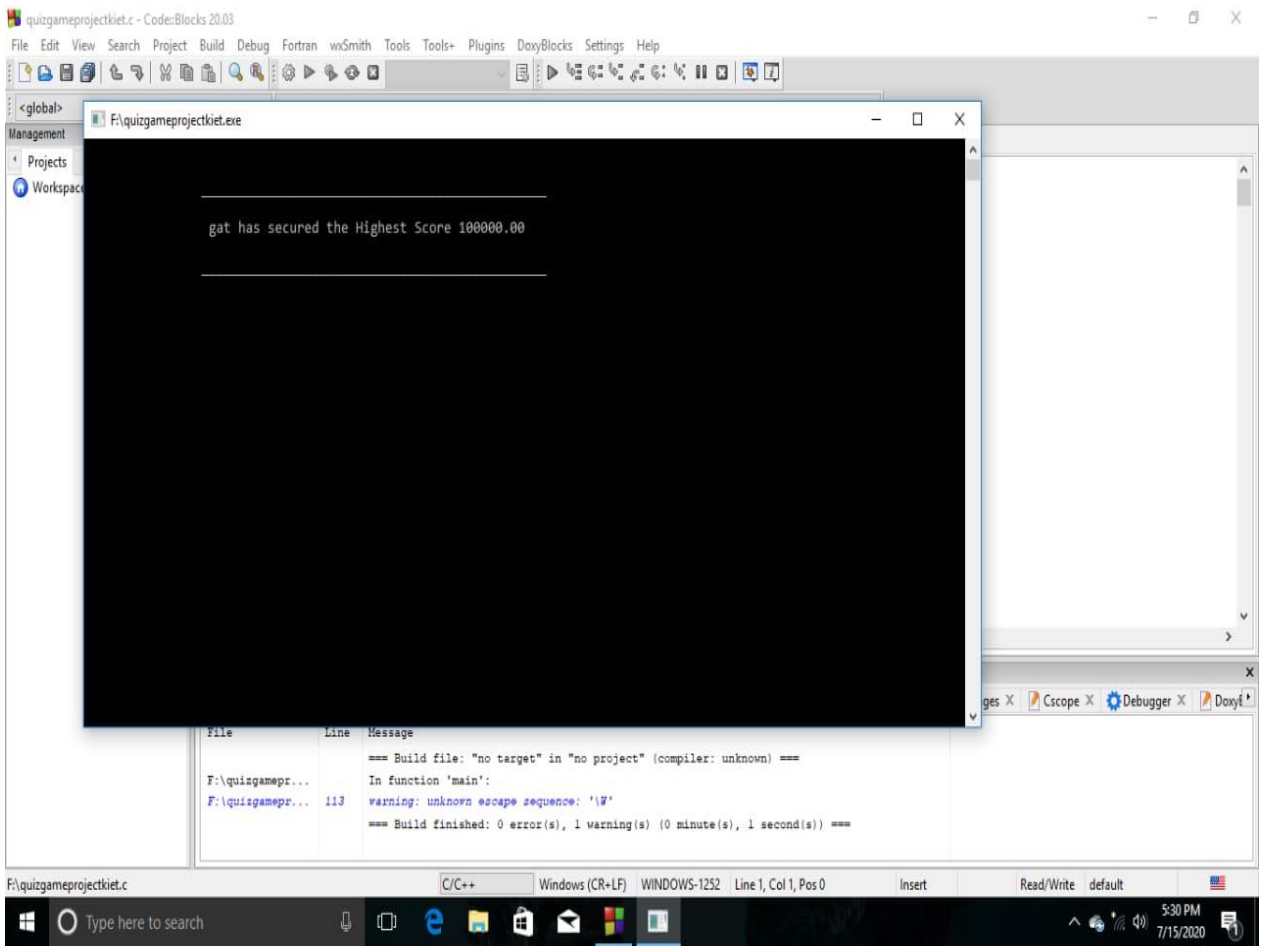


Instructions to game





Questions from the game



How much player wins in game

Conclusion

The Quiz Game designer is very interactive user friendly and easy to play. The game allows the user to choose the topic of his interest and test his knowledge. The question database can be easily modified like adding.deleting or changing the questions is very easy. It is also designed carefully so as to navigate the user smoothly without any warning content or computer crash on the way.

