

Acceptance Test

Smart Scheduling

Requested by:

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Smart Scheduling

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1 Introduction

1.1 Product Overview

Convenience is of the utmost importance in today's world. Dr. Yoder is looking for a product that can deliver this same experience in regards to his management of the Siena College Computer Science Department class schedule. Scheduling is currently done by hand and is extremely cumbersome, so our product (Smart Scheduling) seeks to apply the speed and automation of today's technology with the flexibility of an internet application. The product will aim to provide a convenient and familiar calendar-like interface that Dr. Yoder can use easily and efficiently to plan the use of the department's resources. Other users like students and faculty would also be able to take advantage of the Smart Scheduling software by being able to view current semester schedules to facilitate their own plan making should they need a room.

2 Requirements Inventory

2.1 Use Case Narratives

Course Coordinator/Administrator:

Course Coordinators will have the ability to log into the system via a unique username and password. System is defined as our (Empire Unlimited) application called Smart Scheduling. Once logged in, the Course Coordinator will have the ability to create new or edit existing schedules. The Course Coordinator will be able to assign classrooms, courses, and Faculty in the schedule. The Course Coordinator will have access to a database of past schedules which may be viewed or used as a template for a new schedule. The Course Coordinator will have the ability to view reports on classroom use and Faculty schedules.

The Course Coordinator is responsible for creating and managing schedules, and will submit them to the School Dean and all Faculty members for approval and viewing, respectively.

Faculty:

Faculty will have access to the system via a unique username and password. Faculty can view all schedules submitted by the Course Coordinator, as well as be able to view classroom and Faculty reports. Faculty will have the ability to add office hours and other meetings to their own schedule.

General User:

General Users will have access to the system without any authorization. General users will be able to view faculty and classroom schedule reports. A general user will not have any rights to modify or add to a schedule.

In addition to being able to view faculty and classroom schedule reports, schedules will be printed out, and posted outside of classrooms and faculty offices. This will enable everyone, mostly general users, to see at a quick glance which classrooms are being used by which teacher.

2.2 Functional Requirements Inventory

Smart Scheduling will be able to run on all popular browsers including but not limited to: Internet Explorer, Mozilla Firefox, as well as Google Chrome.

The following is the functional requirements for each user. The requirements are grouped by the user; there are 3 users for Smart Scheduling.

Course Coordinator

- Will be able to find common time slots to schedule departmental meetings or new classes.
- Will be able to modify the schedule.
 - Will be able to delete previous schedules.
 - Will be able to delete classes
 - Will be able to modify classes.
- Will be able to add new classes.
- Will be able to securely log into the system using a registered username and password.
- Will be able to view the current schedule.
 - Will be able to filter the schedule by professor(s).
 - Will be able to filter the schedule by classroom(s).
- Will be able to create a faculty account, where faculty will be able to access the system.
- Will be able to view and print room reports.

Faculty

- Will be able to securely log into the system using a registered username and password.
- Will be able to view the current schedule.
 - Will be able to filter the schedule by professor(s).
 - Will be able to filter the schedule by classroom(s).
- Will be able to view and print room reports.
- Will be able to add office hours or other meeting, where they will be available in order to meet with students or fellow teachers.

General User

- Will be able to view and print room reports.
- Will be able to view the current schedule.
 - Will be able to filter the schedule by professor(s).
 - Will be able to filter the schedule by classroom(s).

2.3 Non-Functional Requirements Inventory

The non-functional requirement inventory is a list of non-functional system requirements. This list is composed of requirements that specify how the system *should* be. This list is subject to change as more information is gathered about the project.

- The system will be easily maintained.
- The system will be stable.
- The system will be viewable on multiple browsers.
- The system will be efficient.
- The system will be user friendly and easy to use.

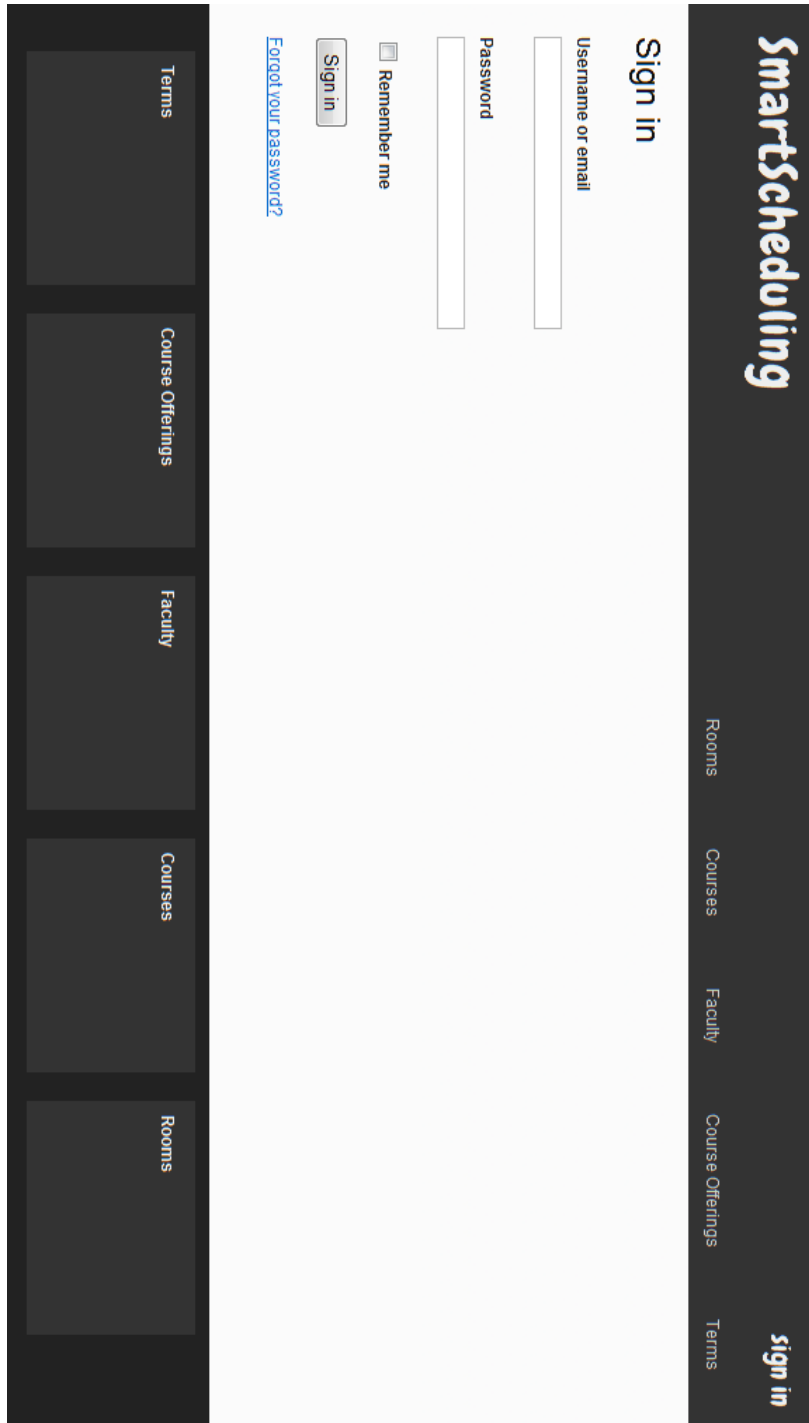
2.4 Future Enhancements

Since this year's Empire Unlimited team is graduating after the completion of this project, we have a plan for future enhancements that can be made by other classes or the owner of the software. We will be commenting all of our code so that it is easily readable and understood by those not familiar with Ruby. This will enable future classes to make modifications in an expedient and efficient way. Additionally, new buildings or departments can be added into the database to create schedules for the rest of campus. In addition to this, team Empire Unlimited has agreed to support Smart Scheduling for an additional year. This means that after we graduate, we will regularly check our emails for requested modifications, and implement those modifications in a timely manner.

