

Requirements

- Readings and reviews
 - Contributions
 - Flaws and weaknesses, and how to improve
- Project
 - The focus of this course
 - Conference-style presentations and reports
- No exam

How may projects benefit you

- Let you learn how to apply theories to real problems
- Lead to publications
- Contribute to your own research
- Help find your research topic
- Lead to start-ups
- So, aim high! Be ambitious!

```
bool authentication(int uid)
{
    char str[1024]
    char passwd[1024];
    int i;

    get_passwd_for_uid(uid, passwd);
    for (i = 0; i < 3; i++)
    {
        printf("Your password: ");
        scanf("%s", str);
        if (strcmp(passwd, str) == 0)
            return 1;
        else
            printf("Wrong password. Try again.\n");
    }
    return 0;
}
```

```
char login[1024], passwd[1024];

printf("Login: ");
scanf("%1023s", login);
printf("Pleased to meet you, ");
printf(login);
printf("\nPassword: ");
scanf("%1023s", passwd);
...
```

```
int create_secret_file(char *secret_file)
{
    int fd;
    struct stat buf;

    if (stat(secret_file, &buf) != 0)
    {
        // secret_file does not exist
        fd = open(secret_file, O_CREAT);
        return fd;
    }
    else
    {
        return -1;
    }
}
```

```
// Linux kernel
void sys_read(int fd, void *user_buf, size_t count)
{
    void *kernel_buf;

    kernel_buf = malloc(count);
    read_data_into_kernel_buffer;
    memcpy(user_buf, kernel_buf, count);
    free(kernel_buf);
}
```

```
sub authentication($)  
{  
    my ($dbh) = @_;  
    my ($username, $passwd, $sth, $row);  
  
    $username = get_from_web_form("username");  
    $passwd = get_from_web_form("passwd");  
  
    $sth=$dbh->prepare("select * from passwd  
        where username=$username and passwd=$passwd");  
    $sth->execute();  
    $row = $sth->fetchrow_arrayref();  
    return defined($row);  
}
```