

Automation of Examination Invigilation Duty

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ABSTRACT

Pre-requisite for conduct of Examination viz competitive school and college level exams, entrance exams etc. requires faculty or staff members to perform invigilation duty. Preparation of invigilation duty list is a tedious work if done manually when large number of invigilators is involved for examination scheduled daily in two or more shifts for large number of days. Here we have discussed development of an automated system that can generate invigilation duty list for any type examination. This automated system will take some required data like staff list, dates of examinations and number of invigilators on the days, as input and, gives the invigilation duty list as output according to fed data. It can be useful for any organization, universities, institutes where examinations are held. One can reduce the time wasted in making the invigilation duty list manually using this automated system.

Keywords: Examination, Invigilation, Invigilator, Duty List

I. INTRODUCTION

Here an automated software have been designed that will take all the required data as input and gives the examination duty list as output. All the details, whatever user entered are stored in a database for future use and reference. For trail work Visual Basic 6.0 (VB 6.0) as front end to enter details by users and MS Access as backend to store all details in tabular format are chosen[2][3][8]. There are 8 permanent tables and few temporary tables. Permanent tables are used to store some important and useful data/information but temporary tables are used to store the temporary data which are used for logical work only. After successful completion of such logical work, temporary tables are not needed in future, so such tables are removed from database. The software is password protected to stop the access of strangers and unauthorized person [1][2][3].

II. ANOMOLIES

As we have already discussed in the introduction paragraph of the paper that this software is designed to full fill the specific requirement of the department to conduct the fair and transparent examination. It works in less human efforts to make invigilation duty list. And such type of software is not available either on the WEB as well as in any university.

III. FRAMEWORK

First, all the given details in database are entered then we retrieve the required data from database for logical work. Here the logic implemented to generate the duty list and to make different types of report. Finally, output data are stored in different tables of database for future reference [1][2][3]. The complete work of this automated system is illustrated in figure 1.

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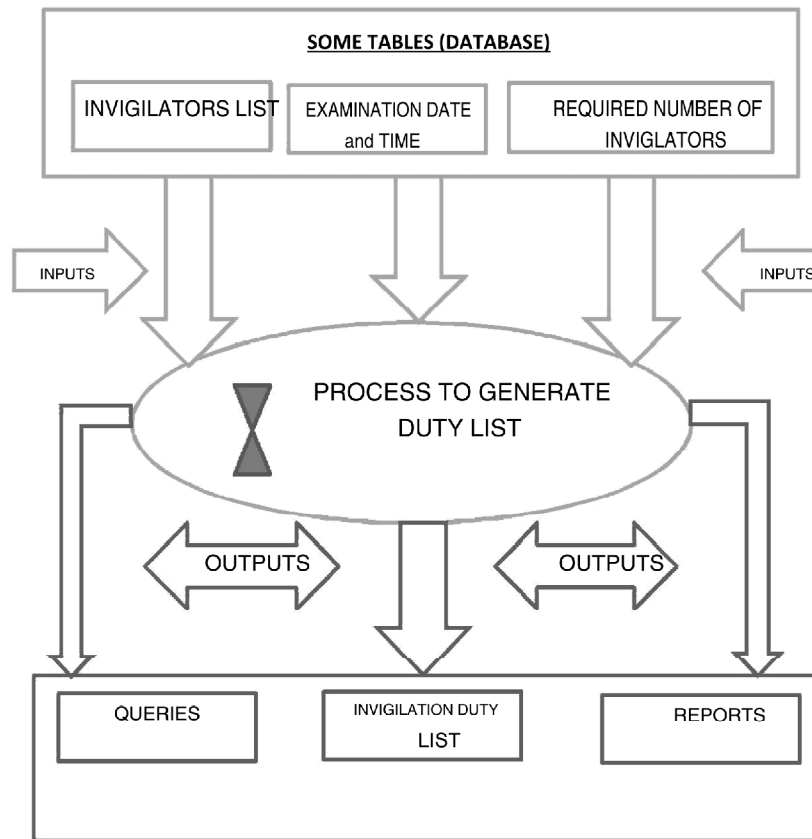


Figure 1: Framework of automated Invigilation Duty List

IV. SETUP

Here in the setup option the user enters all the required data to get the invigilation duty. It contains few sub options as input of different types of data which are as following:

4.1 Exam Dates

Here user gives enters the scheduled dates of examination [2][3]. The screen shot is shown in figure 2.