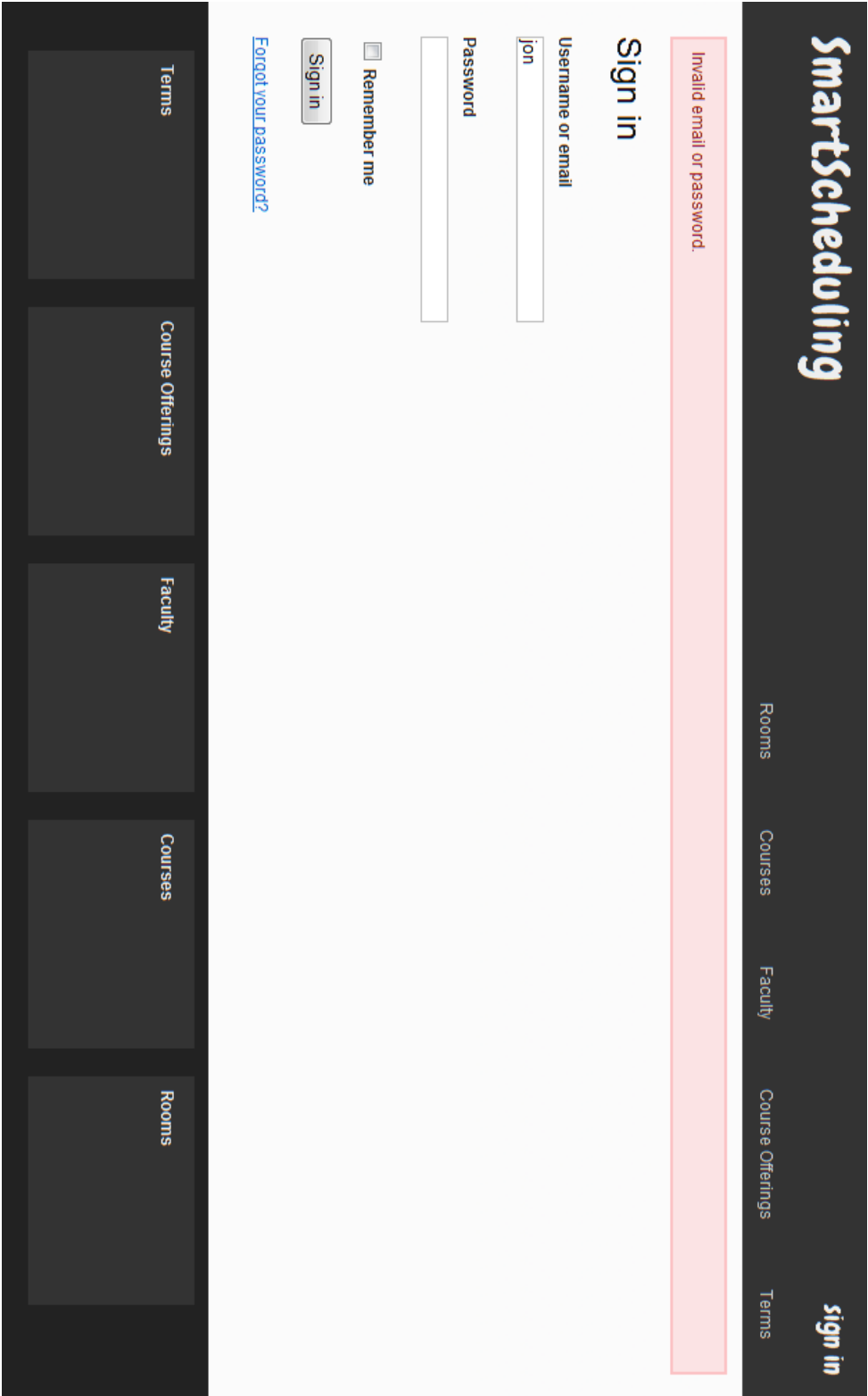
3 External Design Specifications

3.1 User Displays

3.1.1 Authenticate



3.1.2 Authentication Error



3.1.3 View All Faculty

SmartScheduling

[Notes](#)
[Users](#)
tom@tom.com
[Sign out](#)

Rooms
Courses
Faculty
Course Offerings
Terms

All Faculty Members

First Name	Last Name	Email	Status	Action
Darren	Lim	dlim@siena.edu	Tenured	
Eric	Breimer	ebreimer@siena.edu	Tenured	
Robin	Flatland	flatland@siena.edu	Tenured	
Robert	Yoder	ryoder@siena.edu	Tenured	
James	Teresoo	jteresoo@siena.edu	Not Tenured	
Scott	Vandenberg	vandenberg@siena.edu	Tenured	
Timoth	Lederman	lederman@siena.edu	Tenured	
Dale	Bryant	bbryant@siena.edu	Not Tenured	
Mary Anne	Egan	maegan@siena.edu	Tenured	
Johanna	Horowitz	horowitz@siena.edu	Tenured	
Leonard	Putnick	putnick@siena.edu	Tenured	
Pauline	White	pwhite@siena.edu	Not Tenured	
Jami	Cotler	jcotler@siena.edu	Not Tenured	
Sharon	Small	ssmall@siena.edu	Not Tenured	
Jim	Matthews	matthews@siena.edu	Tenured	
Margaret	Garnsey	garnsey@siena.edu	Tenured	
Michelle	Conway	mconway@siena.edu	Not Tenured	
Guy	Cortesi	goortesi@siena.edu	Not Tenured	
Walter	Liss	wliss@siena.edu	Not Tenured	
Gary	Cutler	gcutler@siena.edu	Not Tenured	
Mark	Arunasalem	marunasalem@siena.edu	Not Tenured	
Dastagir	Nobel	dnobel@siena.edu	Not Tenured	
Scott	Diehl	sfdiehl@siena.edu	Not Tenured	
David	Adkins	dadkins@siena.edu	Not Tenured	
Margaret	Fryling	mfryling@siena.edu	Not Tenured	

Terms

[New Term](#)

Course Offerings

[New Course Offering](#)

[Check Conflicts](#)

[Full Calendar](#)

Faculty

[New Faculty](#)

Courses

[New Course](#)

Rooms

[New Room](#)

3.1.4 View One Faculty

The screenshot shows the 'View a Faculty Member' interface in Smartscheduling. At the top right is the 'Smartscheduling' logo. A navigation bar contains links for 'Rooms', 'Courses', 'Faculty', 'Course Offerings', and 'Terms'. On the right side of the page, there are links for 'Notes', 'Users', 'tom@tom.com', and 'Sign out'. The main content area is titled 'View a Faculty Member' and features four action buttons: 'Edit', 'Delete', 'Add New', and 'Calendar'. Below these buttons, the faculty member's details are listed: Name (Darren Lim), Email (dlim@siena.edu), and Status (Tenured). A section for 'Office Hours' includes a link to 'Add Office Hours' and the value 'None'. The 'Currently Teaching' section lists three courses: 'Object-Oriented Design and Prog 225L', 'Object-Oriented Lab 225L', and 'Object-Oriented Lab 375', with the first course also including 'Intro to Artificial Intelligence'. At the bottom, a sidebar contains five menu items: 'Terms New Term', 'Course Offerings New Course Offering', 'Faculty New Faculty', 'Courses New Course', and 'Rooms New Room'.

