DIGITAL CLOCK

A Lab Report Submitted By

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A Lab Report Submitted to fulfill the requirement of a course named Software Development I
(DOS programming)

NORTHERN UNIVERSITY

B A N G L A D E S H

Knowledge for Innovation and Change

Department of Computer Science and Engineering

Faculty of Science and Engineering

Northern University Bangladesh

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The Lab Report has been examined and approved,

Jannat Rosul Nisha

Lecturer

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Student's Declaration

We hereby declare that this Lab report titled "DIGITAL CLOCK" is our original work. It has never been presented previously or concurrently for any other purpose, reward or course NUB or any other institutions either by us or by any other student. We also declare that there is no plagiarism or data falsification and materials used in this report from various sources have been duly cited.

Supervisor's Certification

This is to certify that Lab report on "DIGITAL CLOCK" has been carried out by **AL - ARAFAT (YEASH)** (ID: 41-220300492) of Northern University Bangladesh as a partial fulfillment of the requirement of Software Development I course. The report has been prepared under my guidance and is a record of the work carried out successfully. To the best of my knowledge and as per their declaration, no part of her report has been submitted anywhere for any course.

Now they are permitted to submit the lab report. I wish her success in her future endeavors.

Jannat Rosul Nisha
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Abstract

In recent years, during the time of COVID-19 or other unavoidable circumstances, when the students cannot go to their institution, online based education system is very essential for them.

The essentiality of online based education system is increasing day by day. To full out the requirement to solve of this type of problem, this project named "DIGITAL CLOCK" is a system. By using these features students can give their mobile-clock easily and they feel free to use it. Over all the system is helpful for all academician like students, teachers or others who are related to technology.

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Chapter 1: Project Overview

1.1 Introduction

A digital clock system Portal is a piece of software or a service that lets you create, manage, and publish on the internet via a website. Many of clock features are available in this software. A user may use an digital clock system portal to registration in the clock system, log in for system, time remaining,shows Timer(sec,min,hour,etc) and deducted marks also. These software or web based services also enable for the academicians like teachers and students who are related to teaching by technology.

1.2 Project Overview

Digital Clock system refers to a system where user can give into the time of exam and all the features if they are types of users like registered and unregistered. Without users' registration, no one can into the examination system. Unregistered users are generally can see the one screen named registration interface. Registered users maintain their system given criteria. If he or she does not full fill these criteria, is not able to give an output.

1.3 Background of Study

Digital Clock system is a system on where an individual users can give the exam. To give exam users take some easy steps to give the exam easily. This software is designed for any kind of organization related to technical industry. The registered user who is the part of or institute or anyone can access this software easily.

1.4 Objectives

The primary goal of the proposed "Digital Clock System" is to establish a robust semantic publishing platform with a rich collection of features that make publishing on the Internet as simple, pleasant, and appealing as feasible. It has the following characteristics:

- Give Time to show.
- To Get Correct Ans.
- To Get Deducted Timer.
- Condition for Marketing.

1.5 Broad Objective

The goal is to develop a Portal of Digital Clock System which will support industry for marketing.

1.6 Specific Objectives

- A user will be able to Log In.
- A user will be able give exam,
- It will be increased.

1.7 Proposed System

In this Digital Clock system User is able to use, User can log in, User can view the examination. A user will be able to Log In. User is identified uniquely with his/her system. When a user uses it correctly, it will be updated. System will have two factor authentication related generators.

1.8 Methodology

For the Digital Clock System project, data collecting approach is used to collect information from all relevant sources in order to identify answers to the project problem, test the hypothesis, and assess the results/output.

1.9 Data Sources

Digital Clock System project is used to collect data from users and store to use it. They are- ▪ Primary Data

1.10 Primary Data Collection

Primary data collected from users named Students ID and Name.

1.11 Limitations of the project

There are some limitations in "Digital Clock System" for exam,office,etc. In future more and more functionalities are needed to complete digitalization for this system. Among the functionalities in this system,given mail notification and so on.

1.12 Feasibility study

In this project, feasibility study is used to determine whether the project is feasible or achievable for the goal. In this case, three feasibilities have been used for this project, there are: ▪ Technical feasibility
▪ Economic feasibility
▪ Operational feasibility

1.18 System Benefit

▪ Web based system:

D-Clock is a web-based system which can be access by time & calender.

▪ Reduce management tasks:

This system will help to manage, organize, formulates data through a technical data structure arrangement. There will be no work of pen and paper, all the calculation of this section will be

done by this computerized system. These will reduce work procedures.

▪ User-friendly:

This system is user-friendly since it is simple to operate. This system is also simple to use for non technical people. All user interfaces are meant to be simple to use so that the user can get the most out of the system. On the other hand, the suggested system is built with human friendly color, typeface, and other elements in mind.

