ABSTRACT

High Bay Capacity Utilization Tool

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Northrop Grumman's Space Park facility has many inefficiencies in their highbay scheduling processes. Additionally, it is very hard for project managers to figure out the capabilities of each highbay in order to schedule their specific project. The purpose of this project is to develop a tool that can be used across the facility to easily create projects, assign projects, view room capabilities, and view a master schedule of the rooms.

After researching commercially available tools, our approach to designing this system was to use tools that are already utilized at the facility (Microsoft Suite and Tableau) and engineer the system to do exactly what we need it to do for this facility. The design is a relational database managed in Microsoft Access that links to Tableau for a detailed schedule for all the rooms along with facility layouts on Microsoft Visio to show each facility at any time. These three programs are tied together with a user interface in Microsoft Access and available across the entire network at the Space Park facility via Sharepoint.

While our system would have higher initial cost to train employees on, it would save significant operating costs each year. If this system were to be installed and utilized into Northrop Grumman's current operations, we estimate a cost savings between $10,000 and $25,000 over a ten year period.

However, we ran into problems with the implementation of our tool due to having to use assumed data for our project. Although it is possible to expand this system, it is a lengthy process to add parameters for rooms and change the base layout of our design. Our largest recommendation for this system is that Northrop Grumman uses the base layout of our system (including the relational database design, user interface, and data visualization) to create a new system that has actual parameters of the room. This will yield the same results as installing the system that we have developed.