

Paraprofessional Management System (PMS)



Team Ubuntu

Precious, Shohei, and Nathaniel

Background

- HPU's Center for Academic Success, Tutoring Division, is in need of a solution to enhance their services.
- The tutoring center at HPU is currently using a software called the “Tutoring Management System” (TMS) that collects data and helps function tutoring operations.
- Meg Hassey, Academic Specialist of CAS, would like a new application that will replace the current software. She hopes that with a new and improved application, performance, management, and operation will run more efficiently.

Stakeholders

Nathaniel Befus	: Lead Programmer
Precious Lee Binas	: Programmer/Designer
Shohei Sasahara	: Basic designer/Writer
Meg Hassey	: Client
Andrew Alimbuyuguen	: Logo Designer
Abe Toma	: IT Department

Problems of TMS

Our client, Meg, had been telling Precious that TMS has some issues.

- Required repetitive typing
- Incorrect report
- Not user-friendly UI
- Agenda that requires HTML knowledge
- Complicated functionality
- Inefficient database schema with no relations
- Duplicated / old data

Survey for Improvements

TMS Survey

What works? What doesn't? What needs to be added?

Students from CSCI 4991 has volunteered to recreate our TMS as their senior capstone project J Feedback from staff/tutors/mentors/sias would be of great value. Please turn this in by ????????

- What types of features would you like to see improved on the TMS?
- What features do you think are unnecessary?
- Suggest additional features you would like to see that is currently not a feature, but would be of great value if implemented.

Client Requirements

ADMIN VIEW

- Real time updates
- List of employees currently working
- Record of student's first and last name, course # and alpha, professor, tutor and tutor's specialty area, time session began, end, and arrival of student, minutes of session, start and stop button, # of session based on 30, # of walkouts
- minutes to change colors at 25 since each session is 30 minutes
- New tutor - Just input first and last name, of which only the first name will appear on the front screen and first initial of last name if duplicate first names. Also, to include the date started and the date terminated
- Tutor list will contain only active tutors and terminated tutors will be archived
- Ability to edit both tutor data
- Session searches by student first or last name, by course # and/or alpha, by instructor, and by date (any other ideas would definitely be considered)
- I like the search section
- Give number for give time frame, subject, professor, student, tutor, course, etc for one of these areas or for all depending on the request
- Report data only from those time frames to include
 - requested info
 - easily manipulated to show amounts of different classes, different types of tutoring (LANG, MABS, ENG), average amount of time
 - Maybe show these through graphs?
 - Show amount of sessions, students, walkouts
 - First time users
 - Continuous users
 - # of session in the time frame requested
 - student/ session ratio
 - HLC data by itself as well as with Downtown data

Client Requirements

SIA VIEW

- The start and stop button
- Ability to edit sessions
- **Color coding the MABS, ENG, LANG tutors** (instead of color coding, we allowed sessions to be sorted by the single click feature)
- Notifications:
 - Numbers change color at 25 to warn of session ending
 - Better notification of 5 minutes left in session, make it pop somehow
 - Session reminder at 5 minutes before the half hour, hour ,hour and a half, etc
- Editing
 - When editing a session only have the tutors that are currently working at the Center for that semester to pop up.
 - HLC section to add information from that location with HLC already stamped on it
- Color coordination type with tutoring session
- Entering DATA
 - When entering data only have the tutors that are currently working that day pop up
 - Search option for courses and professors
 - Drop down lists for Professors
 - Drop down list for course numbers
 - **Input student ID and information pops up but ID number “#####”to keep confidential.** (we used email instead of student id)
- Scheduling
 - Ability to input tutors for the day/week/semester to make a schedule for SIAs to easily access to see who's working
 - Calendar for appointments