Chapter 2: Requirement Engineering

Requirement Engineering describes a methodology for the generation of software requirements for Online Job Portal Management System. It describes what needs to be done, how to manage Users, Company, and Jobs etc.

2.1 Requirements Engineering

The engineering discipline of generating user needs and specifying software systems is referred to as requirement engineering. There are various definitions of requirements engineering; nevertheless, they all agree that requirements entail determining what people want from a computer system and determining what those needs mean in terms of design. Software engineering, which is primarily concerned with the process of developing the system that users desire, is closely connected to requirement engineering.

▪ User Requirement

▪ System Requirement

▪ Functional Requirement

2.1.1 User Requirement

Admin —

▪ Admin can see time & calender List.

▪ Admin can see Name of the user..

▪ Admin Can Change the pattern.

▪ Admin Can give the rules.

Candidate—

▪ Candidate can see their name when log in.

▪ Candidate can see the pattern.

▪ Candidate can't see the rules.

2.1.2 System Requirement

Admin--

▪ Admin can see time & calender List.

▪ Admin can see Name of the user..

▪ Admin Can Change the pattern.

▪ Admin Can give the rules.

Candidate—

- Candidate can see their name when log in.
- Candidate can see the pattern.
- Candidate can't see the rules.

2.1.3 Functional Requirement

Admin:

- ManageUser profiles.
- Add new services related toUser
. ▪ Manage system patterns

Chapter3: SystemPlanning

System planning and scheduling chapter shows the functions of the project "DIGITAL CLOCK". The function point estimation, effort distribution and project schedule chart are also shown in this chapter.

3.1 Function Point Estimation

The task of counting function points should be included as part of the overall project plan. This is counting function points should be scheduled and planned. The first function point count should be developed to provide sizing used for estimating.

Data Functions

1. Internal Logical Files
2. External Interface Files

Table 4.2 Functional point Estimation (Admin)

Functionality	Input	Output
Login	Email, Password	Enter to admin Panel
Update Rules	Give updated info and submit	Add to Database
Update output	Click on add display pattern	Record update into Database

Update evaluation condition	Click on evaluation condition	Display Applicant evaluation
Delete Applicant	Click on delete button	Record removed from Database

Table 4.3 Functional Point Estimation (Candidate)

Functionality	Input	Output
Log in	Timer	Add to Database
		Enter to user panel
See	Data in database	Data in database

3.2 Project Scheduling Chart

Total system development is a combination of set of tasks. These set of tasks done sequentially and timely. Project schedule works as the guideline of the system developer. The following is the schedule chart of this project:

	Week1	Week2	Week3	Week4	Week5	Week6	Week7	Week8	Week9	Week10	Week11	Week12
CC												
Planning												
Risk Analysis												
Analysis Design												
Coding Testing												

Chapter4: Designing

Figure 4.1 Output Interface

Figure 4.2 Successful Output

```
2    #include<stdio.h>
3    #include<windows.h>
4    int main ()
5  ┌ {
6        int year,month,week,day,hour,min,sec;int d=1000;//I add a delay of 1000 millise
7
8        printf("\t\t\t Welcome To My Paradise(Program-Researcher)!!! \n");printf("\t\t\
9        printf("\n Set Your Timer/Time!  \n");
10
11       printf(" Input Your   Year(Timer) : ");scanf("%d",&year);
12       printf(" Input Your  Month(Timer) : ");scanf("%d",&month);
13       printf(" Input Your   Week(Timer) : ");scanf("%d",&week);
14       printf(" Input Your    Day(Timer) : ");scanf("%d",&day);
15       printf(" Input Your   Hour(Timer) : ");scanf("%d",&hour);
16       printf(" Input Your Minute(Timer) : ");scanf("%d",&min);
17       printf(" Input Your Second(Timer) : ");scanf("%d",&sec);
18
```

Figure 4.3 Display Interface

```
our>24||min>60||sec>60){printf(" Error...! Please try a

inside will repeat itself to infinity.

(min>59){hour++;min=0;}if(hour>23){day++;hour=1;}if(day>

n %02d:%02d:%02d:%02d:%02d:%02d:%02d",year,month,week,c
```

