Project 2 Test Report

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January 20, 2020

Introduction

The following test report documents the tests performed for project two. The test cases and strategies closely follow the project two rubric.

Each section contains test cases related to the sections topic. Each test case will describe the name of the test, the expected result, actual result, as well as a discussion and indication of the Pass/Fail status. The actual result will be provided in the form of a screen shot of the console.

Compilation

This section presents all tests related to compiling the xv6 kernel. Test cases follow closely those outlined in the rubric.

Test Case: *With CS333_PROJECT set to 0 in the Makefile*
Assertions:

1. Code correctly compiles
2. Kernel successfully boots

Status: **PASS**

```
|20:01:33|adupree@ada:[xv6-pdx]> grep "PRINT_SYSCALLS ?=" Makefile
PRINT_SYSCALLS ?=0
|20:02:01|adupree@ada:[xv6-pdx]> make clean run
rm -f *.tex *.dvi *.idx *.aux *.log *.ind *.ilg \
*.o *.d *.asm *.sym vectors.S bootblock entryother \
initcode initcode.out kernel xv6.img fs.img kernelmemfs \
xv6memfs.img mkfs .gdbinit \
_cat _echo _forktest _grep _init _kill _ln _ls _mkdir _rm _sh _stressfs _usertests _wc _zombie  _halt
rm -rf dist dist-test
make -s clean
make -s qemu-nox
nmeta 59 (boot, super, log blocks 30 inode blocks 26, bitmap blocks 1) blocks 1941 total 2000
balloc: first 582 blocks have been allocated
balloc: write bitmap block at sector 58
boot block is 448 bytes (max 510)
10000+0 records in
10000+0 records out
5120000 bytes (5.1 MB, 4.9 MiB) copied, 0.160216 s, 32.0 MB/s
1+0 records in
1+0 records out
512 bytes copied, 0.00954813 s, 53.6 kB/s
315+1 records in
315+1 records out
161360 bytes (161 kB, 158 KiB) copied, 0.017853 s, 9.0 MB/s
xv6...
cpu1: starting 1
cpu0: starting 0
sb: size 2000 nblocks 1941 ninodes 200 nlog 30 logstart 2 inodestart 32 bmap start 58
init: starting sh
$
```

Figure 1: Compilation and boot with CS333_PROJECT set to 0.

The command `grep "CS333_PROJECT ?=" Makefile` shows that the CS333_PROJECT define is truly set to 0. The following command `make clean run` demonstrates that the code correctly compiles successfully boots. Furthermore, the commands were executed within seconds of each other, indicating that tampering is not a possibility.

Test Case: *With CS333_PROJECT set to 2 in the Makefile*
Assertions:

1. Code correctly compiles
2. Kernel successfully boots

Status: **PASS**

```
|20:01:33|adupree@ada:[xv6-pdx]> grep "PRINT_SYSCALLS ?=" Makefile
PRINT_SYSCALLS ?=0
|20:02:01|adupree@ada:[xv6-pdx]> make clean run
rm -f *.tex *.dvi *.idx *.aux *.log *.ind *.ilg \
*.o *.d *.asm *.sym vectors.S bootblock entryother \
initcode initcode.out kernel xv6.img fs.img kernelmemfs \
xv6memfs.img mkfs .gdbinit \
_cat _echo _forktest _grep _init _kill _ln _ls _mkdir _rm _sh _stressfs _usertests _wc _zombie  _halt
rm -rf dist dist-test
make -s clean
make -s qemu-nox
nmeta 59 (boot, super, log blocks 30 inode blocks 26, bitmap blocks 1) blocks 1941 total 2000
balloc: first 582 blocks have been allocated
balloc: write bitmap block at sector 58
boot block is 448 bytes (max 510)
10000+0 records in
10000+0 records out
5120000 bytes (5.1 MB, 4.9 MiB) copied, 0.160216 s, 32.0 MB/s
1+0 records in
1+0 records out
512 bytes copied, 0.00954813 s, 53.6 kB/s
315+1 records in
315+1 records out
161360 bytes (161 kB, 158 KiB) copied, 0.017853 s, 9.0 MB/s
xv6...
cpu1: starting 1
cpu0: starting 0
sb: size 2000 nblocks 1941 ninodes 200 nlog 30 logstart 2 inodestart 32 bmap start 58
init: starting sh
$
```

Figure 2: Compilation and boot with CS333_PROJECT set to 2, CS333_P2 is defined.

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