First enter or select the date of examination from calendar, then number of invigilators required in morning or evening shifts.

Inside frame 2 in figure 2 three buttons are shown as follows:

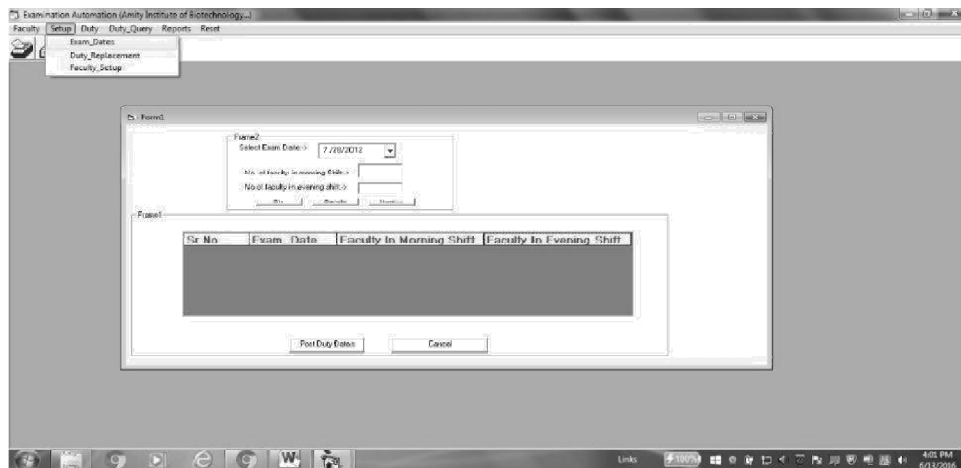


Figure 2: Screen to enter the date of exams

- (i) Ok-> if user chooses the ok button then entered details are populated in grid given inside the frame2 in same diagram.
- (ii) Cancel-> if user chooses this cancel button means does not want to populate the given details to the grid due to some wrong input. Then the calendar and two textboxes became blank for new input [5][6].
- (iii)Next-> if this option is chosen, user can select another exam date and number of invigilators in both shifts.

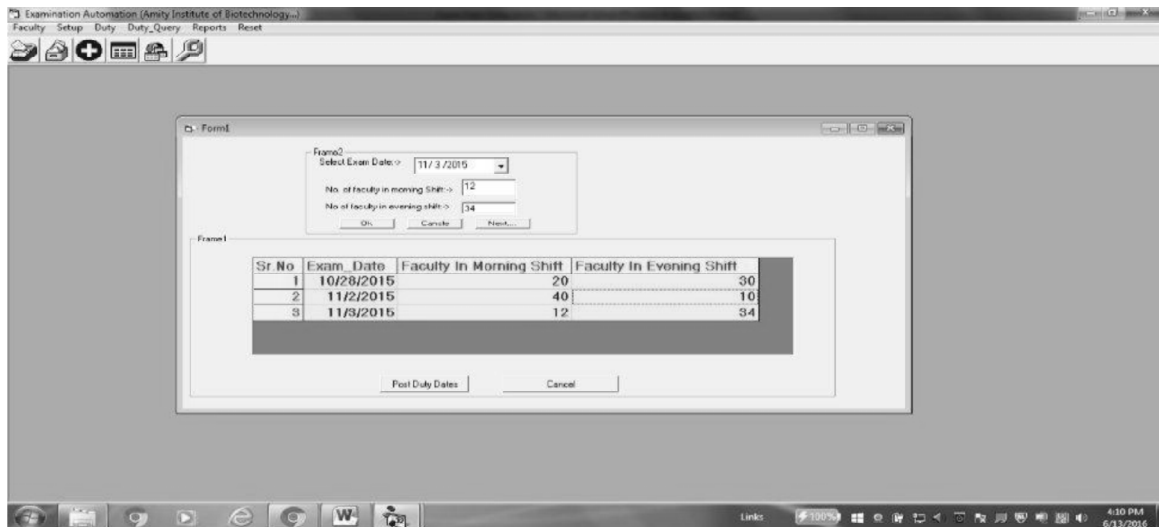


Figure 3: All details of exam date in grid

Again the ok button is chosen then the details will be populated in the grid. This process is repeated till the entry of all exam dates [7][8]. Now all the entered details are populated in the grid as shown in figure 3.