Figure 4.4 Loops

```
4    int main ()
5  ┌ {
6        int year,month,week,day,hour,min,sec;int d=1000;//I add a delay of 1000 milliseconds & I'll use it in the (time)function sleep...!
7
8        printf("\t\t\t Welcome To My Paradise(Program-Researcher)!!! \n");printf("\t\t\t      ***Create A Digital Clock...!*** \n");
9        printf("\n Set Your Timer/Time!  \n");
10
11       printf(" Input Your   Year(Timer) : ");scanf("%d",&year);
12       printf(" Input Your  Month(Timer) : ");scanf("%d",&month);
13       printf(" Input Your   Week(Timer) : ");scanf("%d",&week);
14       printf(" Input Your    Day(Timer) : ");scanf("%d",&day);
15       printf(" Input Your   Hour(Timer) : ");scanf("%d",&hour);
16       printf(" Input Your Minute(Timer) : ");scanf("%d",&min);
17       printf(" Input Your Second(Timer) : ");scanf("%d",&sec);
18
19       if(year>1||month>30||week>7||day>1||hour>24||min>60|sec>60){printf(" Error...! Please try again. \n");exit(0);}
20
21       while(1)//This is a loop & anything inside will repeat itself to infinity.
22  ┌    {
23           sec++;if(sec>59){min++;sec=0;}if(min>59){hour++;min=0;}if(hour>23){day++;hour=1;}if(day>1){week++;day=1;}if(week>6){month++;we
24
25           printf("\n Clock : \n");printf("\n %02d:%02d:%02d:%02d:%02d:%02d:%02d",year,month,week,day,hour,min,sec);//It shows the Time-
26
```

Figure 4.5 Full Input Interface

Chapter 5: Quality Assurance and Testing

8.1 Software Testing

The practice of evaluating a software item to find variations between provided input and expected output is known as software testing. Also, to evaluate a software item's functionality. Testing determines the product's quality. Software testing is a step in the development process that should be completed. To put it another way, software testing is a process of verification and validation.

Verification: Verification is the process of ensuring that the product meets the requirements set out at the start of the development phase. To put it another way, we want to make sure the product works the way we want it to.

Validation: Validation is the process of ensuring that, at the end of the development phase, the product meets the defined criteria. To put it another way, to ensure that the product is created to the specifications of the client.

8.2 System Quality Management:

A regulated or ISQ-compliant organization needs a quality management software solution that is automated and links all departments. There are mainly two types of quality. There are mainly two types of quality, they are given below:

- Internal Quality
- External Quality

8.3 Software Quality Management Process

▪ The goal of Software Quality Management (SQM) is to oversee the quality of software and development, as well as the process of development.

- A quality product is one that fulfills the user's needs and exceeds their expectations.
- A quality culture is an atmosphere in which quality is seen as a shared responsibility by all members of the company.

8.4 Quality Assurance Matrix

The "DIGITAL CLOCK" project's quality assurance matrix entails putting in place particular quality processes and ensuring that they are implemented. The level of quality in this software's system.

8.5 System Testing

The testing of a comprehensive and completely integrated software product is known as system testing. Software is usually just one part of a broader computer-based system. At the end, software must communicate with other software and physical systems. System testing is a collection of tests whose main objective is to put a computer-based system through its paces.

Chapter 6: Conclusion

9.1 Preface

The creation of more effective operational and managerial processes is vital in today's age of contemporary science and communication. We were fortunate and happy to be given the opportunity to work with some of the hardworking project mates. From the bottom of our heart, our heartfelt appreciation, gratitude, and salutations to these nice people.

9.2 Lab Report and Its Value

The main goal of this report to describe a system that make a Project to finish more efficiently and quickly with proper guidance by User and Digital Clock System. By using this system every student or everyone who is related to the technology give the time. By this the system will become more user friendly. By using this the management of the Digital Clock System Portal will become good and more efficient, required less time to do a work then traditional way, also required a smaller number of paper work. A student's theoretical and practical knowledge is gained throughout this course study. The lab report explains those subject issues to another level gifted with practical working abilities by using that knowledge and seeing actual operating systems. Given this, it brings us great pleasure to report that our lab report went off without a hitch. During our Project time, we did all could to make our system as efficient as possible. During the time of project at NUB, we used the teachings, methodologies, tools, and strategies that we had learnt. Standard development procedures, adequate theoretical understanding, and the developer's creativity are all necessary for successful software development.

9.3 Future Plan

This project is in initial stage. So, we will include more features for this system and based on user's need we will maintain this system and give them support. Some more features are stated

below: ▪ Calender will be included

    ▪ Calender evaluation part will be included

    ▪ And many features connected to a Clock.

9.4 Conclusion

Working at the project has given us the opportunity to participate in the design and implementation of software. We learned a lot of new things that were previously unknown to us. Although We could not include all the functionality that we thought to include in this software, we worked hard to make it fully functional in this small amount of time. As our knowledge of programming grows by time, we shall look to make it a better one in every possible way. We think our honorable faculty for supported us by giving valuable advices and guidelines to accomplish project goal. We believe We can use this experience in our future career as well.

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