TYPING TUTOR USING C++

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APPROVAL AND DECLARATION

This project report titled **Typing Tutor using C++** was prepared and submitted by **Divakar K G (71382202032), Dhamodaran S (713882202027)**and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the **Bachelor of engineering (computer science and engineering)** in Sri Ramakrishna Institute of Technology, Coimbatore (SRIT).

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CHAPTER 1

INTRODUCTION

An interactive graphical Typing Tutor game made using C++ (Console Based) having various difficulty levels and a fun Game play.

Typing is the basic command to run a computer and your typing speed plays a vital role while working in a computer to save time. Here I have presented a Typing Tutor Project in C++ to measure users' typing speed and enhance their typing speed. This is a simple console application written in C++ programming language and compiled using GNU GCC compiler on Code::Blocks IDE.

The source code of Typing Tutor Project in C++ consists of over 600 lines of code which are made user-friendly by attaching comments to describe the function of each command. The project source code effectively utilizes the user-defined functions and the concept of file handling.

CHAPTER 2

OBJECTIVE

A typing tutor is a tool that is designed to help the user to enhance their typing skills. This can be done by taking lessons, playing games, or giving a typing test repeatedly.

Typing tutor software that helps the user to enhance the typing speed and accuracy. This software offers lectures through which the user can learn the keyboard skills very efficiently. It offers typing games for kids while the adults can learn typing by taking Self paced tests.

- It provides user keyboarding, digital literacy, and coding.
- With the help of this tool, the user can increase their typing speed and produce more accurate data.

CHAPTER 3

METHODOLOGY

In this project , we include more than five header files it helps us the code implement faster. The Header files are given below

1. #include<iostream>
2. #include<conio.h>
3. #include<dos.h>
4. #include <windows.h>
5. #include <time.h>

1) **iostream:** iostream stands for standard input-output stream. This header file contains definitions of objects like cin, cout, cerr, etc.

2) **conio.h**: header file is a non-standard header file that is used in C and C++ code. This file contains console input/output functions used primarily by MS-DOS compilers.

3) **Dos.h**: header file of C++ language contains functions for handling interrupts, producing sound, date and time functions etc.

4) **windows.h**: header file is used to access the Win32 API functions and it makes it easier for the user to use the in-built functionality.

5) **Time.h :**header file contains definitions of functions to get and manipulate date and time information. It describes three time-related data types.

USAGE OF FUNCTIONS IN THIS PROJECT:

void gotoxy()

The gotoxy() function places the cursor at the desired location on the screen. This means it is possible to change the cursor location on the screen using the gotoxy() function. It is basically used to print text wherever the cursor is moved.

void setcursor()

The setcursor() function to change the cursor style on the output screen. This function takes cursor-type as an argument and is declared under the conio.h header file.

void genAlphabet()

The void genAlphabet() display the separate and drop the characters in the console window.

void drawBorder()

The drawborder() function is used to design the outline in the console window it gives the good appearance in the console window.

void resetAlphabet()

The void resetAlphabet() function is used to reset all the alphabet after erase the character and this reset will helps to arrange after erase the character and this reset will helps to arrange characters in random manner this function is very important for this project.

void gameover()

The void gameover() function is used to display the "GAME OVER" this function is called when the alphabets will reaches the bottom line. It will display the message and return back to main menu.

void eraseAlphabet()

The void eraseAlphabet() used to erase the typed letters by the user. It will reduce the all the characters or alphabet will lead to won the game.

void updateScore()

The void updateScore() used to update the score whenever the alphabetes are pressed by the user it will update the score.

