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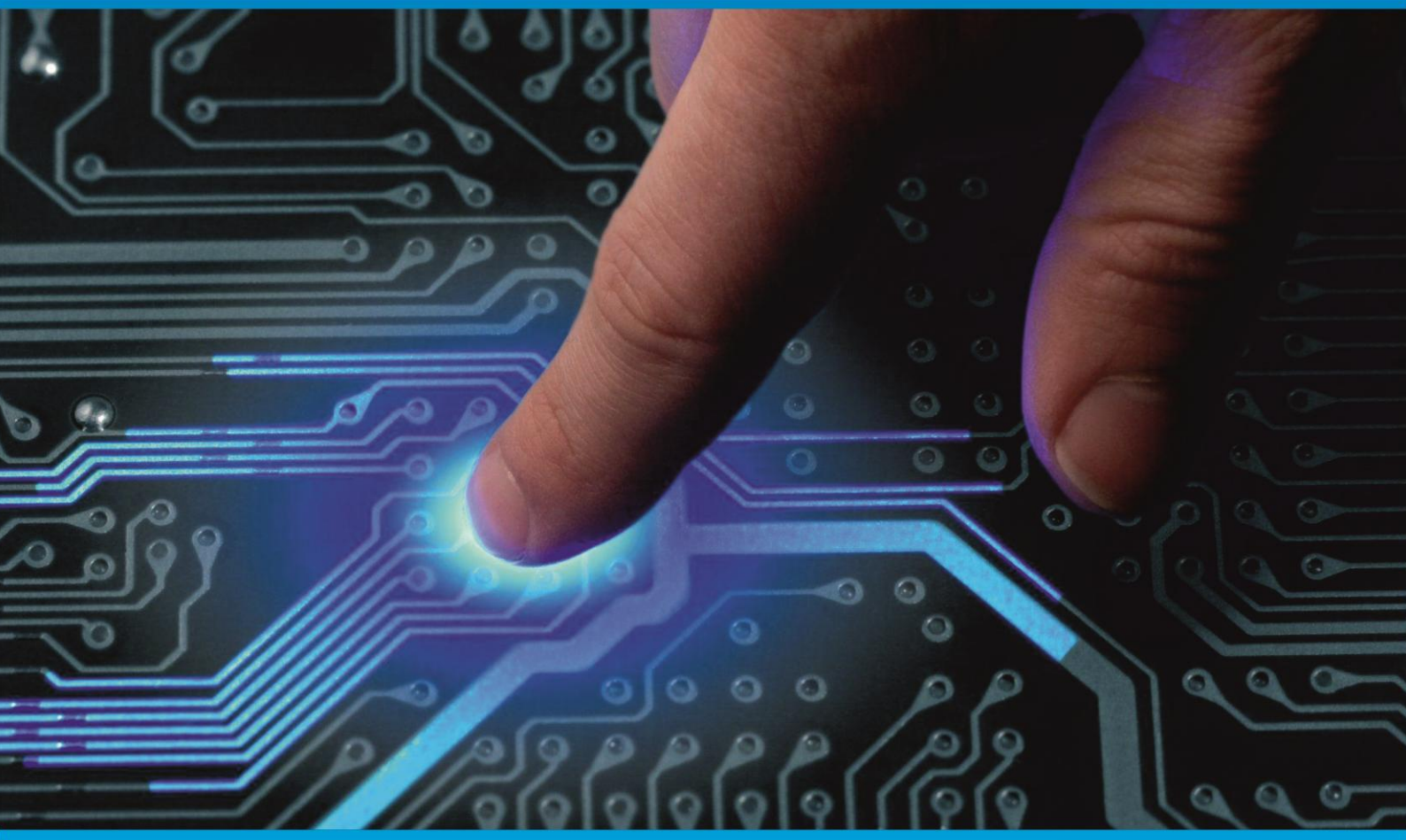

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Designing of College Time Table Generator using Automated Tools

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ABSTRACT: The traditional way of generating time table is very time consuming and ends up clashing either with same labs, classes, etc. The main motive of this project is to help the staff to generate time table with minimum efforts using some automated tools. As per requirements, teachers can enter the data in this tool and plan the class wise lectures. The project generates three different time tables; student's class wise lectures, Lab time table and teacher's personal time table. The output of this tool can be accessed by the students of the class and the output can also be generated in the pdf format.