Smartscheduling

Rooms Courses Faculty Course Offerings Terms

Notes Users tom@tom.com Sign out

View a Faculty Member

Edit Delete Add New Calendar

Name Darren Lim
Email dlim@siena.edu
Status Tenured

Office Hours

[Add Office Hours](#)
None

Currently Teaching

225
Object-Oriented Design and Prog
225L
Object-Oriented Lab
225L
Object-Oriented Lab
375
Intro to Artificial Intelligence

Terms
New Term

Course Offerings
New Course Offering
Check Conflicts
Full Calendar

Faculty
New Faculty

Courses
New Course

Rooms
New Room

3.1.5 Edit a Faculty Member

SmartScheduling

Rooms Courses Faculty Course Offerings

Notes Users tom@tom.com Sign out

Editing Faculty

[Back](#)

First

Last

Email

Status

Terms
New Term

Course Offerings
New Course Offering
Check Conflicts
Full Calendar

Faculty
New Faculty

Courses
New Course

Rooms
New Room

3.1.6 Edit a Faculty Member with Error

The screenshot shows the 'Smartscheduling' interface. At the top right, there is a navigation bar with links for 'Rooms', 'Notes', 'Users', 'tom@tom.com', and 'Sign out'. Below this, the page title 'Editing Faculty' is displayed. A red error message box states: '2 errors prohibited this item from being saved:' followed by a bulleted list: '• First can't be blank' and '• Last can't be blank'. Below the error message, there are input fields for 'First' (empty), 'Last' (empty), 'Email' (containing 'dlim@siena.edu'), and 'Status' (containing 'Tenured'). An 'Update Faculty' button is located at the bottom of the form. On the left side, there is a vertical sidebar with navigation links: 'Terms' (New Term), 'Course Offerings' (New Course Offering, Check Conflicts, Full Calendar), 'Faculty' (New Faculty), 'Courses' (New Course), and 'Rooms' (New Room).

3.1.7 Delete Faculty Member with Confirmation

SmartScheduling

[Notes](#)
[Users](#)
[tom@tom.com](#)
[Sign out](#)

Rooms Courses Faculty Course Offerings Terms

View a Faculty Member

Edit
 Delete
 Add New
 Calendar

Name Nonexistant Professor
Email doesntexist@nonexistant.edu
Status Doesn't Exist

Office Hours

[Add Office Hours](#)

None

Currently Teaching

Terms
New Term

Course Offerings
New Course Offering
Check Conflicts
Full Calendar

Faculty
New Faculty

Courses
New Course

Rooms
New Room

SmartScheduling

[Notes](#)
[Users](#)
[tom@tom.com](#)
[Sign out](#)

Rooms Courses Faculty Course Offerings Terms

Faculty Nonexistant Professor deleted successfully

All Faculty Members

↕ First Name	↕ Last Name	↕ Email	↕ Status	↕ Action
Darren	Lim	dlim@siena.edu	Tenured	
Eric	Breimer	ebreimer@siena.edu	Tenured	
Robin	Flatland	flatland@siena.edu	Tenured	
Robert	Yoder	ryoder@siena.edu	Tenured	
James	Teresco	jteresco@siena.edu	Not Tenured	

3.1.8 Create a Faculty Member

The screenshot shows the 'SmartScheduling' interface for creating a new faculty member. The page has a dark header with the logo and navigation links. The main content area is titled 'Make a New Faculty Member' and contains a form with several input fields and a 'Create Faculty' button. A sidebar on the right contains navigation links for various system functions.

SmartScheduling

[Rooms](#) [Courses](#) [Faculty](#) [Course Offerings](#) [Terms](#)

[Notes](#) [Users](#) [tom@tom.com](#) [Sign out](#)

Make a New Faculty Member

[Back](#)

First

Last

Email

Status

Terms [New Term](#)

Course Offerings [New Course Offering](#)
[Check Conflicts](#)
[Full Calendar](#)

Faculty [New Faculty](#)

Courses [New Course](#)

Rooms [New Room](#)

3.1.9 Creating a New Faculty Member with Errors

The screenshot displays the 'Smartscheduling' application interface. At the top right, there is a navigation bar with the following items: 'Notes', 'Users', 'tom@tom.com', and 'Sign out'. Below this, a secondary navigation bar contains 'Rooms', 'Courses', 'Faculty', 'Course Offerings', and 'Terms'. The main heading is 'Make a New Faculty Member'. A 'Back' link is located above the error message. The error message, displayed in a red box, states: '1 error prohibited this item from being saved:' followed by a bullet point: '• First can't be blank'. Below the error, the form fields are: 'First' (empty), 'Last' (containing 'Guy'), 'Email' (containing 'nguy@siena.edu'), and 'Status' (containing 'Nooble'). A 'Create Faculty' button is at the bottom of the form. On the left side, there is a vertical sidebar menu with the following items: 'Terms New Term', 'Course Offerings New Course Offering Check Conflicts Full Calendar', 'Faculty New Faculty', 'Courses New Course', and 'Rooms New Room'.

All Rooms

Room Number	Capacity	Lab?	Action
RB 340	30	false	
RB 328	32	false	
RB 330	20	true	
RB 306	16	true	
RB 304	15	true	
RB 302	24	false	
RB 350	32	true	

Terms
New Term

Course Offerings
New Course Offering
Check Conflicts
Full Calendar

Faculty
New Faculty

Courses
New Course

Rooms
New Room

3.1.10 View All Rooms

3.1.11 View a Room

The screenshot displays the 'View a Room' page in the Smartscheduling application. At the top, the 'Smartscheduling' logo is visible on a dark background. A navigation bar contains links for 'Rooms', 'Courses', 'Faculty', 'Course Offerings', and 'Terms'. On the right side of the navigation bar, there are links for 'Notes', 'Users', 'tom@tom.com', and 'Sign out'. The main content area is titled 'View a Room' and features three action buttons: 'Edit' (pencil icon), 'Delete' (red X icon), and 'New' (green plus icon). Below these buttons, the room details are listed: 'Room Number RB 330', 'Capacity 20', and 'Lab true'. At the bottom, a dark sidebar contains five menu items: 'Terms New Term', 'Course Offerings New Course Offering Check Conflicts Full Calendar', 'Faculty New Faculty', 'Courses New Course', and 'Rooms New Room'.

3.1.12 Editing a Room

The screenshot displays the 'Smartscheduling' application interface for editing a room. The top navigation bar includes 'Rooms', 'Courses', 'Faculty', 'Course Offerings', and 'Terms'. The main content area is titled 'Editing Room' and features a 'Back' link. The form includes the following fields:

- Number:** RB 330
- Capacity:** 20
- Lab:**

An 'Update Room' button is located at the bottom of the form. A sidebar on the right contains navigation options: 'Terms' (New Term), 'Course Offerings' (New Course Offering, Check Conflicts, Full Calendar), 'Faculty' (New Faculty), 'Courses' (New Course), and 'Rooms' (New Room).