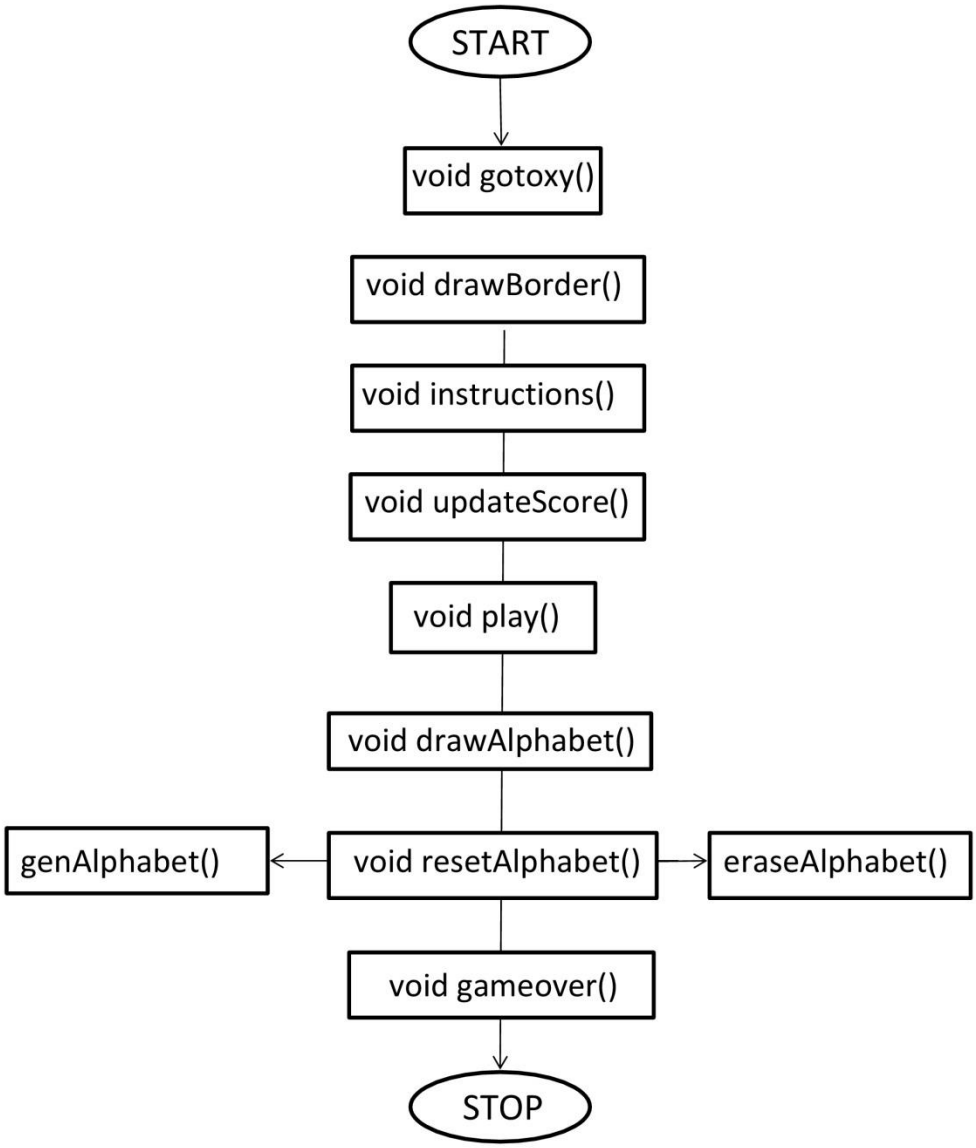
void instructions()

The void instructions() used to instruct the users the way to play the typing tutor game in easy manner. In main menu instructions is the second option in the console window.

In main() function we use the gotoxy() function instead of using switch case. This is main advantage in this project.

