Acceptance Test

Requested By: Dr. Scott Hunter
Assistant Professor of Computer Science
Computer Science Department of Siena College

Ms. Jami Cotler
Instructor/Lecturer of Computer Science
Computer Science Department of Siena College

Dr. Tim Lederman
Professor of Computer Science
Computer Science Department of Siena College

Automated Excel Grading System

Oasis Technologies

Prepared By:
Brian Salmon
Jim Dzembo
Vincent Leone
Chris Mahar
Josh Yerkie

Automated Excel Grading System
Acceptance Test

Table of Contents:

Acceptance Test

I. Product Overview and Summary

Siena College offers two courses in the Computer Science Department that utilize Microsoft Excel. These courses have a required lab where the students create spreadsheets, which then need to be graded by the lab instructor. There is also a pre-lab associated with each lab that the students are required to complete. There are a large number of students that take these courses thus creating a large amount of excel spreadsheets that requiring grading by the lab instructors. As a result of the high quantity of spreadsheets that need grading we have been tasked, by Dr. Scott Hunter and Ms Jami Cotler, with creating a system to grade these labs and pre-labs automatically and report back to the students and instructors the results. The students will have the ability to log in to a web based system and submit these labs and pre-labs and view their grades

II. Functional Requirements

External Systems/Software and Safety
- The Automated Excel Grading System is to be web based and must be viewable from any computer with internet access.

$$Yes \quad No$$

- The system must work on the most popular platforms, which include Windows, Macintosh, and Linux and the default Operating Systems for Windows and Macintosh: Windows XP, Windows Vista, Mac OSX.

$$Yes \quad No$$

- The system must work on the most widely used and popular web browsers and will be tested on the following web browsing programs:
    - Microsoft Internet Explorer 7.0
    - Mozilla Firefox 1.0.7
    - Safari 2.0.1

$$Yes \quad No$$

- Ability to log into system securely from any computer.

$$Yes \quad No$$

Course Administrator
- Login
    - The first time the Administrator logs into the system they will use the username and password given to them by the developers.

$$Yes \quad No$$

We no longer use Usernames, we use E-mails addresses instead.
- Create Accounts
    - The Administrator will create the Lab Instructor and Lecture instructor accounts. When they create these accounts they will specify what user account is being created.

$$Yes \quad No$$

    - They will have the option to create student accounts if needed.

$$Yes \quad No$$

- Edit Accounts
  - If any account needs to be changed for any reason the Course Administrator can do so, including changing a students lab section or lecture section.

Yes   *No*

- Create Password for Student User
  - The Administrator creates the initial password so the Student user can log into the system for the first time.

Yes   *No* **N/A**

We didn't have enough time to complete this function

- Delete Accounts
  - The Administrator can delete accounts from semester to semester with Student Users leaving the course and Lab and Lecture Instructors not teaching the course.

Yes   *No*

- Upload Grading Key and Sample Files
  - The Administrator will upload one grading key per lab and pre-lab along with multiple sample files per lab and pre-lab.

Yes   *No* **N/A**

We did this differently, We upload one key file for every sample file.

  - The grading key specifies what sections of the lab files to grade.

Yes   *No*

- View Reports
  - Course Instructor can view students lab grades based on lab or lecture section.

Yes   *No*

- Change Password
    At any time the Course Administrator can change their password.

Yes   *No*

<u>Student User</u>
- Login
  - The first time the student logs into the system, he or she will create a username and use the specific password given to them in class by the lecture instructor.

<p style="text-align:center">*Yes   No*   **N/A**</p>

We no longer use Usernames, we use E-mails addresses instead.

- Upload Labs and Pre-labs
  - When the student wants to submit a file they will be able to in their student view after they log into the system. The submit button will bring them to a new screen where they will upload each individual file with a browse button that searches the directories on the computer their on.

<p style="text-align:center">***Yes***   *No*</p>

- Viewing Pre-Lab Error Reports
  - The student will click on the view Pre-Lab Button on the student view page to view the report

<p style="text-align:center">***Yes***   *No*</p>

- Viewing Lab Grades, Files and Report
  - The student can view their graded labs and see what sections they got wrong by clicking on the view Lab Button on the student view page.

<p style="text-align:center">***Yes***   *No*</p>

  - They can only view these documents once the grades are approved and released by the Lab Instructor

<p style="text-align:center">***Yes***   *No*</p>

  .
- Change Password
  - At any time the Student User can change their password.

<p style="text-align:center">***Yes***   *No*</p>

<u>Lab Instructor</u>
- Login
  - The first time the Lab Instructor logs into the system they will use the username and password created by the Course Administrator.

- Review Lab Grades from System
  - o Override any mistakes that the system made after viewing the report generated by the system showing what the student got wrong.

Yes *No*

- Approve Grades For Student User's View

Yes *No*

- Viewing Student Grades
  - o They will be able to view the lab grades based on what lab section they want including all their lab sections.

Yes *No*

  - o They can also view the grades based on lab number, including all labs.

Yes *No*

- Change Password
  - o At any time the Lab Instructor can change their password.

Yes *No*

Lecture Instructor
- Login
  - o The first time the Lecture Instructor logs into the system they will use the username and password created by the Course Administrator.

Yes *No*
We no longer use Usernames, we use E-mails addresses instead.

- Viewing Lab Grades
  - o Once the Lab Instructor has checked to make sure the lab was graded correctly by the system the Lecture Instructor can view the lab grades.

Yes *No*

      o   They will be able to view the lab grades based on what lecture section they want including all their lecture sections.

<div align="center">

Yes   *No*

</div>

      o   They can also view the grades based on lab number, including all labs.

<div align="center">

Yes   *No*

</div>

- Change Password
  - o   At any time the Lecture Instructor can change their password.

<div align="center">

Yes   *No*

</div>

III. Non-Functional Requirements Inventory Testing

In addition to the Functional Requirements, we must also ensure that the Non-Functional Requirements are tested to the best of our ability. These requirements are not easily tested as they are qualitative in nature, unlike the Functional Requirements which are for the most part quantitative. The following is a list of issues that must be kept in mind during testing in order to ensure that the Non-Functional Requirements are met to the best of our ability.

As stated in the Functional Requirements, the Automated Excel Grading System should be supported by platforms Windows, Macintosh, and Linux on the operating systems Windows XP, Windows Vista, and Mac OSX on the internet browsers Microsoft Internet Explorer 7.0, Mozilla Firefox 10.4.7, and Safari 2.0.4. But these various platforms, operating systems, and internet browsers have a tendency to display the same software and programs in different ways. The Automated Excel Grading System should attempt to maintain consistency in design through these different platforms, operating systems, and especially internet browsers. If our users use different computers to use our system, they should not be confronted with a difficult time adapting to any differences between how the system is displayed on any computer. Differences in designs due to using different computers should be minimized as much as possible.

There should be a quick turn around time for Pre-Lab grades. Students should receive their graded Pre-Lab as close to immediately after submission as possible.

The system should be secure. Student's grade information should be viewable only by their Lab Instructor, Lecture Instructor, and the Course Administrator. All information provided by any user should not be displayed publicly and only accessible by the Course Administrator and the user themselves.

Because the Automated Excel Grading System is web based, it must be easily navigatable by all users. Confusion about using any and all aspects of the system should be minimized as much as possible by creating a good user interface.

Non-Functional Requirements Inventory Testing Results:

- We tested our software on mainly on Windows. We were unable to test our software on Linux and Vista.
- We tested our software on 3 types of web browser. Firefox and Safari are best for viewing our web page. Internet explorer 6 causes some style sheet errors.
- Security. it is possible for students to view other students submitted files and also the Key Files and Sample Files. This can be fixed with a .htaccess file in each folder, but we didn't have time to research and impliment it.
- Our user interface is consistent and efficient.
- Sometimes our software's error reporting sends a white page and you have to click the back button to get out of it.
- When deleting a student or instructor there is no easy way to back track .

IV. Environmental/Systems/Performance Constraints/Specifications

Operating Platform
Any Linux/Unix based web server with
- Php version 4.3.11 or newer
- Mysql version 4.1.14 or newer
- Java Runtime Environment version 1.5 or newer

User Requirements
Any standard web browser with cookies enabled:
- Internet Explorer 6 or newer
- Mozilla Firefox version 1.5 or newer
- Safari version 2.0.4 or newer
- Netscape

Development Environment
Operating Systems:
- Microsoft Windows XP Professional, Version 2002, Service Pack 2
- Mac OS X 10.4.9 (8P2137)

Web-Editing Software:
- Microsoft Notepad Version 5.1
- Macromedia Dreamweaver MX 2004 Education, Version 7.0
- Macromedia Fireworks MX 2004 Education, Version 7.0 Build 288

V. Test Plan Results

All Test Results (including the ones already listed in this document) can be found in the Automated Excel Grading System Test Results document which can be found on the Oasis Technologies Documents page. The url below will guide you to it.

http://oraserv.cs.siena.edu/~perm_oasis/documents.html

VI. Deliverables

The deliverables for the Automated Excel Grading System include a hard copy of this document along with a CD containing this and all previous documents, the team website and the finished software (including all pages and programs needed to run it). Also, there is a key generator that can be downloaded from the admin pages that will be included on the CD.