3.1.13 Creating a New Room

Smartscheduling

Rooms Courses Faculty Course Offerings Terms

Notes **Users** **tom@tom.com** **Sign out**

New Room

[Back](#)

Number
RB500

Capacity
0

Lab

Terms
New Term

Course Offerings
New Course Offering
Check Conflicts
Full Calendar

Faculty
New Faculty

Courses
New Course

Rooms
New Room

3.1.14 Creating a New Room with Errors

The screenshot displays the 'New Room' form in the Smartscheduling application. The top navigation bar includes the 'Smartscheduling' logo and user information: 'Notes', 'Users', 'tom@tom.com', and 'Sign out'. A secondary navigation bar shows 'Rooms', 'Courses', 'Faculty', 'Course Offerings', and 'Terms'. The main content area is titled 'New Room' and features a 'Back' link. A prominent red error message states: '2 errors prohibited this item from being saved:'. Below this, two error items are listed: 'Capacity can't be blank' and 'Capacity is not a number'. The form fields are: 'Number' (text input with value 'RB500'), 'Capacity' (text input, currently empty), and 'Lab' (checkbox, currently unchecked). A 'Create Room' button is located at the bottom of the form. A sidebar on the right contains navigation links for 'Terms', 'Course Offerings', 'Faculty', 'Courses', and 'Rooms', each with a sub-link for creating a new item.

3.1.15 View All Courses

SmartScheduling						Notes	Users	tom@tom.com	Sign out	
						Rooms	Courses	Faculty	Course Offerings	Terms
All Courses										
Course Number	Department	Lab?	Credits	Name	Action					
010	CS/S	false	3	Intro to Computer Applicat						
011	CS/S	false	1	Prob Solving With Spreadsheets						
019	CS/S	false	1	Internet Collaboration						
110	CS/S	false	3	Intro CS: 3D Prog with Alice						
110	CS/S	false	3	Intro CS Multimedia Python Prg						
499	CS/S	false	1	IPhone Application Development						
499	CS/S	false	1	Self-Assembly Simulator Imp						
499	CS/S	false	1	Web Application Architecture						
499	CS/S	false	2	Res In Computational Geometry						
115	CS/S	false	3	Database Design and App to Bus						
499	CS/S	false	1	IPhone OS Development						
410	CS/S	false	3	Software Engineering I						
200	CS/S	false	3	Human-Computer Interaction						
390	CS/S	false	3	Web App. Development						
220	CS/S	false	4	Assembly Lang and Comp Archtor						
390L	CS/S	true	0	Web App. Dev. Lab						
380	CS/S	false	3	Computer Graphics						
350	CS/S	false	3	Data Base Management						
251	CS/S	false	3	Discrete Structures I						
220L	CS/S	true	0	Comp Arch & Assembly Lang-Lab						
310	CS/S	false	3	Numerical Methods						
499	CS/S	false	3	Virtual World Development						
210	CS/S	false	3	Data Structures						
499	CS/S	false	1	Algorithms for Modular Robots						
210L	CS/S	true	0	Data Structures-Lab						
499	CS/S	false	1	Computer Science In Film						
200	CS/S	false	3	Introduction to GIS						
120	CS/S	false	4	Intro to Programming						
120L	CS/S	true	0	Intro to Programming - Lab						
114	CS/S	false	3	Management Information Systems						
010L	CS/S	true	0	Intro to Computer App-Lab						
110L	CS/S	true	0	Intro CS: MM Python Prg-Lab						
110L	CS/S	true	0	Intro CS:3D Prog w/Alice-Lab						
114L	CS/S	true	0	Management Information Sys-Lab						
251L	CS/S	true	0	Discrete Structures I-Lab						
019	CS/S	false	1	Competitive Programming II						
019	CS/S	false	1	Computer Mediated Communicatn						
112	CS/S	false	3	Database Design and App for Bus						

3.1.16 View a Course

Smartscheduling

Notes Users tom@tom.com Sign out

Rooms Courses Faculty Course Offerings Terms

View a Course

Edit Delete Add

Course Number 415
Department CSIS
Lab a1ee
Credits 3
Name Software Engineering II

Terms
New Term

Course Offerings
New Course Offering
Check Conflicts
Full Calendar

Faculty
New Faculty

Courses
New Course

Rooms
New Room

3.1.17 Edit a Course

The screenshot displays the 'SmartScheduling' 'Editing Course' page. The main content area contains the following form fields:

- Name:** Software Engineering II
- Number:** 415
- Department:** CSIS
- Laid:**
- Credits:** 3

An 'Update Course' button is located at the bottom of the form.

The left sidebar contains the following navigation options:

- Terms: New Term
- Courses Offerings: New Course Offering, Check Conflicts, Full Calendar
- Faculty: New Faculty
- Courses: New Course
- Rooms: New Room

The top navigation bar includes the following links:

- Notes
- Users
- tom@tom.com
- sign out

Additional links in the top bar include Rooms, Courses, Faculty, and Course Offerings.

3.1.18 Edit a Course with Errors

The screenshot displays the 'SmartScheduling' interface for editing a course. At the top right, a navigation bar includes 'Notes', 'Users', 'tom@tom.com', and 'Sign out'. Below this, a secondary navigation bar contains 'Rooms', 'Courses', 'Faculty', 'Course Offerings', and 'Terms'. The main heading is 'Editing Course'. A red error banner states: '2 errors prohibited this item from being saved:'. The errors listed are: 'Number can't be blank' and 'Number must be valid course format'. The form fields are: 'Name' (Software Engineering II), 'Number' (empty), 'Department' (CSIS), 'Lab' (checkbox), and 'Credits' (3). An 'Update Course' button is at the bottom. A sidebar on the left contains links for 'Terms', 'Course Offerings', 'Faculty', 'Courses', and 'Rooms', each with a 'New' sub-link.

3.1.19 View All Course Offerings

SmartScheduling

[Notes](#)
[Users](#)
[tom@tom.com](#)
[Sign out](#)

[Rooms](#)
[Courses](#)
[Faculty](#)
[Course Offerings](#)
[Terms](#)

Viewing Courses for the Term (Spring 2011)

