



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES, DEHRADUN

Synopsis Report Of Typefast Game C

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Introduction

The *TypeFast* game is a console-based application developed using the C programming language. It is designed to help users improve their typing speed and accuracy through interactive challenges. The game displays random words or sentences, tracks typing time, and evaluates performance based on speed and correctness.

Problem Statement

Many users lack engaging and lightweight tools to practice typing skills. Existing solutions are often web-based, require internet access, or demand high system resources. This project aims to provide an offline, resource-efficient alternative using basic C programming.

Objective

To develop a simple, interactive typing game that measures typing speed (Words Per Minute) and accuracy. The game uses standard C libraries and console I/O to create a responsive and educational experience.

Work Done Till Now

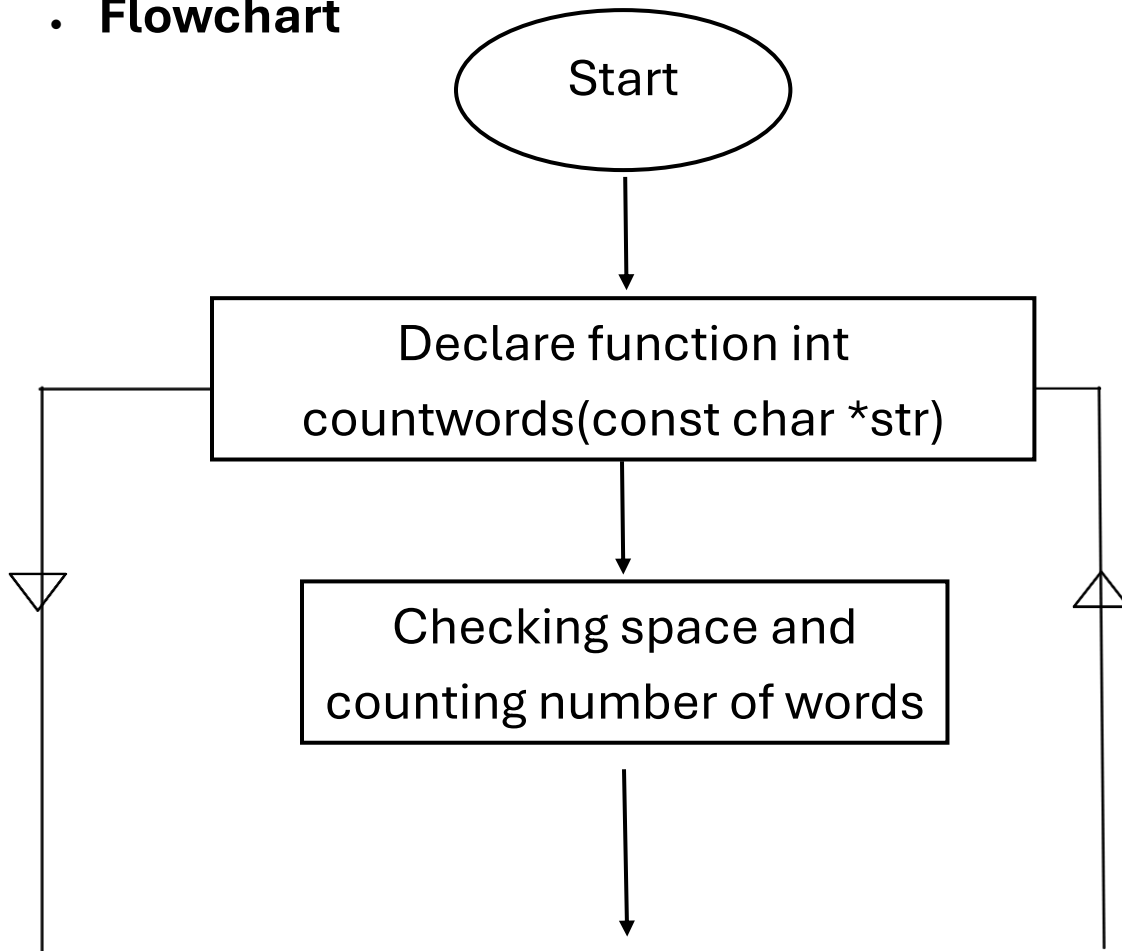
- Implemented random word generation using `rand()` and `time()` functions.
- Captured user input and compared it with target text.
- Measured typing duration using `clock()` or `time()` functions.