VII. User Displays
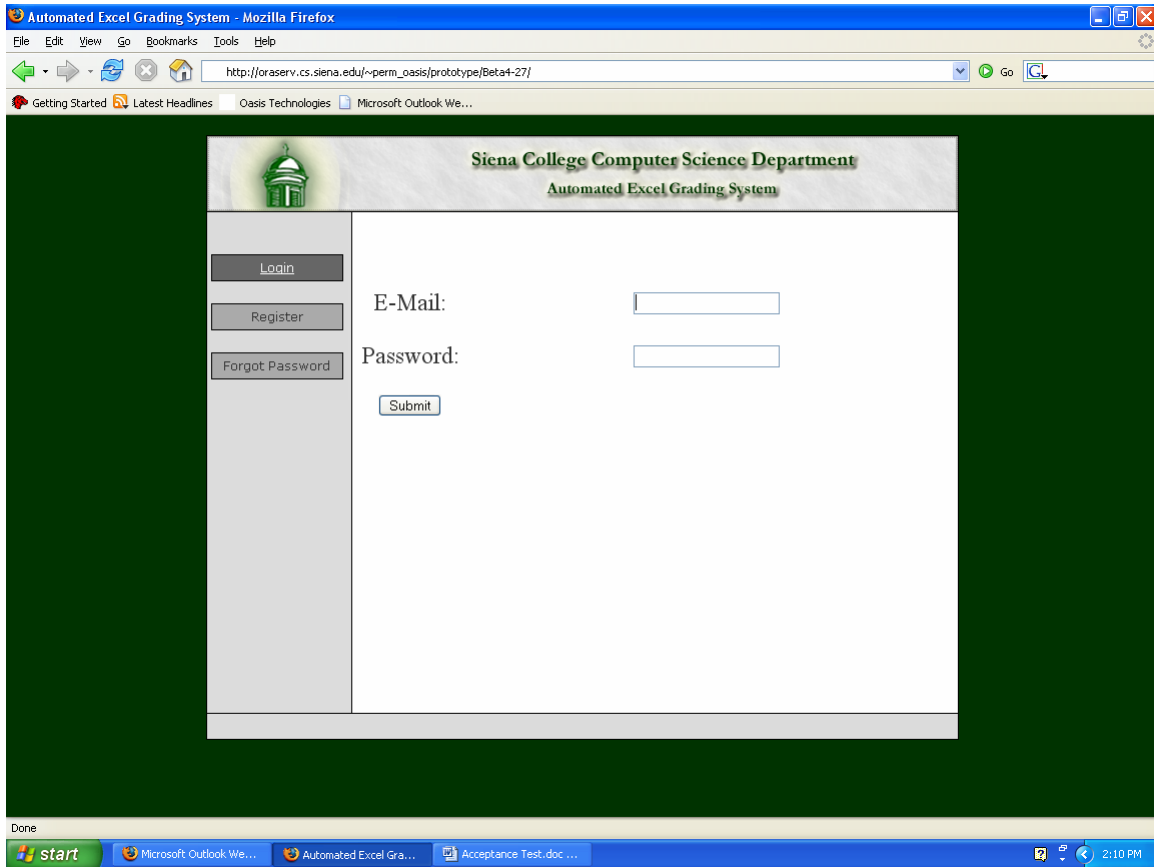
This is the initial screen when you go to the website.
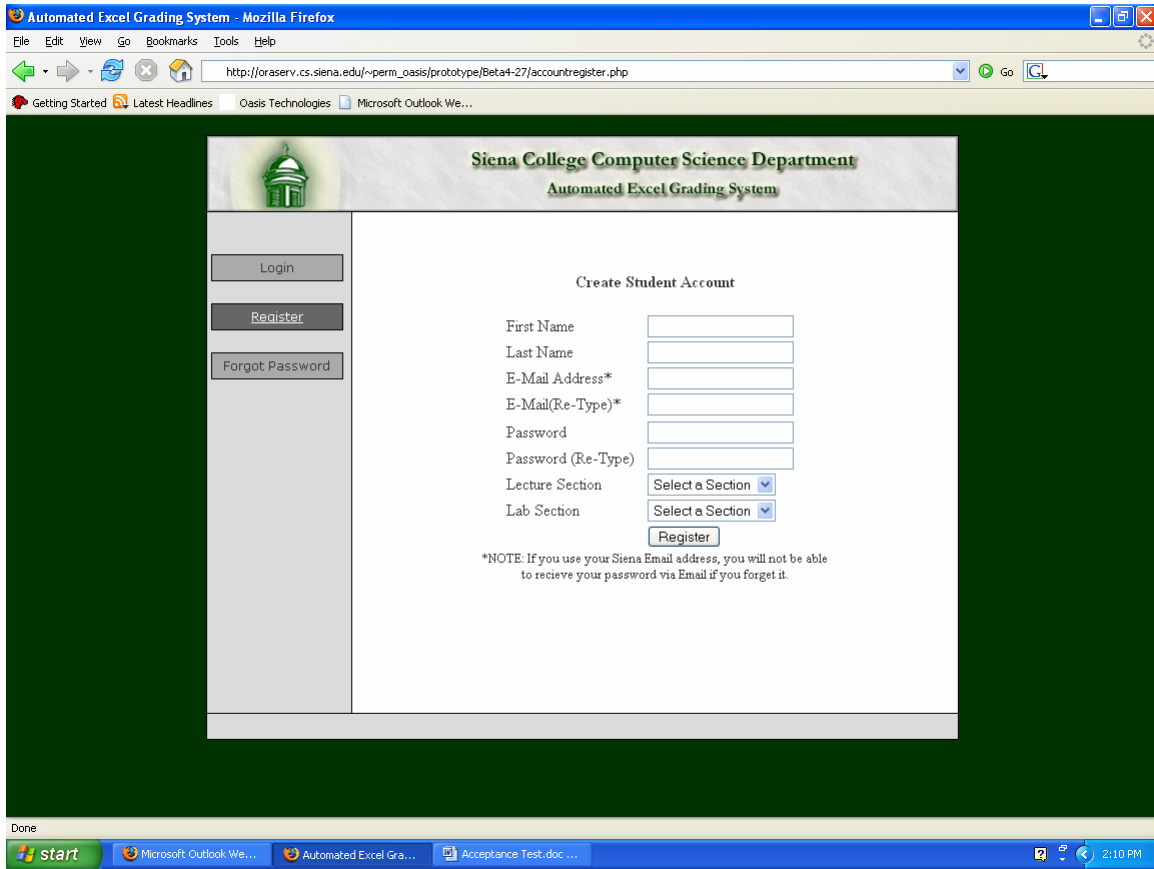
If the student has not yet registered, they can set up their account on their own. They choose what sections they are in, and also a password for themselves.
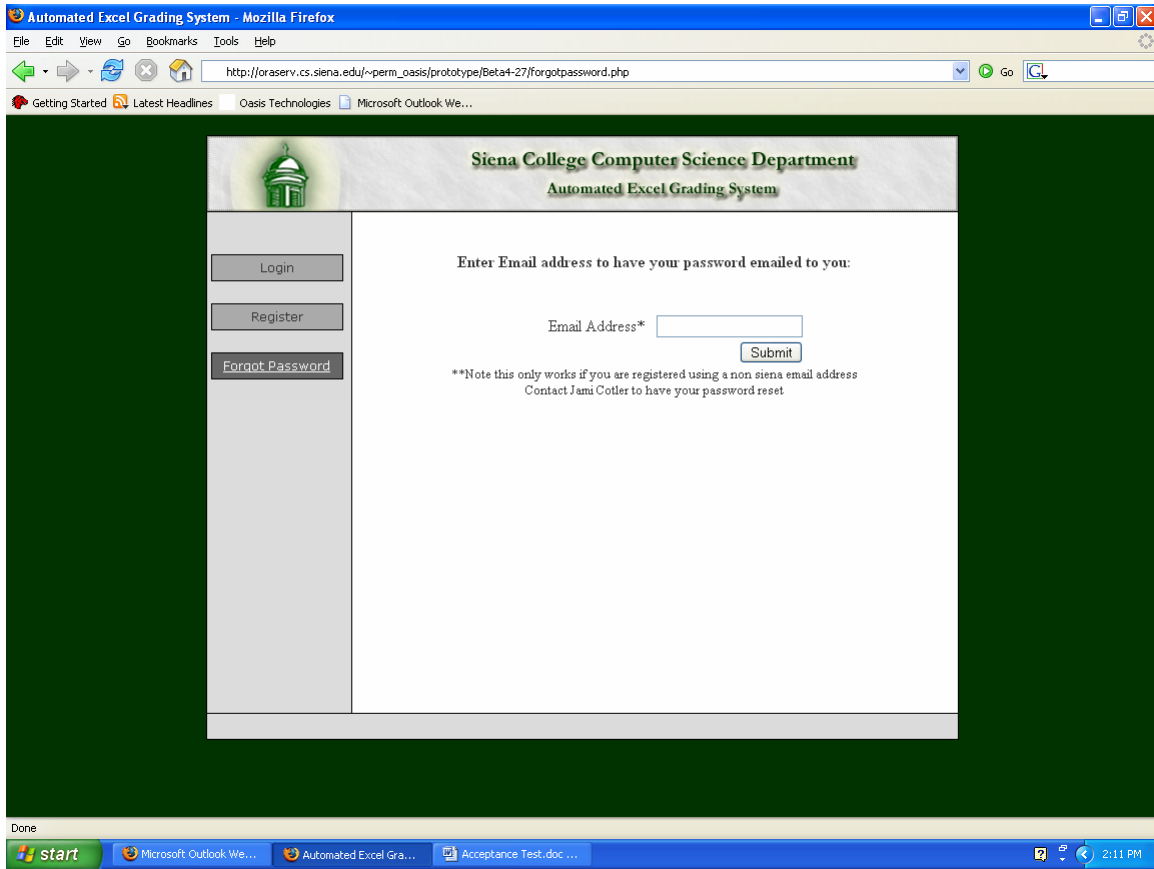
If an account holder has forgotten their password, and they are not using their siena email, they can have the password sent to them. Siena's email does not allow for this.
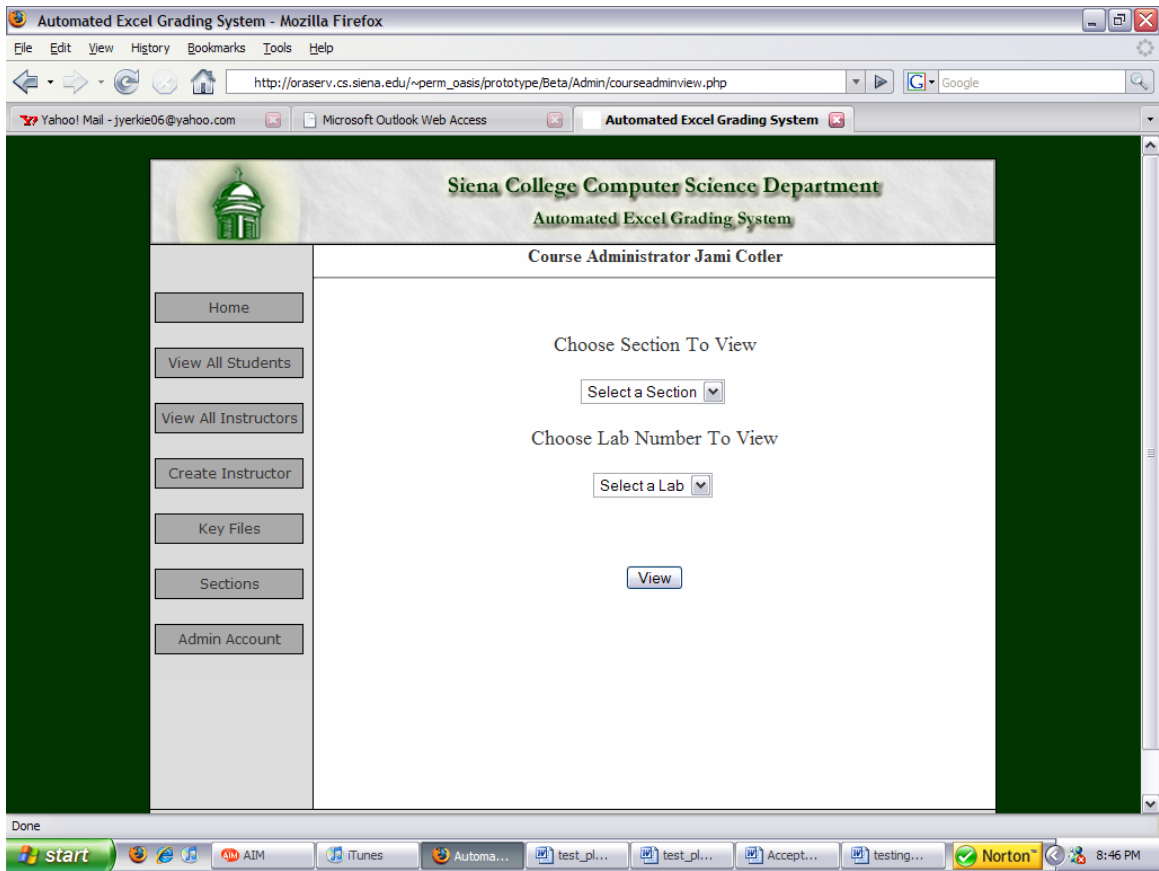
This is the course administrator's home page. Here he or she can view certain sections or labs, or go to any other page of their account.