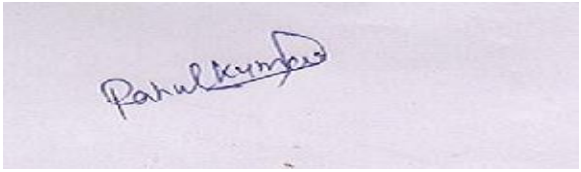
Daily Log

Name of Student	Aastha Bisht
Roll No.	1900290100002
Name of Course	Mini Project Quiz Game in C
Date of Commencement of Training:	14.05.2020
Date of Completion of Training:	31.07.2020

S.No.	Please specify the learning of the day	Date
1	Got instructions to make the game	15th May
2	Revised data types and operators	16th may
3	Revised conditional statements	17th may
4	Revised loops	18th May
5	Revised arrays and strings	19th May
6	Revised file handling	20th May
7	Revised goto statements	21st May
8	Planned how to make the program	22nd May
9	Discussed raw structure of program	23rd May
10	Distributed the jobs	24th May
11	Wrote menu of the program	25th May
12	Wrote help in programme	26th May
13	Wrote labels to set the program	27th May

14	Wrote introduction of program	28th May
15	Wrote function for show record	29th May
16	Wrote the function for reset the score	30th May
17	Wrote the function for editing the score	31st May
18	Wrote the function for viewing help	1st June
19	Wrote goto main home label	2nd june
20	Wrote game label	3rd June
21	Wrote questions for challenge round	4th June
22	Wrote 1st 3 question for main round	5th June
23	Wrote 3question for main round	6th June
24	Wrote 3question for main round	7th June
25	Wrote 3 question for main round	8th June
26	Wrote score label for program	9th June
27	Wrote go label of program which concludes result of the game	10th June
28	Editited game question	11th June
29		
30		

Supervisor's Sign



(Rahul Kumar)

PART - B

1. Research paper-1:

How Blockchain can impact financial services

Objective: Discussion on Blockchain Revolution impact in FinTech

FinTech (FinancialTechnology) and Blockchain are prevalent topics Among technology leaders in finance today. This article describes the Impact and revolution of FinTech and Blockchain in the financial industry and demonstrates the main characteristics of such technology. Then,researchers present three critical challenge as well as three ethical Issues about using Blockchain technology .Next ,it discuss the development of Blockchain for the financial sector.In addition, we describe the real motivations for banks to explore Blockchain ,and problems they face.In order to have a good understanding of the industry,a qualitative method was adopted,and sixteen experts were interviewed.It was identified that knowledge hiding in Blockchain was commonand the rationale behind was analyzed using the TPB(Theory of Planned Behavior) approach. The analysis results suggested that knowledge hiding was due to affective, behavioural and cognitive evaluations. The interview so provided several recommendations and success factors to overcome current issues in Blockchain adoption. Therefore,four important propositions have been developed. Finally, this article suggests how financial services should respond to This new technology and how to manage knowledges haringinamore structuredway.This article contributes to the literature related to the current entrepreneurial finance landscape for Blockchain.
Decentralization:Z hengetal.(2018)state thatinatraditional
The main advantage of this chain is its replication over a distributed net-

work.

Users' anonymity: Transactions occur between Blockchain addresses. Each user on a Blockchain has a unique alphanumeric address,

and they can decide to keep it secret not open to others(Tapscottand

Tapscott,2017).