Show/Hide Filters

Course #	Faculty	Room	Days	Start Time	End Time	Fac. Status	Action
CSIS 010	White, Pauline	RB 328	T R	8:30 AM	9:25 AM	Not Tenured	
CSIS 010	Bryant, Dale	RB 340	M W	11:30 AM	12:25 PM	Not Tenured	
CSIS 010	Liss, Walter	RB 340	M W	1:30 PM	2:25 PM	Not Tenured	
CSIS 010L	Liss, Walter	RB 304	M	3:40 PM	5:40 PM	Not Tenured	
CSIS 010L	Liss, Walter	RB 304	F	8:15 AM	10:15 AM	Not Tenured	
CSIS 010L	White, Pauline	RB 304	M	8:15 AM	10:15 AM	Not Tenured	
CSIS 010L	White, Pauline	RB 304	W	8:15 AM	10:15 AM	Not Tenured	
CSIS 010L	Bryant, Dale	RB 304	T	10:50 AM	12:50 PM	Not Tenured	
CSIS 010L	Teresoo, James	RB 304	F	1:30 PM	3:30 PM	Not Tenured	
CSIS 010L	Bryant, Dale	RB 304	W	1:30 PM	3:30 PM	Not Tenured	
CSIS 010L	Arunasalem, Mark	RB 304	R	6:00 PM	8:00 PM	Not Tenured	
CSIS 010	Cutler, Gary	RB 340	M W	6:00 PM	6:55 PM	Not Tenured	
CSIS 010L	Arunasalem, Mark	RB 304	T	6:00 PM	8:00 PM	Not Tenured	
CSIS 011	Nobel, Dastagir	RB 304	T R	1:00 PM	2:20 PM	Not Tenured	
CSIS 110	Small, Sharon	RB 302	M F	10:25 AM	11:20 AM	Not Tenured	
CSIS 110	Horowitz, Johanna	RB 328	W F	2:35 PM	3:30 PM	Tenured	
CSIS 110L	Small, Sharon	RB 306	R	8:30 AM	10:30 AM	Not Tenured	
CSIS 110L	Small, Sharon	RB 306	T	8:30 AM	10:30 AM	Not Tenured	
CSIS 110L	Horowitz, Johanna	RB 306	R	11:30 AM	1:30 PM	Tenured	
CSIS 110L	Horowitz, Johanna	RB 330	T	1:50 PM	3:30 PM	Tenured	
CSIS 114	Bryant, Dale	RB 340	W F	8:15 AM	9:10 AM	Not Tenured	
CSIS 114	Cotler, Jami	RB 340	W F	9:20 AM	10:15 AM	Not Tenured	
CSIS 114	Vandenberg, Scott	RB 328	T R	11:30 AM	12:25 PM	Tenured	
CSIS 114	Horowitz, Johanna	RB 328	W F	11:30 AM	12:25 PM	Tenured	
CSIS 114	Brelmer, Eric	RB 328	W F	1:30 PM	2:25 PM	Tenured	
CSIS 114L	Yoder, Robert	RB 330	W	4:25 PM	6:25 PM	Tenured	
CSIS 114L	Bryant, Dale	RB 306	M	8:15 AM	10:15 AM	Not Tenured	
CSIS 114L	Vandenberg, Scott	RB 306	F	9:20 AM	11:20 AM	Tenured	
CSIS 114L	Cotler, Jami	RB 330	M	9:20 AM	11:20 AM	Not Tenured	
CSIS 114L	Cotler, Jami	RB 304	R	10:50 AM	12:50 PM	Not Tenured	
CSIS 114L	Horowitz, Johanna	RB 330	T	10:00 AM	12:00 PM	Tenured	
CSIS 114L	Small, Sharon	RB 306	T	1:50 PM	3:50 PM	Not Tenured	
CSIS 114L	Vandenberg, Scott	RB 306	F	1:30 PM	3:30 PM	Tenured	
CSIS 114L	Bryant, Dale	RB 306	M	1:30 PM	3:30 PM	Not Tenured	
CSIS 114L	Conway, Michelle	RB 306	M	7:00 PM	9:00 PM	Not Tenured	
CSIS 114L	Yoder, Robert	RB 330	M	4:25 PM	6:25 PM	Tenured	
CSIS 114L	Conway, Michelle	RB 306	W	7:00 PM	9:00 PM	Not Tenured	

3.1.20 Edit a Course Offering

SmartScheduling

Notes Users tom@tom.com Sign out

Rooms Courses Faculty Course Offerings Terms

0 Conflicts with CSIS 385 from 10:00 AM - 11:20 AM on T R with Teresco, James in room RB 328

Edit Course Offering

Faculty

Teresco, James

Room

RB 328

Course

CSIS 385 - Analysis of Algorithms

Logistics

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

start time string

10:00 AM ex. 9:30 AM

End time string

11:20 AM ex. 2:30 PM

Update Course offering

Terms
New Term

Course Offerings
New Course Offering
Check Conflicts
Full Calendar

Faculty
New Faculty

Courses
New Course

Rooms
New Room

3.1.21 Create a new Course Offering with Errors

SmartScheduling Notes Users tom@tom.com Sign out

[Rooms](#) [Courses](#) [Faculty](#) [Course Offerings](#) [Terms](#)

New Course

[Back](#)

2 errors prohibited this item from being saved:

- Number can't be blank
- Number Must be valid course format

Name

Number

Department

Lab

Credits

Terms New Term	Course Offerings New Course Offering Check Conflicts Full Calendar	Faculty New Faculty	Courses New Course	Rooms New Room
--------------------------	--	-------------------------------	------------------------------	--------------------------

3.1.22 View All Terms, Set a Current Term

The screenshot displays the SmartScheduling application interface. At the top, the logo "SmartScheduling" is visible. Below it, a navigation bar contains links for "Notes", "Users", "tom@tom.com", and "Sign out". A secondary navigation bar includes "Rooms", "Courses", "Faculty", "Course Offerings", and "Terms". The main content area is titled "Instructions" and contains the following text: "Clicking on a term (ie. Spring 2011) will set this term as your current viewing term, so if you then click on Course Offerings, only Offerings from that term will be displayed." Below this text are four links: "Spring 2011 - [Edit Term](#) [Delete](#)", "Spring 2010 - [Edit Term](#) [Delete](#)", "Fall 2010 - [Edit Term](#) [Delete](#)", and "Fall 2009 - [Edit Term](#) [Delete](#)". At the bottom, a dark sidebar contains five menu items: "Terms" (with "New Term" below it), "Course Offerings" (with "New Course Offering", "Check Conflicts", and "Full Calendar" below it), "Faculty" (with "New Faculty" below it), "Courses" (with "New Course" below it), and "Rooms" (with "New Room" below it).

3.1.23 Editing a Term

The screenshot displays the 'SmartScheduling' interface for editing a term. At the top, the title 'Editing Spring 2011' is shown. Below it, there are input fields for 'Year' (set to 2011) and 'Semester' (set to Spring). A checkbox is checked, with the text 'Make this the term a student will view by default'. At the bottom of this section are two buttons: 'Update Term' and 'Copy This Term'. On the right side, a dark navigation bar contains the 'SmartScheduling' logo and several menu items: 'Rooms', 'Notes', 'Users', 'tom@tom.com', 'Sign out', 'Courses', 'Faculty', 'Course Offerings', and 'Terms'. On the left side, a dark sidebar contains five menu items: 'Terms' (with 'New Term' below it), 'Course Offerings' (with 'New Course Offering', 'Check Conflicts', and 'Full Calendar' below it), 'Faculty' (with 'New Faculty' below it), 'Courses' (with 'New Course' below it), and 'Rooms' (with 'New Room' below it).

3.1.24 Create a New Term

SmartScheduling

Notes Users tom@tom.com Sign out

Rooms Courses Faculty Course Offerings Terms

Create New Term

Year

Semester
Select a semester ▼

Make default Term? This will define the term for every student

Create Term

Terms
New Term

Course Offerings
New Course Offering
Check Conflicts
Full Calendar

Faculty
New Faculty

Courses
New Course

Rooms
New Room

3.1.25 Create a New Term with Errors

The screenshot displays the 'Create New Term' interface in the Smartscheduling system. At the top right, a navigation bar includes the 'Smartscheduling' logo and links for 'Notes', 'Users', 'tom@tom.com', and 'Sign out'. Below this, a secondary navigation bar contains links for 'Rooms', 'Courses', 'Faculty', 'Course Offerings', and 'Terms'. The main heading is 'Create New Term'. A prominent red error message states: '1 error prohibited this item from being saved: Year can't be blank'. The form fields include a 'Year' text input, a 'Semester' dropdown menu currently set to 'Spring', and a checkbox labeled 'Make default Term?' with the subtext 'This will define the term for every student'. A 'Create Term' button is located at the bottom of the form. On the left side, a vertical sidebar contains navigation options: 'Terms' (New Term), 'Course Offerings' (New Course Offering, Check Conflicts, Full Calendar), 'Faculty' (New Faculty), 'Courses' (New Course), and 'Rooms' (New Room).