This is the view when the course administrator selects a section and a lab. This will list all of the students that fit that criteria.
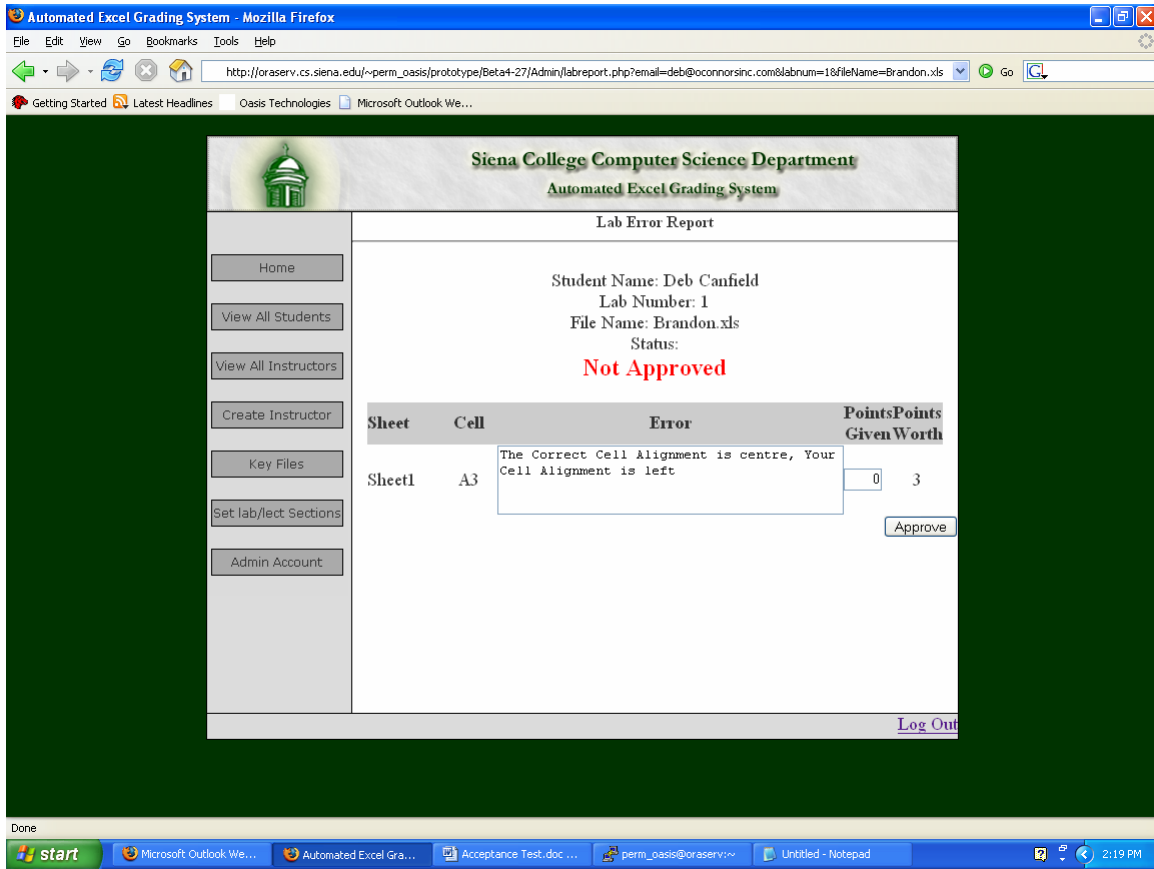
This is an example of what the admin sees when they click the view errors link. This will list all of the errors associated with that file of the student they select. Here, the admin can give points for answers deemed acceptable, or where partial credit should be given. This is also where they approve the grades that the Automated Excel Grading System has given.
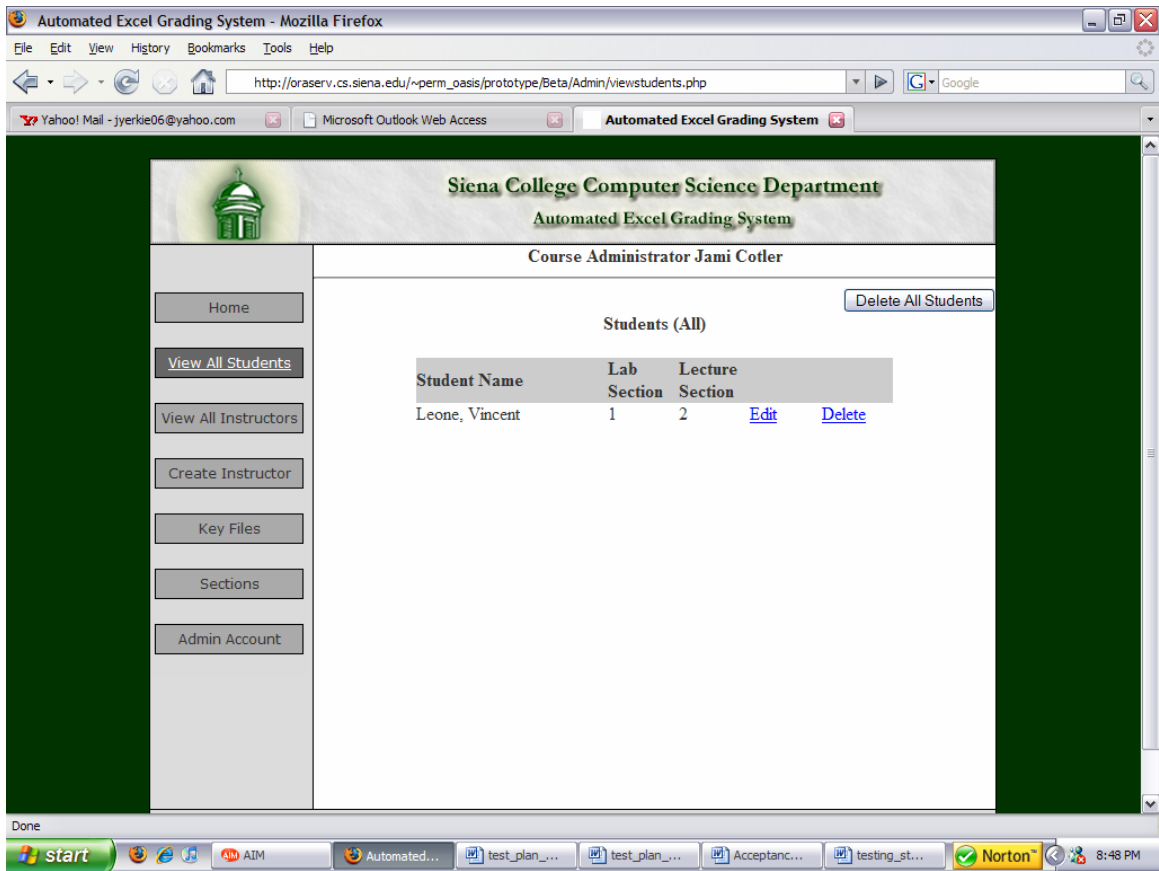
This is the view all students button. This lists all students and the sections that the student is enrolled in.
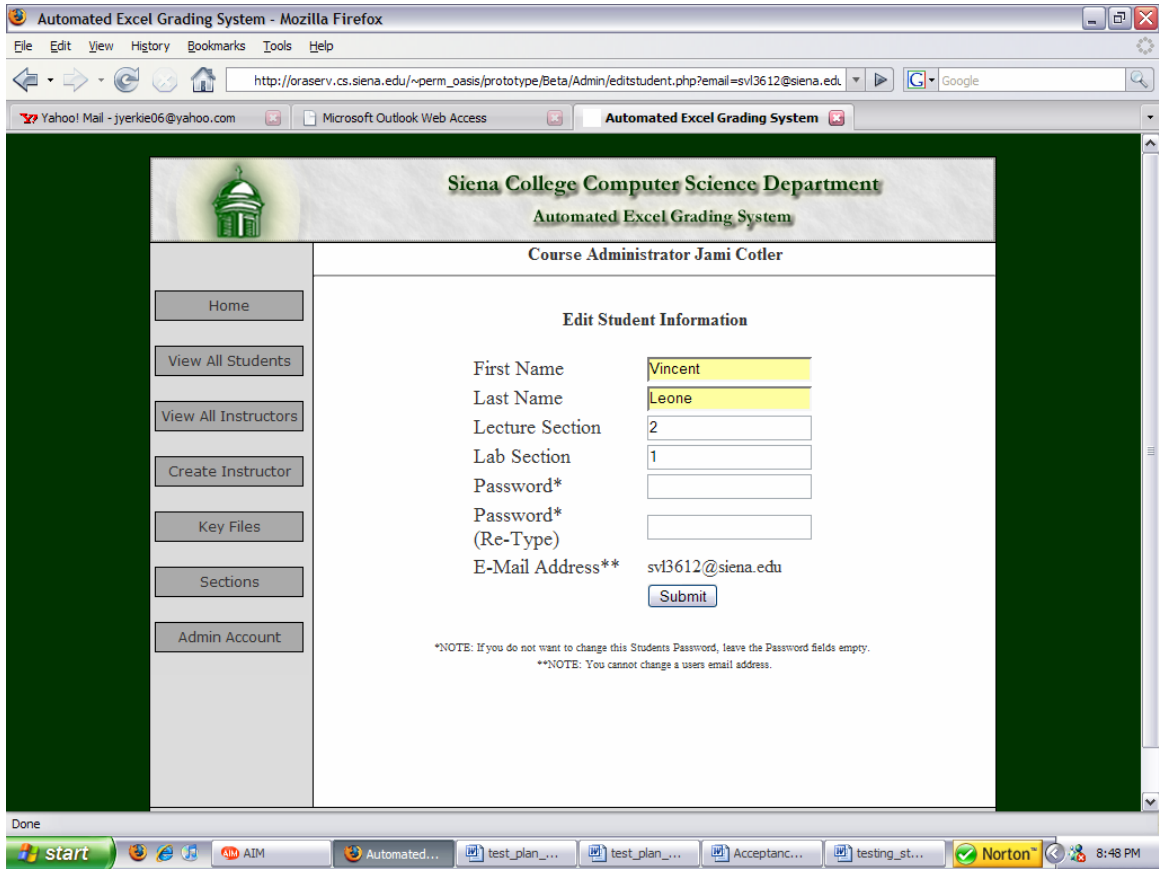
This is where the administrator can edit any student's information including if the student switches sections or needs to change their password.
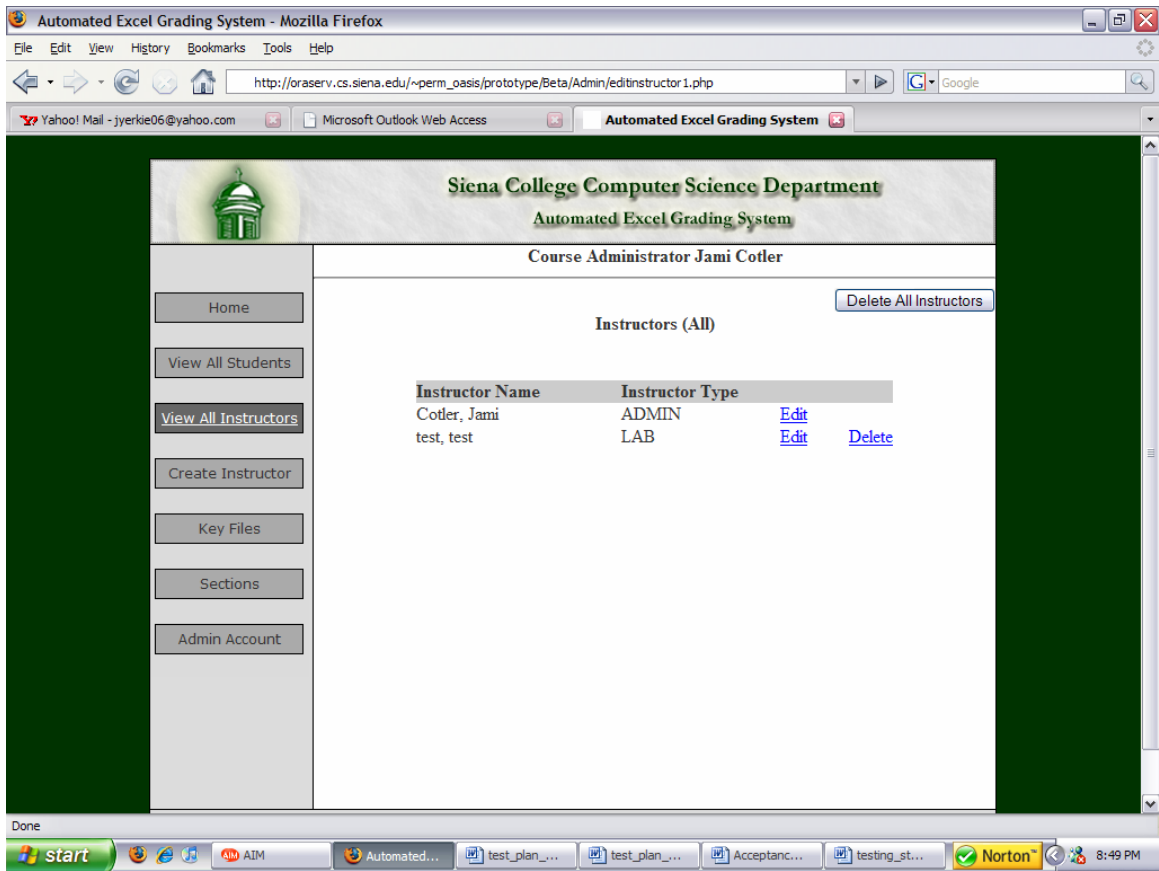
This is the view all instructors button. Here you can edit or delete any or all instructors.
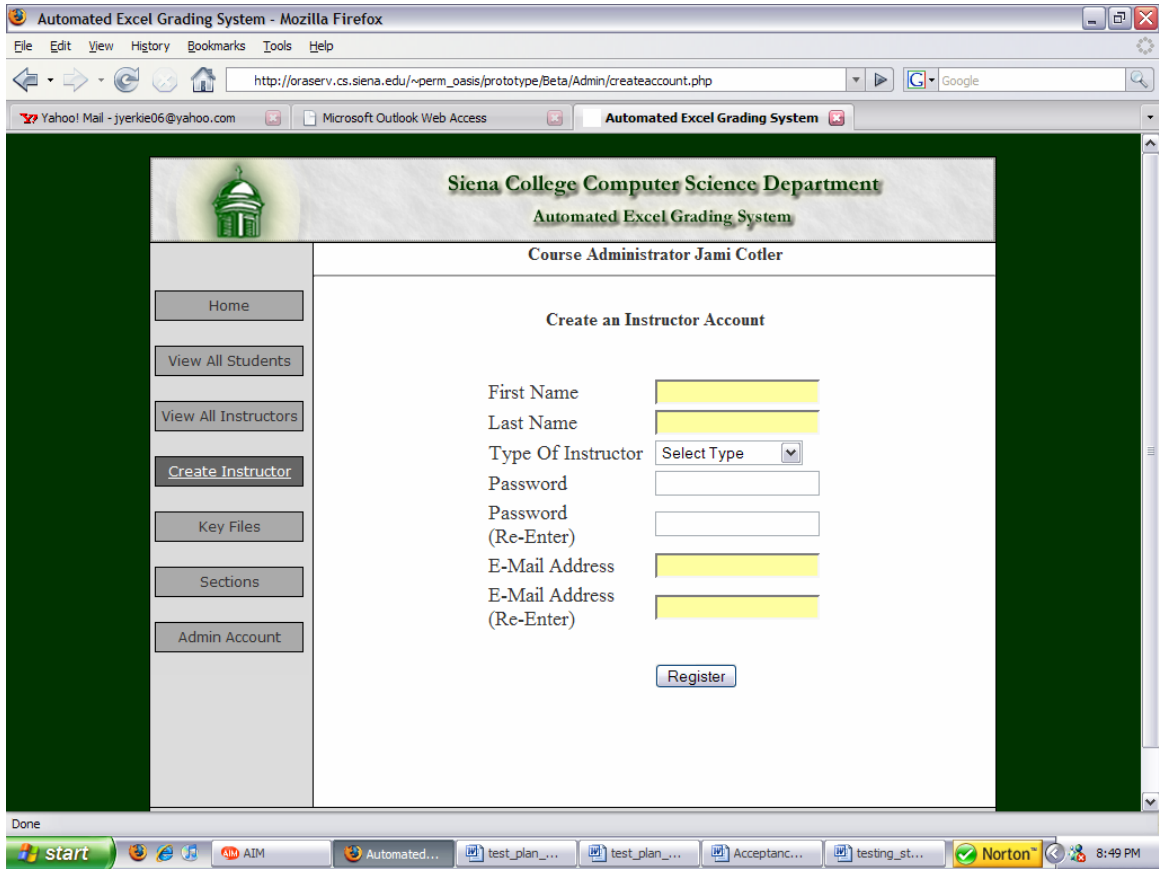
This is the page to create a new instructor. This will create an account giving access to the system to any new instructor.

