**Summary Report and CPU & Memory plots**

**Number of User: 1**

Graphical user interface, text, application

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Chart

Description automatically generated with medium confidence

**Number of User: 2**

Graphical user interface, application

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Chart

Description automatically generated

**Number of User: 3**

Graphical user interface, text, application

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Chart

Description automatically generated

**Number of User: 4**

Graphical user interface, text, application

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Chart

Description automatically generated

**Number of User: 5**

**Graphical user interface, text, application

Description automatically generated**

Chart

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

**Number of User: 10**

**Graphical user interface, application

Description automatically generated**

Chart

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

**Number of User: 15**

**Graphical user interface, text, application

Description automatically generated**

A screenshot of a computer

Description automatically generated with medium confidence

Chart

Description automatically generated

**Number of User: 20**

**Graphical user interface

Description automatically generated**

A screenshot of a computer

Description automatically generated with medium confidence

Chart

Description automatically generated

**Number of User: 25**

Graphical user interface, application

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Chart

Description automatically generated

**Number of User: 50**

Graphical user interface, text, application

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Chart

Description automatically generated

MS Excel chart showing the Average Response Time vs. Number of Users

**Explanation of your results**

As the number of users increased so did the average response time needed as demonstrated in the graph above. Average response time increase as time required to process request also increases. As per my activity manager graph screenshots, it shows that as the users gradually increased so did the load gradually on CPU with 50 users having the most amount of load on CPU (of 28%) and 1 user having the least (of 4%). As for the memory there was no significant increase until the test of 20 users was conducted and there was significant increase in memory usage for 20, 25 and 50 users.

Performance bottleneck can occur due to many elements. CPU bottleneck can occur if the system runs for a prolong time at a very high capacity or if the system memory is low. Memory Bottleneck can occur if there is a high capacity of users or if the number of users is more than the system can handle. An example is if more than 100 users are tested may cause bottleneck. A major increase in users is a cause of performance bottleneck; as shown in my activity manager graph, with the gradual increase in users the memory usage and CPU usage was increasing drastically and after a certain number of users it would’ve caused performance bottleneck on my system.

One of the factors that could influence the performance of the website when it’s released to production is if the website has bad hosting. Also, if heavy CSS and JS or other modifications like widgets or plugins are added to the website later may also affect the performance of the website. If the number of users visiting the website is more than its processing power and memory to handle that number of users can also affect it postproduction. Having a high traffic of users without bandwidth that can accommodate the users will not only risk a slower website speed, but a complete shutdown. Also having vulnerability of website security may affect the website postproduction.