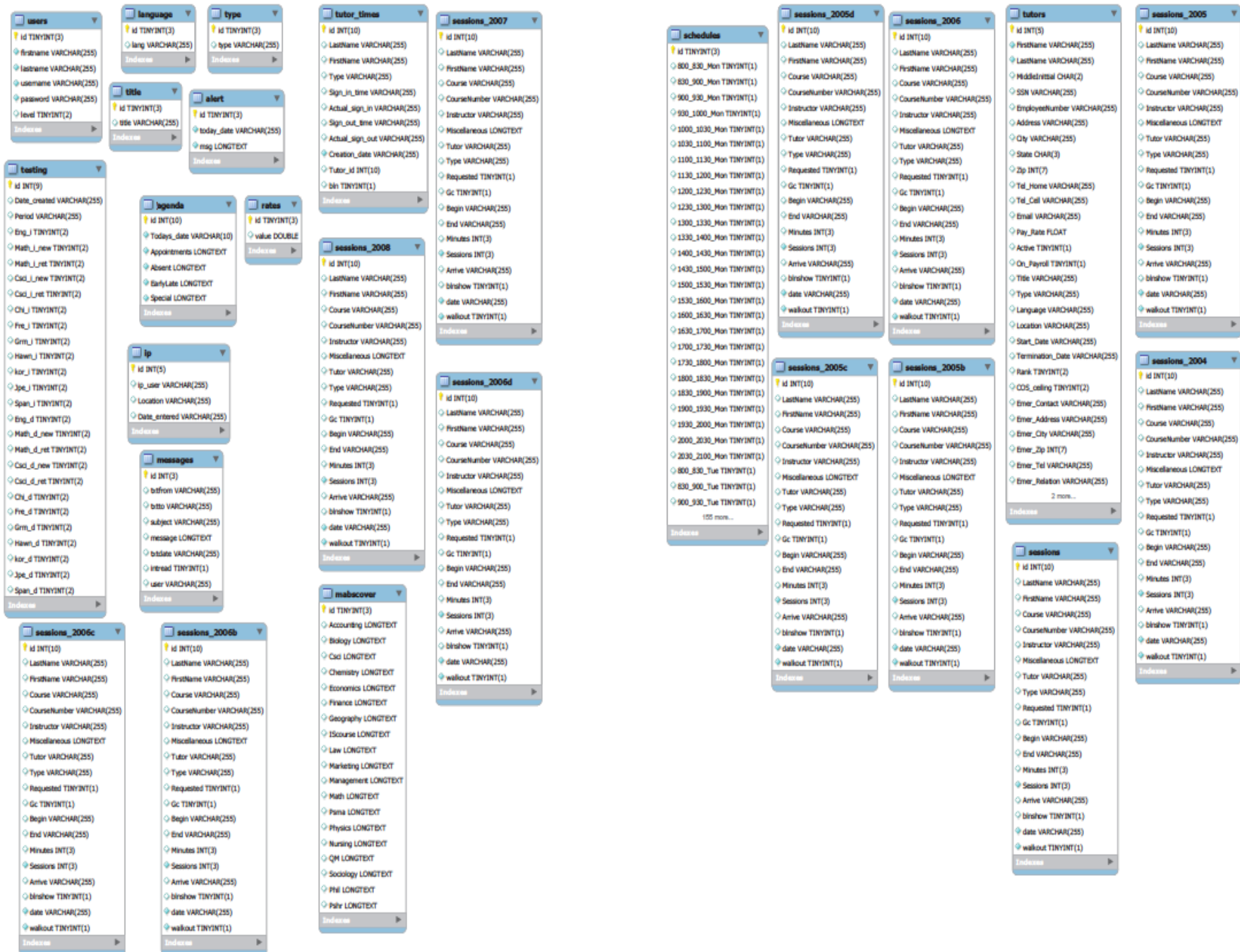
Infrastructure

- Languages
 - Java
 - MySQL
- Tools
 - Netbeans 7.2.1 / Netbeans GUI Builder
 - Java Libraries
 - ~~Hibernate~~
 - MySQL Workbench
 - PHPMyAdmin