This page displays all key files that have been uploaded to the system. Here you can delete any old key files and download the key generator.
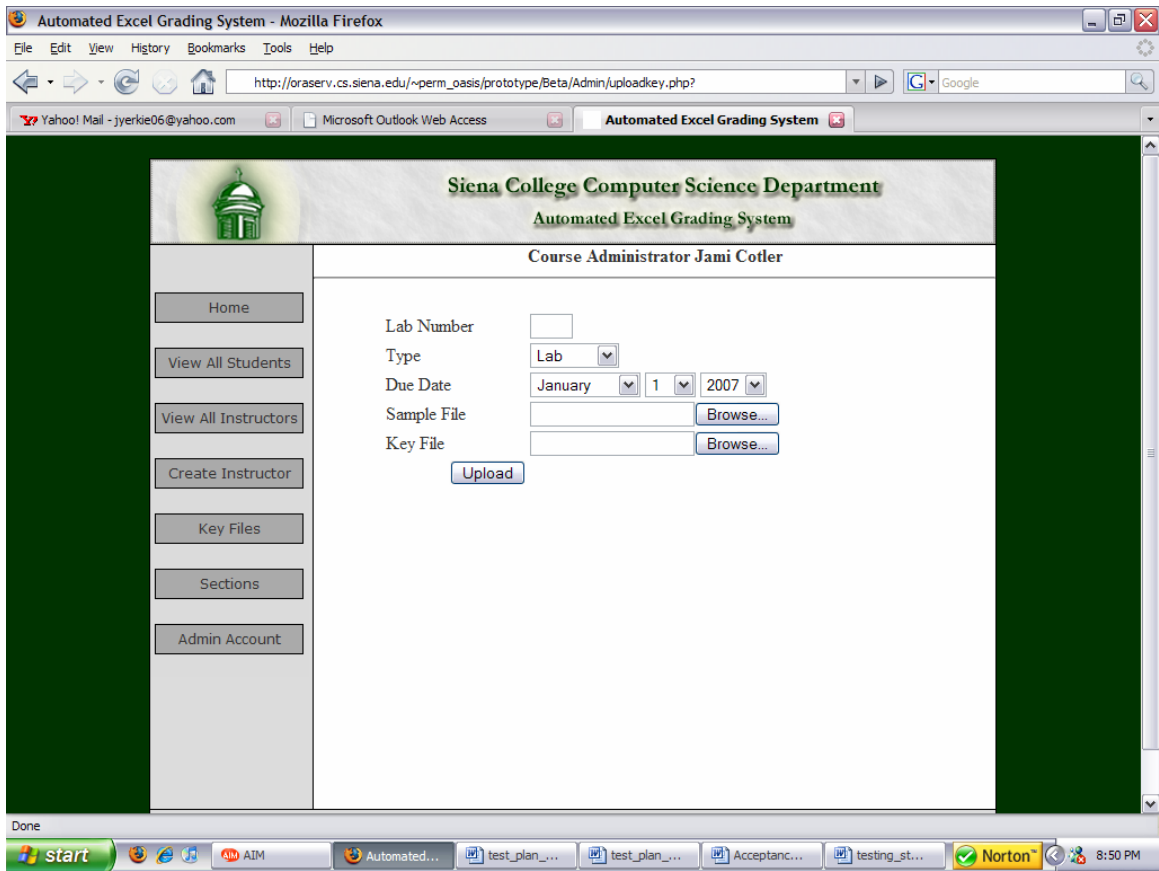
This screen is where the administrator uploads the key files used for grading. A sample file and a key file must be uploaded here.
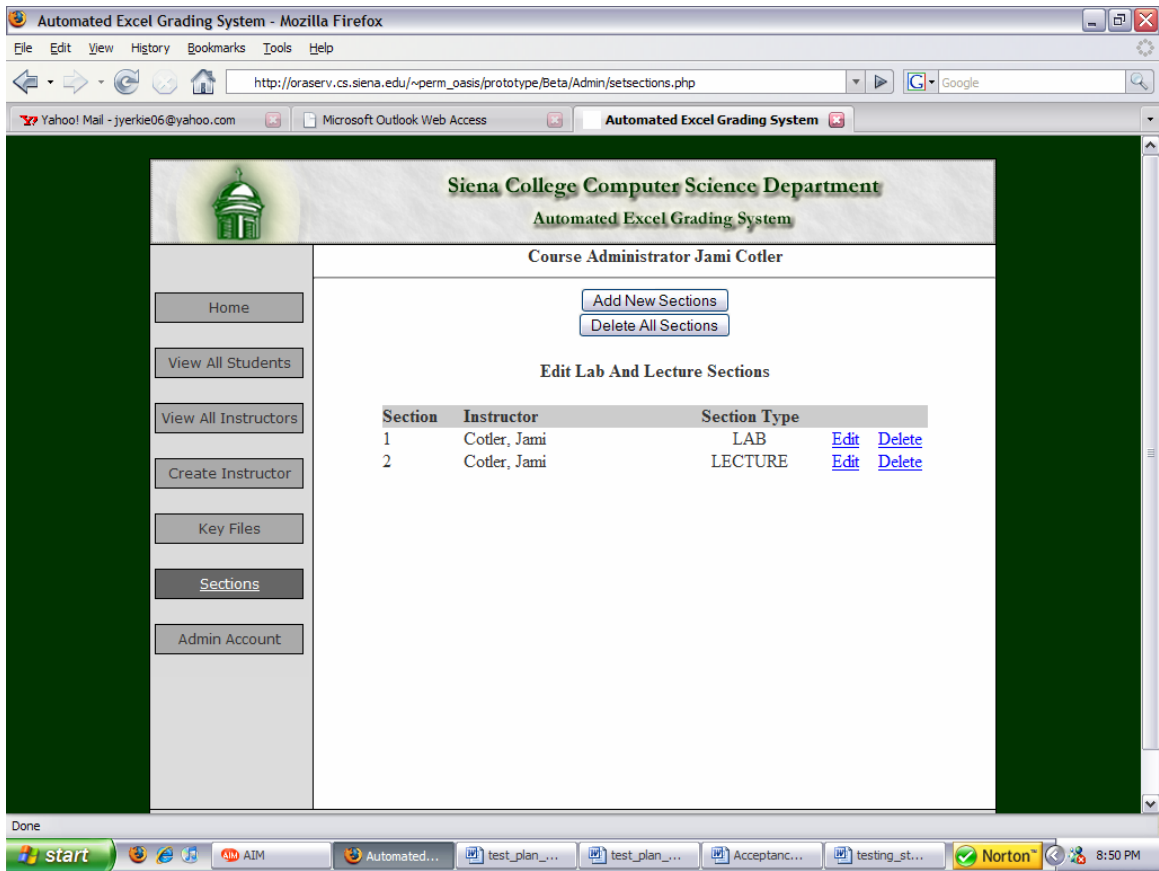
This displays all sections and the instructors who teach each section. Here you can add new sections or delete any section.
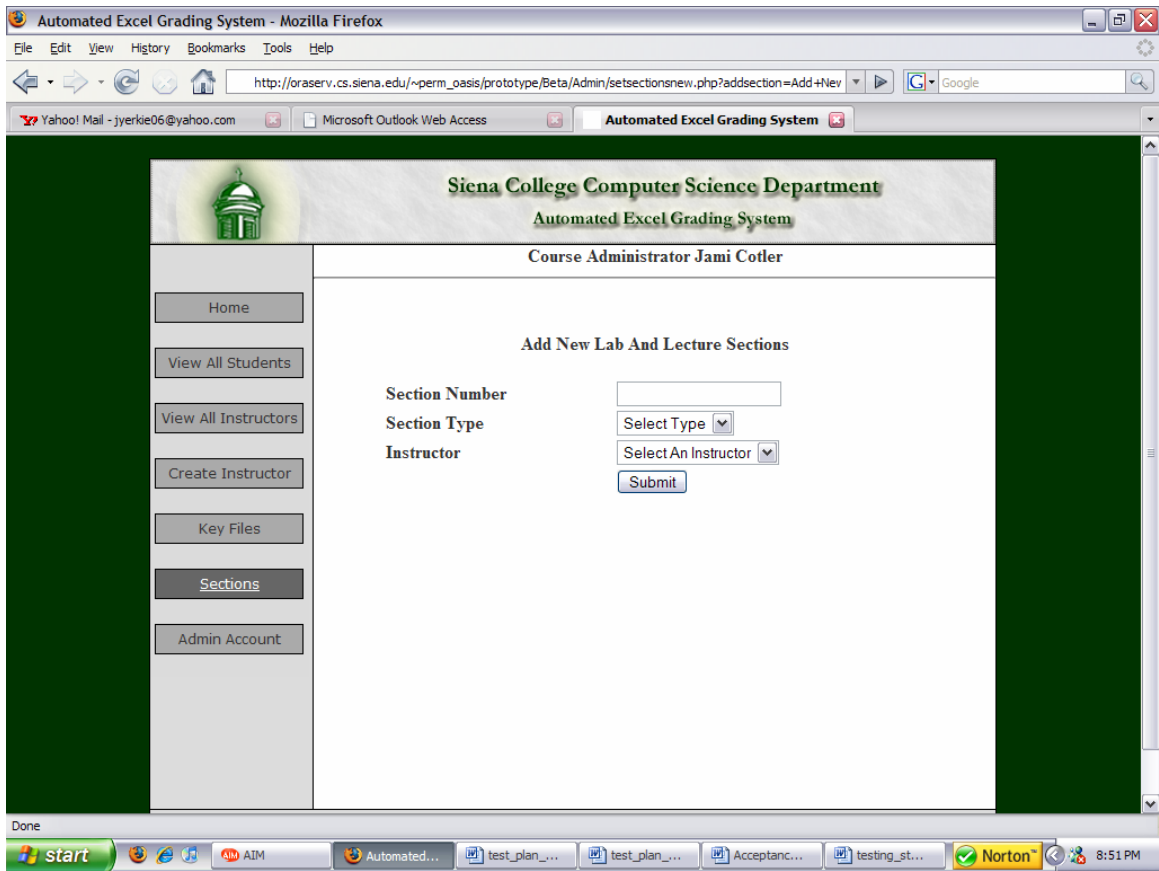
This is where the administrator can add any new section. The admin must select the type of section and the instructor who teaches that section.
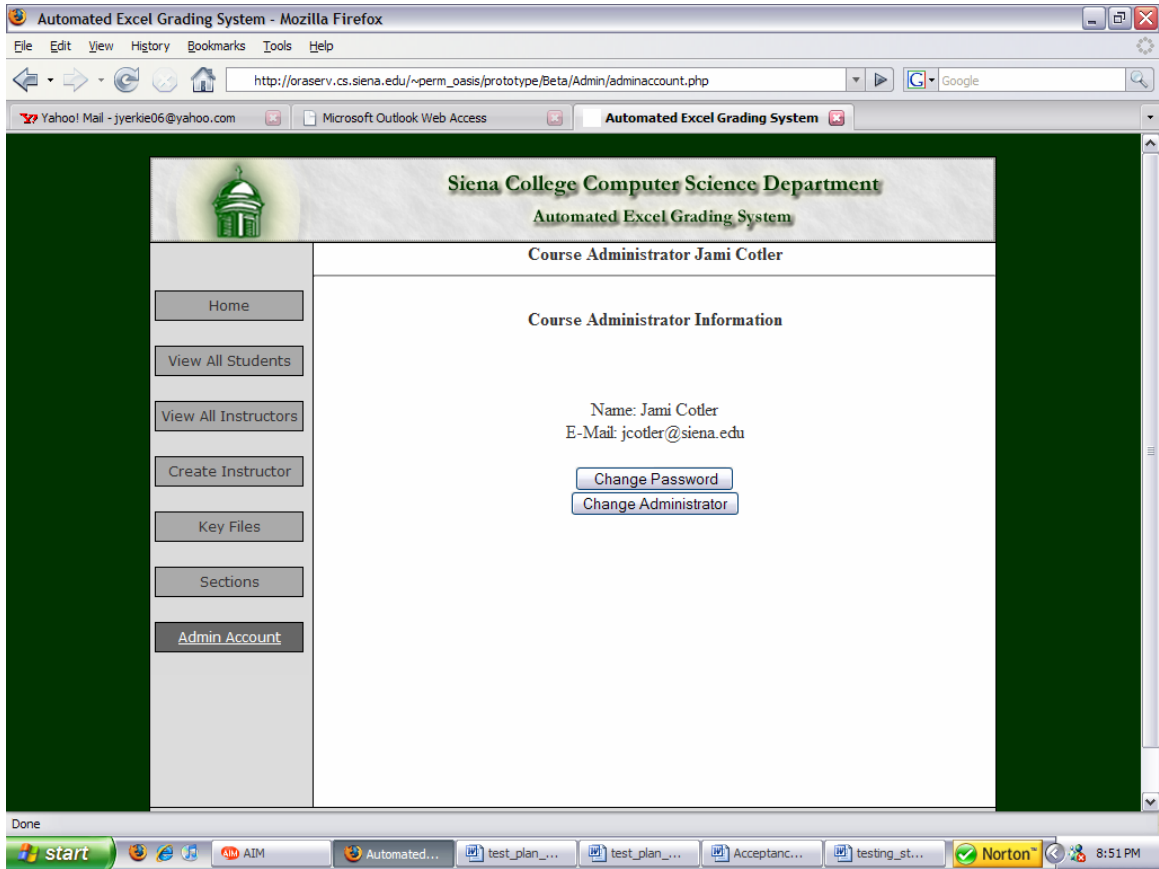
This screen displays the administrator's information. The admin may also change their password or change the administrator if needed.
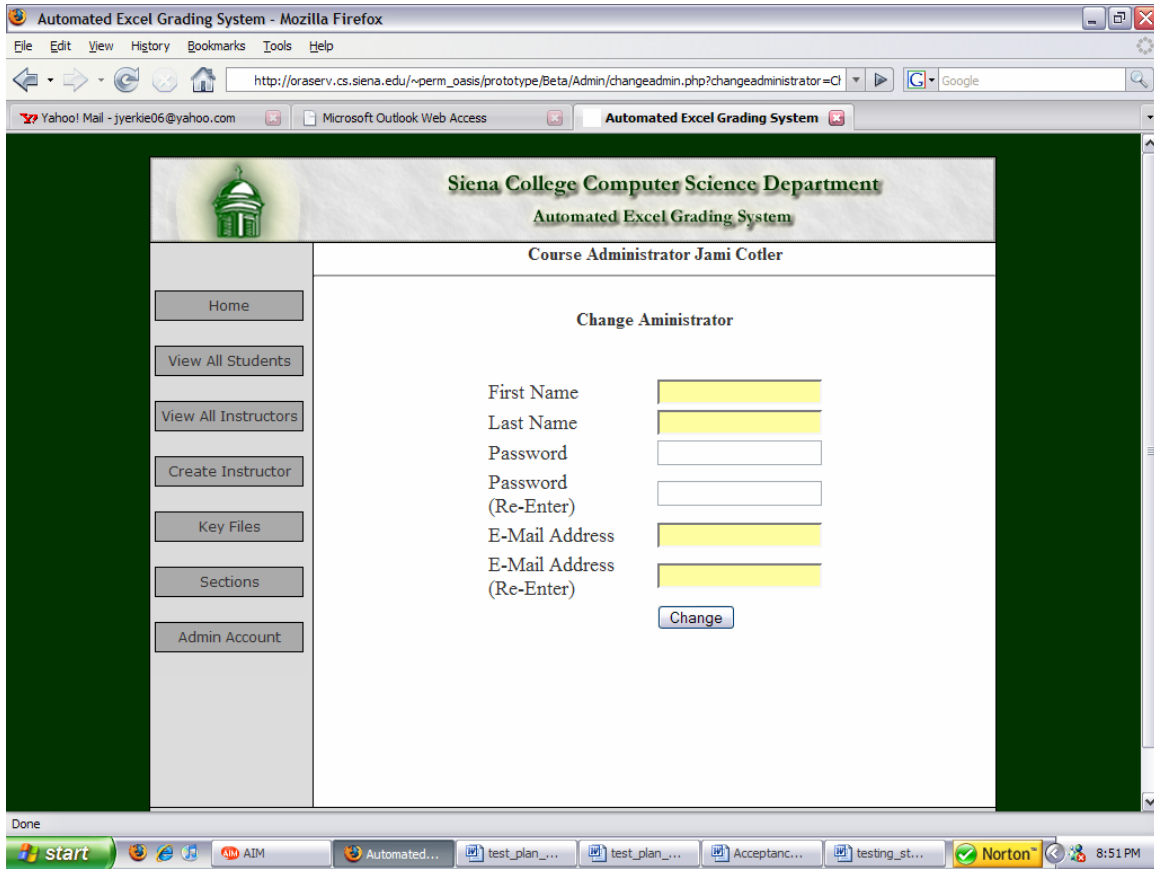
This is the screen to change the administrator of the Automated Excel Grading System. This new admin will be the only admin and will assume all features associated with that account.

