Windows Application for Accomplishing Departmental Academic Monitoring Tasks

Mr. Randhir J. Patil[1], Mr. Akshay G. Bhosale[2], Mrs. S. K. Apte[3]
[1,2]Assistant Professor
[3]Head
[1,2,3]Dept. of E&TC Engg.
SGI, Atigre, Kolhapur.
[1]patil.rj@sginstitute.in
[2]bhosale.ag@sginstitute.in
[3]apte.sk@sginstitute.in

Abstract - In engineering institutes there is several stage governance structure. Programme specific departments are one of the major governance bodies in engineering institutes. In such departments various documents are prepared as an evidence of academic task handled viz. monthly attendance, result analysis, weekly syllabus coverage, course outcome attainments etc. This paper presents windows based application named as *'Departmental Task Portal'* (DTP) which helps to accomplish department academic monitoring tasks. This application has been designed to implement good practice in preparing and sharing academic documents. We have designed this application using MATLAB and implemented in Electronics and Telecommunication department of Sanjay Ghodawat Institute.

Keywords – *Windows Application, CO Attainment Tool, Departmental Task, One Drive, Cloud Computing*

I. Introduction

In any engineering institute teachers are prime stakeholders. Along with teaching they have to work under privilege of different departmental coordinators. As a part of academic responsibility teachers have to submit internal test results, student attendance, syllabus coverage, term work assessment etc. Also, now a days engineering institutes in India are becoming more competitive as compare to educational systems globally by following Outcome Based Education (OBE) [1]. Hence it is of prime importance to insure internal quality through a proper documentation. In OBE Course Outcome (CO) attainment, Programme Outcome (PO) attainment and Programme Educational Objectives (PEO) are periodically measured. [2]

All such tasks generate specific set of documents. Email is the general media for sharing documents within the department or institute. The prescribed windows based application helps teachers to accomplish departmental academic monitoring tasks through a *'Departmental Task Portal'* (DTP). User can install this application on their personal machines. Use of DTP generates uniform documents for corresponding tasks. DTP works with two exclusive Microsoft One Drive accounts. All the departmental documents can be stored at One Drive. One account is used for uploading and sharing documents while other account is used for editing previously uploaded documents. Credentials required for log in are shared to all users. Any authenticated user can upload, download, edit and share documents through DTP.

II. Portal Front End

Front end of portal consist of three mandatory fields as shown in figure 1 viz.

I. Select Semester
II. Select Class
III. Select Task

All the four academic years of graduation has two semesters. 1st, 3rd, 5th, & 7th are named as odd while 2nd, 4th, 6th & 8th are named as even semester. Selecting first two fields appropriately ensure user about the class and semester for which task has to be performed. Third field gives provision for selecting departmental task.

Mr. Randhir J. Patil[1]
[1]Assistant Professor
[1]Dept. of E&TC Engg.
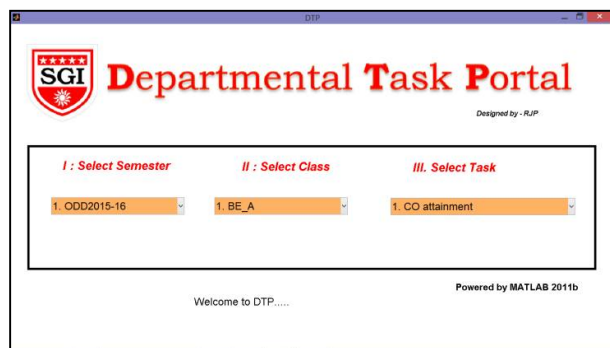SGI, Atigre, Kolhapur.
[1]patil.rj@sginstitute.in

Figure. 1 Front end of DTP

III. System Architecture

One can easily understand system architecture given in figure 2. It consist of formulated excel sheets, Windows applications, One Drive folders, and One Drive link database. In every semester system administrator have to change one drive link database and distribute among all users. Here folder structure on One Drive accounts plays vital role in creating link database. First One Drive account is dedicated for six tasks and second account for two tasks.
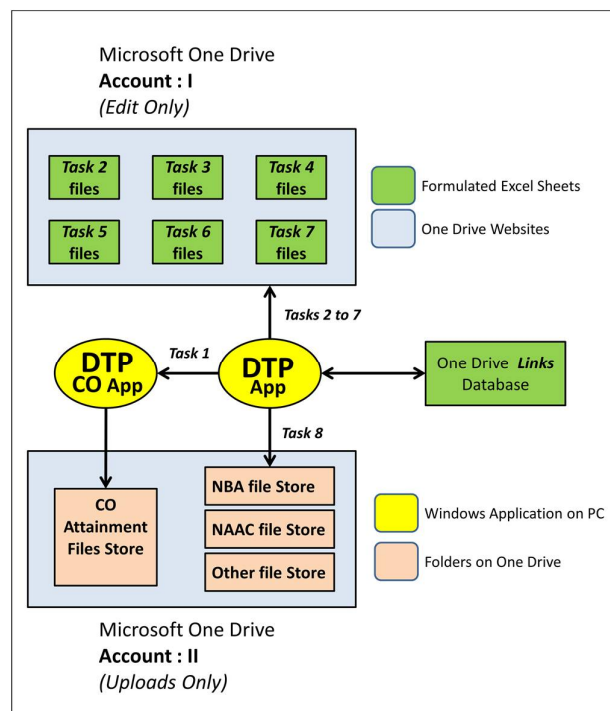
Figure. 2 System Architecture

In the first account previously formulated excel sheets have to upload by administrator so that any authenticated user can edit or access data on the same. Second account consists only folders, where user can upload and download any document.