Architecture

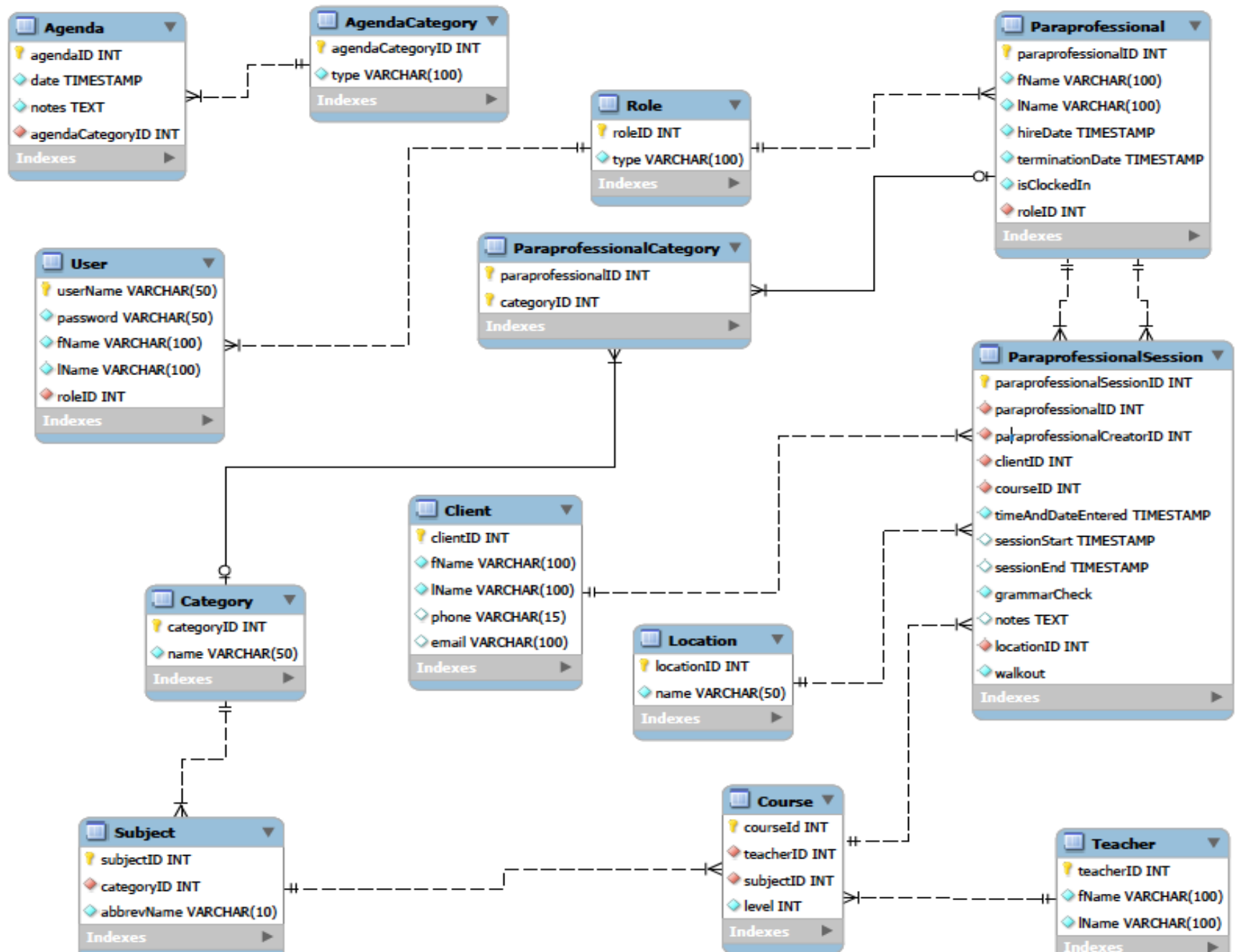
Existing Architecture

TMS DATABASE DIAGRAM



New Architecture

PMS DATABASE DIAGRAM



Client Satisfaction

"Team Ubuntu took on the challenge of revamping our outdated and complicated Tutor Management System (TMS). While attending the Capstone Symposium, I was able to see the revamped system, live. My first observation was that Team Ubuntu incorporated the changes that were suggested like dropdown menus for professors and the list of tutors included only the current student employees. Additionally, the reports showed accurate numbers and graphs to visually depict the data. The system seems instinctive and user-friendly. These are important characteristics because of the variety of people that will have access to this program. Often it is hard to change the old, so a user-friendly interface should help sway their concern. I look forward to the opportunity to learn more about the backend and administrative functions of the program. I still have some ideas for the program, but it seems that backend and coding are easier than the TMS program to manipulate and change. This means that it will be a smooth transition for IT when they take over the upkeep of the program. Overall, I am very excited with the PMS system that Team Ubuntu created and hope that it will be implemented at the Center soon. " - Meg Hassey

Design Decisions

Initial Design

Design Preview [Screen1]

fname	lname	Phone	Email	course	course#	teacher	Category	Notes	tutor	<input type="checkbox"/> Future	<input type="checkbox"/> GC	Creator
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>			<input type="text"/>
<div>Add Session</div>												

First Name	Last Name	Title 3	Title 4

Improved Design

☒ AutoComplete

Student Information

First Name* Last Name* Email Phone

Course Information

Course* Course#* Teacher* Category* Paraprofessional*

Other Information

Location* Creator* Notes Session Start Session End ☐ GC ☐ Walkout

Current Sessions

First	Last	Email	Phone

Future Sessions

First	Last	Email	Phone

Future Sessions

First	Last	Email	Phone

Delete Session

Create New Agenda

(mm/dd/yyyy hh:mm a.a.)

