CSE 344 Systems Programming Midterm Report

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In this midterm project we had to simulate producer consumer problem via COVID-19 vaccination.

In order to solve that problem, i prefered to use shared memory to share semaphores,

I gathered all the semaphores in a struct which is called syncronizer_t. Created one static instance of this struct in order to seen by every function and share state of the member variables.

I used 7 semaphore.

These are;

- Buffer_full
- Buffer_empty
- Storage_mutex
- Vac1_count
- Vac2_count
- Vacroom_mutex
- Vacciti_mutex

First three semaphore/mutex are check if the buffer is empty or not and avoid colision.

Vac1_count and vac2_count are counting semaphores and these are our buffer at same time.

Vaccinator checks these if they have vax or not.

In this midterm, i coul not achieve to make processes syncronously.

It gets stuct while waiting citizen into vaccine room. Or it waits for shot 2 even if the citizen didnt have shot1. Or sometimes citizen get vaccinated but it get stuck. I couldnt solve this problem

Nurses reading file syncronously, But since the deadlock problem i mentioned above. İt doesnt read entire file.

There is an unlink error on sighandler. I could not solve that too.