Submitted By:
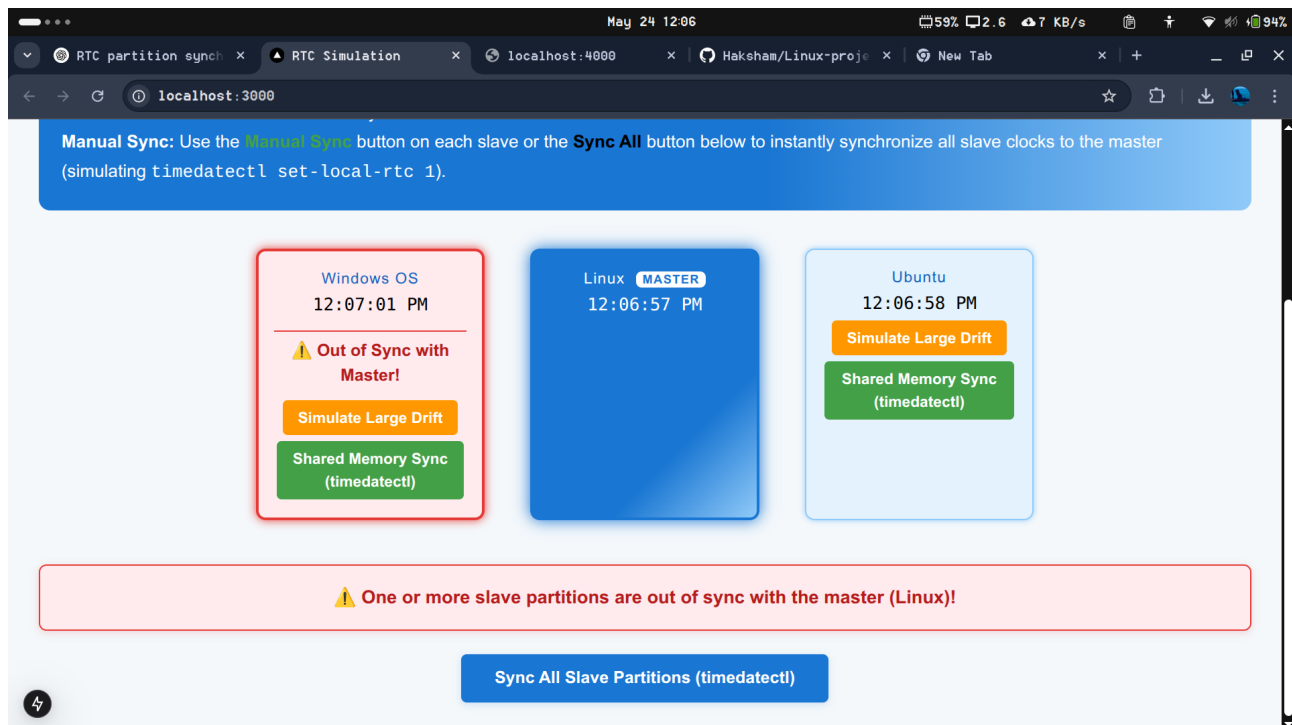Harshvardhan Mehta (1MS22CS062)
Kartik Hegde (1MS22CS076)

Frontend

Backend commands and outputs:

```
[  505.897882] rtc_sync: loading out-of-tree module taints kernel.
[  505.897896] rtc_sync: module verification failed: signature and/or required key missing - tainting kernel
[  505.904313] rtc_shm: Module loaded
```

```
[  310.683393] audit: type=1326 audit(1748065454.319:257): auid=1004 uid=1004 gid=1004 ses=3 subj=snap.snapd-desktop-integration.snapd-desktop
-integration pid=4794 comm="snapd-desktop-i" exe="/snap/snapd-desktop-integration/253/usr/bin/snapd-desktop-integration" sig=0 arch=c000003e s
yscall=203 compat=0 ip=0x782fb1a02531 code=0x50000
[  310.683460] audit: type=1326 audit(1748065454.319:258): auid=1004 uid=1004 gid=1004 ses=3 subj=snap.snapd-desktop-integration.snapd-desktop
-integration pid=4794 comm="snapd-desktop-i" exe="/snap/snapd-desktop-integration/253/usr/bin/snapd-desktop-integration" sig=0 arch=c000003e s
yscall=203 compat=0 ip=0x782fb1a02531 code=0x50000
[  310.683475] audit: type=1326 audit(1748065454.319:259): auid=1004 uid=1004 gid=1004 ses=3 subj=snap.snapd-desktop-integration.snapd-desktop
-integration pid=4794 comm="snapd-desktop-i" exe="/snap/snapd-desktop-integration/253/usr/bin/snapd-desktop-integration" sig=0 arch=c000003e s
yscall=203 compat=0 ip=0x782fb1a02531 code=0x50000
```

```
open: No such file or directory
cselab1@rit:~/linux$ sudo insmod rtc_sync.ko
cselab1@rit:~/linux$ sudo ./a.out
Shared Memory RTC Time:
  Seconds      : 94145818104480
  Nanoseconds : 0
cselab1@rit:~/linux$
```

```
cselab1@rit:~/linux$
cselab1@rit:~/linux$ ls -l /dev/rtc_shm
crwxrwxrwx 1 root root 234, 0 May 24 11:17 /dev/rtc_shm
cselab1@rit:~/linux$ sudo dmesg | grep rtc_shm
[  505.904313] rtc_shm: Module loaded
[  758.622858] rtc_shm: Updated time to: 1748065902.261520479
[  781.458285] rtc_shm: Synced system time to: 1748065902.261520479
cselab1@rit:~/linux$
```

```
cselab1@rit:~/linux$ sudo insmod rtc_sync.ko
cselab1@rit:~/linux$ sudo dmesg | grep rtc_shm
[  505.904313] rtc_shm: Module loaded
[  758.622858] rtc_shm: Updated time to: 1748065902.261520479
[  781.458285] rtc_shm: Synced system time to: 1748065902.261520479
[ 1275.391553] rtc_shm: Module unloaded
[ 1365.259017] rtc_shm: Module loaded
cselab1@rit:~/linux$ sudo dmesg | grep rtc_shm
```

Commands:

- make
- sudo insmod rtc_sync.ko
- sudo dmesg | grep rtc_shm
- ls -l /dev/rtc_shm
- cat /dev/rtc_shm
- gcc rtc_slave.c -o rtc_slave
- sudo ./rtc_slave
- sudo rmmod rtc_sync