There are again two buttons in frame 2 of figure 3 as follows:

- (i) Post Duty Dates-> if this button is pressed, all the details shown in the grid is stored in database for future use and confirmation of this saving process is shown in figure 4 with message box displaying message "Duty dates are posted successfully"[5][6][7].

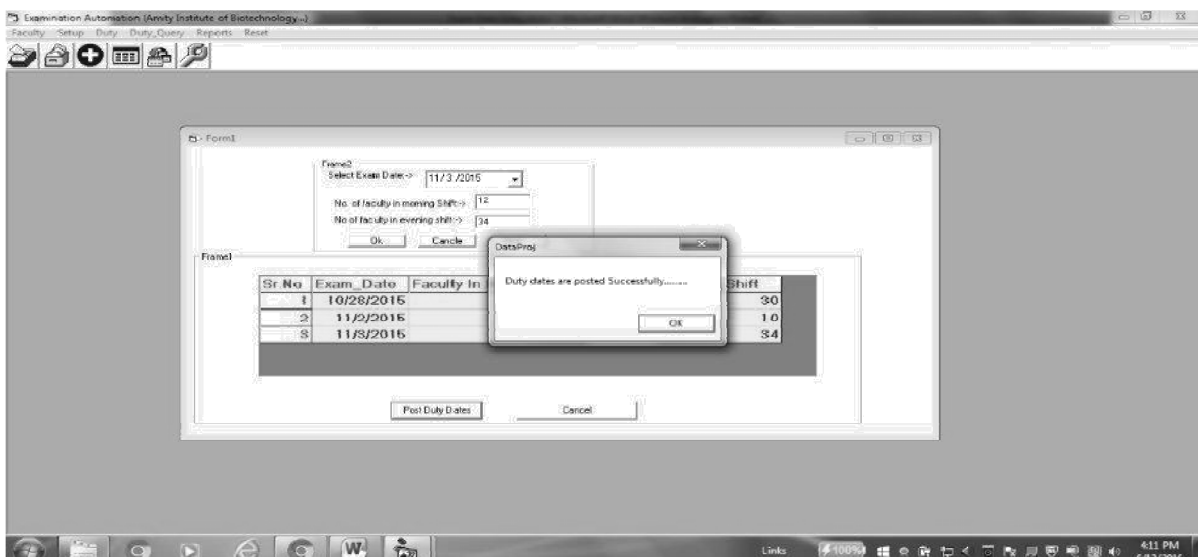


Figure 4: Data saved confirmation message

- (ii) Cancel-> if it is chosen, it will remove all the details shown in grid and user have to enter fresh exam details.

4.2. Faculty Setup

Here details of the employees who are eligible for invigilation duty are saved. There may be some employees in the organization who are not eligible, not willing or not allowed for the duty. Such employees may be removed from the database first [1][2][3]. The final list is saved to database to make invigilation duty.

V. DUTY

5.1. Generate Duty Chart-

Here there are two very important inputs entered in previous menu. First one is final exam dates and second is final employee list for invigilation [4][5]. Both options are shown in two separate frames in figure 5.

