

**Project Phase I Assignment for CS 499**  
**Maintenance Change Request**  
**due September 22<sup>nd</sup> (during class, not after!)**

During your academic career you have developed numerous software projects for various instructors. In this course you will also have the opportunity to create a software project using the software engineering methods that you learn in this class. However, in order to emphasize the importance of good software process and prepare you for a real-world work environment, the first phase of the project will be an enhancement to an existing software system, namely the PINE email client.

Attached you will find a Change Request Form for PINE. The additional functionality is the use of a priority field in the PINE software, similar to the priority field used in many email clients (i.e. MS Outlook). This change appears to be simple, but it requires you to write/read the proper fields in the email header, display the value when emails are being read and allow the users to indicate the priority when creating an email. In other words, you will be making small modifications to a large number of modules in source code with which you are not familiar. This exercise is very similar to assignments that you can expect in industry.

The PINE information center at the University of Washington <http://www.washington.edu/pine/> has information about compiling and customizing the PINE software. The program is written in C and supported on multiple platforms. For the purposes of this assignment you may use either Linux or DOS to compile and test your program. You should include the platform that you used in your buildme.txt file (see below).

A temporary link to the source, requirements and this assignment until they are posted on the course web page: <http://sweb.uky.edu/~brkidw0/>

Here are the things you must prepare by September 22nd.

1. Planning and Estimating

- a) Develop a size estimate (# methods and lines of code you expect to change). At this point this is an educated guess. You will not be graded on the accuracy of this estimate. You should spend no longer than 1/2 hour looking through the code to make the estimate before you begin a more detailed examination of the code and coding the solution.

2. Source code

- a) Source code for your changes (email a zip file)
- b) Include a working make file
- c) include a textfile buildme.txt with instructions on building your project

3. Updated Requirements and Test Cases (Only provide the updates)

- a) Show updates to the provided requirements and use cases
- b) Show updates to the test cases
- c) Show your testing results, including a summary of bugs found and fixed

4. Technical Metric Collection (turn in all that apply to your project at this Phase)

- a) Number of functions changed (use diff to count)
- b) Lines of code changed (use diff to count)
- c) Total number of man hours per activity (see status reporting)

The project may be handwritten (neatly), typed (word processor, graphics package), in spreadsheet format, or a combination of these

All assignments must have the name, course number, semester, project name, and date

# Software Change Request

## UK CS Request No. F09-499-001

### To be completed by requesting official

Authorized Requesting Official

Name: Jane E. Hayes, Ph.D

E-mail address: hayes@cs.uky.edu

Contact Person

Name: Jane E. Hayes, Ph.D

E-mail Address: hayes@cs.uky.edu

Date: 9/3/2009

### Title: Addition of Email Priority/Importance Field to PINE

**Change Description** (Detail functional and/or technical information. Include test data requirements. Use attachment if necessary.)

Modify the PINE email program (currently at version 4.64) to include a field for Importance. The default value of this field shall be Normal. The software shall allow the values High, Normal and Low.

A configuration option shall be added to the software with 3 possible configurations: Off, X-Priority or X-Priority and X-MSMail-Priority. The default value for this setting shall be Off.

When the configuration is set to the X-Priority option, the software shall perform the following functions.

- 1) When composing an email the user shall be able to set the Importance of the email to High, Medium or Low.
- 2) When an email is sent, the software shall include an X-Priority header value in the email according to the following table.

<b>Importance</b>	<b>X-Priority</b>
High	1
Normal	3
Low	5

- 3) When an email is received, the software shall read the value of the X-Priority field and display the corresponding Importance value as specified in the table above.

When the configuration is set to the X-Priority and X-MSMail-Priority option is selected, the software shall perform the following functions.

- 1) When composing an email the user shall be able to set the Importance of the email to High, Medium or Low
- 2) When an email is sent, the software shall include an X-Priority header value and an X-MSMail-Priority option according to the following table.

<b>Importance</b>	<b>X-Priority</b>	<b>X-MSMail-Priority</b>
High	1	High
Normal	3	Normal
Low	5	Low

- 3) When an email is received, the software shall read the value of the X-Priority and X-MSMail-Priority header values and display the corresponding Importance value as specified in the table above. If these values are in conflict, the X-Priority header value shall be used to display the importance. If the X-Priority is not present, the X-MSMail-Priority value shall be used to display this value.

**Date Required: 9/22**