Collecting the Exam Results announced online by Dronacharya's Ball Retrieval method

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Abstract— **In recent times, the results of UG and PG course exams of various Universities including Visvesvaraya Technological University (VTU) are announced online. This gave rise to a need to record such data as a soft copy. Once, we have such data as a (go green) paperless soft copy, lots of further analysis can be carried out from it. Hence, presence of such data in the first place is the primary requirement. Here, by using few basic features of Microsoft Excel, we discuss "how to collect online exam results?" by considering VTU exam results as an example through a "slow and sweeping technique" called "Dronacharya's Ball retrieval method".**

Index Terms—**Clipboard panel, Dronacharya's Ball retrieval method, Microsoft Excel, Online Exam Results.**

I. INTRODUCTION

Nowadays, the results of UG and PG course external exams of various Universities including Visvesvaraya Technological University (VTU), Belagavi are announced online. In the aftermath phase of result announcement, various stake holders are curious to know the results be it the student, class teacher, proctor among others.

So, a class teacher handling a class of say 40 students wanted to know the results of their class; A proctor wants to keep track the performance of the wards allotted to them; A faculty is interested to perform some computations on CO-PO (Course Outcome and Program Outcome) attainment of the subjects handled by them for accreditation purposes such as NBA. Hence, the presence of result data is the primary requirement in the first place.

II. WHAT IS THE CONVENTIONAL METHOD FOLLOWED TO COLLECT THE RESULT DATA BY A CLASS TEACHER FROM VTU WEBSITE?

In VTU website, the exam result can be viewed / retrieved only for one student at a time by feeding the respective USN (University Seat Number) in the User form. One of the

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conventional method followed to collect the data of 40 students by a class teacher is, to take print out of the result sheet of each and every student and then to tabulate this data in an excel sheet manually. This gives rise to the consumption of more papers, large amount of time spent on data tabulation that is prone to errors during tabulation.

The necessity:

Now, the basic question is *"Can we collect and store the VTU results that are announced online by some elementary method even without any knowledge of web scraping?"* that overcomes the disadvantage of the above approach.

The answer is **Yes** by using few basic features of Microsoft Excel.

Microsoft Excel is a spread sheet developed by Microsoft to tabulate data. The Excel Clipboard panel is an extremely useful tool that helps us to access the history of last 24 items copied and to paste them anywhere we want.

III. THE METHODOLOGY: DRONACHARYA'S BALL RETRIEVAL METHOD

The process of feeding each USN (manually) in the VTU result portal, copying the required selected data and accessing them through Clipboard panel later is motivated by an anecdote in Mahabharath [2]:

"During the childhood days of Pandavas and Kauravas, when they were playing with a Ball, the ball accidentally falls into a well. The young boys were clueless as how to retrieve the Ball from a deep well. Then, Dronacharya who happened to encounter these puzzled boys, promises to help them to retrieve the ball from the deep well. He asked the boys to bring pieces of Grass. The boys brought several pieces of Grass. Then, Dronacharya using his archery skill, used each Grass as an arrow. With the first grass he was able to pierce the ball and with subsequent grasses, he was able to connect each grass to form a big chain. With this he was able to retrieve the ball from the well."

How to collect VTU results in an Excel file?

By inserting each USN and the CAPTCHA in VTU web portal (in a way analogous to Dronacharya used a piece of grass), the result of a particular student is displayed. One can

select the USN and Marks table and copy them separately with the clipboard panel of an Excel file being enabled as shown in the figure 1. Since, the Marks header *(such as Subject code, Subject Name, Internal Marks, External Marks, Total, Result)* in the table is common for all students, this can be skipped from the selection as shown in the figure 1. Hence, for each students we are collecting two informations from the website namely USN and Marks details. One can collect this pair of informations (USN & Marks details) for 12 students (12x2=24) and store them in a Clipboard.
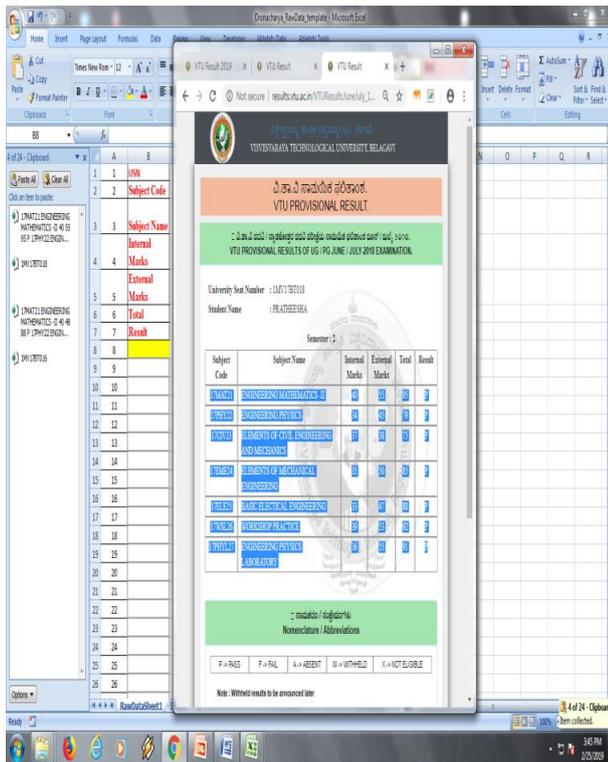
Figure(1): Two students marks data copied in the Clipboard panel.