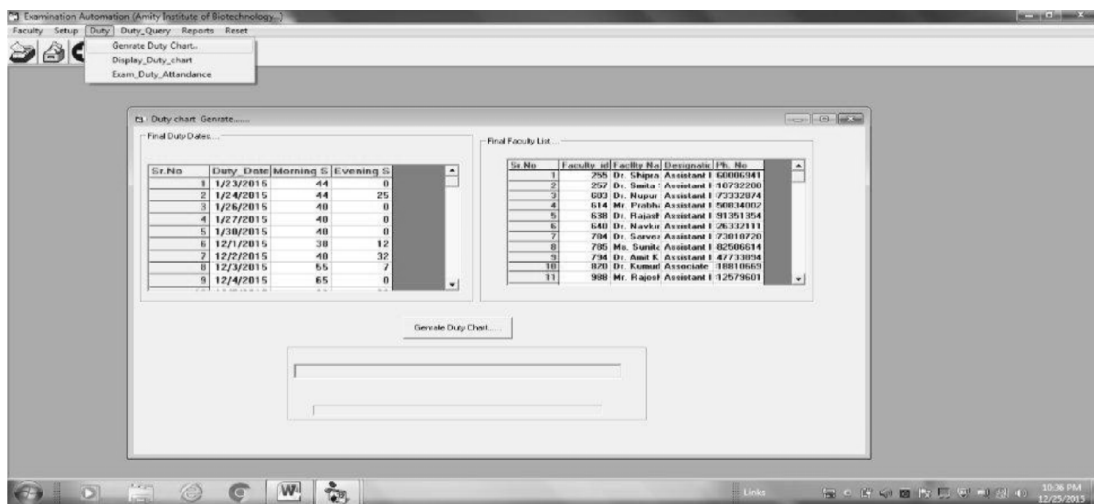


Figure 5: Generation of Duty List

Whenever user clicks the command button 'Generate Duty Chart, it will generate the list of employees according to the requirement entered. This list is stored in the database for future reference [6].

When the process of duty list generation is completed, it will show the confirmation message as shown in figure 6 and status bar indicates that the list is saved successfully in the database. After saving, it is reconfirmed by the message box also [7][8].

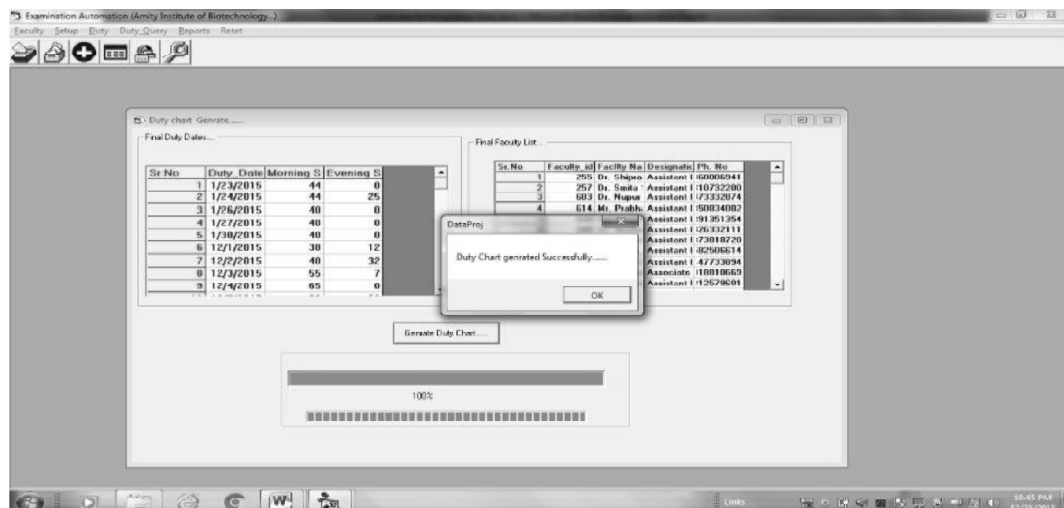
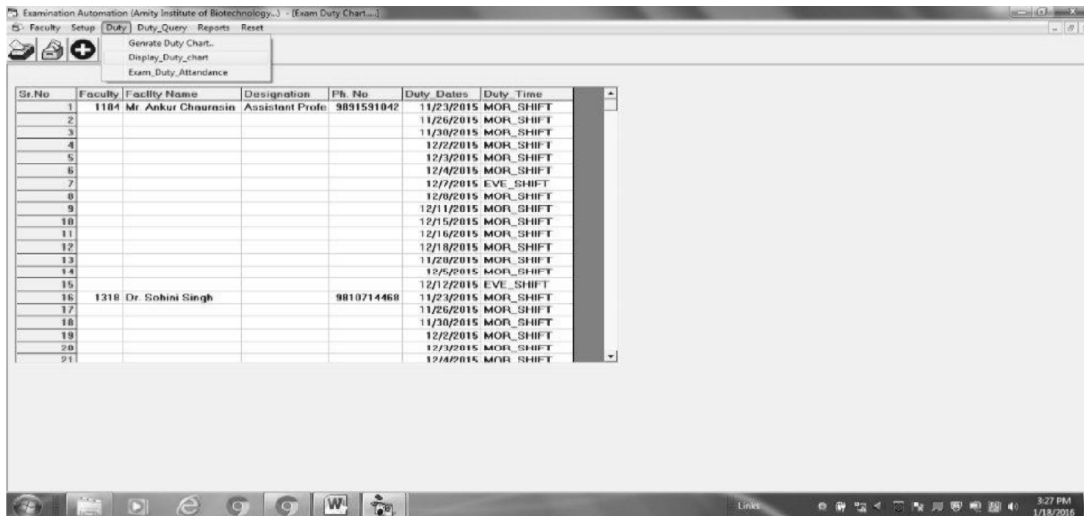


Figure 6: Generating duty chart

5.2. Display Duty Chart

The option 'display duty chart' under the menu Duty will display the list of faculty members with their required personal details as well as their invigilation duty details as shown in figure 7 [6][7].



