

INGENIERÍA EN SISTEMAS Y GRÁFICAS COMPUTACIONALES

**Class:** Simulation and visualization

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**Project:** Dashboard

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Deciding on chart types

1. Pie Chart: Production Results

For this chart we wanted to make a comparison on products that were successfully made and products that were faulty, we wanted to give a quick overview of the production outcome to assess the quality control process's effectiveness.

2. Column Chart: Production Outcome Comparison

Here the goal was to compare the final production, faulty products, and successful products, we wanted to provide a detailed breakdown of production outcomes. Our goal with this chart was to make it easier to understand the relative quantities of different types of products produced, in a real-life situation this could help to facilitate decision-making and process improvement.

3. Line Chart: Downtime per Station vs. Average Fixing Time

We thought it would be easier to analyze workstation downtime and average fixing time with a line chart since this chart helps identify patterns in workstation downtime and compares it to the average fixing time. With the results we got we are not sure that this was the best chart to use but since it shows the efficiency of maintenance and repair processes across workstations clearly, we decided to use it anyways.

4. Stacked Bar Chart: Workstation Metrics

Lastly, we wanted a detailed comparison of workstation metrics within the manufacturing facility, we decided to use a stacked bar chart and compare occupancy and downtime metrics for each workstation so it would be easier to see each workstation's performance and areas for improvement.

Challenges

The biggest challenge we encountered was the programming of the simulation, we tried several different things but sometimes we had errors on the outputs, we had issues with the clock, or we ran the code, and we got some results and after running it again the results changed, we tried to use different code variations but we decided to keep the one that was working the best.

Another issue that we encountered was to choose which chart types to use for which information, we solved this by discussing as a team while watching the data visualization catalog, in the end we decided on the four charts we used.