

ABSTRACT

ADDRESSING THE EXISTENCE OF OVERCROWDING IN THE CAL POLY REC CENTER EXERCISE ROOMS

Josue Alvarez

Robert Hemphill

Cal Poly's Rec Center is a facility that has been extremely popular among students ever since its initial creation many decades ago. Despite its popularity being a positive quality in most ways, it does ultimately yield a certain issue for the users of the facility; the issue of overcrowding. This senior project aimed to analyze the problem of overcrowding at the Rec Center and improve upon its most critical areas of impact. Ultimately, we identified the Rec Center's exercise rooms as the most impacted area, with the issue of equipment unavailability being the largest factor. Thus, we designed alternative equipment layouts for each of the Rec Center's three exercise rooms. Each alternative layout was based upon the removal of low usage equipment and the duplication of high usage equipment. To gather data on the usage percentages of the most critical equipment in each exercise room, a thorough work sampling study of 50 trials was executed. In addition, two student-based surveys were executed during the completion of the project, to incorporate student feedback as much as possible. Many forms of statistical analysis were also performed to identify any constraints or assumptions resulting from project data.

The final deliverable for this project was two alternative layout versions for each of the Rec Center's three exercise rooms. These alternative versions are labeled within the report as the conservative layout and the aggressive layout. In the end, student feedback clearly indicated that students are deeply interested in the prospect of equipment replacement within the exercise rooms. However, the survey results did not heavily support either of the alternative layout versions as a clear favorite. In fact, a significant number of students preferred the current layouts over the alternative layouts. Nonetheless, the results were still positive overall for the alternative layouts, in comparison to the current layouts. This ultimately led to a specific recommendation of either the conservative layout or the aggressive layout for each of the three exercise rooms.