KEYWORDS:"module","interface","database","trends","clashing","customization".

I. INTRODUCTION

Intellectuals say, "Time is Money". Instead of doing hard work and wasting a lot of time on one particular thing, we should do smart work.At the start of every academic year, one of the biggest responsibilities of every class teacher is to create time table for students. As the task sounds very simple but in reality, this is an open challenge to all the teachers to go through the learning needs of the students with the availability of the teachers. While doing this, the teachers should also ensure that the students do not find the day too exhausting or boring. Hence, time table should be balanced properly.[1].According to the research, time tables are usually created in a traditional way, wasting lot of time and ending up clashing many things like same rooms, same teachers, etc.[2]. In order to save time and provide secure and user-friendly interface, we thought of creating a module to generate the time table automatically. The project saves a lot of time and generates the time table with minimum efforts. This project provides easy customization, smooth integration and most importantly provides paperless environment. The motive of this project is to avoid the complexity of setting and managing time table manually.[3]. Intoday's generation, computers are indeed ruling the society. Computer serves as efficient means for information management. Hence to suffice the academic planning needs as per current requirements, this project will serve to upgrade the institutions from older methods to current trends. In this project, we have used SQL database to store the large amount of data. The project also makes use of database to store teacher's information, course details and much more. [4].In this project, generating an automated time table approachwasfollowed.Structured tables and proper formats were used withcodeswritteninvb.netlanguageusing number of forms and modules. The output of this tool can be accessed by the students of the class and the output can also be generated in the pdf format.Theprojectisveryuseful,fastandadvantageous,anditworkedsmoothlyduringourfieldtests.

II. LITERATURE SURVEY

Automated Time Table Generator System and Techniques:In this fastly moving and changing era, everything is upgrading. So, people want some more efficiency and comfortability in their work in fields such as Programming, Space Systems, Artificial Intelligence and many more. Hence, automated time table generator provides efficiency and comfortability while doing work. According to the studies,it has been observed that the traditional method of generating the time table is very time consuming and there is also a possibility for the duplication of courses to occur.Also, the records are paper based so there are chances that the paper works may get lost. In order to get the lasting solution to the problems encountered while using traditional time table, we created a program that will allow the staff to provide timely and accurately schedule time table in the form of program. The project further ensures that none of the records are clashed or duplicated.

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Automated Time Table GeneratorSystem: Thispaperisa11 about providing helping hands to the colleges, schools and all those who wish to generate the time table.Most colleges have a number of courses and each course has a number of subjects. There are limited faculties, and each faculty teaching more than one subjects. Now the time table needed to schedule the faculty at provided time slots should be in such a way that the timings do not overlap and the time table schedule makes best use of all faculty subject demands. The project makes use of genetic algorithm. In our Timetable Generation algorithm we propose to utilize a proper timetable format. This format comprises of Classroom objects and the timetable. While setting up the genuine undertaking and report of the equivalent, we had a disarray and that how we'll begin the venture and what we'll do in the event that it doesn't work consummately, etc. Absence of inspiration was ascending in our gathering yet our venture manage guided us and encouraged us in finding the right sources which are needed to achieve our task.First we thought we'll complete our project using Java language but after studying Java a little bit deeper, we've got to know that VB.NET is more easy and fast and more efficient language as compare to Java.At that point we turned towards VB.NET and in the wake of picturing the code and the bundles that are available in VB.NET language we got completely energized and roused to do further exercises to finish our venture.In this way, first we suffered from demotivation but after some time we were fully focused and motivated for the completion of our project. In this project, the first form which will appear on the screen will be the Login form. Only staff members are given access to open this program. The user can attempt to login for maximum 5 times otherwise he/she will be marked as spam. Once the user is successfully logged in, there appears a form like menu with various buttons to jump to another form. Buttons like add course, add teacher, add classroom, create time table and log out. In the add course form, the user is able to store the course data like course name, year and branch. In the add teacher form, the user is able to store the teachers data like teacher name, branch and subjects taken by that teacher. The create time table button creates the actual time table. 3 tables are created automatically namely the actual lectures time table, the lab time table and the teacher's personal time table. Last but not the least; the logout button will take you back to the login page where you need to login again to gain access to the data. . This project provides easy customization, smooth integration and the most important provides paperless environment.

