

Background

Virtual Reality is one of the greatest technological advancements throughout history. However, virtual Reality comes with great challenges, which are software and hardware related. With hardware, some of the most prominent issues are followed:

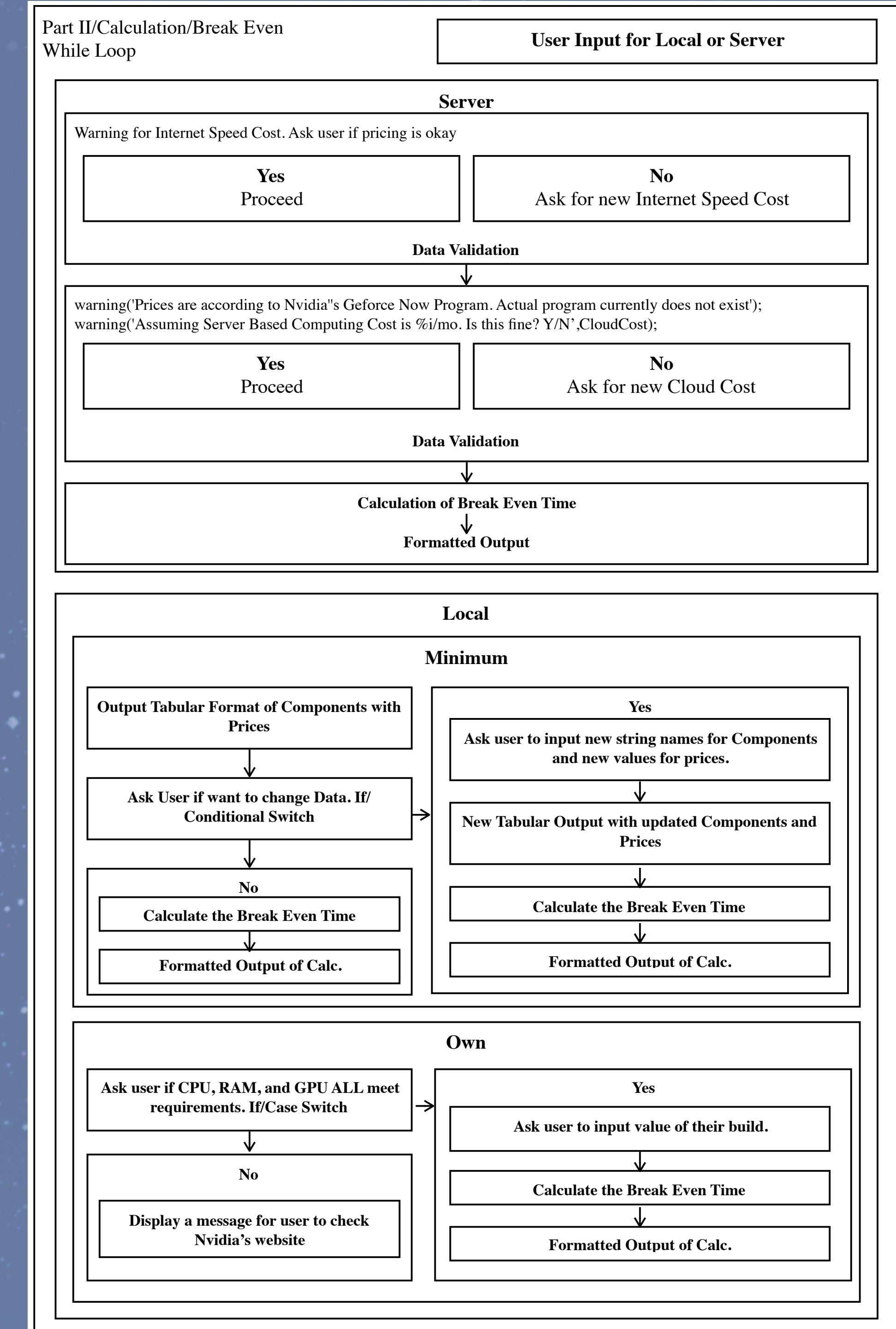
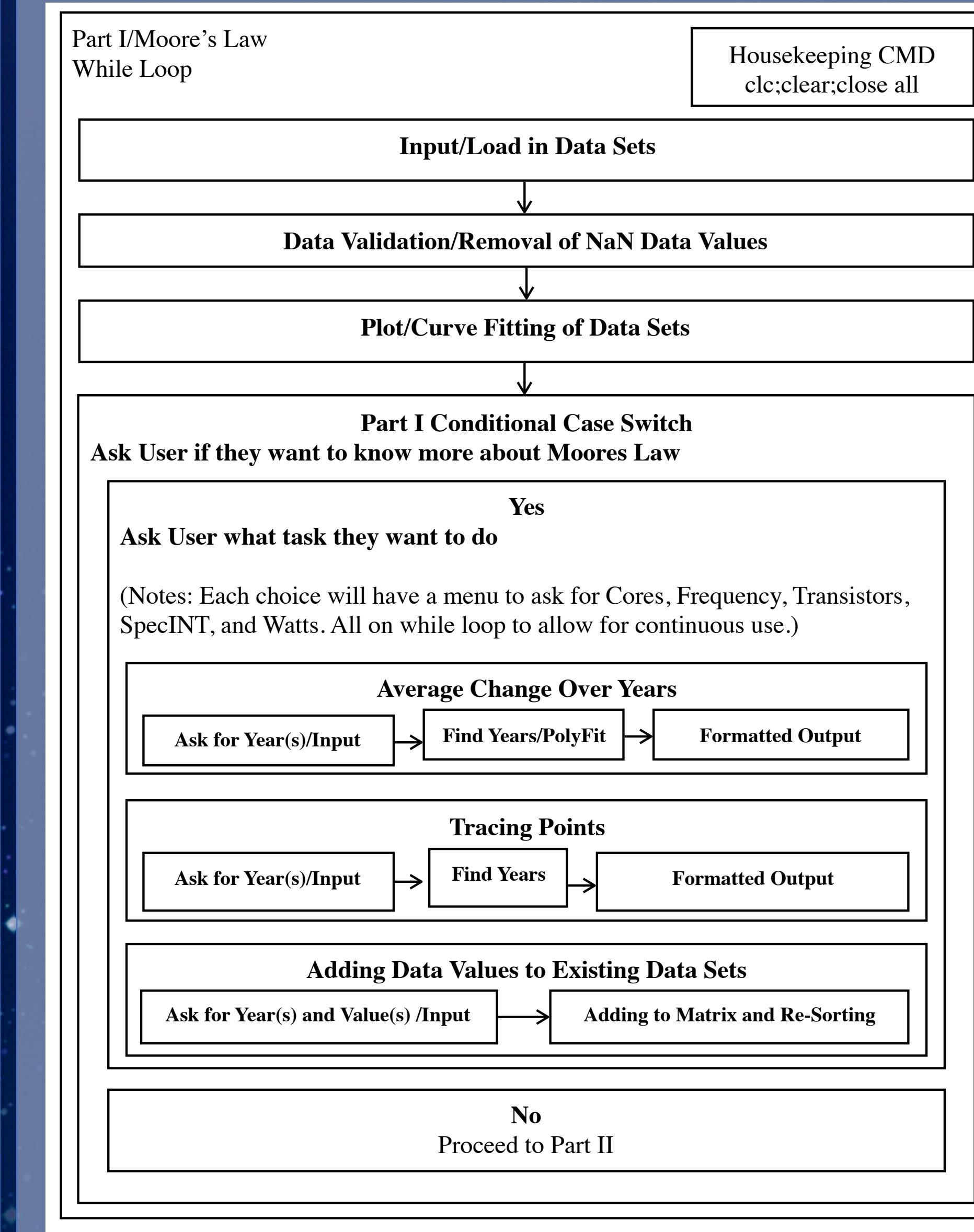
- Moore's law no longer being in effect
- There are huge tradeoffs, if you want mobility from Virtual Reality, you have to give up performance and vice versa

