CSE 587

PROJECT 2 PART 3

REPORT

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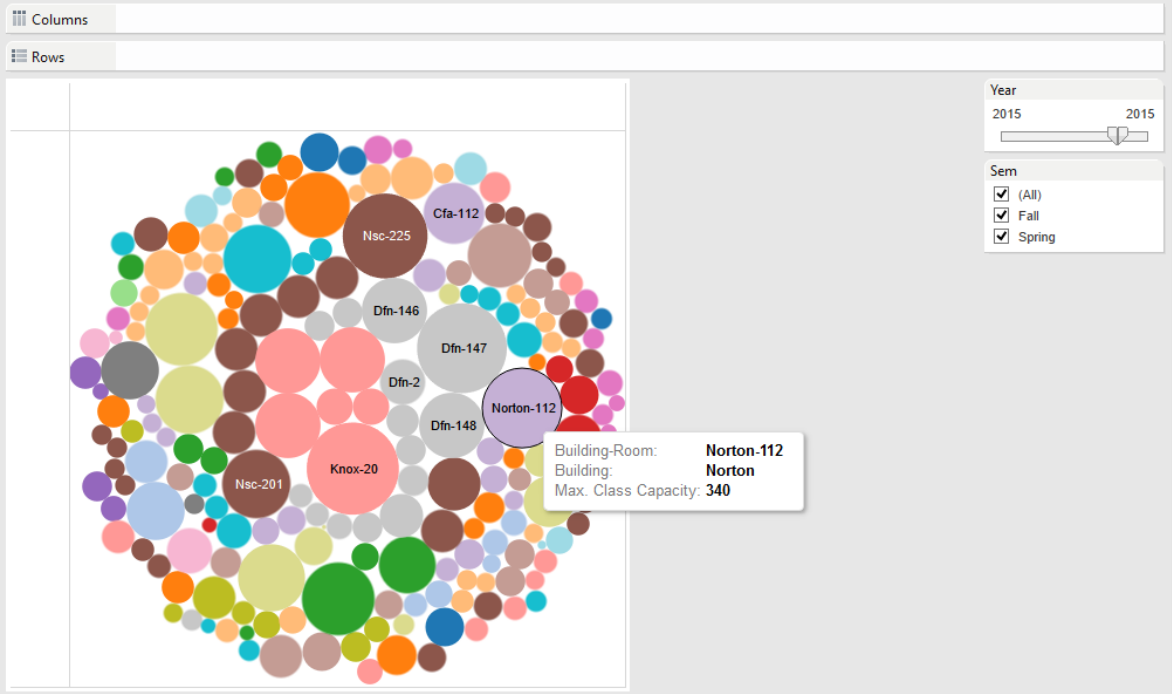
The theme that we chose for our story is that of classroom scheduling and utilization of space. Our story is titled “Analysis of Classroom Data to Aid in Better Scheduling of Classes and Examinations”. Through this story we aim to highlight some of areas where the space available is relatively good but poorly managed and the other way around.

The datasets provided give a good insight into the theme of our story and aided in better understanding of the scenario of scheduling that has been on for several years. Although we have data which dates way back in time, for this part of the analysis and storytelling we stick to more recent semesters, especially the current one – Spring 2016. The following screenshots will explain the flow of our story created using Tableau.

We begin our story with a simple analysis of all buildings to find out how many rooms exist in the given buildings.