This is the lab instructor's home page after they login. Here they can select a specific lab section and number to view.

This is the view after the lab instructor selects a specific lab section and number to view.

This is the view if the lab instructor chooses to view all sections and labs.
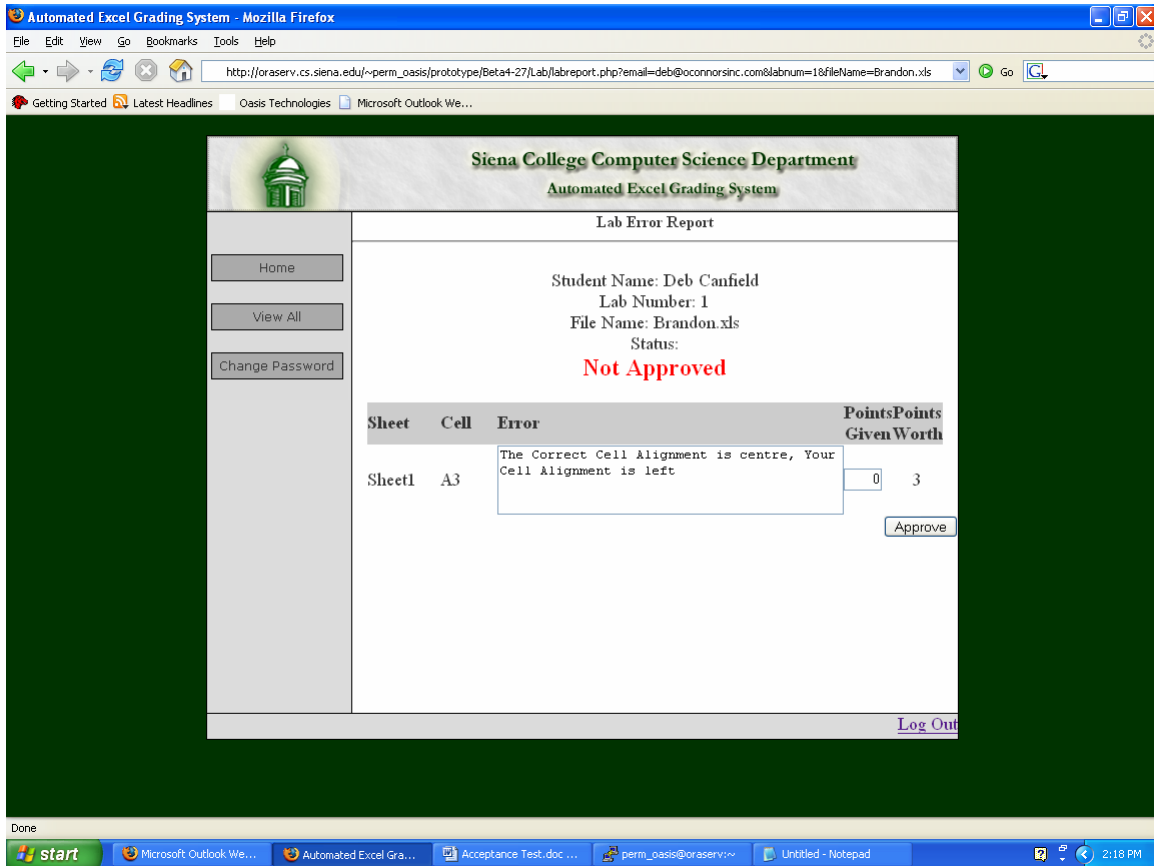
This is an example of what the lab instructor sees when they click the view errors link. This will list all of the errors associated with that file of the student they select. Here, the lab instructor can give points for answers deemed acceptable, or where partial credit should be given. This is also where they approve the grades that the Automated Excel Grading System has given.