3.1.26 Calendar View for a Week

SmartScheduling

[Notes](#) [Users](#) [tom@tom.com](#) [Sign out](#)

[Rooms](#) [Courses](#) [Faculty](#) [Course Offerings](#) [Terms](#)

Show/Hide Filters

Full Schedule

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
6am							
7am							
8am		8:15 - 9:10 CSIS 410 - RB 328		8:15 - 9:10 8:15 - 9:10 CSIS 114 - CSIS 410 - RB 328	8:30 - 10:30 CSIS 120L - RB 330	8:15 - 11:15 - 9 CSIS 1 - CSIS 114 - CSIS 114 - RB 330	
9am		9:20 - 10:20 - 10:25 CSIS 0 - CSIS 114 - CSIS 114 - RB 328		9:20 - 9:20 - 9:20 - 9:20 CSIS CSIS CSIS CSIS		9:20 - 11:15 RB 340 CSIS 114 - RB 328	
10am		10:25 - 10:25 - 10:25 CSIS CSIS CSIS	10:00 - 11:20 10:00 - 11:20 CSIS 200 - CSIS 220 - RB 328	10:25 - 10:25 - 10:25 RB 220 - CSIS CSIS CSIS	10:00 - 10:00 - CSIS CSIS	10:25 - 10:25 - 10:25 CSIS 0 CSIS CSIS	
11am		11:30 - 11:30 11:30 11:30 RB 330L - CSIS 114 - CSIS 114 - RB 328		11:30 - 11:30 11:30 11:30 RB 308 - CSIS CSIS CSIS	11:30 - 11:30 11:30 11:30 RB 308 - CSIS CSIS CSIS	11:30 - 11:30 11:30 11:30 RB 308 - CSIS CSIS CSIS	
12pm			11:30 - 12:50 CSIS 350 - RB 304		11:30 - 12:50 CSIS 350 - RB 304		
1pm			1:00 - 2:20 CSIS 251 - RB 328		1:00 - 2:20 CSIS 251 - RB 328		
2pm		1:30 - 3:30 CSIS 210L - RB 330				1:30 - 3:30 CSIS 110L - RB 306	
3pm		2:35 - 3:30 CSIS 110 - RB 328	3:10 - 5:10 CSIS 114L - RB 304	2:35 - 3:30 CSIS 110 - RB 328	2:35 - 3:30 CSIS 380 - RB 328	2:35 - 3:30 CSIS 380 - RB 328	
4pm			4:00 - 5:00 CSIS 019 - RB 328	3:35 - 4:30 CSIS 114 - RB 328		3:35 - 4:30 CSIS 114 - RB 328	
5pm			4:35 - 5:30 CSIS 210 - RB 328	4:35 - 5:30 CSIS 210 - RB 328			
6pm							
7pm							
8pm							
9pm							
10pm							

3.2 Logical Data Dictionary

Definition of a Data Dictionary: a "centralized repository of information about data such as meaning, relationships to other data, origin, usage, and format." - IBM Dictionary of Computing.

KEY:

Data Name: The name of the data entity being stored, whether it be in a database or not.

Applicable To: The screens that this data entity will be used for.

Data Type: The type of data for a data entity

Data Size: The size of the data in terms of it's data type.

Description: A description of what data this entity is storing.

Acceptable Input: What must be inputted by a user in order for the system to accept the data.

Correct Example of Input: An example of data that would be accepted by the system.

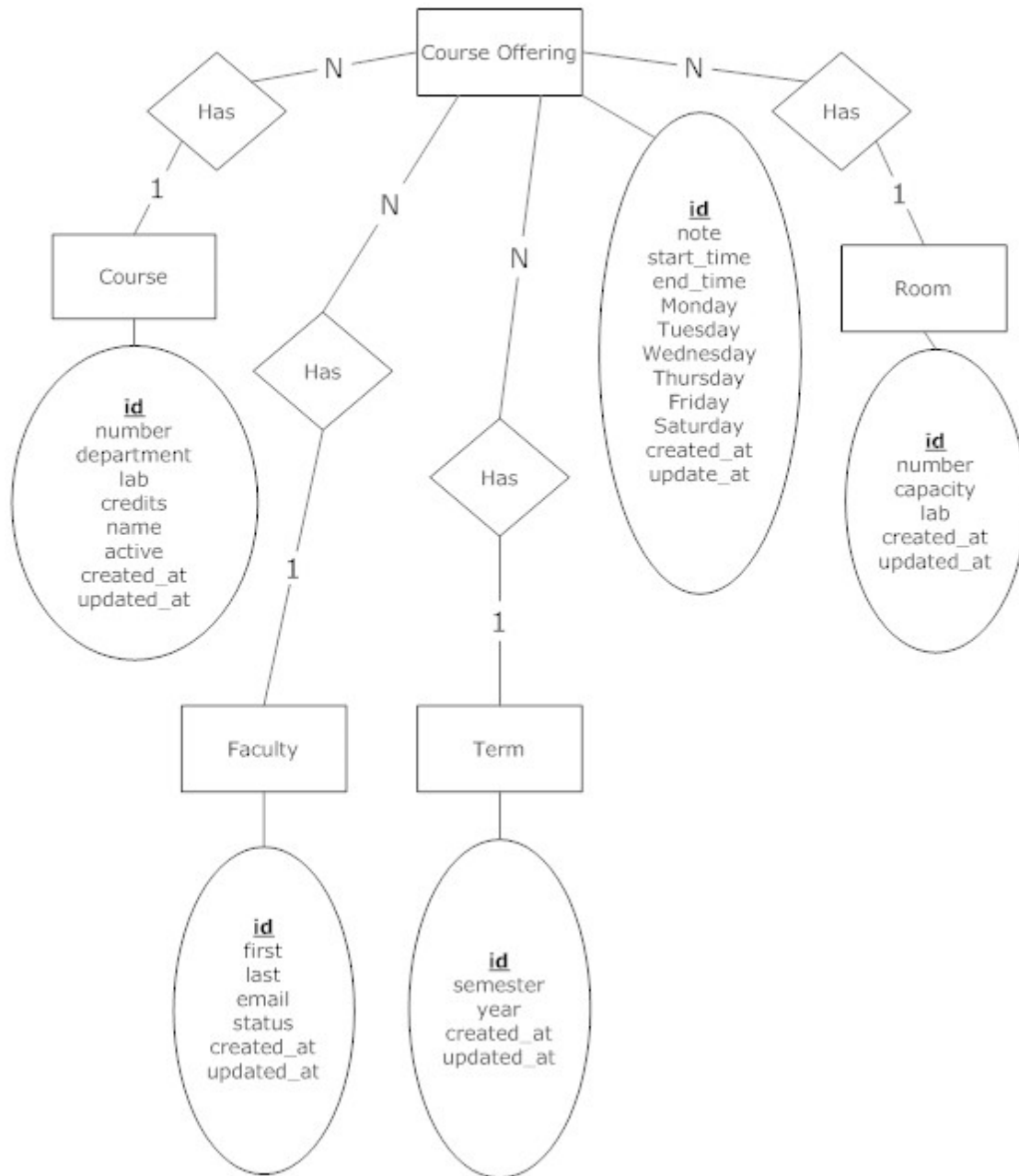
Notes: Additional information regarding the data.

