



## RESULT ANALYSIS AUTOMATION

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### ABSTRACT

Present exam-cell calculations are mostly done manually on excels sheets. Using Report Analysis Automation will make the examination cell activities more efficient by wrapping the drawbacks of manual systems like accuracy, time, speed and simplicity. This system will ensure examination activities are carried more effectively and it can be accessible and will be convenient for both staff and students by making it a centralized system. Finally this product would an aimed automation system, which will replace present examination cell process. Result and analysis automation is a new concept which came into existence to reduce heavy burden on examination cell and it made analysis of results a monotonous task, apart from the large amount of data that is generated in a college for various branches of all semesters. This automation system is like a mediator between staff and students; this will ease the activities of each examination. This system will make the analysis process much organized and will require data to be pre-existing. This automation, however will manage a great deal of menial work. Finally this system will minimize the manual work, which leads to ease of generating reports, reducing confusions and increase in work rate effectively.

**Keywords:** automation, data acquisition.

### 1. INTRODUCTION

Examination cell otherwise known as exam cell is an innate part of any college management system. As we all are aware of the fact that examination is the vital and crucial issue in any engineering student's life. Hence, management of this system requires a lot of effort.

The basic challenge of an institution is to carry out result analysis from each and every corner of the students performance, track and resolve various students issues before and after examination and manage the whole of these operations in a flawless manner and deliver quality result oriented education.

If we just glance on a day to day basis, there are most basic problems faced by an institution.

- a) Operations are mostly carried out in administrative offices.
- b) Procedures are highly administrative.
- c) Information needs to be updated from time to time.
- d) Information is inconsistent.
- e) Functionality is divided between certain organized units.

So to curb all these problems result analysis automation is used. This reduces much paper work and burden of storage. Also, it makes the task easier for the students, officials to access their result whenever required, if we share it on local network.

### 2. PURPOSE OF THE PROJECT

Exam cell activities mostly include lot of manual calculations and it is mostly paper based. This project aims to bring in a centralized system to ensure that the activities of an examination can be effectively managed with less effort. This reduces the burden of file storage.

### 3. PROBLEMS IN EXISTING SYSTEM

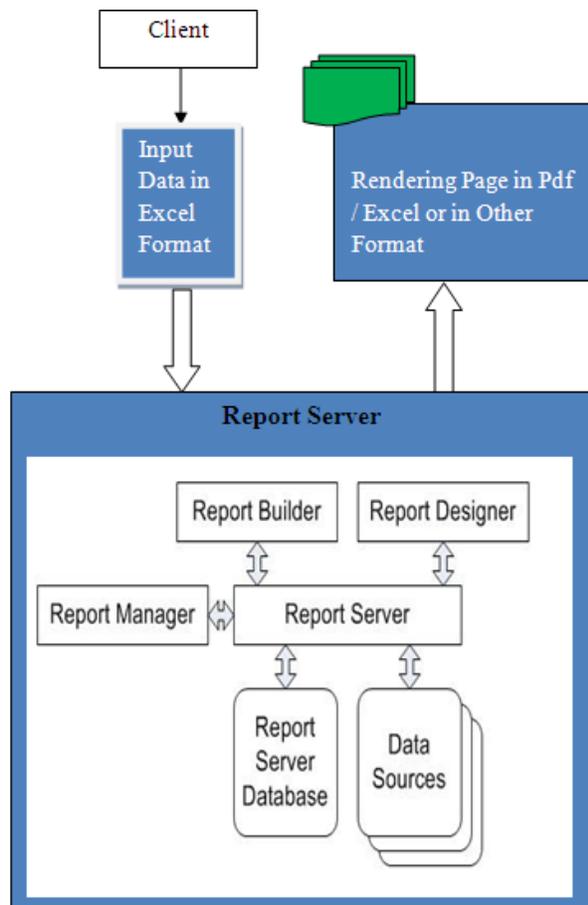
As we have already discussed the existing system is purely based on manual paper work and manual calculations. This huge amount of workload makes the exam cell process very slow and clumsy. This system requires maintaining a lot of files and documents. Handling of such important documents is again a tedious work, also if in future if we wants to retrieve important facts and statistics this will again lead to a lot of time consumption even it becomes difficult for staff and students as they have to manually do a lot of paperwork starting from filling of any exam related form to collecting a final mark sheet.

Hence, there arises a need for a better system.

### 4. PROPOSED SYSTEM

This result analysis automation would overcome the flaws and clumsy procedures of paper based system. The main objective of result analysis system is listed below:

- Replace Manual Processing System with an automated one, the result of the student will be generated automatically.
- The system represents the student by the student Id as unique reference.
- The student information and the specifications are given by this report automation has to be done based on their result.
- Reduces the chances of malpractices associated in a manual system.
- Reduces the workload involved in processing.



- Reporting services is driven by the report service which is a core engine.
- On the other hand Report Manager is a Web-based administrative interface for Reporting Services.
- For building the complex reports a developer tool called Report Designer is used.
- For building reports a simplified end-user tool called Report Builder is used.
- The Report Server database stores report definitions. Reports themselves can make use of data from many different data sources.

