Computer Systems and Networks

ECPE 170 – Jeff Shafer – University of the Pacific

MIPS Assembly
(Random Numbers)

Lab Schedule

Activities

This Week

- Lab work time
- MIPS Random Number Generator

Assignments Due

Lab 10

- Due by Apr 8th 5:00am

Lab 11

- Due by Apr 16th 5:00am

Lab 12

- Due by Apr 28th 5:00am

Random Number Generator

Random Number Generator

➚ MIPS syscalls do <u>not</u> provide a random number generator ☹

➚ Need to create a simple one for Lab 11

➚ *Low quality - Not suitable for cryptography!*

```
m_w = <choose-initializer>; /* must not be zero */
m_z = <choose-initializer>; /* must not be zero */
uint32_t get_random()
{
    m_z = 36969 * (m_z & 65535) + (m_z >> 16);
    m_w = 18000 * (m_w & 65535) + (m_w >> 16);
    return (m_z << 16) + m_w; /* 32-bit result */
}
```

In-Class Discussion of MIPS Implementation