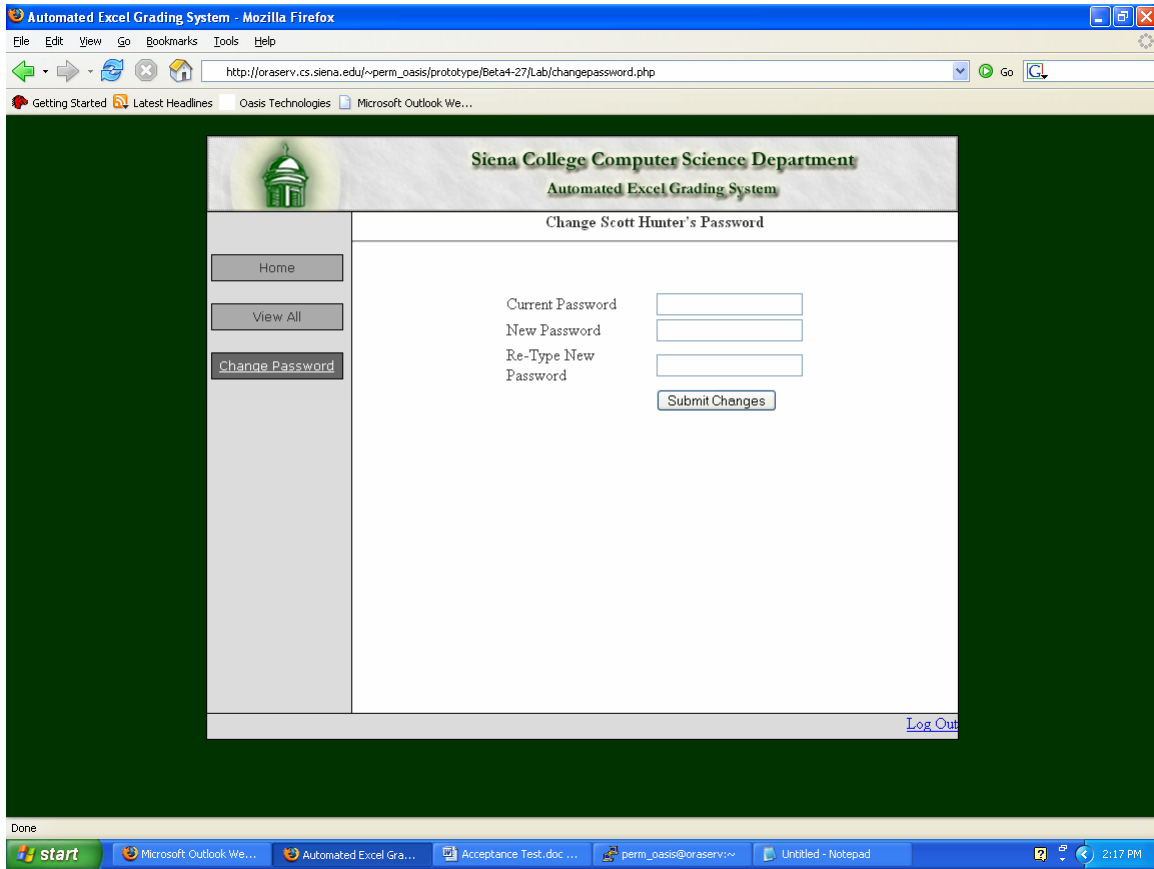
This is where the lab instructor can change their password.

This is the lab instructor's home page after they login. Here they can select a specific lab section and number to view.

This is the view after the lecture instructor selects a specific lab section and number to view.
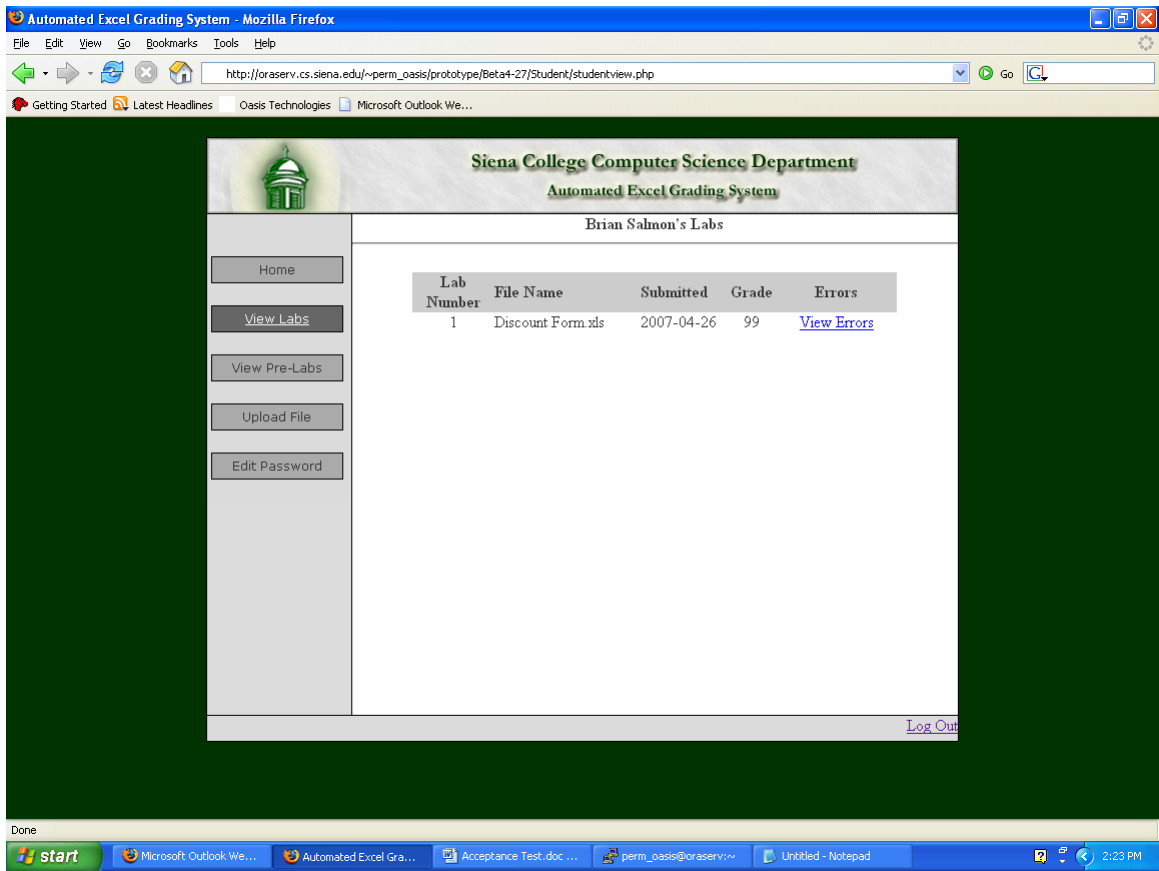
This is the view if the lecture instructor chooses to view all sections and labs.
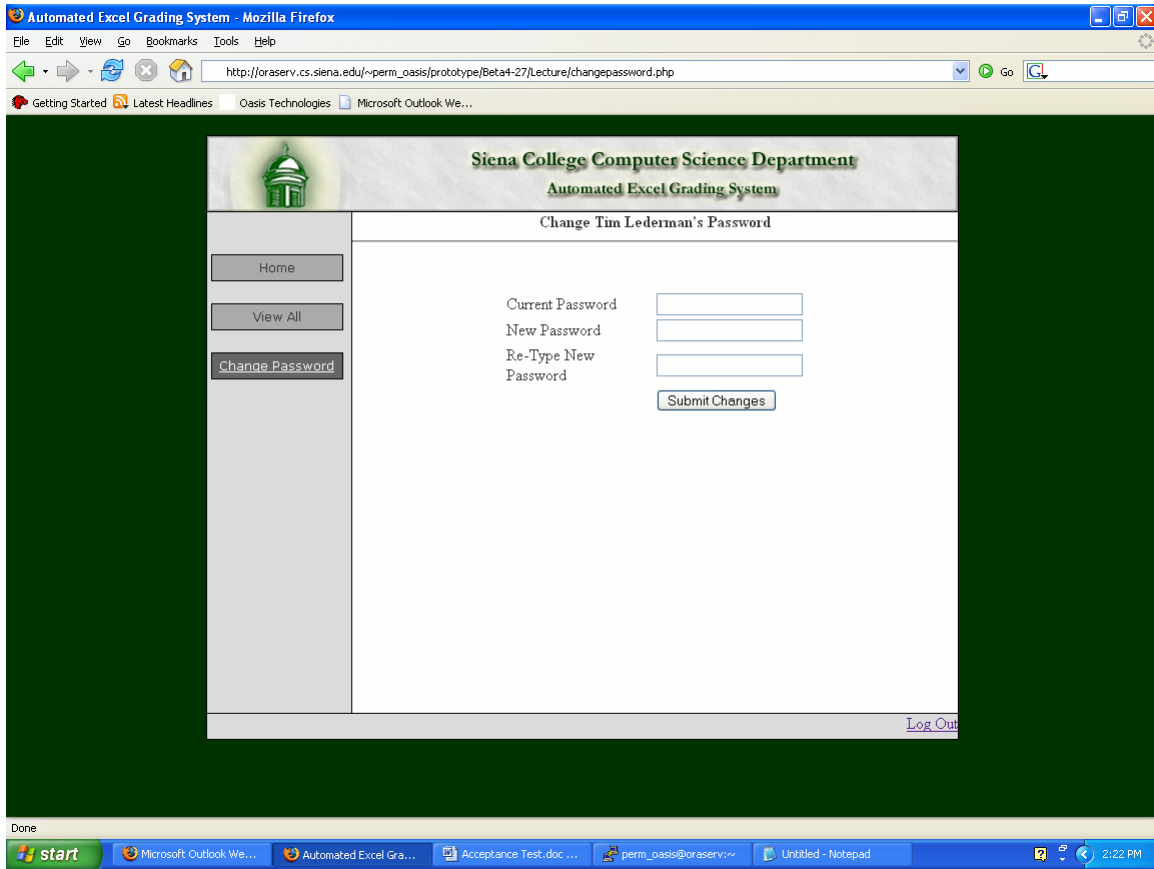
Here is where the lecture instructor can change their password.
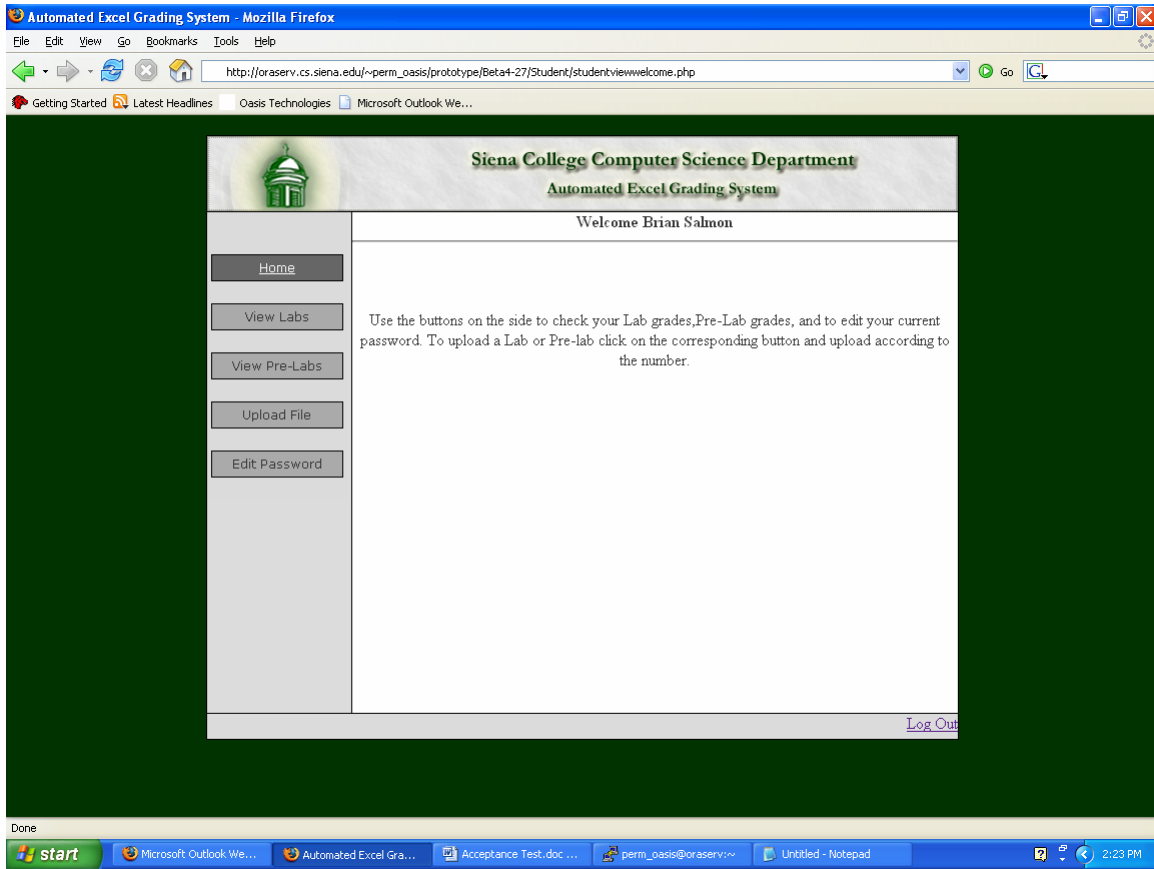
This is the student's home page after they have logged in. This also gives short instructions in case the student is using the system for the first time.