CHAPTER 4

FLOW CHART



CHAPTER 5

PROGRAM CODE

```
/* TYPING TUTOR USING C++ PROGRAM */
#include<iostream>
#include<conio.h>
#include<dos.h>
#include <windows.h>
#include <time.h>

#define SCREEN_WIDTH 90
#define SCREEN_HEIGHT 36
#define WIN_WIDTH 90

using namespace std;

HANDLE console = GetStdHandle(STD_OUTPUT_HANDLE);
COORD CursorPosition;

char keys[10];
int keyPos[10][2];
int score = 0;
```

```
void gotoxy(int x, int y){
	CursorPosition.X = x;
	CursorPosition.Y = y;
	SetConsoleCursorPosition(console, CursorPosition);
}
void setcursor(bool visible, DWORD size) {
	if(size == 0)
		size = 20;

	CONSOLE_CURSOR_INFO lpCursor;
	lpCursor.bVisible = visible;
	lpCursor.dwSize = size;
	SetConsoleCursorInfo(console,&lpCursor);
}
void drawBorder(){
	for(int i=0; i<SCREEN_WIDTH; i++){
		gotoxy(i,SCREEN_HEIGHT); cout<<"±";
	}

	for(int i=0; i<SCREEN_HEIGHT; i++){
		gotoxy(0,i); cout<<"±";
		gotoxy(SCREEN_WIDTH,i); cout<<"±";}
```

```
        for(int i=0; i<SCREEN_HEIGHT; i++){
                gotoxy(WIN_WIDTH,i); cout<<"±";
        }
}

void genAlphabet(int ind){
        keys[ind] = 65+rand()%25;
        keyPos[ind][0] = 2 + rand()%(WIN_WIDTH-2);
        keyPos[ind][1] = 1;
}
void drawAlphabet(int ind){
        if( keyPos[ind][0] != 0 ){
                gotoxy(keyPos[ind][0], keyPos[ind][1]);   cout<<keys[ind];
        }
}
void eraseAlphabet(int ind){
        if( keyPos[ind][0] != 0 ){
                gotoxy(keyPos[ind][0], keyPos[ind][1]);   cout<<" ";
        }
}
void resetAlphabet (int ind){  eraseAlphabet(ind);
        genAlphabet(ind);
```

```
}
void gameover(){
	system("cls");
	cout<<endl;
	cout<<"\t\t-------------------------"<<endl;
	cout<<"\t\t-------- Game Over -------"<<endl;
	cout<<"\t\t-------------------------"<<endl<<endl;
	cout<<"\t\tPress any key to go back to menu.";
	getch();
}
void updateScore(){
	gotoxy(WIN_WIDTH + 7, 5);cout<<"Score: "<<score<<endl;
}

void instructions(){
	system("cls");
	cout<<"Instructions";
	cout<<"\n----------------";
	cout<<"\n On Left side you will see falling characters ";
	cout<<"\n You have to keep them away from touching floor";
	cout<<"\n Press respective key from keyboard to keep playing";
	cout<<"\n\n Press 'escape' to exit";
```

```
        cout<<"\n\nPress any key to go back to menu";
        getch();
}

void play(){
        score = 0;
        for(int i=0; i<10; i++){
                keyPos[i][0] = keyPos[i][1] = 1;
        }

        system("cls");
        drawBorder();
        updateScore();

        for(int i=0; i<10; i++)
                genAlphabet(i);

        gotoxy(WIN_WIDTH + 5, 2);cout<<"Typing Tutor";
        gotoxy(WIN_WIDTH + 6, 4);cout<<"----------";
        gotoxy(WIN_WIDTH + 6, 6);cout<<"----------";
        gotoxy(18, 5);cout<<"Press any key to start";
        getch();
```

