

All the schema's blue rectangles are conceptually considered as stand-alone components and have their own functions. Every component needs the following information:

- A buffer to read from.
- A buffer to write to.
- A semaphore declaring availability to read.
- A semaphore declaring whether the component is busy (processes an item).

At the start of the program, the main function sets up the semaphores and the shared memory segments and then creates 8 forked children, one for each component. Every child calls its respective function and runs on it for the rest of the program. Once all children are done, main is responsible for cleaning up the allocated semaphores and shared memory segments, before finishing the program.

# of each part	Avg paint waiting time	Avg total creation time
100	1.568444	0.906766
200	1.711730	0.915727
500	1.058162	0.722730
1000	0.994539	0.744652
2000	1.373293	0.800621

The reports show an irrelevance of the # of parts on the average waiting and creation time.