Below is a list of all data types available.

Name in Database	Data Type	Descrip.	Good Example	Bad Example	Rules/Comments	Table Name
first	Varchar(255)	First name of faculty member	John	null	not null	Faculty
last	Varchar(255)	Last name of faculty member	Smith	null	not null	Faculty
email	Varchar(255)	Email address of faculty member	jsmith@siena.edu	jsmith	text@siena.edu	Faculty
status	Varchar(255)	Status	Tenured	busy	ex. Tenured, Adjunct,	Faculty
number	Varchar(255)	Course number	CSIS415		415 must be formatted ##	Course
department	Varchar(255)	Department of the course	Computer Science	Bricks	must be a department	Course
lab	Boolean	Is the class a lab?	TRUE	maybe	TRUE if there is a lab	Course
credits	Integer	Number of credits	3		100 credit hours earned fo	Course
name	Varchar(255)	Name of course	Software Engineering II	null	name of the course, n	Course
active	Boolean	Is the course offered	FALSE	maybe	TRUE if course is offe	Course
note	Varchar(255)	Comments section	This class should meet Wednesday	none	a note about the clas	CourseOffering
start_time	Integer	start time of an instance of a course	815		200 must be Integer, using	CourseOffering
end_time	Integer	end time of an instance of a course	1700		2500 must be Integer, using	CourseOffering
m	Boolean	Does the course meet on Monday	TRUE	maybe	TRUE if class meets	CourseOffering
t	Boolean	Does the course meet on Tuesday	TRUE	maybe	TRUE if class meets	CourseOffering
w	Boolean	Does the course meet on Wednesday	TRUE	maybe	TRUE if class meets	CourseOffering
r	Boolean	Does the course meet on Thursday	TRUE	maybe	TRUE if class meets	CourseOffering
f	Boolean	Does the course meet on Friday	TRUE	maybe	TRUE if class meets	CourseOffering
s	Boolean	Does the course meet on Saturday	TRUE	maybe	TRUE if class meets	CourseOffering
number	Varchar(255)	Room number	RB301		301 Integer, not null	Room
capacity	Integer	Capacity of the room	30		1.23123E+21 Integer, not null	Room
lab	Boolean	Can the room support a lab	TRUE	maybe	TRUE if the room is c	Room
semester	Varchar(255)	Semester	Spring		1 Spring, Summer, or F	Term
year	Integer	Year	2010		1956 not null	Term

3.3 Entity Relationship Diagram

Smart Scheduling Entity Relationship Diagram



4 Architectural Design Specifications

4.1 Development and Production Environments

For our development environment, Empire Unlimited used the Windows and Macintosh computers provided by Siena College located on the 3rd floor of Roger Bacon in the Software Engineering lab. The reason for detailing the development and production environments is to try and complete a high level of compatibility across as many platforms as possible. If an error in compatibility arises, this listing will act as a reference to help narrow down potential version conflicts.

Server

Web Server: Apache version 2.2.9
Programming Language: PHP version 5.2.6
Database: MySQL 5.0.45

Windows Machine:

- Operating System: Microsoft Windows Vista Enterprise (32 bit)
 - ❖ Service Pack 2
- Hardware
 - ❖ Processor: Intel Core 2 Duo, 2.93 GHz
 - ❖ Memory: 4.00 GB RAM
- Software Installed:
 - ❖ Microsoft Office 2007
 - ❖ Macromedia Dreamweaver : Version 7.0.1
 - ❖ Macromedia Fireworks : Version 7.0.2.295
 - ❖ Internet Explorer : Version 9.0.7930.16406
 - ❖ Mozilla Firefox : Version 3.6.12
 - ❖ Google Chrome : Version 7.0.517.44

Macintosh Machine:

- Operating System: Apple Mac OS X
 - Version 10.6.4
- Model: iMac5
- Processor: Intel Core2 Duo
 - Speed: 2 GHz
- Memory (RAM): 1.00 GB

4.2 Deliverables

Empire Unlimited has hosted all the files necessary for Smart Scheduling on smartcheduling.net. Smart Scheduling will be accessible through all major internet browsers.

A DVD will be delivered containing:

- Acceptance Test Documents
- Test Results
- The Acceptance test Power Point Presentation
- A full copy of team files from the team directory on 'Oraserv'
 - All folders, files, images
 - The team website source code
- The Smart Scheduling project source files
- A README.txt file that explains what files are located in different areas
- The lyrics to the Empire Unlimited's team song

5 Glossary of Terms

The information presented in this document was gathered through meetings held with the client, Dr. Robert Yoder. Information was also taken from class lectures held with Dr. Lederman and from documents written by past Software Engineering groups.

Ajax (Asynchronous JavaScript and XML) - A group of web development techniques used on the client-side to create interactive web applications.

Apache HTTP Server (Web Server) - Referred to as Apache, it is web server software notable for playing a key role in the initial growth of the World Wide Web.

Cascading Style Sheets (CSS) - A style sheet language used to describe the presentation semantics (the look and formatting) of a document written in a markup language.

Chrome – Internet browser designed by Google.

Conflict and Constraint – When an activity can't be scheduled due to room use, weekend, and one resource being currently in use.

Database - An organized collection of data for one or more uses, typically in digital form.

Dreamweaver – A web development application.

Dropbox - A Web-based file hosting service operated by Dropbox, Inc. which uses cloud computing to enable users to store and share files and folders with others across the Internet using file synchronization.

Firefox – Internet browser designed by Mozilla.

Gantt Chart - A type of bar chart that illustrates a project schedule. Gantt charts illustrate the start and finish dates of the terminal elements and summary elements of a project.

HTML (HyperText Markup Language) - The predominant markup language for web pages. It is written in the form of HTML elements consisting of "tags" surrounded by angle brackets within the web page content. It is the building blocks of all basic websites.

Internet - A global system of interconnected computer networks that use the standard Internet Protocol Suite (TCP/IP) to serve billions of users worldwide. It is a *network of networks* that consists of millions of private, public, academic, business, and government networks, of local to global scope, that are linked by a broad array of electronic and optical networking technologies.

Internet Explorer (IE) – Internet browser designed by Microsoft.

JavaScript - An implementation of the ECMAScript language standard and is typically used to enable programmatic access to computational objects within a host environment.

MySQL - A relational database management system that runs as a server providing multi-user access to a number of databases.

PHP (Hypertext Preprocessor) - A widely used, general-purpose scripting language that was originally designed for web development to produce dynamic web pages.

Ruby - A dynamic, reflective, general purpose object-oriented programming language that combines syntax inspired by Perl with Smalltalk-like features.

Room Report – Schedule of times when a room, lab, or the Computer Science Library is booked, by a class or group, on a given day of the week.

Spiral Model - A software development process combining which elements of both design and prototyping-in-stages, in an effort to combine advantages of top-down and bottom-up concepts.