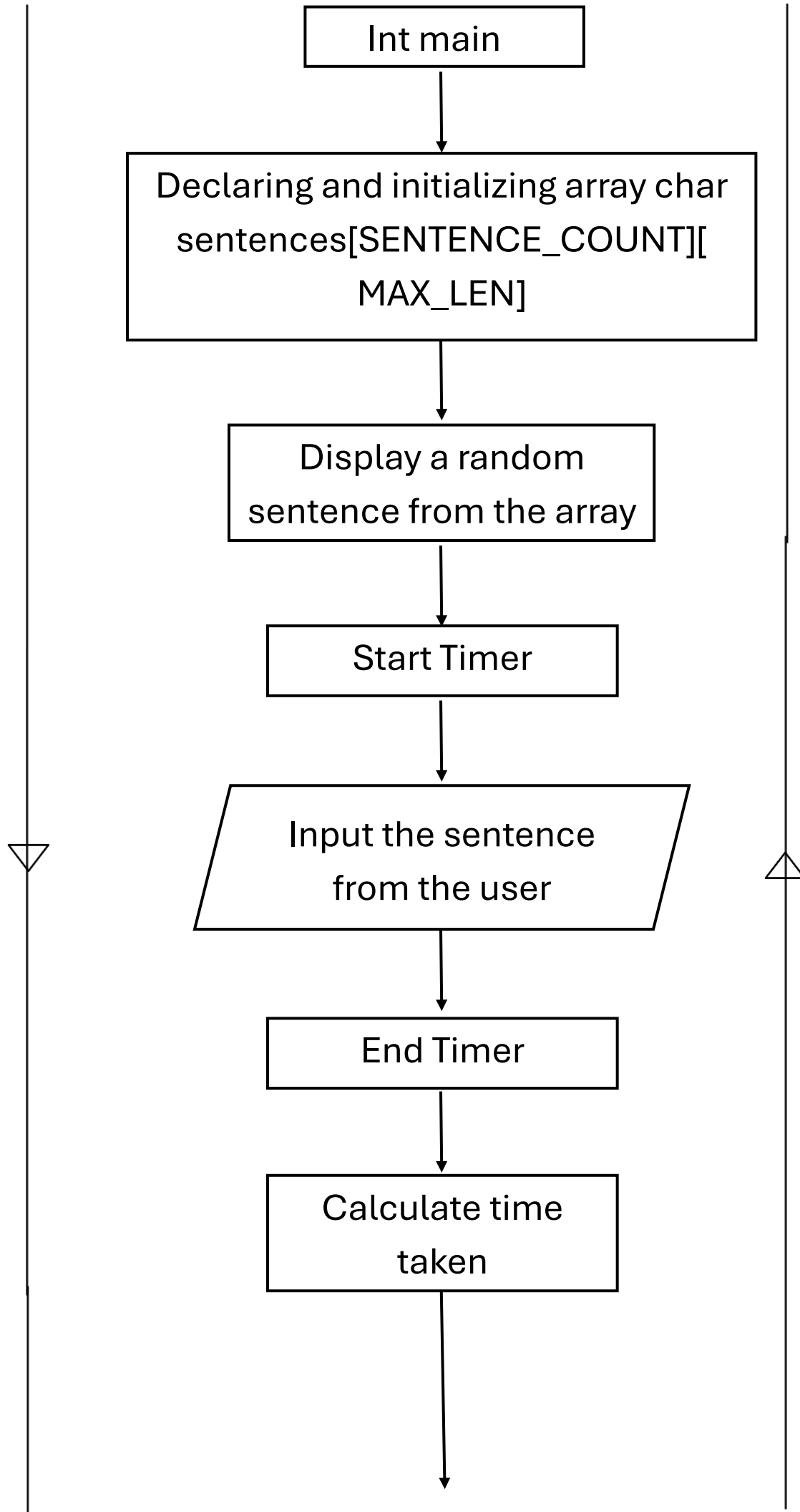
- Calculated WPM and accuracy.
 - Added basic replay and result display functionality.