III. DISCUSSION

The amount of data produced was large however the research was limited by a relatively small sample size. Computer knowledge has truly transformed the way smart systems are used in our daily lives, and in the years to come we will understand how all of our activities get integrated. Time table generation is a very complex job for educationalist since it involves time and man power. Time table gets generated automatically using this automatic time table generator program. Proposed system of our project will help to generate it automatically also helps to save time. It will avoid the complexity of managing and setting Timetable manually. In our project we made the use of algorithms like genetic, heuristic, resource scheduling to reduce these difficulties of generating timetable. These algorithms incorporatenumerous strategies, aimed to improve the operativeness of the search operation. The system will take various inputs like number of subjects, teachers, workload of teacher, semester and priority of subject. It will generate all required time tables for working days of the week by relying on these inputsfor teaching faculty. Optimal use of all resources is made in a way and integrated that best suits the constraints.

IV.PROPOSEDALGORITHM

Step1:–

The first step to gain the access to the module is to complete the login details. Remember, only authorized user can login to the system. Even after 5 attempts if the login details doesn't match, then that user will be blocked by the system itself. For logging into the system, the user needs to enter his/her username and the password given to that particular college staff. If the user doesn't exist, then the administrator can add that user in our system.

Step2:–

After successfully logging in to the system, new form appears on the screen including number of actions to be performed. Operations like Add Course, Add Teacher, Create Time Table, Add Classroom and Log out can be performed as per the user's requirements. Logout Button will again redirect you to the first page i.e. login page. The procedure to create the time table is performed by the create time table button.

Step3:–

By clicking the add course button, the user is able to add particular course in the system. It also accepts some more details about the course. The details include course name, year and branch. The user can add particular course and can even delete it as per the user's requirements. By clicking the add teacher button, only the administrator is able to add the teacher in our system. Please note: administrator has more rights than normal user rights. The form accepts the teacher details

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from the administrator. Details include teacher name and number of subjects the teacher teaches. The administrator can add or even delete the records as per his/her needs. Remember, all this information is stored in our database in a very efficient manner. This project ensures proper security with easy customization and smooth integration.

