ADVANCED OPERATING SYSTEMS (FA15-BL-CSCI-P536-36187)

Assignment 4 - Futures Part 1

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Tasks done by us and functions in the assignment

Principally we have created these files

producer_future.c - It produces a value which is summation of numbers till 999. I also sets the value of the future which is passed as a pointer argument to it when it is being created.

consumer_future.c - It consumes the value by the system call future_get(). If it gets a status as OK, it knows that the future value has been produced and will print it.

future_alloc.c - It allocates a future and initializes it with the state as FUTURE_EMPTY and the pid as NULL PROC

future_free.c - It will deallocate the memory allocated to the future.

future_get.c - It waits for the value to be added to the future and if the value is not available (means the state is FUTURE_EMPTY) it waits on it to be produced.

future_set.c - It sets the value for the future and sets it state to FUTURE_VALID.

Files modified

xsh_prodcons.c - We have added handling for a flag “-f” which switches the semaphore based logic of producer consumer to futures implementation.

Tasks

Pralhad Sapre - Created the files producer_future.c, consumer_future.c and modified xsh_prodcons.c

Srivatsan Iyer - Created the system calls future_alloc.c, future_free.c, future_get.c and future_set.c