This is where the student can view and labs and the grades associated with that lab. They can also view any errors that they made in that lab. This also shows the student when the lab was submitted.

This is an example of what the student might see if they click on the view errors link. The red field shows where the error occurred and also has a comment associated with it that the student can read that gives a more detailed description of the error.

This is similar to the view labs button, it shows pre-labs and the grades associated with them, what time they were submitted, and the student can view any errors made in the prelab.

If the view errors button is clicked, the student will see their file, and the field where any error occurred will be in red with a comment.
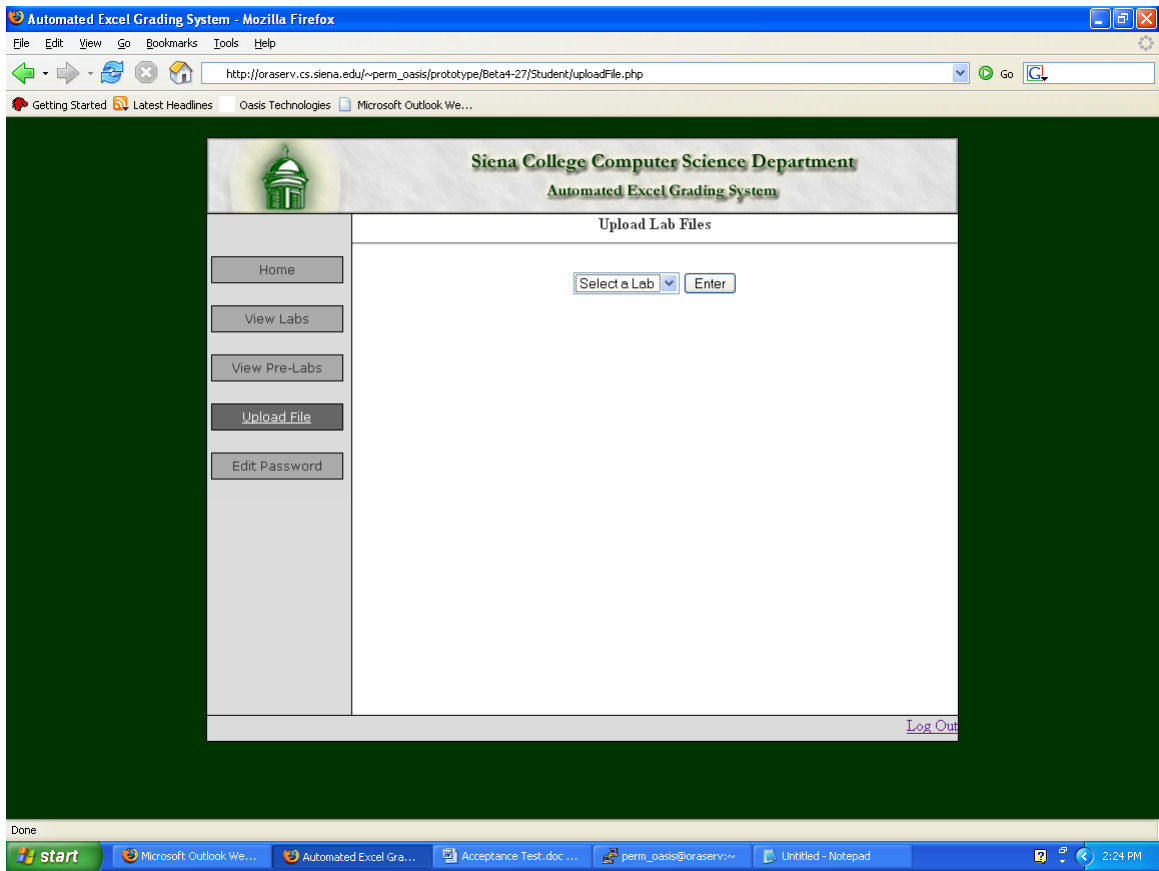
Here the student selects a lab in which they want to upload a file.
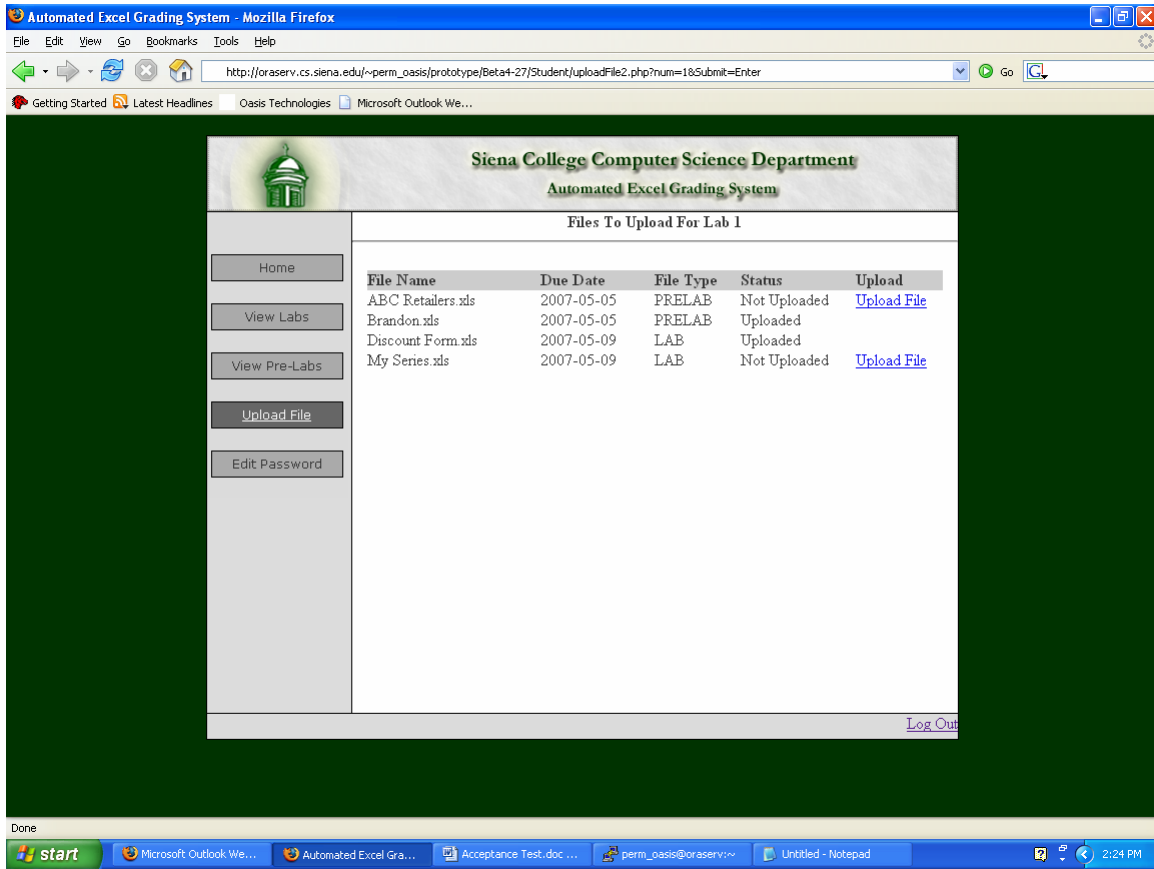
Here the students can see what has been uploaded and what hasn't, the due dates for each file, and they can upload any file that has not been uploaded yet.
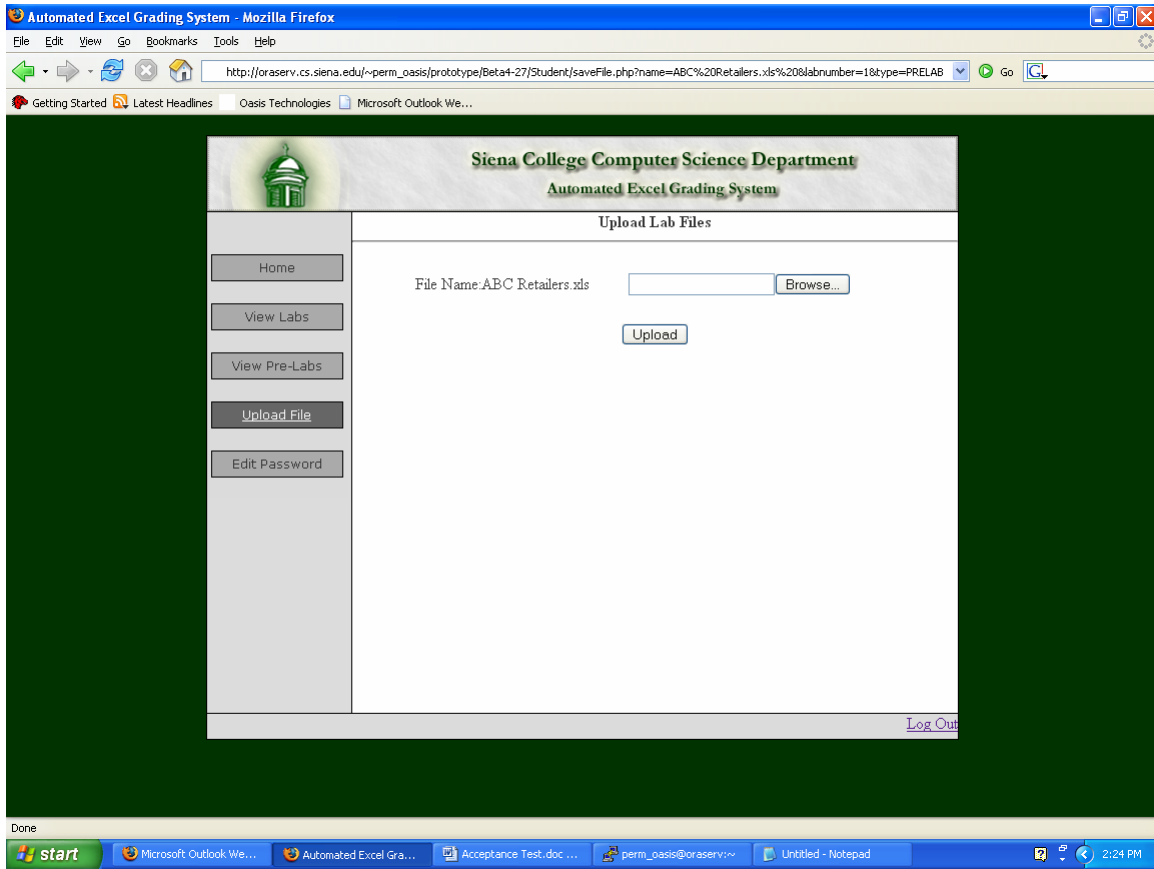
Here is where the student actually chooses the file from their system to upload to the Automated Excel Grading System for grading.
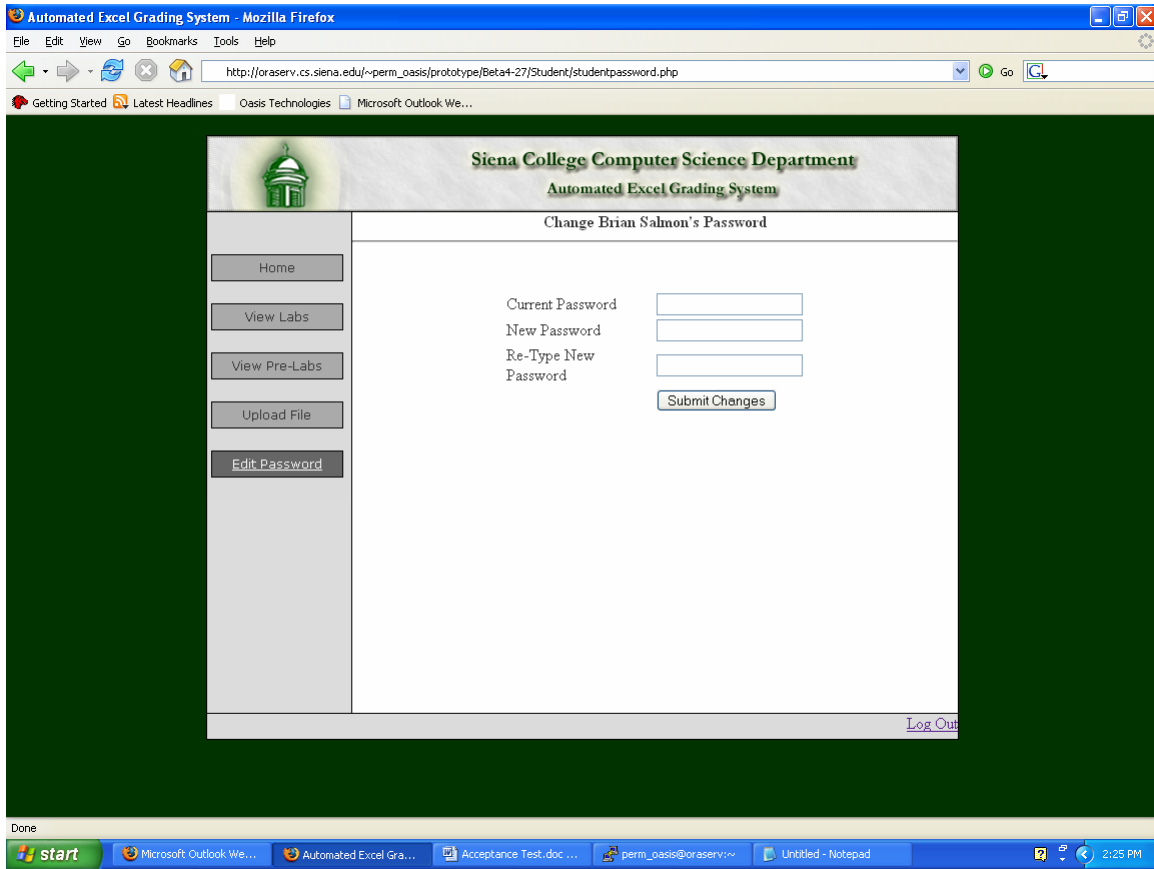
The student can change their own password on this screen.

Appendices

I. Sources of Information
The information in this document was gathered from meetings with our clients, Ms. Jami Cotler and Dr. Scott Hunter, knowledge learned from Dr. Lederman's Software Engineering lectures, the class textbook Software Engineering: A Practitioner's Approach by Roger S. Pressman, and team websites from previous years located at:
http://www.cs.siena.edu/~lederman/csis410/csis410.html

II. Gantt Chart

ID	❶	Task Name	Start
1	⊞	Initial Team Meeting	Thu 1/25/07
2	↻	Weekly Team Meetings	Thu 2/1/07
15	⊞	Initial Client Meeting	Mon 2/5/07
16	↻	Weekly Client Meetings	Mon 2/12/07
28	⊞	Test Plan	Tue 2/13/07
29	⊞	Detailed Design Development	Mon 2/5/07
30	⊞	Detailed Design Presentation	Tue 3/13/07
31	⊞	Debrief on Presentation	Tue 3/13/07
32	⊞	Development and Testing	Tue 3/13/07
33	⊞	Acceptance Test Preparation	Thu 4/19/07
34	⊞	Acceptance Test Presentation	Tue 5/1/07
35	⊞	Debrief on Presentation	Tue 5/1/07
36	⊞	Academic Celebration	Fri 5/4/07