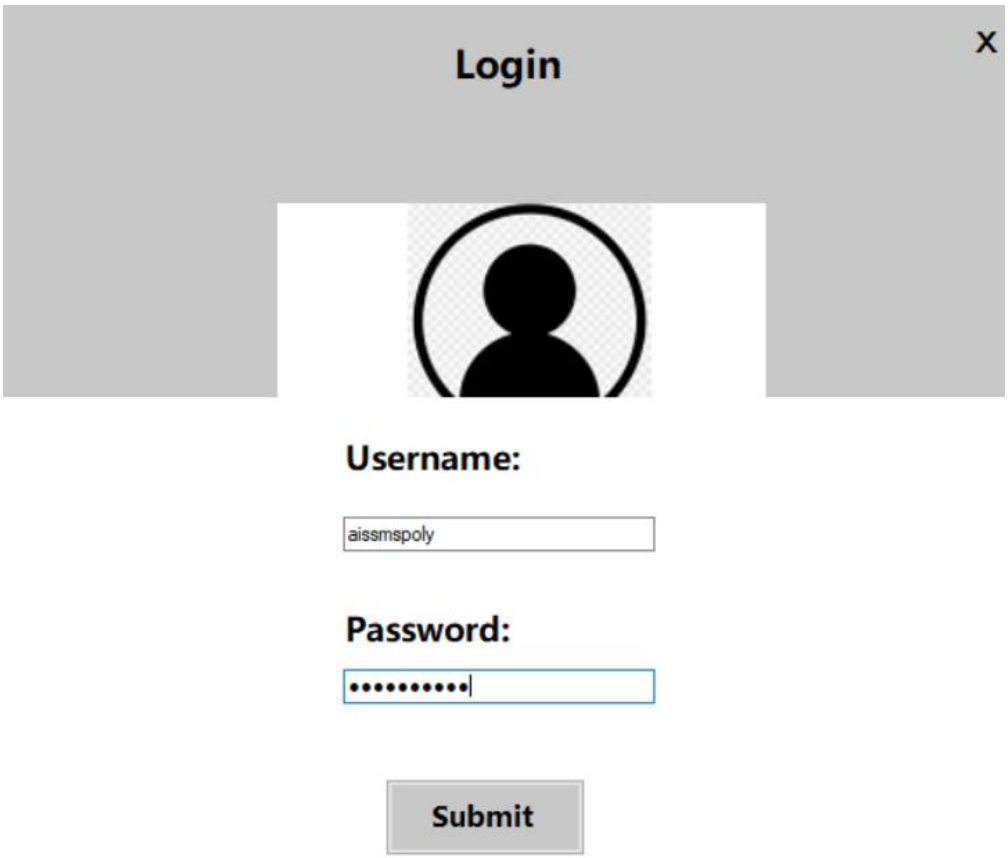
Step4:–

On click of create time table button, the actual time table gets generated. Separate window appears on the screen. The form accepts number of details from the user. The details includes shift(first shift or second shift), Academic year(in year, eg. 2020-21), select semester(even or odd), enter subjects name, enter teachers name and last but not the least enter timings. Now, the user needs to select these subjects from the combo box provided in the time table itself. Please note, only those subject names will be displayed in the combo box that you filled before. After clicking on the submit button, three time tables will be generated automatically with