

Code Modification Report

I. Makefile

- Line 3 & 4

```
CS333_PROJECT ?= 1
PRINT_SYSCALLS ?= 1
```

(Untuk System Call Tracing)
- Line 16

```
CS333_UPROGS += _date
```

II. User.h

- Line 29 – 31

```
#ifdef CS333_P1
int date(struct rtcdate*);
#endif // CS333_P1
```

III. Usys.s

- Line 33

```
SYSCALL(date)
```

IV. Syscall.h

- Line 25

```
#define SYS_date    SYS_halt+1
```

V. Syscall.c

- Line 109 – 111

```
#ifdef CS333_P1
extern int sys_date(void);
#endif // CS333_P1
```
- Line 139 – 141

```
syscalls[]
#ifdef CS333_P1
[SYS_date]    sys_date,
#endif // CS333_P1
```
- Line 170 – 172

```
syscallnames[]
#ifdef CS333_P1
[SYS_date]    "date",
#endif // CS333_P1
```

- Line 184 - 186

```
syscalls()
#ifdef PRINT_SYSCALLS
cprintf("%s -> %d\n", syscallnames[num], curproc->tf->eax);
#endif
```

VI. Sysproc.c

- Line 101 – 112

```
#ifdef CS333_P1
int
sys_date(void)
{
    struct rtcdate *d;

    if(argptr(0, (void*)&d, sizeof(struct rtcdate)) < 0)
        return -1;
    cmostime(d);
    return 0;
}
#endif // CS333_P1
```

VII. Proc.c

- Line 567 – 571

```
procdumpP1()
    uint elapsed = ticks - p->start_ticks;
    uint elapsed_second = elapsed/1000;
    uint elapsed_millisecond = elapsed % 1000;

    cprintf("%d\t%s\t\t%d.%d\t%s\t%d\t",
p->pid,p->name,elapsed_second,elapsed_millisecond,state_string,p-
>sz);
```

VIII. Proc.h

- Line 53 – 55

```
#ifdef CS333_P1
uint start_ticks;           // Control-p
#endif
```