Limitation

- Quantitive metrics but no explaination
- Short term vs.long term effect
- Primary and newness effect
- Features must be implemented
- Parallel experiment

Conclusion

- Blockchain could represent credit reconstruction,
- across-time consensus mechanism that enabled people to trust

Each other without social relations.

2. Research paper-2:

A survey on consensus methods in Blockchain for resource IoT networks

Objective: To provide an insight on how Blockchain affects IoT and what resources are provided by its methods in the light

The success of blockchain as the underlying technology for Cryptocurrencies has opened up possibilities for its use in other Application domains as well.The main advantages of blockchain For its potential use in other areas are its inherent security Mechanisms and immunity to data manipulation attacks. A Blockchain relies on a consensus method for agreeing on any new Data. We also talk about some of the Alternatives to the public blockchain,such as private blockchain And tangle ,alongwith their potential adoption for IoT networks. Furthermore, we review the existing consensus methods that have Been implemented and explore the possibility of utilizing them to realize a blockchain-based IoT network. Some of the open research challenges including AI-enabled blockchains are also put forward**.**

IoT:Importance and limitations

We are witnessing the use of IoT networks in various domestic, Industrial and military applications. A common feature of these IoT Networks is containing several sensors and actuators which are resource-constrained devices capable of communication without human intervention. Besides the sedevices,there are other network entities that connect the sensors and actuators to the backbone network infrastructure.These are routers ,switches, aggregator and cloud infrastructure comprising virtual servers and storage– all of which dictate the baseline requirements for resource provision in gand sharing. These requirements include dynamic and verifiable group membership Of devices , authentication and data integrity, robustness against single Point of failure, light weight operations in terms of resources and low Latency communication

Conclusions:

In this article, we reviewed the existing limitations of IoT networks and Required measures to address the deficiencies.

Then,we discussed the possibilities of using blockchain for addressing These limitations and securing data integrity in IoT

Networks .In particular ,we focused on the existing consensus methods (both conventional and state-of-the-art consensus

Methods) and their possible applicability to resource-constrained IoT networks. We surveyed the pros and cons of different

consensus methods used in blockchain implementations. By considering influential features of consensus methods on IoT

networks such as latency, scalability, computational overhead ,and network overhead, we categorized the consensus methods.

3. Research paper-3:

Practical Guide to Controlled Experiments

Objective: To provide information on randomised experiments, an opportunity by the web to evaluate ideas

We describe a common architecture and experimentation system For analyzing their pros & cons. Keywords controlled experiment ,A/B testing, e-commerce.

General term-management, measurement, experimentation

The authors of this paper were there at microsoft,amazon,dupont,NASA.

We are given two example on UI.

(a)Page of doctor footcare in which there are nine difference between the two variants.

(b)Al sorating of Microsoft office helps article in which the5-starwidget help in finer grained feedback and improves usability.
In Results and ROIFORTHE doctor footcare A to B 90% revenue and remove discount rate from new version(B)conversion rate is increased 6.5%r elative too old version(A). The one or five stars feedback helps a lot because an article either helps you solve the problem or does not.

CONTROLLED EXPERIMENTS

BYcontrolledexperimentsusercanonlydistributedornofactorcanbeinfluencethedecisionbeOEC (overallevaluationcriterion) and several primer on running control experiment(and many other)

TERMINOLOGY

Evaluationcriterion=Quantitivemeasureoftheexperiment'sobjective.Instatisticsthisis calledresponseordependentvariable.
Factor=acontrollableexperimentvariablethatisthoughttoinfluencetheOEC.
Variant=Auserexperiencebeingtestedbyassigninglevelstothefactorseither controlbyTREATMENT
orweprefertospeciallydifferentiatebetweenthecontrol.
Experimentationunit=theentityonwhichobservationaremadesometimecalledanitem.
Standard deviation=a measured of variability typically by sigma.

HYPOTHESIS TESTING AND SAMPLE SIZE

For hypothesis testing we need three factor which is confidence level (commonly set at 95%), power (commonly desired to be around 85-95%) and standard error

The following formula is desired sample size

n=(4r*sigma/delta)^2

Bythisformulaandmanyexperimentstheyequate95%confidenceleveland reducingsatisticalpower.