Category:

Date:

Cancel

Submit

Agendas

Title 1	Title 2	Title 3	Title 4

Delete Agenda

Final Design



PARAPROFESSIONAL MANAGEMENT SYSTEM

Create Agenda Sessions Reports Search

Create

Student Information

First Name* Last Name* Email Telephone

Course Information

Course* Course#* Teacher*

Clear

Session Information

Paraprofessional* Notes

Creator*

Location*

Session Start

Session End

☐ Walkout

☐ GC

New Student

Save/Edit

Add Session

Refresh Lists



PARAPROFESSIONAL MANAGEMENT SYSTEM

Create Agenda Sessions Reports Search

☒ Client ☐ Course ☐ Sessions ☐ Teacher ☐ Paraprofessional ☐ Paraprofessional Category ☐ Role ☐ Location ☐ Cate

Student Information

First Name: Last Name: Email: Phone:

Course Information

Course#:

Session Information

Session Start: Session End: Grammar Check:

Notes: Entered Date: Walkout:

Paraprofessional Information

First Name: Last Name: hireDate: terminationDate: Clocked In: Role:

Paraprofessional Creator Information

First Name: Last Name: hireDate: terminationDate: Clocked In: Role:

Version Control



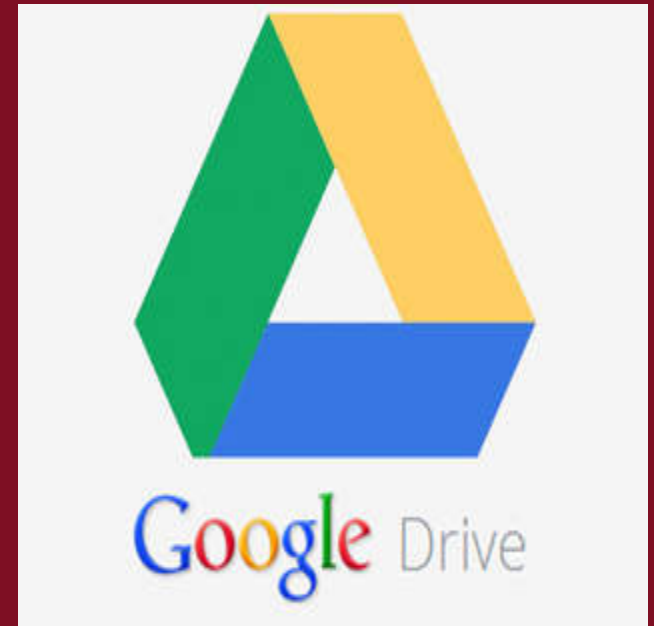
Team Communication Methods






- Google Hangout
- Messages / Email
- Weekly team meeting



Management Techniques Used

- Google Drive
 - Having separated folders
 - TMS Class Diagram
 - TMS Use Case Diagram
 - TMS UI
 - Project Proposal
 - Backlog
 - Meeting Log



<input type="checkbox"/>	TITLE	OWNER	LAST MODIFIED
<input type="checkbox"/> ☆	Docs Related to IT department	me	Mar 1 <small>me</small>
<input type="checkbox"/> ☆	TMS Class Diagram / Use Case / Features	me	4:50 pm <small>me</small>
<input type="checkbox"/> ☆	TMS Database Related	me	4:51 pm <small>me</small>
<input type="checkbox"/> ☆	TMS Documents with Meg	me	4:52 pm <small>me</small>
<input type="checkbox"/> ☆	TMS Project Proposal	me	4:50 pm <small>me</small>
<input type="checkbox"/> ☆	TMS UI	me	4:51 pm <small>me</small>
<input type="checkbox"/> ☆	 Backlog <small>Shared</small>	Nathaniel Befus	Apr 28 <small>Nathaniel Befus</small>
<input type="checkbox"/> ☆	 Capstone Symposium Application Form <small>Shared</small>	me	Apr 4 <small>me</small>
<input type="checkbox"/> ☆	 Checklist(Backlog)	me	Apr 2 <small>me</small>
<input type="checkbox"/> ☆	 Meeting Log <small>Shared</small>	me	Apr 18 <small>me</small>
<input type="checkbox"/> ☆	 PMS Presentation <small>Shared</small>	Nathaniel Befus	5:03 pm <small>me</small>