Sr.No	Faculty	Faculty Name	Designation	Ph. No	Duty Dates	Duty Time
1	1184	Mr. Ankur Chaurasia	Assistant Profe	9891591042	11/23/2015	MOR_SHIFT
2					11/26/2015	MOR_SHIFT
3					11/30/2015	MOR_SHIFT
4					12/2/2015	MOR_SHIFT
5					12/3/2015	MOR_SHIFT
6					12/4/2015	MOR_SHIFT
7					12/7/2015	EVE_SHIFT
8					12/8/2015	MOR_SHIFT
9					12/11/2015	MOR_SHIFT
10					12/15/2015	MOR_SHIFT
11					12/16/2015	MOR_SHIFT
12					12/18/2015	MOR_SHIFT
13					11/29/2015	MOR_SHIFT
14					12/5/2015	MOR_SHIFT
15					12/12/2015	EVE_SHIFT
16	1318	Dr. Sohini Singh		9810714468	11/23/2015	MOR_SHIFT
17					11/26/2015	MOR_SHIFT
18					11/30/2015	MOR_SHIFT
19					12/2/2015	MOR_SHIFT
20					12/3/2015	MOR_SHIFT
21					12/4/2015	MOR_SHIFT

Figure 7: Generated duty chart

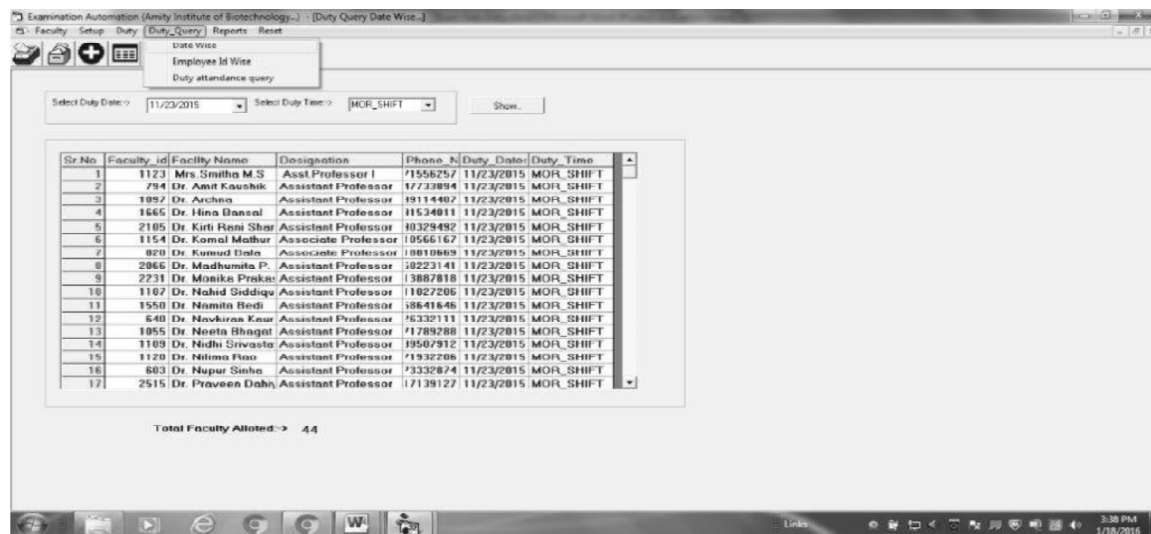
It shows the consolidated details of date and shift (Timing) of invigilation duty of all the invigilators according to the entered details in setup option of paragraph III. This chart is useful for future reference and records.

VI. DUTY QUERY

This menu contains three sub menus to generate invigilation duty list according to different requirements.

6.1. Date Wise

As shown in figure 8, it displays the duty list for the selected date and time. Here user first selects the date and shift of examination and after pressing the show button the list of all invigilators are displayed in the grid for the respective date and time [5][6][7]. It is shown in figure 7, which also shows the number of faculty allotted for the same.