AFTER hypothesis testing we are about several extension to basic control experiment are possible in an online setting which is treatment ramp-up, automation, software migration.

LIMITATION

(a)Quantitive metrics but no explaination

(b)Short term vs.long term effect

(c)Primary and newness effect

(d)Features must be implemented

(e)Parallel experiment

Implementation architecture

It takes to component

(a)Randomize algorithm It is critical because stastical controlled experiment assume each variant to fan experiment has a random sample of users.

(b)Assigment method-It enable the experiment website to execute a different code path for different users.

ANALYSIS

(a)Mine the data

(b)Speed matters

(c)Test one factor at a time and Also trust and execution

CONCLUSION: Through the guidelines given in this research paper, we were able to evaluate new ideas and perform hypothesis testing.

4. Research paper-4:

Creating a Python GUI for a C++ Image Processing Library

Objective:To create a extensible graphical user interface(GUI)using Python and Tkinter for an image processing library,IPL98,which is written in UC++.

The decision wasta kentouse Python in order to gain the

Advantages of rapid development associated with using a scripting language.Unfortunately, the productivity gainsThat were made by using simple Python scripting for generating the CUI (rather than more complex C++ framework) were offset by the difficulties encountered when trying to generate Python bindings for the IPL98 library. The solution adopted wasto wrap individual C++ functions packaging chunks of I IPL98 functionality for importing into Python. This solution is sub-optimal in that the it is too much of adivision between the user interface and the application logic with the result that the CUI is unable to access image data that kin memory.To resolve this problem, future work will focus on wrapping the IPL98 claws directly concerned with image storage.

USING A SCRIPTING LANGUAGE FOR THE GUI Scripting languages allow for rapid development and prototyping due to the following:

They can be used interactively and donot need to be compiled.

The run-time environment assumes the responsibility of memory management(i.e.garbage collection)

They are dynamically typed as opposed to system languages like C++ which require the type of each variable to be explicitly stated,This allows the programmer to be less concerned with types when coding but does require more extensive unit testing in order to detect type mismatches occurring at run-time.

INTERFACING C++ AND PYTHON USING SWIG:

The task of interfacing or binding Python with C++libraries can be accomplished by using a tool called SWIG
(Simplified Wrapper and Interface Generator) [SI.SWIG is capable of connecting C++ programmes with a variety of

high-level programming languages, including Python[9].
SWIG wrapsC++ code by processing amanually constructed interface file which contains function declarations, definitions and other type information. When SWIG wraps ,eg. ,C++function,two additional files are generated: first an interface to the source language(C++). and second, an interface to the destination language (Python). The generated C++ file has to be compiled, with the original C++ function, to produce adynamically
Linked library file.This library file, together with the SWIG generated Python file, are the necessary components for
Importing the functionality into the destination language. SWIG is also capable of wrapping C++ classes by producing proxy Python classes.

THE PYTHON GUI

The primary requirement of GNU was that it was to be a CUI for lPL98,and not a graphics package similar to Adobe Photoshop [lo], like.As a result it was decided that the target user of GNU-Vu would be one who
Knows how to use IpL98 already, and is simply looking for a simpler way to access its functionality.

CONCLUSIONS AND RECOMMENDATIONS:

GNU-V across-platform image processing application built from a mixture of programming languages: Tk,a scripting language for generating the GUI ; C++, a system language which implements the image processing routines :and Python ,a scripting language used to glue the CUI and the image processing library together.
Motivation for using a scripting language for the CUI was to allow for rapid development and to obviate the need to learn a more complicated Cu tool kit or framework. Python was sensible choice asaglue language as it already possesses bindings for Tkin the form of Tkinter, and SWIG can be used to generate binding for C++ code.