IV. Departmental Tasks
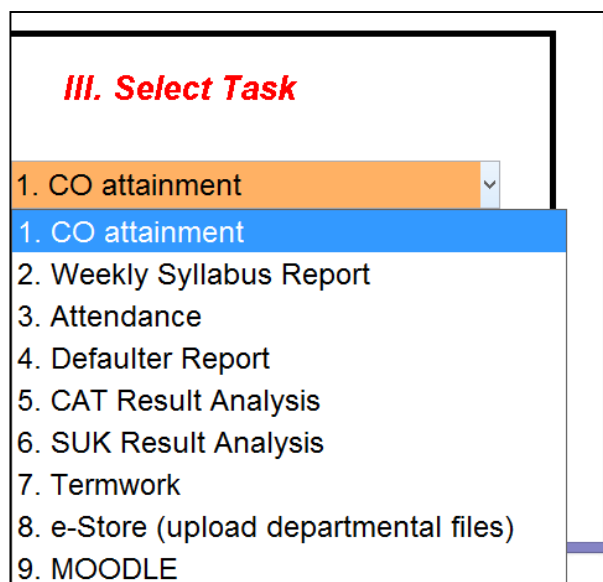
Figure. 3 Screen shot for third field

Task included for design of this application are as per requirement of TIER-II institutes.[2] DTP has designed for eight different academic tasks shown in figure 3 viz. CO attainment, Weekly Syllabus Coverage Report, Monthly Students Attendance, Defaulter Students List, Internal Test Result Analysis, University Exam Result Analysis, Term Work Assessment, and File Uploads.

DTP is integrated with 50 One Drive links stored in *'Link base'* file. An appropriate selection of three fields selects one of the links and connects to respective folder or files on Microsoft One Drive.

V. CO Attainment Tool

Out of eight tasks CO attainment calculation is a special task. As per Washington Accord COs are measurable manifestation defined for individual course. For NBA accreditation CO attainment is basic task [2] that has to be performed by each teacher for their respective course. COs are measured in percentage attainment. It requires total number of student studying the course and individual marks for each CO.[3] In this task, upon filling detail marks of each student (figure 5), automatically generates summary sheet for CO attainment. Figure 4 shows screen shot of CO attainment calculation window and figure 6 shows sample of automatically generated summary sheet.

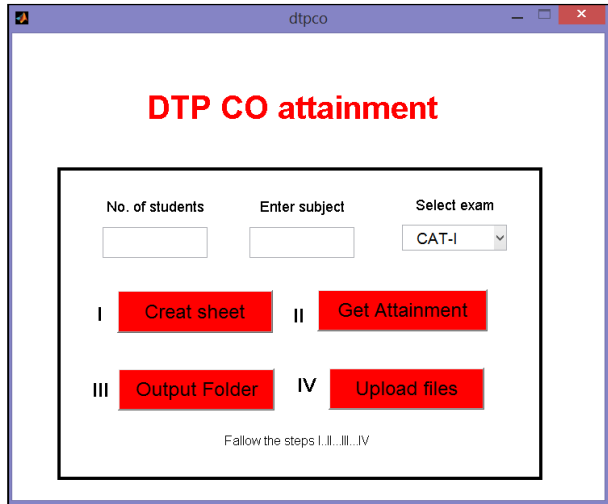Figure.4 Screen shot of CO attainment window

Figure. 5 Screen shot of Detail marks sheet
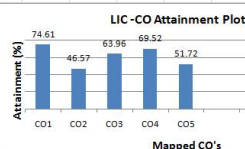
Figure. 6 Auto generated CO attainment summary sheet

VI. Departmental e-Store

This task allow user to upload any file/folder for sharing. Selecting this task will ask user to select specific folder viz. NAAC, NBA or OTHER. Classification of e-Store is based type of document to be uploaded. Evidence required for Self Study Report (SSR) during NAAC accreditation can be store in NAAC folder. Similarly, evidence required for Self Assessment Report (SAR) during NBA accreditation can be store in NBA folder and any general document can be store in OTHER folder. At other end any authenticated user can download such file through same task selection. Such practice will store all the departmental documents at central cloud store.

VII. Conclusion

This windows based application has been implemented and practicing at E&TC department of SGI since last three semesters. Pre required sheets for task other than CO attainment and e-Store are formulated and uploaded at One Drive account. Separate One Drive accounts are required for each programme specific departments. After each semester new link database is required to be integrating with this application. This application is more user friendly way to accomplish departmental tasks. Sharing file/folders are easier than that of using emails within the organisation.

VIII. Acknowledgement

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IX. References

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