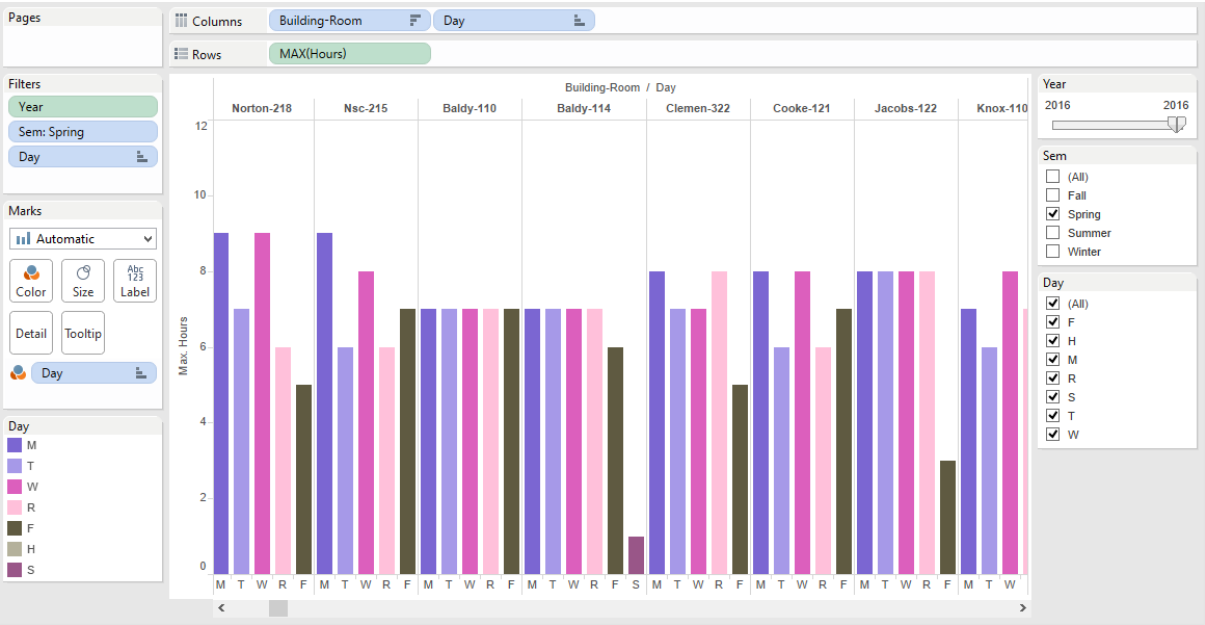
From the image above we can see that Baldy and Park are the buildings with highest number of rooms, and Parker and Jarvis are among the buildings with fewer rooms. This instantly gives us an idea as to which buildings need to be utilized more relatively.

The next graph analyzes the capacity of classrooms in each building to show which classrooms have the maximum capacity.



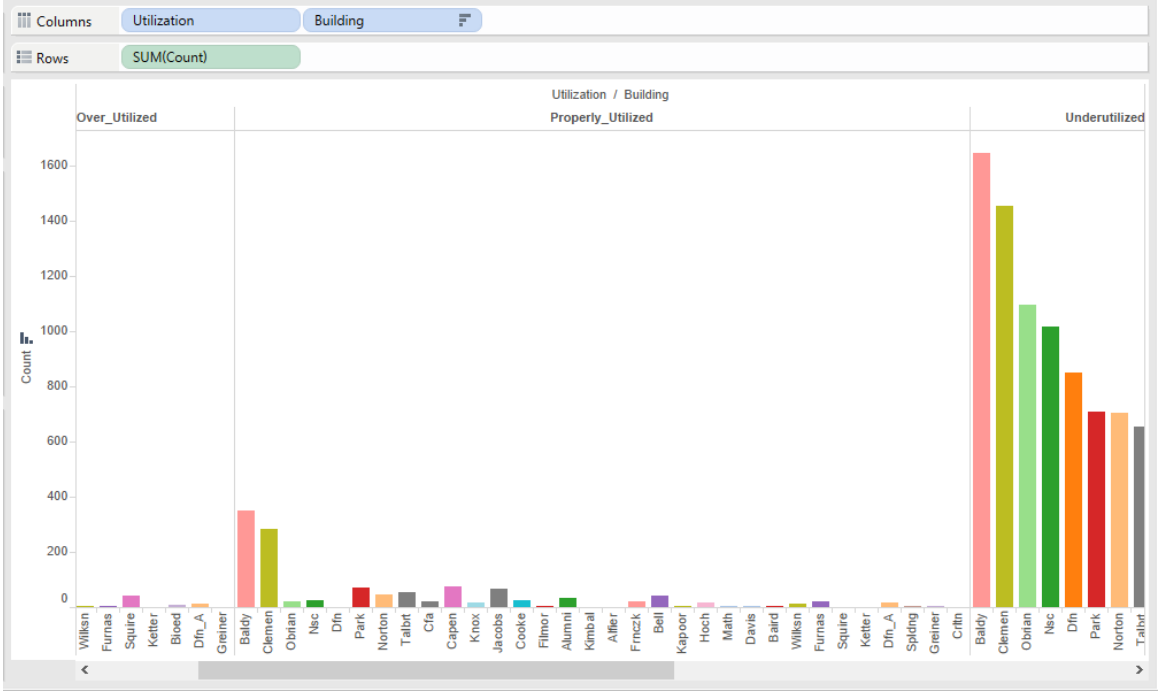
This image tells us which classrooms are the largest and the smallest and can prove beneficial while scheduling courses that have a very large (or very small) number of enrollments. It could ensure that the right classroom is assigned to the right courses.