37	⊞	End of Semester Party	Tue 5/8/07

Project: Oasis Technologies Gantt Chart
Date: Mon 4/2/07

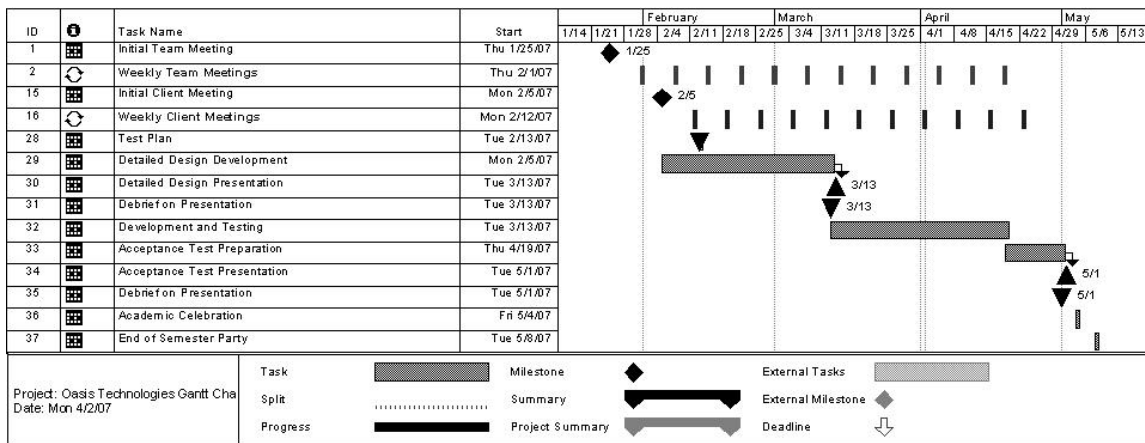|	
Task	Milestone
Split	Summary
Progress	Project Summary
External Tasks	External Milestone
Deadline	

III. Glossary of Terms

Cell: The smallest component of a Microsoft Excel workbook. Location is designated by it's sheet, row, and column in the workbook.

Comments: Data stored in a Microsoft Excel workbook that pertains to a particular cell but is invisible unless user chooses to view the comment on a cell.

Gantt Chart: A popular type of bar chart that illustrates a project schedule including start and finish dates, tasks, and events that are to occur to complete the project

HTML: Hypertext Markup Language (HTML) is programming language used in the creation of Web pages.

Java: A programming language used for developing object oriented programs.

JavaScript: Javascript is a scripting language developed by Netscape that can interact with HTML source code, enabling Web authors to spice up their sites with dynamic content.

MySQL: An open source relational database management system (RDBMS) that uses Structured Query Language (SQL), the most popular language for adding, accessing, and processing data in a database.

PHP: PHP Hypertext Preprocessor is a widely-used, open-source, general-purpose scripting language that is especially suited for web development.

Sheet: Component of a workbook. Workbooks are composed of single or multiple sheets, each of which containing a spreadsheet. It should be noted that sheets within workbooks may access each others contents.

Structure Diagrams: graphical representation of the structure of the Automated Excel Grading System

Student User/Account: The most basic user of this software. Will be able to create their own accounts and use them to upload lab's and pre-lab's and also view their grades

Use Case Narrative: The basic functionality that the system will have for each of the users

Workbook: The type of files that Microsoft Excel uses which will be submitted to the Automated Excel Grading System for grading. Has file extension ".xls"

WriteableSheet: Denoted by the Automated Excel Grading System as a sheet that can has permissions such that the system may alter its contents.

xls: File extension for Workbook. See "Workbook."