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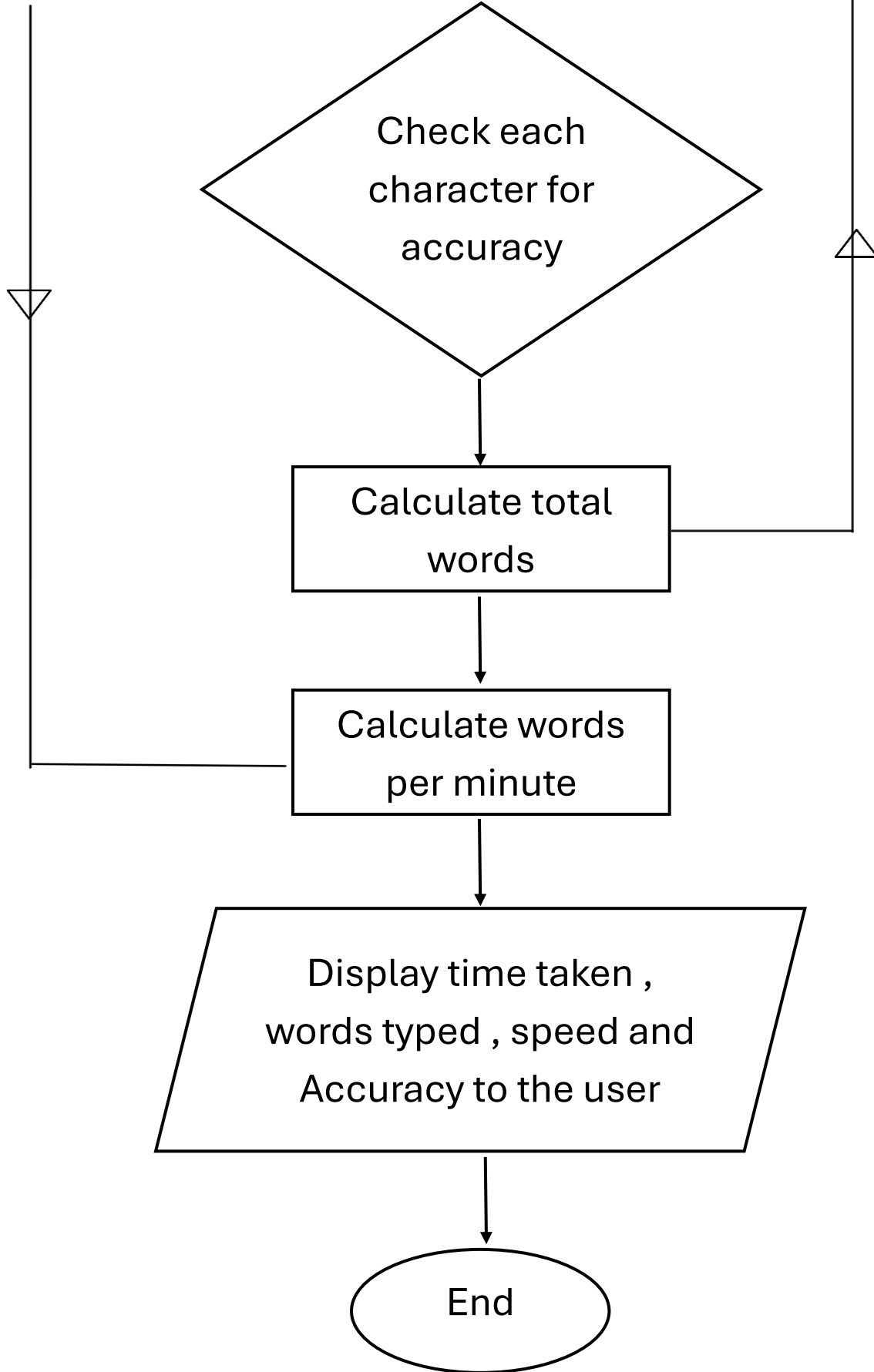
Tools Used