minimum efforts. The first table will be the actual lectures time table, the second will be for the labs and the last table generated will be for the teacher's personal time table.

Step5:–

In this study, generating an automated time table approachwasfollowed.Structured tables and proper formatswere used with codes written in vb.net language using number of forms and modules. The output of this tool can be accessed by the students of the class and the output can also be generated in the pdf format.The project is very useful, advantageous fast, and it also worked smoothly during our field tests.

IV. RESULT



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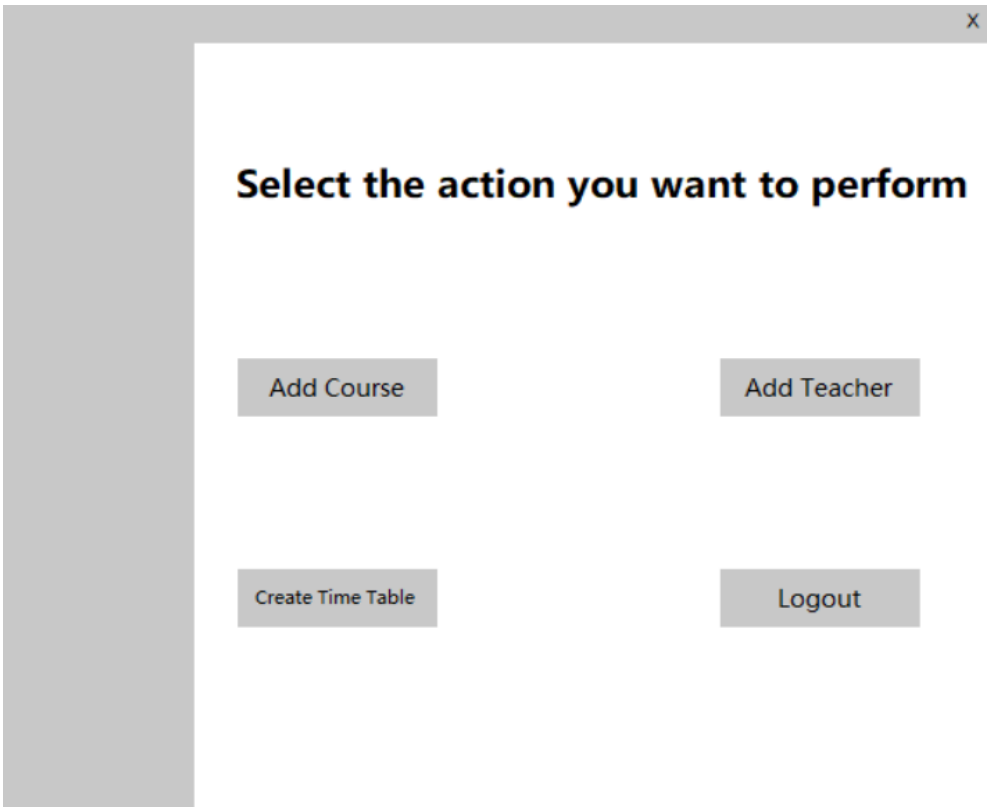