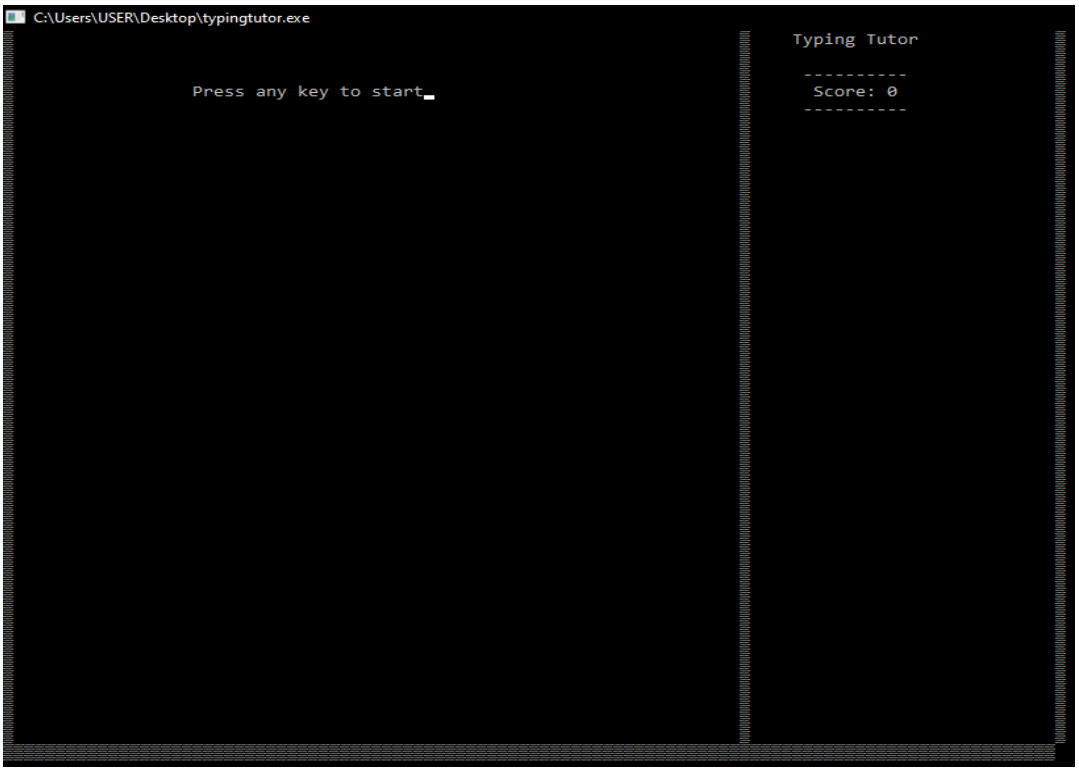
```
gotoxy(18, 5);cout<<"                    ";

        while(1){
                if(kbhit()){
                        char ch = getch();
                        for(int i=0; i<10; i++){
                                if( ch == keys[i] || ch-32 == keys[i] ){
                                        resetAlphabet(i);
                                        score++;
                                        updateScore();
                                }
                        }
                        if(ch==27){
                                break;
                        }
                }

                for(int i=0; i<10; i++)
                        drawAlphabet(i);

                Sleep(300);
                for(int i=0; i<10; i++){
```