Sr.No	Faculty_id	Faculty Name	Designation	Phone_N	Duty Date	Duty Time
1	1123	Mrs. Smitha M.S	Asst Professor I	71556257	11/23/2015	MOR_SHIFT
2	794	Dr. Amit Kaushik	Assistant Professor	17733894	11/23/2015	MOR_SHIFT
3	1892	Dr. Archana	Assistant Professor	98114402	11/23/2015	MOR_SHIFT
4	1665	Dr. Hina Bansal	Assistant Professor	91534011	11/23/2015	MOR_SHIFT
5	2185	Dr. Kirti Rani Shrivastava	Assistant Professor	98329492	11/23/2015	MOR_SHIFT
6	1154	Dr. Komal Mathur	Associate Professor	10566167	11/23/2015	MOR_SHIFT
7	820	Dr. Kumud Datta	Associate Professor	10810889	11/23/2015	MOR_SHIFT
8	2066	Dr. Madhumita P.	Assistant Professor	98223141	11/23/2015	MOR_SHIFT
9	2231	Dr. Monika Prasad	Assistant Professor	13887818	11/23/2015	MOR_SHIFT
10	1107	Dr. Nahid Siddique	Assistant Professor	11027206	11/23/2015	MOR_SHIFT
11	1550	Dr. Namita Bedi	Assistant Professor	98641646	11/23/2015	MOR_SHIFT
12	640	Dr. Navkiran Kaur	Assistant Professor	96332111	11/23/2015	MOR_SHIFT
13	1855	Dr. Neeta Bhagat	Assistant Professor	71789288	11/23/2015	MOR_SHIFT
14	1109	Dr. Nidhi Srivastava	Assistant Professor	98507912	11/23/2015	MOR_SHIFT
15	1120	Dr. Nilima Rao	Assistant Professor	71352206	11/23/2015	MOR_SHIFT
16	803	Dr. Nupur Singh	Assistant Professor	73332874	11/23/2015	MOR_SHIFT
17	2515	Dr. Praveen Dahiya	Assistant Professor	17139127	11/23/2015	MOR_SHIFT

Total Faculty Allotted -> 44

Figure 8: Duty Chart for Selected Date

6.2. Employee ID Wise

It displays the duty list for the selected employee. Here user first enter the ID number of invigilator and after pressing the show button the date and time for invigilation of that invigilator is displayed in the grid as shown in figure 9[7][8].

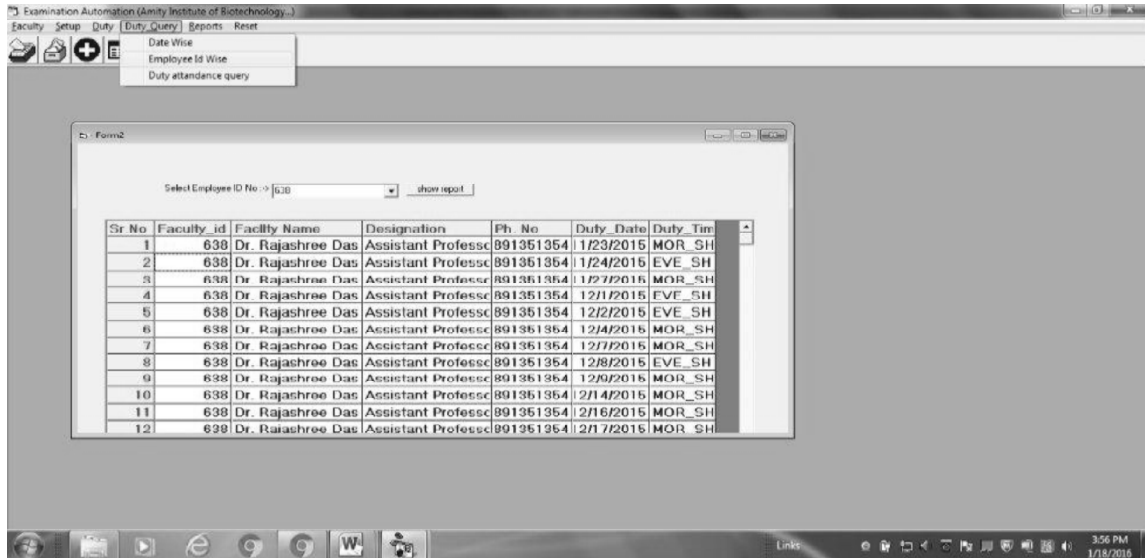


Figure 9: Duty Chart for Selected Date

VII. REPORTS

7.1. Consolidate Exam Duty Chart

This option generates the consolidate exam duty chart report. This report contains the list of all the invigilators according to invigilation date and invigilation time. Here one can find number of examination duties of any invigilator [1][7]. The example report is shown in figure 10.

