According to my research requested by the company I have found that the maximum amount of possible avatars at one time is 68 male and 46 female. At these numbers we reach the full potential in the amount of disposable memory and the limit of allowable frame rate. Our load time is quite low with 1.4-second load time. A spreadsheet below shows the results of this maximum output.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **M** | **F** | **Sign** | **Limit** | **Amount** | **Slack** |
| **Max Avatars** | 1 | 1 | = | Max | 114 |  |
| Memory | 64 | 128 | ≤ or ≥ | 10240 | 10240 |  |
| Load Time | 12 | 12 | ≤ or ≥ | 2000 | 1368 |  |
| Frame Rate | 1 | 0.5 | ≤ or ≥ | 91 | 91 |  |
|  | **Solutions** | |  |  |  |  |
|  | **M** | **F** |  |  |  |  |
|  | 68 | 46 |  |  |  |  |

How ever we should prepare for a more balanced avatar setup. If we keep it restricted to 54 male and 53 female avatars we can have a much more balanced setup. We will max out our memory capabilities but our load time and frame rate will be improved. The frame rate loss will come 80.5 frames, maintaining almost 40fps. Our load time will be kept at 1.3 seconds. Which is an improvement 0.1-second load time and 10.5 frames per second faster.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **M** | **F** | **Sign** | **Limit** | **Amount** | **Slack** |
| **Max Avatars** | 1 | 1 | = | Max | 107 |  |
| Memory | 64 | 128 | ≤ or ≥ | 10240 | 10240 |  |
| Load Time | 12 | 12 | ≤ or ≥ | 2000 | 1284 |  |
| Frame Rate | 1 | 0.5 | ≤ or ≥ | 91 | 80.5 |  |
|  | **Solutions** | |  |  |  |  |
|  | **M** | **F** |  |  |  |  |
|  | 54 | 53 |  |  |  |  |

Thank you and I hope you take these values into consideration for the improvements to the program.

-William Koepp