**Pharmacy Simulation**

**Data Collection**
For the data collection we used some information that was provided by our sponsor, some estimates from experts, and time studies from three different pharmacies.

<table>
<thead>
<tr>
<th>Pharmacy</th>
<th>Daily Script Volume</th>
<th>Staffing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small Pharmacy</td>
<td>120</td>
<td>1 Pharmacist 1 Technician</td>
</tr>
<tr>
<td>Medium Pharmacy</td>
<td>450</td>
<td>Up to 2 Pharmacists Multiple Technicians</td>
</tr>
<tr>
<td>Large Pharmacy</td>
<td>600+</td>
<td>Multiple Pharmacists Multiple Technicians</td>
</tr>
</tbody>
</table>

**Data Analysis**
From the data collected at the different pharmacies we used the Arena Input Analyzer to determine the different distributions that would later be used in the simulation. We also used some Excel techniques to obtain hourly demand.

**Problem Statement**
Parata’s clients want to know their staffing utilization, maximum prescription capacity, and the impact of automation. A customizable Arena simulation has been created to provide clients with these answers. The ultimate goal of the simulation is to help Parata persuade their clients to purchase automation equipment to increase efficiency and output.

**The Pharmacy Process**
- Script Enters System
- Data Entry
- Prescription Verification
- Fill
- Prescription Verification
- Will Call
- Pickup

**The Simulation**
- Cash Register
- Telephone
- Maintenance
- Data Entry
- Filling
- Utilization Graph
- Finish

**Output Analysis**
Using the output from multiple scenarios we found quantifiable differences between the various methods for filling prescriptions.

**Results**
From the output we found that the Max and the Mini could handle large volumes of prescriptions more effectively with demand growth.

**The Automation Machines**
- Kalli Hulse, Ivey Starr, Brandon Gaster