In the next graph we show how many timeslots (by count) are occupied by each room on selected days of the week.



This image informs us about how many timeslots are occupied on selected days of the week, so that, if a particular room needs to be assigned to a class (based on capacity or other facility requirements) then we can see which days the class can be scheduled based on how many time slots are occupied on that day.

The following graph gives a summary of how a building was utilized.

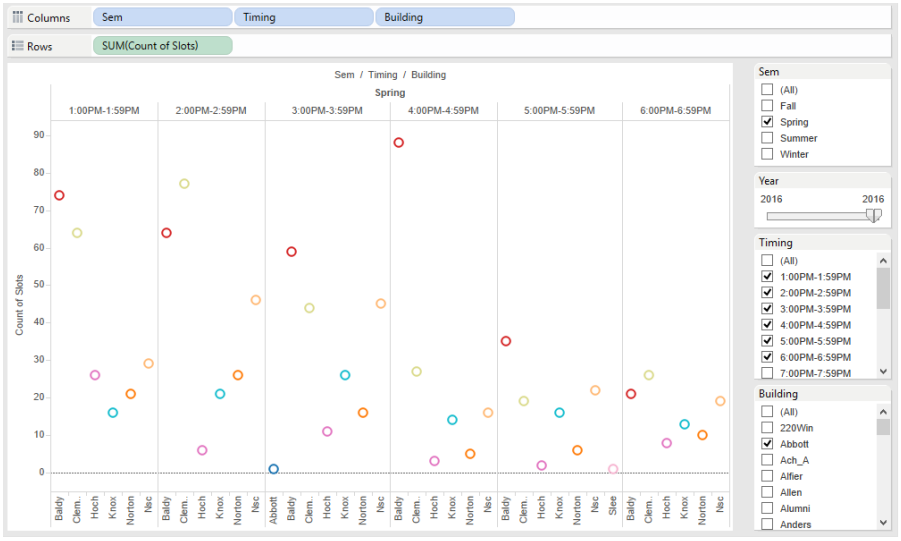


Based on the class capacity and number of enrollment the classes are categorized as Over Utilized, Under Utilized and Properly Utilized. It can be seen from the image what buildings were well utilized or poorly utilized or over utilized on how many occasions. This informs us with what frequency the rooms are utilized how much.

The following graph is a continuation on the analysis performed in the above graph.

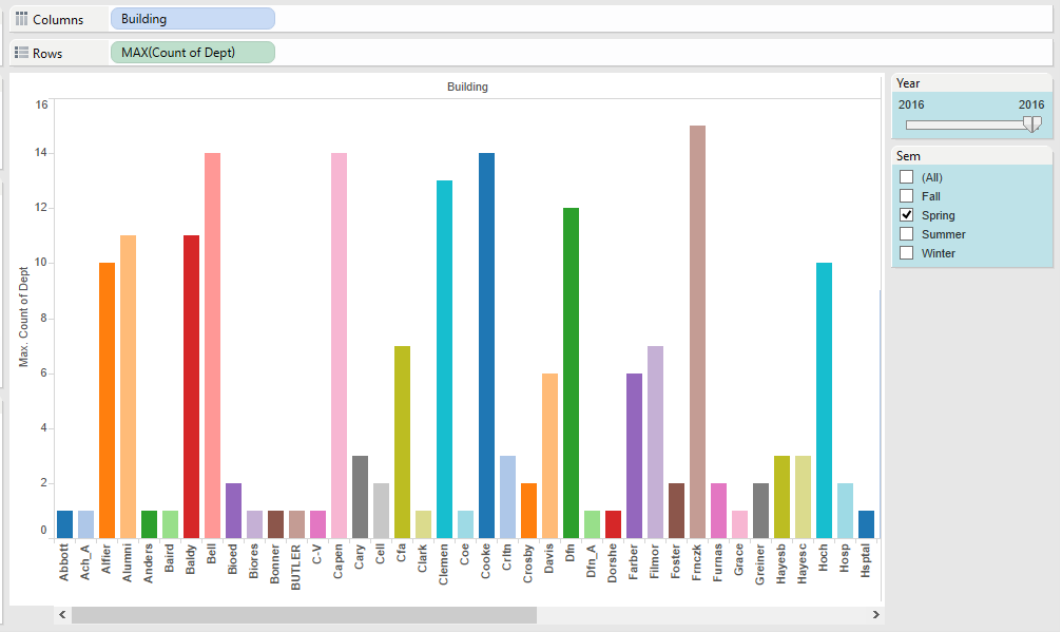
It highlights that most classrooms are underutilized as compared to properly utilized. This points to a flaw that space is being wasted instead of using it smartly.