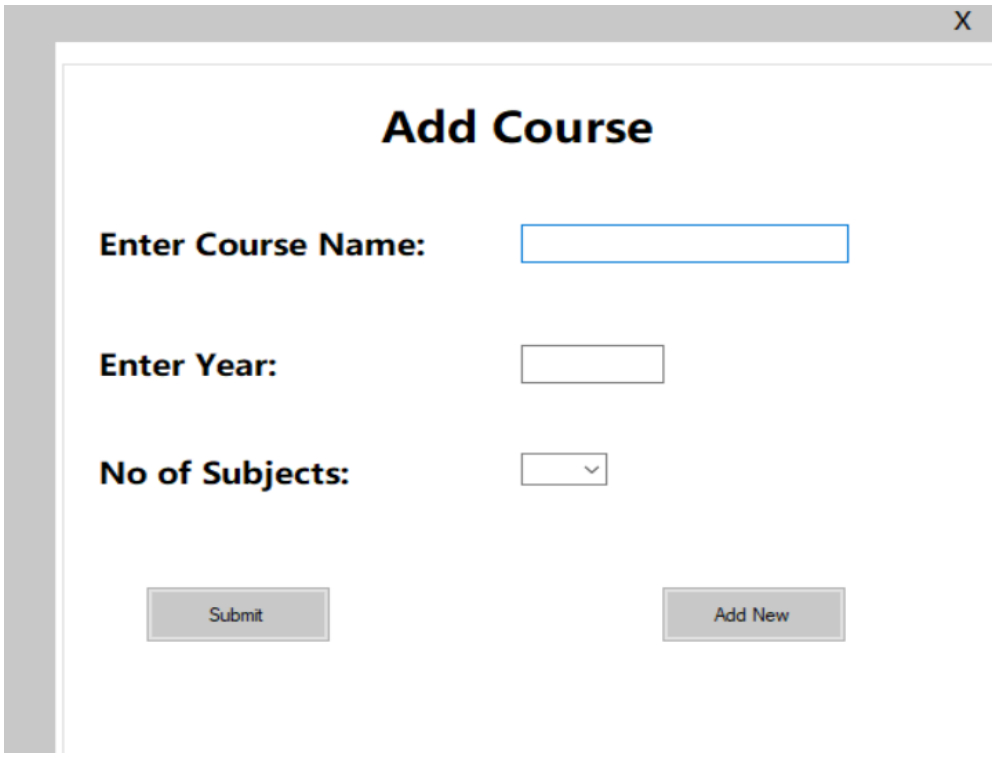

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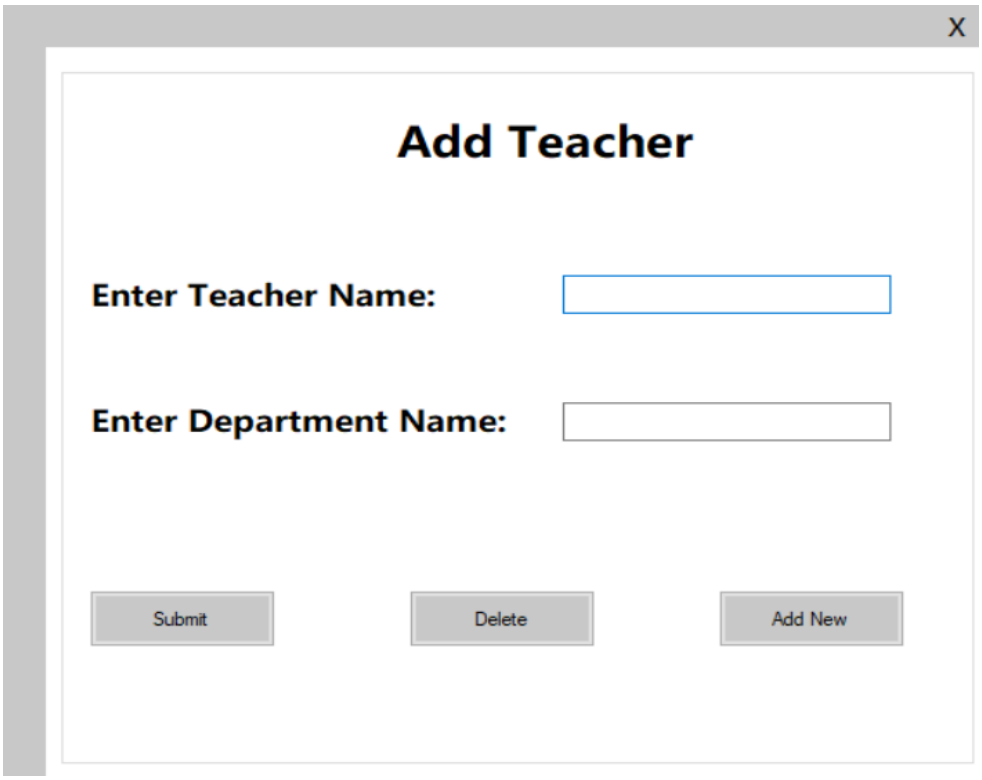

