Computer Programming Project Proposal for the SIUE Observatory

Project Description
I have a three-part (or three-step process) Computer Science Project that is needed to finish the automation portion of my project for the SIUE Astronomical Observatory here on campus.

My idea centers on the student use of the Observatory using a web-based proposal system. Recently the Physics department added three new concentrations to our major: Astronomy, Photonics, and Biophysics. The addition of the Astronomy concentration has added four new classes to our major: PHYS 118L (a lab component for PHYS 118: Astronomy), PHYS 230: Planetary and Solar System Astronomy, PHYS 343: Stellar Astronomy and Astrophysics, and PHYS 444: Galaxies and Cosmology. All of which will have a component added to the curriculum that will utilize the Observatory. The students will not have direct access but will instead submit an online proposal (see attached sheet as a general example) via an intranet that will be set up in the future Astronomy Laboratory.

The first part of my idea centers on a web-based information-gathering interface. It would take in observational parameters via this web-based interface from all students enrolled in the courses listed above. It would then place that information in a file.

Once the file has been created, the second process would then order this information in an observing queue that would be based on the current observing conditions for that particular day. That information would then be place in a file that is compatible with the automated observing system that I have been working on for the past two years.

The final process would need to email all of the students who have submitted a proposal when their observation (set of image files) has been completed. It should provide a link to the student so that they may download their set of images. The student would then process those images in-class.

Brief Background or History.

As pointed out above this would allow me to finalize the Automation portion of my project; moreover, it would allow the in-classroom use (via the proposal, observation, and retrieval system) for all of the courses listed above.

Specific Technical Requirements if any (e.g., must be in Java and interface with system X that we use)
The web-based design should be geared towards use on Apple computers using MacOS X and Safari. The automation interface portion is simply a queue file that would need to be compatible with a Windows-based interface using Microsoft XP or Windows 7.

The Client

Dr. Jeffrey A Sabby, Physics Department, jsabby@siue.edu, 650-5326, Alumni Hall 3120

The Client Team.

I would be more than willing to work with any interested Computer Science Faculty on this project.

Ursa Observation Request

User Code: chsl

Password: •••••

Title of Observing Run: hypothetical asteroid - 8/17/2002

Object Name: Hypo

Need Help? [Search The Object Database]

( ) Catalogue Position (•) Manual Position

01 : 02 : 03 RA (hh:mm:ss)

+04 : 05 : 06 Dec (±dd:mm:ss)

Epoch: 2002.8

Image	Filter	Exp. Time (s)
1	R	120
2	None	None
3	None	None
4	None	None
5	None	None

Observe: ( ) Anytime (•) Specify

UT Date (mm/dd/yyyy): 08/18/2002

UT Start Time (hh:mm): 05:00

Observe 3 times, with an (optional) separation of 90 minutes.

[Submit] [Reset Form]