

SSN COLLEGE OF ENGINEERING, KALAVAKKAM
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CS6413 - OPERATING SYSTEM LAB

Lab Exercise 6 InterProcess Communications using Shared Memory

Aim:

Develop the following applications that uses interprocess communication concepts using shared memory.

1. Develop an application for getting a name in parent and convert it into uppercase in child using shared memory.
2. Develop an client / server application for file transfer using shared memory.
3. Develop an client/server chat application using shared memory.

Some Examples :

Shared memory :

```
#include <sys/ipc.h>
# define NULL 0
#include <sys/shm.h>
#include <sys/types.h>
# include<unistd.h>
# include<stdio.h>
# include<stdlib.h>
# include<string.h>
#include <sys/wait.h>
#include <stdio_ext.h>
```

```
// parent writing a char in shared memory and child reads it and prints it.
```

```
int main()
{
int pid;
char *a,*b,c;
int id,n,i;
// you can create a shared memory between parent and
child here or you can create inside
them separately.
id=shmget(111,50,IPC_CREAT | 00666);
pid=fork();
if(pid>0)
{
// id=shmget(111,50,IPC_CREAT | 00666);
```

```
a=shmat(id,NULL,0);
a[0]='d';
wait(NULL);
shmdt(a);
}
else
{
sleep(3);
//id=shmget(111,50,0);
b=shmat(id,NULL,0);
printf("\n child %c\n",b[0]);
shmdt(b);
}
}
```