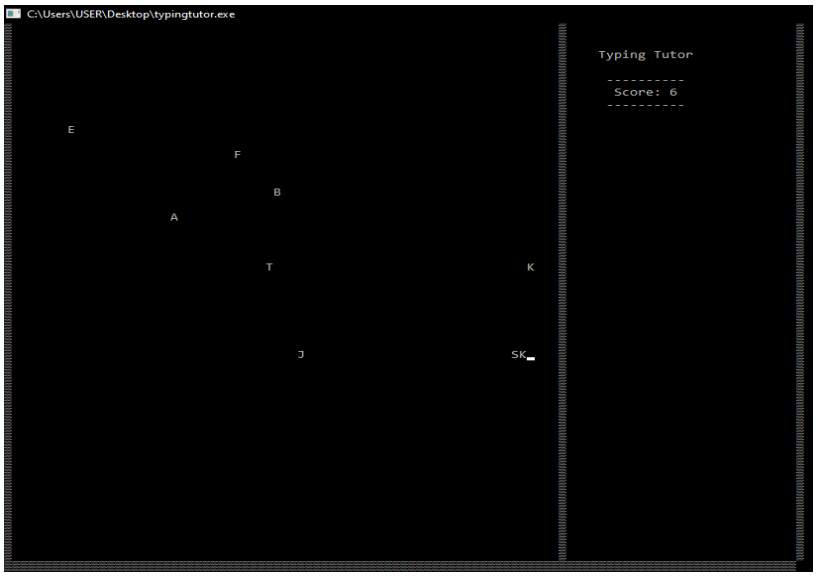
```
                    eraseAlphabet(i);
                    keyPos[i][1] += 1;
                    if( keyPos[i][1] > SCREEN_HEIGHT ){
                        gameover();
                        return;
                    }
                }
            }
        }

int main()
{
    setcursor(0,0);
    srand( (unsigned)time(NULL));
    do{
        system("cls");
        gotoxy(10,5); cout<<" ------------------------- ";
        gotoxy(10,6); cout<<" |     TYPING  TUTOR      | ";
        gotoxy(10,7); cout<<" -------------------------";
        gotoxy(10,9); cout<<"1. Start Game";
        gotoxy(10,10); cout<<"2. Instructions";
        gotoxy(10,11); cout<<"3. Quit";
        gotoxy(10,13); cout<<"Select option: ";
```

```
            char op = getche();

            if( op=='1') play();
            else if( op=='2') instructions();
            else if( op=='3') exit(0);

        }while(1);

        return 0;
}
```

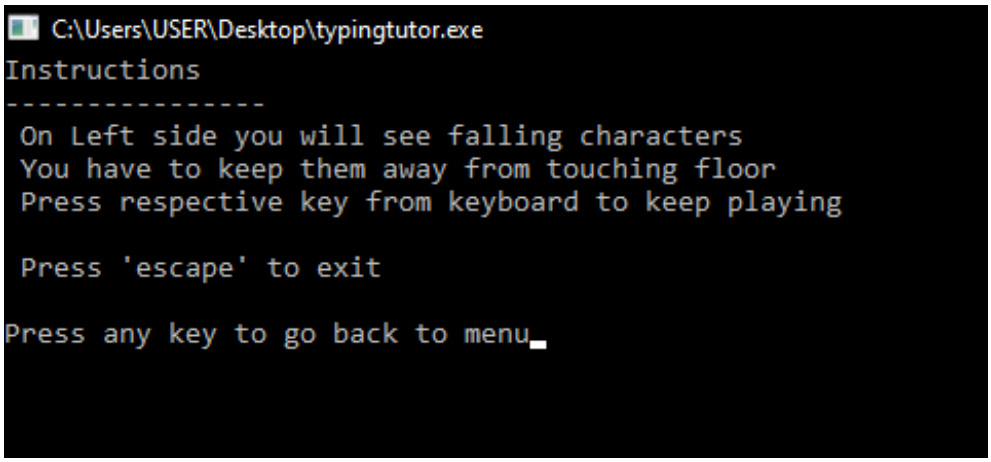
CHAPTER 6

EXPECTED RESULTS AND OUTPUT




C:\Users\USER\Desktop\typingtutor.exe
Typing Tutor
Score: 6
E
F
B
A
T
K
J
SK


C:\Users\USER\Desktop\typingtutor.exe
Game Over
Press any key to go back to menu.


C:\Users\USER\Desktop\typingtutor.exe
Instructions
On Left side you will see falling characters
You have to keep them away from touching floor
Press respective key from keyboard to keep playing
Press 'escape' to exit
Press any key to go back to menu

CHAPTER 7

CONCLUSION

This project especially made for beginner who started learning computer and are new in typing. In the above project Typing Tutor we had learnt how to implement the concept in real time C++ programming.

We are include some innovative and creative ideas to make the code easier. The main objective of this project to understand the characters which are present in the keyboard which make it useful to type faster without error.

Way of this project we learn lot of concept in C++ programming and enhancing our coding skills and to improving our knowledge effectively.

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EVALUTION