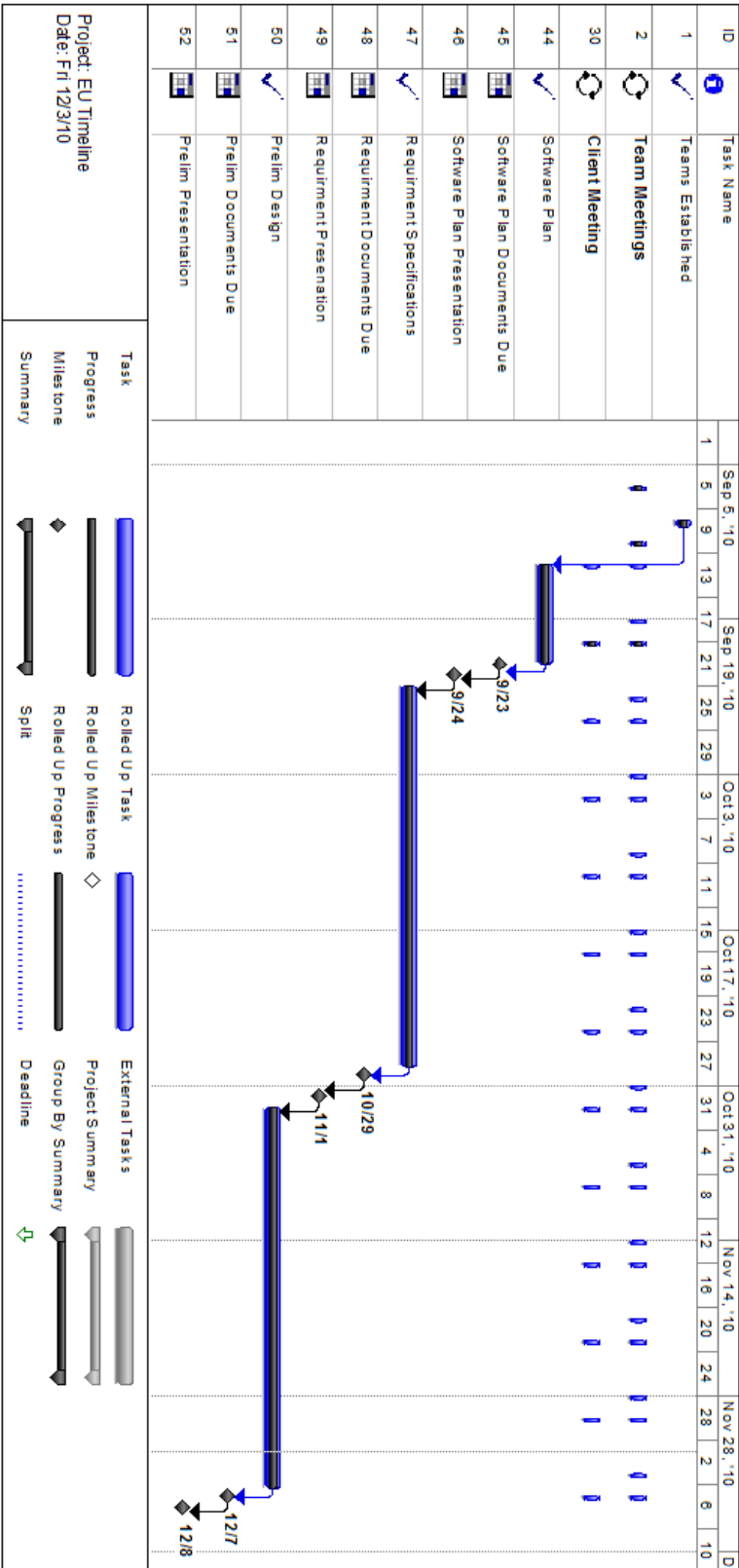
Waterfall Model (Classic) - The Classic Waterfall Model is a sequential software development model in which development is seen as flowing steadily downwards (similar to a waterfall) through the phases of requirements analysis, design, implementation, testing, integration, and maintenance.

WinZip - A proprietary file archiver and compressor for Microsoft Windows,

XHTML (eXtensible Hypertext Markup Language) - A family of XML markup languages that mirror or extend versions of the widely used Hypertext Markup Language (HTML), the language in which web pages are written.

XML (Extensible Markup Language) - A set of rules for encoding documents in machine-readable form.

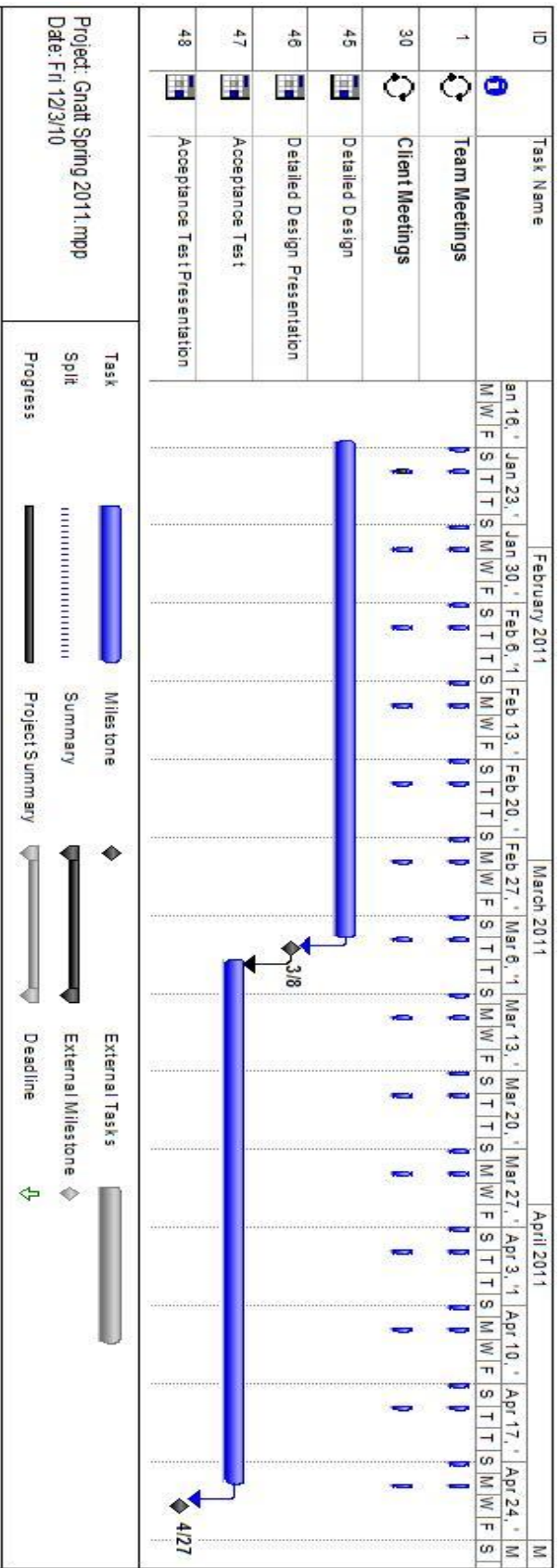
Timeline - Gantt Chart



The Gantt Chart displays our timeline for the semester, showing team meetings, client meetings and milestones.

6 Gantt Chart

Timeline - Gantt Chart



The Gantt Chart displays our timeline for the semester, showing team meetings, client meetings and milestones.

Appendix A: Test Plan and Results

Appendix B: Data Flow Diagrams

Appendix C: Sample Reports

Appendix D: Source Code