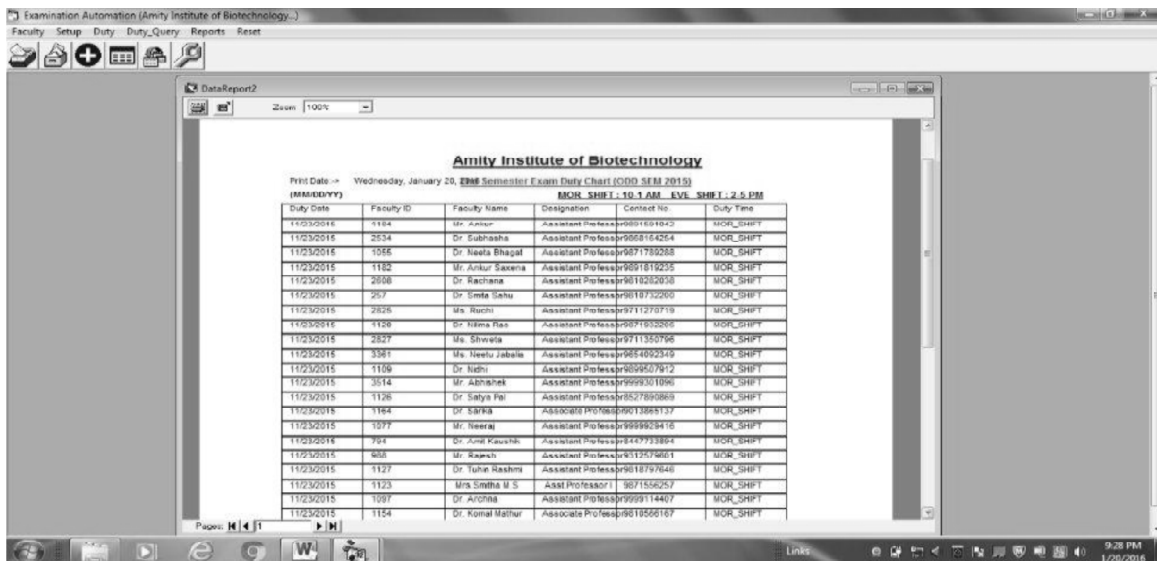


Figure 10: Consolidate Duty Report

7.2. Faculty Wise Exam Duty Chart

This option generates the complete invigilation duty list of any single invigilator. As shown in figure 11,