- **Programming Language:** C
 - **IDE:** Visual Studio Code
 - **Libraries:**
 - – Input/Output operations
 - – Utility functions
 - – Timing and randomization
 - – Real-time input
-

• Flowchart







• Code

```
C typefastgame.c > main()
1  #include <stdio.h>
2  #include <string.h>
3  #include <time.h>
4  #include <stdlib.h>
5
6  #define SENTENCE_COUNT 5
7  #define MAX_LEN 200
8
9  // Function to calculate words typed
10 int countWords(const char *str)
11 {
12     int count = 0;
13     int inWord = 0;
14     for (int i = 0; str[i] != '\0'; i++)
15     {
16         if (str[i] == ' ' || str[i] == '\n' || str[i] == '\t')
17         {
18             inWord = 0;
19         }
20         else if (inWord == 0)
21         {
22             inWord = 1;
23             count++;
24         }
25     }
26     return count;
27 }
28
29 int main()
30 {
31     char sentences[SENTENCE_COUNT][MAX_LEN] =
32     {
33         "The quick brown fox jumps over the lazy dog.",
34         "Typing speed tests are fun and challenging.",
35         "C programming builds logic and problem solving skills.",
36         "Speed and accuracy makes a great typist",
37         "Debugging is twice as hard as writing the code"
38     };
39
40     srand(time(NULL)); // seeds the random number generator
41     int choice = rand() % SENTENCE_COUNT; //Selects one of the sentences randomly using modulo
42
43     printf("Type this sentence:\n\n%s\n\n", sentences[choice]);
```

```

42     printf("Type this sentence:\n\n%s\n\n", sentences[choice]);
43
44     char input[MAX_LEN];
45     clock_t start, end;
46
47     // Start timer
48     start = clock();
49     fgets(input, MAX_LEN, stdin);
50     end = clock();
51
52     // Calculate time taken
53     double time_taken = ((double)(end - start)) / CLOCKS_PER_SEC;
54
55     // Accuracy check
56     int correct_chars = 0;
57     for (int i = 0; i < strlen(sentences[choice]); i++)
58     {
59         if (input[i] == sentences[choice][i])
60         {
61             correct_chars++;
62         }
63     }
64
65     int total_words = countWords(input);
66     double wpm = (total_words / time_taken) * 60;
67
68     printf("\nTime taken: %.2f seconds", time_taken);
69     printf("\nWords typed: %d", total_words);
70     printf("\nSpeed: %.2f WPM", wpm);
71     printf("\nAccuracy: %.2f%%\n", (correct_chars * 100.0) / strlen(sentences[choice]));
72
73     return 0;
74 }

```

• Output

PROBLEMS

OUTPUT

DEBUG CONSOLE

TERMINAL

PORTS

Code

```

PS C:\Users\parth\OneDrive\Desktop\C project 2> cd "c:\Users\parth\OneDrive\Desktop\C project 2\" ; if ($?) { gcc typefastgame.c -o typefastgame } ; if ($?) { .\typefastgame }
Type this sentence:

Typing speed tests are fun and challenging.

Typing speed tests are fun and challenging.

Time taken: 16.32 seconds
Words typed: 8
Speed: 29.42 WPM
Accuracy: 100.00%
PS C:\Users\parth\OneDrive\Desktop\C project 2> cd "c:\Users\parth\OneDrive\Desktop\C project 2\" ; if ($?) { gcc typefastgame.c -o typefastgame } ; if ($?) { .\typefastgame }
Type this sentence:

Speed and accuracy makes a great typist

Speed and accuracy makes a great typist

Time taken: 12.34 seconds
Words typed: 8
Speed: 38.89 WPM
Accuracy: 100.00%
PS C:\Users\parth\OneDrive\Desktop\C project 2> cd "c:\Users\parth\OneDrive\Desktop\C project 2\" ; if ($?) { gcc typefastgame.c -o typefastgame } ; if ($?) { .\typefastgame }
Type this sentence:

Debugging is twice as hard as writing the code

Debugging is twice as hard as writing the code

Time taken: 14.87 seconds
Words typed: 10
Speed: 40.34 WPM
Accuracy: 100.00%

```

Platform Used

- VS code terminal
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