Now, Place the cursor in the Blank cell B8 of the Excel file (refer figure 1). Now click the "Paste All" option, then all the data of 12 students will get pasted in one shot as one single column (in a way analogous to how Dronacharya was able to form a chain by using several pieces of grass). Now, on clicking Clear All, all the items stored in the Clipboard history gets erased.

This cycle can be repeated for next batch of 12 students and the data can be pasted in the same column (B) from the next available Blank cell. Thus, for a class of 40 students, we can collect the result data in 4 batches from clipboard panel as described above. Although the process of collecting 12 students data from Clipboard is "slow", but the process of pasting them in Excel is very fast (using "PASTE ALL"). Hence, this process of data collection we also called it as *"Slow and Sweeping"* method.

Thus, the raw data so collected for various students will be one single Stacked Master Column in B as shown in figure

(2). Note that the column A in figure (2) is an helper column, where the numbers 1,2,3 can be put using the Excel's fill-handle.
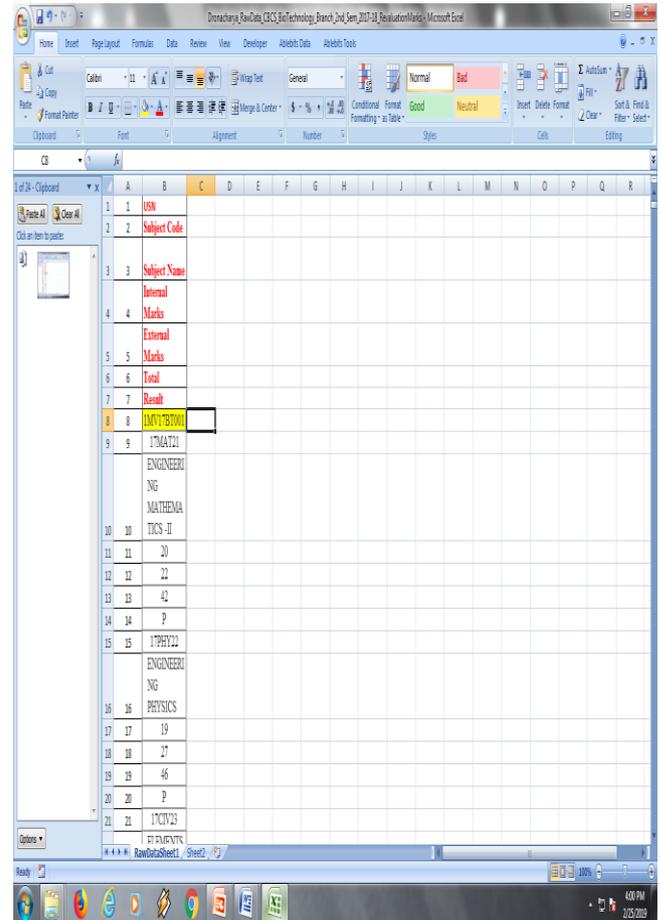
Figure (2): The Raw data is a big Master column B

We can also avoid copying the student name from the website, since, the student name can be recovered by using the official student list (in the format USN, Student Name) and on using the Vlookup function. This helps us to save time by avoiding 40 clicks for 40 students names.

IV. How to Segregate the Raw data student wise from this Stacked Master Column?

The Raw data of this big Stacked Master Column can be segregated student wise by setting up formulas in Excel [4]. Depending on the number of subjects (for example say 8 subjects), we have developed a template in excel namely "Template_8subject_Segregate_RawData_N_Use_SaveAs" to segregate the marks data student wise as shown in figure (3).

Figure (3): The student wise segregated data

This template has 3 sheets namely "Rawdata1", "Segregated Data", "StudentNames".

1) Paste the big Master column from the Dronacharya template to the sheet named "Rawdata1" in the cell B8.

2) We paste the USN & Student Name from the local student list in the sheet named "StudentNames".

3) The Vlookup formula is applied in the Sheet named "Segregated Data" to recover the student names from the respective USN (The search table is in the sheet named "StudentNames").

V. Conclusion

Having such a soft copy of the VTU Results is a go-green initiative. This paperless copy can be shared with others; lots of data-mining, result analysis, can be carried out and many vital reports can be generated subsequently by paperless method. Around 30 minutes of time spent on this labor of data collection for 40 students will be a very valuable investment for the entire semester.

References

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4) "Unstacking data in Excel",

https://www.youtube.com/watch?v=rscXNUlRsH0

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