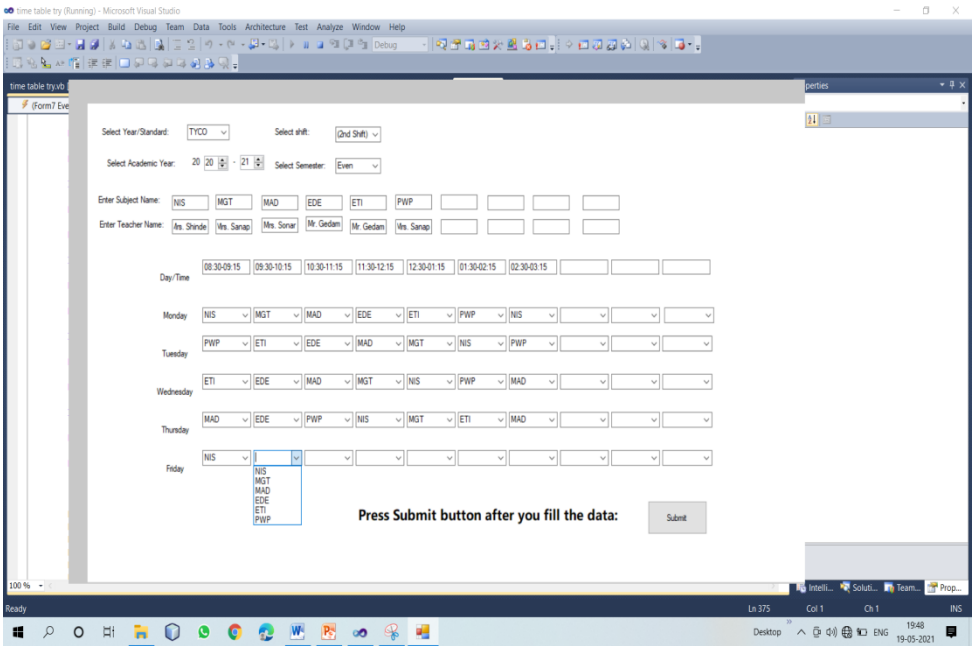

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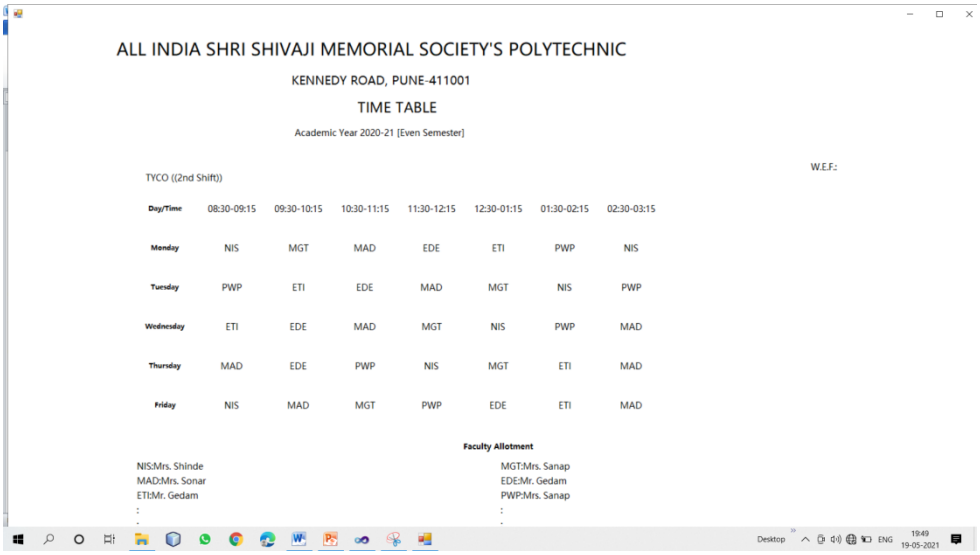

ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY'S POLYTECHNIC

KENNEDY ROAD, PUNE-411001

TIME TABLE

Academic Year 2020-21 [Even Semester]

W.E.F.:

TYCO ((2nd Shift))

Day/Time	08:30-09:15	09:30-10:15	10:30-11:15	11:30-12:15	12:30-01:15	01:30-02:15	02:30-03:15
Monday	NIS	MGT	MAD	EDE	ETI	PWP	NIS
Tuesday	PWP	ETI	EDE	MAD	MGT	NIS	PWP
Wednesday	ETI	EDE	MAD	MGT	NIS	PWP	MAD
Thursday	MAD	EDE	PWP	NIS	MGT	ETI	MAD
Friday	NIS	MAD	MGT	PWP	EDE	ETI	MAD

Faculty Allotment

NIS:Mrs. Shinde
MAD:Mrs. Sonar
ETI:Mr. Gedam
MGT:Mrs. Sanap
EDE:Mr. Gedam
PWP:Mrs. Sanap

V. CONCLUSION

Project isimplementedin such a way that itwillhelp tosavea lot of time generating time table using automated tools. Programming is done using VB.Net. With the help of automatic time table generator,the time table will be generated automatically. Proposed system of our project will help to generate it automatically also helps to save time. It avoids the complexity of managing andsetting Timetable manually. In our project we made the use of algorithms like genetic, heuristic, resource scheduling to reduce these difficulties of generating timetable. The system considers various inputs like number of teachers, subjects, workload of a teacher, priority of subjects and semester.It will generate all required time tables for working days of the week by relying on these inputs for teaching faculty. Optimal use of all resources is made in a way and integrated that best suits the constraints.

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