Recently, there has been attempts to provide users seamless VR experience over the cloud without needing high end hardware, but the cost may not be effective over time.

What our program attempts to achieve is the following:

- Ability to tell user how Moore's Law is changing over time
- Give user the ability to see whether Cloud Based or Local Based VR is cheaper over a certain amount of time by providing user the break even time against the other option

Algorithm



Test Case/Results

Follow these steps for the expected process and output:

1. Choose Yes from the menu (Figure 2)
2. Choose Average Change Over Years (Figure 3)
3. Choose Transistors (Figure 4)
4. Enter [1980;2015]
5. Program should ask again (Figure 5)
6. Choose Yes
7. Choose Add Data Values to Existing Data Sets (Figure 3)
8. Choose Transistors (Figure 4)
9. Enter [1960;2011;2019]
10. Enter [40;8000;20000]
11. Program should ask again (Figure 5)
12. Choose Yes
13. Choose Tracing Points
14. Enter 1960
15. Program should ask again (Figure 5)
16. Choose Yes
17. Choose Average Change Over Years (Figure 2)
18. Enter [1980;2019]
19. Program should ask again (Figure 5)
20. Choose No

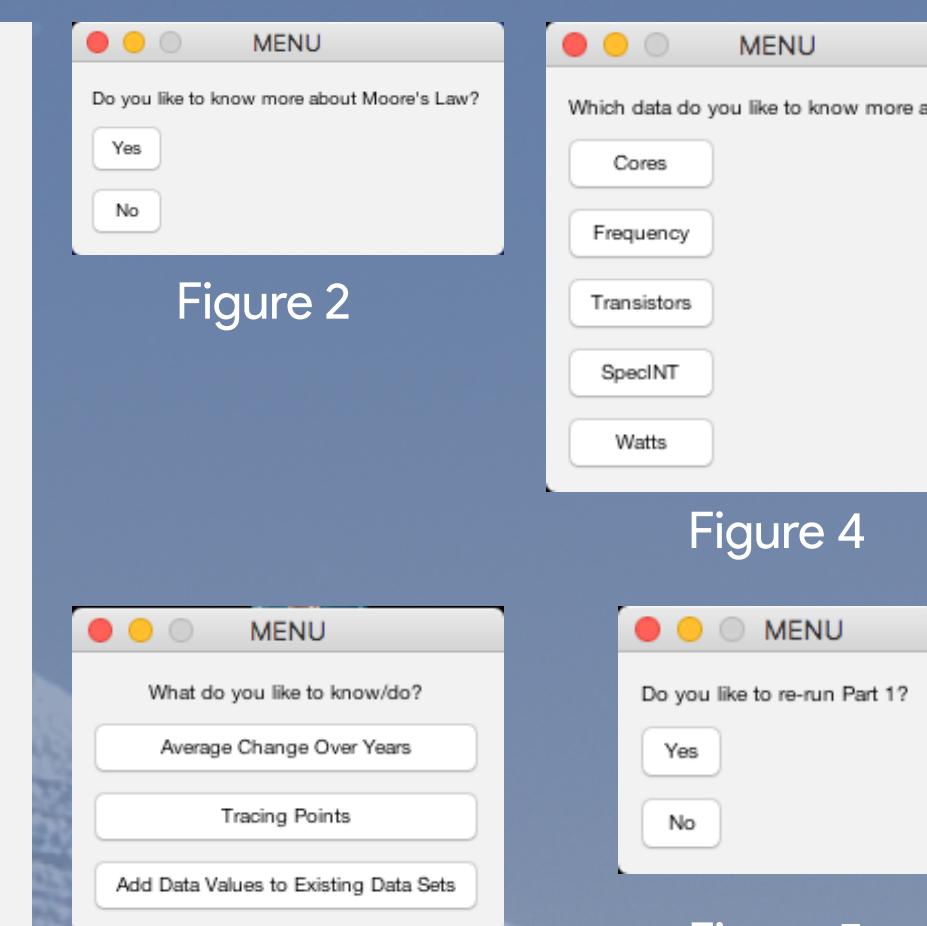
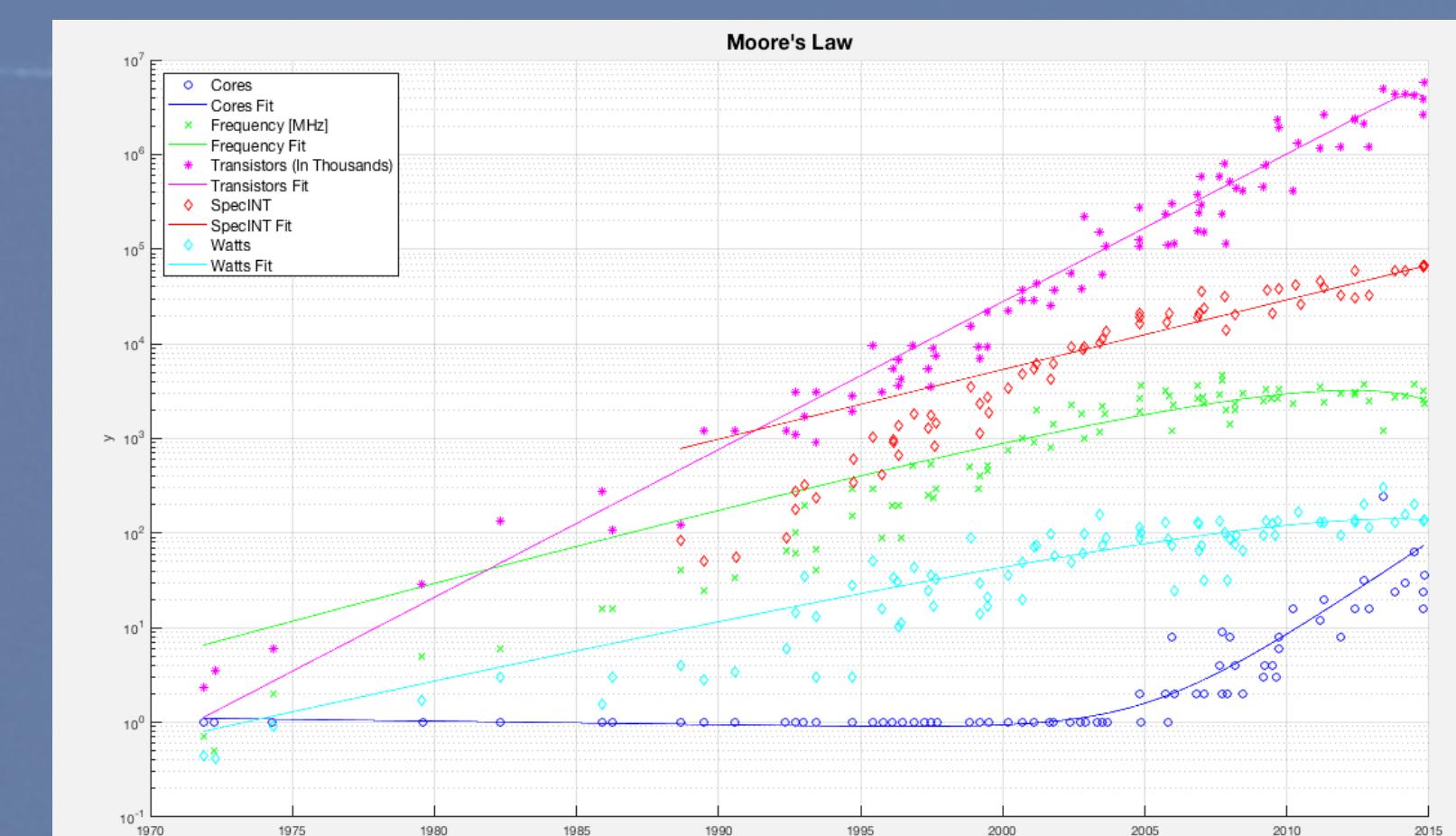