## 5. FEATURES OF OUR PROJECT

- We can render output in seven types of formats like PDF, word, excel, image, HTML etc...
- It is highly secured, as we ensure to provide a username and password for both students and staff.
- Performance- If we have to search for particular details then it doesn't go to database to check for the details, rather it will directly extract the details from

the cache memory. Hence there will be a decrease in number of cycles which in turn will increase the performance.

- Therefore, high performance is ensured by using this result analysis automation.
- By using this result analysis automation we will track history of reports, this is done by taking a snapshot of the report every time it is accessed. Suppose, if we update any details then we can know the time and date of the updated information as a snapshot of it also generated

## 6. ADVANTAGES

- Takes less time to generate reports.
- We can automatically send the report to particular staff through emails
- We can render seven types of formats like PDF, word, excel, image, html.
- We are creating dynamically every field in this project.
- There is a lot of beneficial to college using this project in order to reduce the manual work.
- Better convenience for staff and students.
- Improved accuracy of students data

## ANALYSIS AND PROCESS

### A. Data storage

The report server stores all objects, properties and metadata in a SQL Server database. Stored data includes published information, models of reports and the folder ladder organized by the report server. Internal storage for a single Reporting Services installation or for multiple report servers that are part of a scale-out deployment is provided by report server.

### B. Data processing extensions

Data Processing extensions are used to query a data source and return a flattened row set. Different extensions are used by reporting services to interact with different types of data sources. The extensions included in reporting can be used or your own extensions can be developed. Data processing extensions are provided for data sources such as SQL Server, Analysis Services, Oracle, SAP Net Weaver Business Intelligence, Hyperion Ess base, Terradata, ODBC, and OLEDB.

ANY ADO.NET data provider can also be used by Reporting Services. Data processing extensions process



query requests from the Report Processor component by carrying out the below tasks:

- A connection to a data source should be opened.
- Study a query and return a list of field names.
- Run a query against the data source and return a row set.
- If required, Pass parameters to a query.
- Retrieve data by Iterating through the row set.

Some extensions can also perform the following tasks:

- Analyze a query and return a list of parameter names used in the query.
- A query should be analyzed and the list of fields used for grouping and sorting should be returned.
- A username and password should be provided to connect to data source..
- Iterate through rows and retrieve auxiliary metadata.

### Rendering extensions

Rendering extensions carry out the task of transforming data and layout information from the report processor into a device specific format. The seven rendering extensions included in Reporting Services are HTML, Excel, CSV, XML, Image, MS -WORD and PDF.

- **HTML rendering extension:** The HTML rendering extension is used by the report server to render the report when we request a report from the report server. All HTML are generated by the HTML rendering extension using UTF-8 encoding.
- **Excel rendering extension:** The Excel rendering extension renders reports that can be viewed and modifications can be carried out in Microsoft Excel 97 or later. This rendering extension creates files in Binary Interchange File Format (BIFF). It is the original file format for Excel data. Rendered reports in Microsoft Excel support all of the features available for any spreadsheet.
- **CSV rendering extension:** The Comma-Separated Value (CSV) rendering extension renders reports in comma-delimited plain text files. These files can be opened by the users with a spreadsheet application such as excel or any program that reads files.

- **XML rendering extension:** Reports are rendered in XML files by the XML rendering extension. . These files can then be stored or read by other programs. An XSLT transformation can also be used to turn the report into another XML schema to be used by another application. The XML generated by the XML rendering extension is UTF-8 encoded.

- **Image rendering extension:** The Image rendering extension renders reports to bitmaps or metafiles. Reports are rendered by the extension in following formats: GIF, JPEG, BMP, EMF, PNG, TIFF, and WMF. By default, the image is rendered in TIFF format that can be shown with the default image viewer of your operating system .Using the Image rendering extension to render reports ensures that the report looks the same for every client. When a report viewed in HTML by the user, the appearance of the report can differ depending on the version of the user's browser. The extension that renders image also renders the report on the server, so all users see the same image. As the report is rendered on the server, installation of all the fonts used in the server must be done.

- **PDF rendering extension:** The PDF rendering extension renders reports in PDF files.

- **MS-WORD rendering extension:** The MS Word rendering extension renders a report as a Word document that is compatible with Microsoft Office Word 2000 or later.

### 7. CONCLUSIONS

Considering the extremely intermixed nature of exam cell activities, a centralized and automated solution to these vital activities like result analysis and report generation would be of great institution. The using of open source software ensures the great cost benefit measure and on the contrary increasing the productivity, thus improving the student and staff experience.

Thereby implementing this system will sustain the automation of other important activities in the institute thus, making the college more student and staff friendly.

Result analysis is carried out in subject wise. Subject wise analysis is done for a particular semester and its analysis in terms of marks obtained by each student in that particular subject. Also we calculate the pass percentage of each subject and overall pass percentage of students in any particular semester.

This result analysis automation saw a drastic reduction in time consumption taken to fill up exam form and then submitting it. This was built keeping in mind all possible mistakes a user can make and thus system is user friendly.



Exam cell generates the seat number manually and then these seat numbers were fed into the system to generate hall ticket on student's side. Secondly the system generates the seat number from the form filling module and then the hall ticket is prepared.

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