5. Research paper-5:

Comparing Python and C++ efficiency through Sorting

Objective: To compare working efficiency of programming languages C++ and python

Programming languages are vital components of the computer industry in the world today. There are manydifferent programming languages which do not address which language performs the best and more efficiencythan the other programming languages. In this paper we present a couple of different algorithms which we tested with a couple of different programming languages. This helps us out by a functional standpoint on which language is the better one. We report the results of the experiment by comparing the results that we have gotten from each of the programming languages. Our results show which programming language is the better suited for each of the
Algorithms that we tested. Keywords—efficiency, complexity, sorting, python, C++. We are going to look indepth of how to keep track of the amount of time that an algorithm took to complete. The algorithms that welooked at are quick sort, insertion sort, merge sort and bubble sort. The one question main question that is in mind which
program is the best one and which one is better with efficiency. The program languages that we tested thisquestion to are C++ and Python. With each programing language we looked at the background of where language came from, the methods of how we are going to run the program and the algorithms, and final look at the results to get a clear picture of the program languages and see which one is better. The algorithms used are for testing the strength and efficiency of the program language. The four algorithms that we tested are quicksort, merge sort, bubble sort, and insertion sort.

METHODS:

The first methods done were compiling and time each algorithm that we use. This gave us an average time that each language will take to compile and run each algorithm. Also, we ran the tests many times using a large set of data. The second method compares the data that we have collect after running the different algorithms many times. The data will be large amount of data. With the data that we have collected from the tests and the comparison, we compared the results to the other

languages. From this comparison we figured out which language works the best for each of algorithm and which language has the best efficiency.

CONCLUSIONS:

Python: With the Python programming language, we were able to get good results from the tests we were able to
accomplish. The results were from the four algorithms that we found and tested on. While testing the algorithms, we saw a difference between running the program in the command prompt and running in Cygwin. The time results for the command prompt tests were high but the time was close to each other. For each algorithm we tested the time result were close to each other. The time results for the Cygwin were lower than the tests we did
in the command prompt.

C++: With the C++ programming language, we were able to get good results from the tests we were able to accomplish.
The results were from the four algorithms that we found and tested on. While testing the algorithms, we saw a difference between running the program in the command prompt and running in Cygwin. The time results for the command prompt tests were lower but the time was close to each other. For each algorithm we tested the time result were close to each other. The time results for the Cygwin were higher than the tests we did in the command prompt.

Comparison: There were a few differences that we saw with the analysis of the results between C++ and Python. One difference was the time that the algorithm took to complete the process. With Python took longer to complete in the
command prompt while C++ took shorter to complete. In the Cygwin Python took shorter to complete while C++
took longer to complete.

PART – C

Certificate of MOOC – 1

UNIVERSITY OF MICHIGAN

05/17/2020

Aastha Bisht

has successfully completed

Programming for Everybody (Getting Started with Python)

an online non-credit course authorized by University of Michigan and offered through Coursera

Charles Severance
Clinical Professor,School of Information
University of Michigan

COURSE CERTIFICATE

EDUCATION FOR EVERYONE
coursera
COURSE CERTIFICATE

Verify at coursera.org/verify/P9R4APA85DZ4
Coursera has confirmed the identity of this individual and their participation in the course.

Certificate of MOOC-2

Duke
UNIVERSITY

COURSE
CERTIFICATE

05/27/2020

Aastha Bisht

has successfully completed

Programming Fundamentals

an online non-credit course authorized by Duke University and offered through Coursera

EDUCATION FOR EVERYONE
coursera
COURSE CERTIFICATE

Andrew D. Hilton | Genevieve M. Lipp | Anne Bracy
Assistant Professor of the Practice | Adjunct Professor | Senior Lecturer
Electrical and Computer Engineering | Electrical and Computer Engineering | Computer Science, Cornell University

Verify at coursera.org/verify/NN4DUDVYFQ8T
Coursera has confirmed the identity of this individual and their participation in the course.