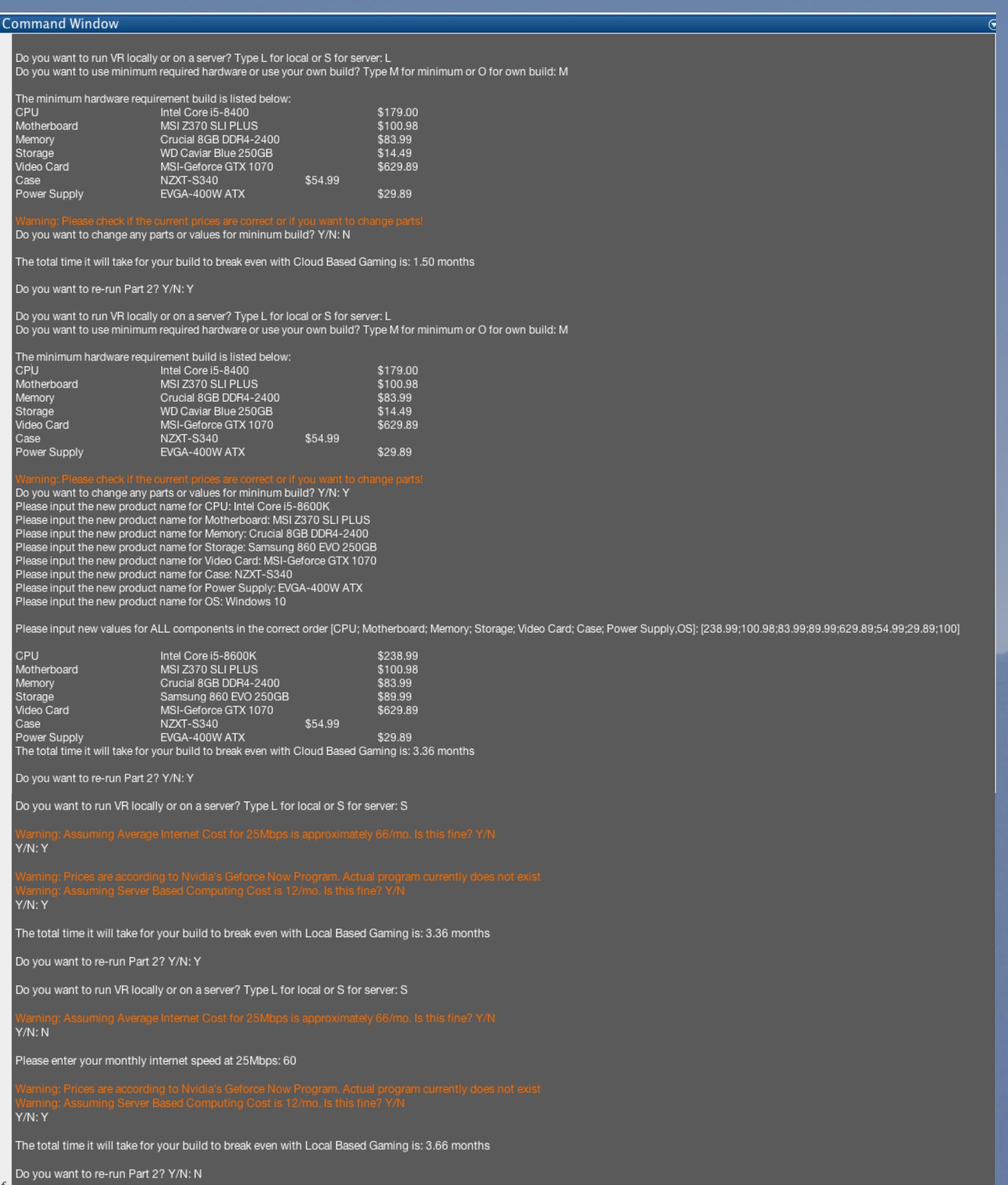
Figure 3



Figure 4

Follow these steps for the expected process and output:

1. When prompted to enter L or S, Enter L
2. When prompted to enter M or O, Enter M
3. When prompted to enter Y or N, Enter N
4. When prompted to enter Y or N, Enter Y to re-run Part 2
5. When prompted to choose L or S, Enter L
6. When prompted to enter M or O, Enter M
7. When prompted to enter Y or N, Enter Y
8. Enter Intel Core i5-8600K
9. Enter MSI Z370 SLI Plus
10. Enter Crucial 8GB DDR4-2400
11. Enter Samsung 860 EVO 250GB
12. Enter MSI-Geforce GTX 1070
13. Enter NZXT-S340
14. Enter EVGA-400W ATX
15. Enter Windows 10
16. Enter [238.99;100.98;83.99;89.99;629.89;54.99;29.89;100]
17. When prompted to enter Y or N, Enter Y to re-run Part 2
18. When prompted to enter M or O, Enter S
19. When prompted to enter Y or N, Enter Y
20. When prompted to enter Y or N, Enter Y
21. When prompted to enter Y or N, Enter Y to re-run Part 2
22. When prompted to enter M or O, Enter S
23. When prompted to enter Y or N, Enter N
24. When prompted to enter Y or N, Enter N to end Part 2



Conclusion/Limitations

Conclusion

- The program can be used in the future for the main goals described in the background
- The user will only have to update the data sets; however calculations should still be the same

Limitations

- Data Sets have not been updated as of 2015, so Moore's Law cannot be truly said to be non-existent
- Cloud Computing for VR service currently does not exist, so we assumed pricing for an equivalent service called Nvidia's Geforce NOW
- Algorithm is not able to take into account for more specifics in break even time calculations such as power consumption
- User's perception of decent VR experience will vary greatly and change minimum hardware requirements vastly