The following graph shows the number of times that a building is used at some of the peak times of the day. We can compare each of them and find out which are the relatively lesser used buildings and classes could be scheduled there to even out the load on some of the other buildings

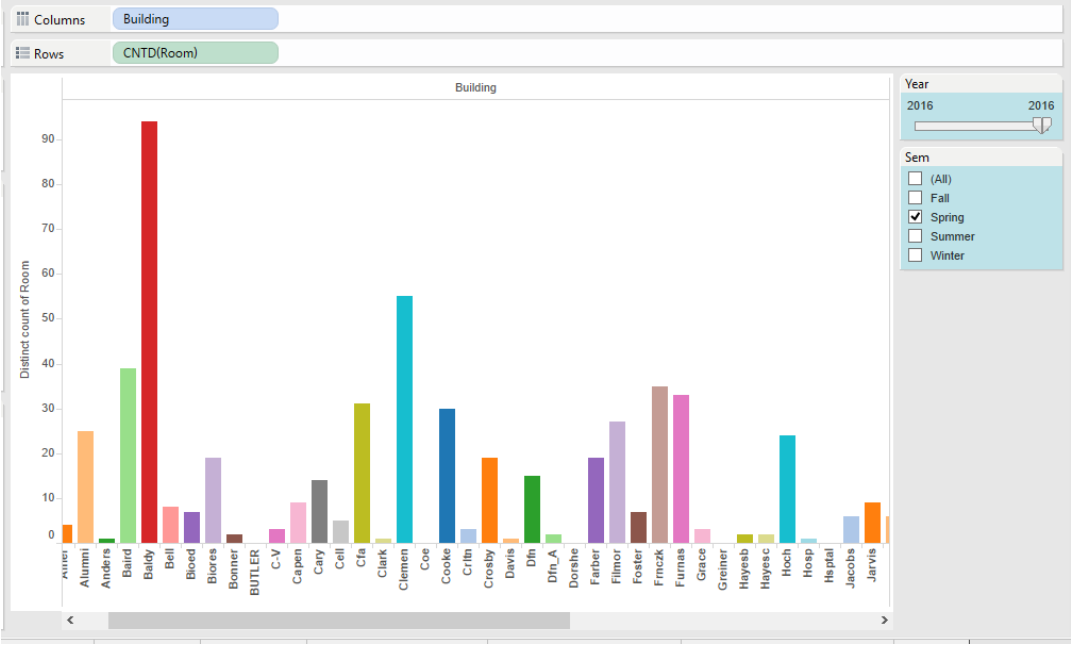


The following two graphs show the number of departments that teach in a given building during the selected semester and the number of halls that are available in the building.

This chart shows the count of Departments teaching in each of the buildings.



This chart gives the count of the number of halls in each building.



These two graphs show a comparison of how large the building is and how much it is being used. The graphs throw light on the fact there are several bigger buildings which have very few departments utilizing them and they should be used appropriately.

The final graph shows the scheduling of exams for a given semester. It shows the number of exams being held in a particular room of a building and the timings. This information can be used to schedule other exams or classes accordingly without having to worry about schedule clashes.

All the graphs have filters set which can be adjusted to view data of different sets.

We conclude that all of the above graphs throw light on the scheduling situation. They can be analyzed and the situation can be improved upon. We note that the space utilization is lagging in some ways and needs to be better suited with the growing number of students each year.

The link for the published story is given below:

https://public.tableau.com/profile/namita.marathe#!/vizhome/shared/9SHCXFXY3

OR

https://public.tableau.com/shared/5H3KRF5J5?:display_count=yes

The workbook is titled ClassScheduleStory.twbx and the sheet Story 1 is the Story.