Problems Encountered

- Complexity of the project
 - Existing database
 - Inefficient / Idle structure
 - IT Department
 - Approval requirements
 - Inaccessible datas
- Hibernate
 - Too advanced for the 3 month project

Testing Strategy

- Team testing and criticizing
- Netbeans Java Compiler
- Boundary Cases
- Multiple Platform
 - Mac 10.8.3 / Windows 7
 - Convert to .jar
 - Window size
- Fake and real data

Turnover of Project to Client

1. Getting approval from IT department
2. Compiling the application (jar file)
3. Creating comprehensive video tutorial
4. Submitting the video tutorial
5. Submitting an extensive documentation
6. Submitting the database schema / structure diagrams
7. Installing the application

Summary of Interaction with Client

- Message / Email
- Meeting at the tutoring center
 - Precious is a worker at the tutoring center who informed client with updates

Documentation of Project

- Use case diagram google drive
- Database diagram
- Javadoc
- Video tutorial

All Classes

Packages

tutoring.dialogs
tutoring.editor
tutoring.entity
tutoring.helper
tutoring.old
tutoring.renderer
tutoring.ui

All Classes

AdminFinal
AdminFinal.ComboBoxesIndexes
AdminView
Agenda
Agenda.AgendaTable
Agenda.Category
Agenda.Category.Agenda.CategoryTable
AgendaTableHelper
AgendaTableModel
AgendaTableModel.Columns
AutoCompleteComboBox
Category
Category.CategoryTable
Client
Client.ClientTable
Course
Course.CourseTable
Data
DatabaseHelper
FontCellRenderer
FutureSessionTableModel
Location
Location.LocationTable
Login
LoginView
MinuteCellRenderer
MinuteUpdate
MoveUpTopCellEditor
NewAgenda.CategoryObject
NewAgendaObject
NewCategoryObject
NewClientObject
NewCourseObject
NewLocationObject
NewParaprofessional.CategoryObject
NewParaprofessionalObject
NewRoleObject
NewSubjectObject
NewTeacherObject
NewUserObject
Paraprofessional
Paraprofessional.ParaTable
Paraprofessional.Category

days -- days to subtract from the date

Returns:
the resulting date

updateBoxes

public void updateBoxes()

Updates the search tab comboboxes

makeEditSearchCellEditor

public javax.swing.DefaultCellEditor makeEditSearchCellEditor()

Creates the cell editor to edit search result data on search tab on double click

Returns:
the cell editor for the search tab table to create dialog to edit on double click

autoResizeColWidth

public static javax.swing.JTable autoResizeColWidth(javax.swing.JTable table)

Resize the width of a table to fit data

Parameters:
table -- the table to resize

Returns:
the table resized

setUpSearchTab

public void setUpSearchTab()

Set up the search tab for the database interaction with the admin

download

public void download(javax.swing.JTable table)
throws java.io.IOException

Download table data to an excel (CSV) file

Parameters:
table -- the table to download data from

Throws:
java.io.IOException

Generated Doc...

7:52 PM
5/1/2013

Lessons Learned



Lessons Learned

- Planning is important
- In person meeting is stronger than virtual meeting
- Do not trust a software that you are not familiar with too much (e.g Hibernate)
- Redesigning something may be more difficult than starting from a scratch
- THERE IS NO "I" IN "TEAM"

Criteria for Application Being Done

- Our project is not in full production at this stage - 0%
- Client Requirements - 90%
- Client Satisfaction - 99.99%

Possible Future Work

- To be discussed with client...
 - Possibly...
 - Add more graphs
 - Q&A communication
 - User account management
 - 'Forgot Password' functionality

Thank You...

Dr. Curt Powley
Our classmates
Meg Hassey



NOW THE FUN
STUFF