MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

(A Govt. Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV, Bhopal)

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SOFT SKILLS BASED MINI PROJECT REPORT

ON

"DIGITAL CLOCK"

Submitted By:-

MOHIT SHUKLA

0901CA211032

Mentor:-

DR. ANSHU CHATURVEDI

(Professor)

DEPARTMENT OF COMPUTER SCINCE & ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

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MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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CERTIFICATE

This is certified that **Mohit Shukla(0901CA211032)** has submitted the project report titled onproblem of**"DIGITAL CLOCK"** under the mentorship of **Dr. Anshu Chaturvedi (Professor)** as the skill based mini project in 1st year of Master of Computer Application is Computer Science and Engineering From MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR**.**

Dr. Anshu Chaturvedi
(Professor)
Computer Science and Engineering

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR

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DECLARATION

I hereby declare that the work being presented in this project report, for the fulfilment of partial requirements of the skill based mini project in 1st year of Master of Computer Application is Computer Science and Engineering at MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR is an authenticated and original record of my work under the mentorship of **Dr. Anshu Chaturvedi,** (Professor), MITS Gwalior.

I declare that I have not submitted the matter embodies in this report anywhere else.

Mohit Shukla

0901CA211032
1st Year,
Master of Computer Application,
Computer Science and Engineering

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Mohit Shukla

0901CA211032
1st Year,
Master of Computer Application,
Computer Science and Engineering

ABSTRACT

The aim of the project is to design a twelve hour Digital Clock that displays the time digitally, in contrast to an analog clock, where the time is indicated by the positions of rotating hands. With the help of counters and decoders, a digital Clock to display time in hours, minutes and seconds can be constructed. Digital clock has a counter that receives a clock signal from any source and increases the number according to the clock signal.

CONTENTS

Introduction

Digital clock is one of the most used things of recent days. We know that 60 seconds equal to 1 minute and 60 minutes equal to 1hour. Hence the minute section is derived by second section and hour section by the minute section. Each of the minute and second section has been designed to give a count from 00to 59 after which it resets to 00. And the hour section to give a count from 00 to 11 hours after which it resets to 00. For each cycle of 00 to 59 in second section the minute section increases its count by 1. Similarly for each cycle of 00 to 59 in minute section the hour.

Section increases its count by 1. In this way when the clock reaches 11hrs. 59 mins . 59 secs.

Each of the section resets to 00 giving us a display 00.00.00 popularly known as the 0thhour.

- A Digital clock displays the current time.
- It displays the time digitally (in numerals) in 12 hour format as HH:MM: SS.
- The clock is built using sequential logic.
- Counters, decoders and seven segment displays are use.

Objectives of Digital Clock

A digital clock is an alternative to a traditional analogue clock. This type of clock shows numbers to display the time in a digital format, such as on a watch, phone or an alarm clock. This can be in both 12 and 24-hour formats.

- To build a digital clock successfully gaining all the required knowledge.
- To know about the working of each and every component and their role in the circuit.
- To apply our knowledge and understanding into practice.

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Coding

```
#include<STDIO.H>
#include<WINDOWS.H>
int main(){
   int seconds,minutes,hours;
   int d=1000;
   printf("set time:\n");
   printf("set hours:\n");
   scanf("%d",&hours);
   printf("enter a minutes\n");
   scanf("%d",&minutes);
   printf("enter a seconds\n");
scanf("%d",&seconds);
if(hours>12||minutes>60||seconds>60){
   printf("eror fff2xxx");
   exit(0);
}
while (1){
   seconds++;
   if(seconds>59){
      minutes++;
      seconds=0;
   }
   if(minutes>59){
      hours++;
      minutes=0;
   }
   if(hours>12){
      hours=1;
   }
   printf("clock : \n");
   printf("%d:%d:%d", hours , minutes , seconds );
   Sleep(d); //wait till 1 seconds
   system("cls");  //clear output screen

}
return 0;

}
```

Output

|-| DIGITAL CLOCK |-|

set time:
set hours:
0
enter a minutes
0
enter a seconds
0
clock :
0:0:7

Conclusion

The digital clock made in this project is a simple Digital clock. Representing only hours, minutes and seconds, it is a 24 hour clock and will stop working after 24 hours. The construction of this clock is very simple.