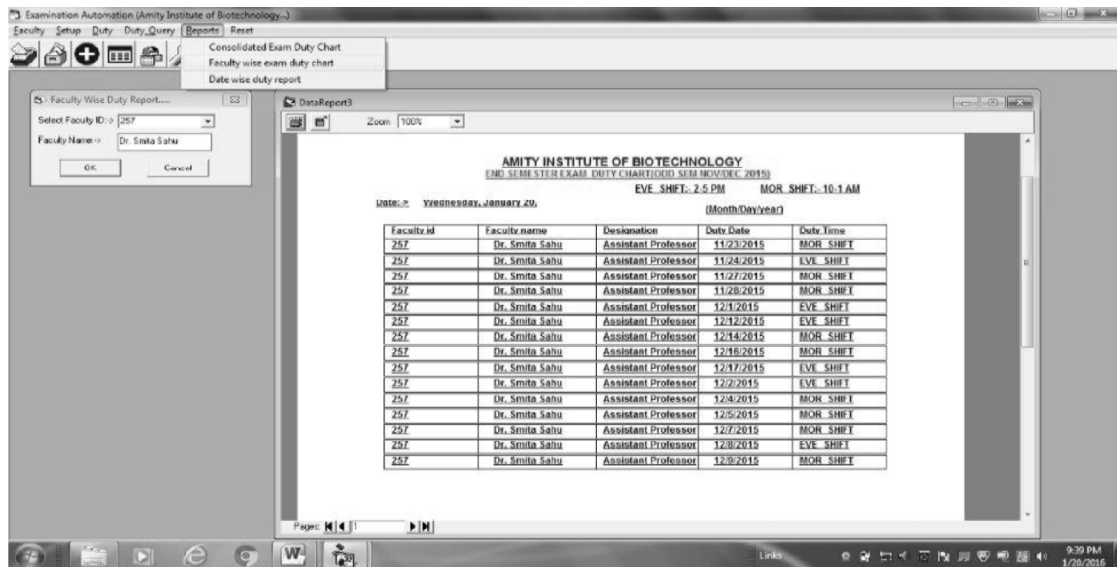


Figure 11: Invigilation Duty list of Individual Invigilator

ID of invigilator is selected from the left panel then it will automatically show the name. If it is correct then user presses the 'Ok' button and the report is generated for selected invigilator [4][7][8]. The individual copy of this report is send to each and every invigilator for their future reference. Invigilators can take the print out of this copy to remember the dates and time for their invigilation duty.

7.3. Date Wise Duty Report:

This option generates the duty list for any particular date and time as shown in figure 12. Here user first selects the date and the time of examination from left panel and after pressing the 'Ok' button it generates the duty list of invigilators who are expected to perform invigilation on the selected date and time.

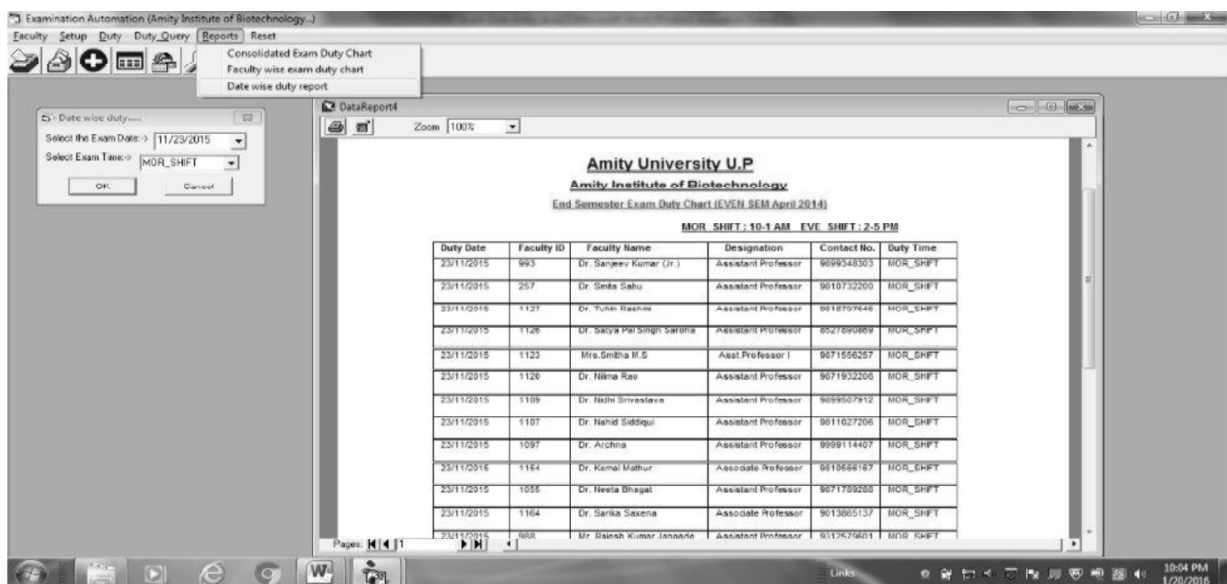


Figure 12: Invigilation Duty List with Date and Time

The examination superintendent can refer this report to know the invigilators of particular date and time [5][6][7]. Based on this list, if any invigilator does not report till the time of examination then superintendent can timely contact to the invigilator.

VIII. CONCLUSION

The software developed is in running condition for last 3 years and has been tested at department / institute level for End Term Semester Examination / Supplementary Examination / Entrance / Competitive Examination which continues for 1-30 days in a stretch in morning / evening shifts with requirement of 0-150 or more invigilators. The data output can be at the level of individual faculty report / date wise report / consolidated report for the examination can be generated based on input of the data.

IX. FUTURE WORK

Still this has scope for improvement depending upon the requirement in future. We are targeting for modification in the software which will be web enabled where faculty will receive information as required by email or generated it through valid login ID. As well as the desktop application described above will be online, so the administrator and the users can access the application and data online.

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