

# ***Course Agent***

***Adaptive Online Course Recommendation System***

***Independent Study Report 2970 Fall 2012***

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## ***Part I. Introduction to Course Agent***

Course Agent is a new implementation at the School of Information Sciences of the Adaptive Online Course Recommendation System. It is specially designed for students and faculties in the School of Information Sciences and is also available to the public who has interests in the courses offered at the school of information Sciences. Course Agent is a community of students of School of Information Science (iSchool) at the University of Pittsburgh in which students comment, recommend, and evaluate courses that they have taken. Moreover, students can plan courses for the future schedule and align the courses to their career goals. Since students can choose the track they want to follow to determine their concentration, the system also provides the suggestion while they are planning courses they want to take in the future. The main goal is to improve the quality of the courses of information science school and to match the future students and current students' career goals by advising them to plan their course schedule.

When you first get in to the Information Science School, facing tons of course, you may get confused about which course to take and whether the course is hard to learn. In convention way, new students can receive advice from their advisor or older students, but it is not possible to gain overall information about every course in iSchool. Advisor prefer to recommending you the course which taken by most people or according to your track. And old students will give you some advises that the workload of course they took before. But you still need gather all the information about the courses to compare each other then pick up the courses that suit you the most. In this case, Course Agent provides an efficient approach to help students to decide which course to take.

With Course Agent, students are enabled to receive recommendations from other students, as well as advice from faculty, regarding their course of study, workload and relevance of courses. It helps students to plan their course of study wiser by keeping track of their progress toward selected career goals and by offering advice from faculty and peer students about all kinds of information about each course.

Both students and faculties can benefit from this system.

For the students, they could register course in a more efficient and effective way. Course Agent provides an accessible way to realize their career goal.

For the faculties, they do not have to speak to each student about same questions over and over again, since students can help themselves by using the system. It will save faculties a plenty of time.

## ***Part II. Technical Detail of Course Agent***

### **Development Environment and techniques**

1. PHP 5.3.13
2. MySQL 5.5
3. Apache Server
4. jQuery and AJAX

### **Deploy environment**

For localhost user: Apache Server (localhost/~leilei)

For remote server user: <http://halley.exp.sis.pitt.edu/courseagent/v3/>

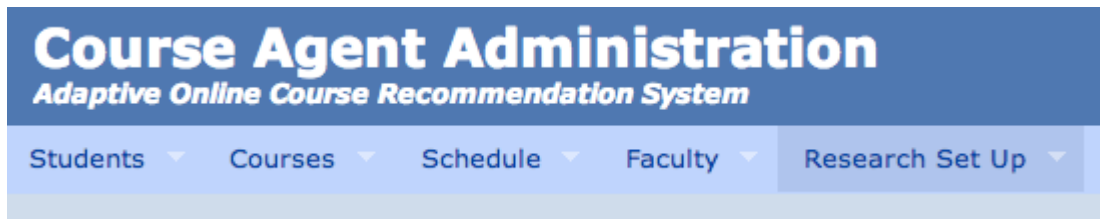
### **Technique Detail**

Course Agent used AJAX to update data in the database instead of reloading the whole page, which made the system more consistent in the user experience view.

Course Agent used a certain format text file to add new students into database.

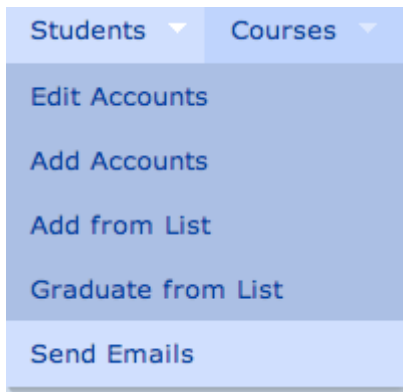
### Part III. Course Agent Scenarios, Screenshots and system detail

The part that I focused on with my independent study is administration.

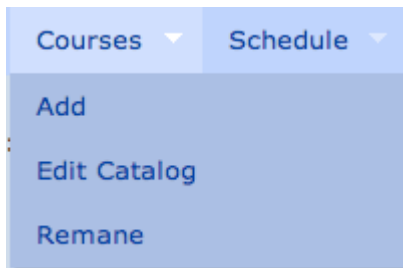


Administration can be separate into five parts:

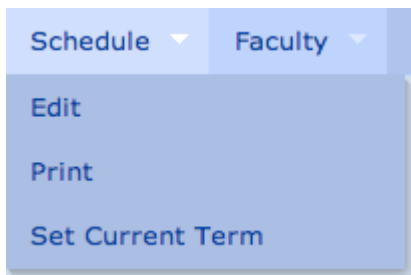
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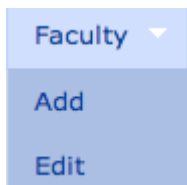
- Courses



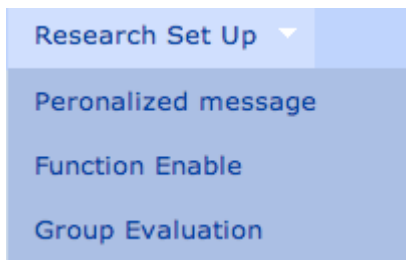
- Schedule



- Faculty



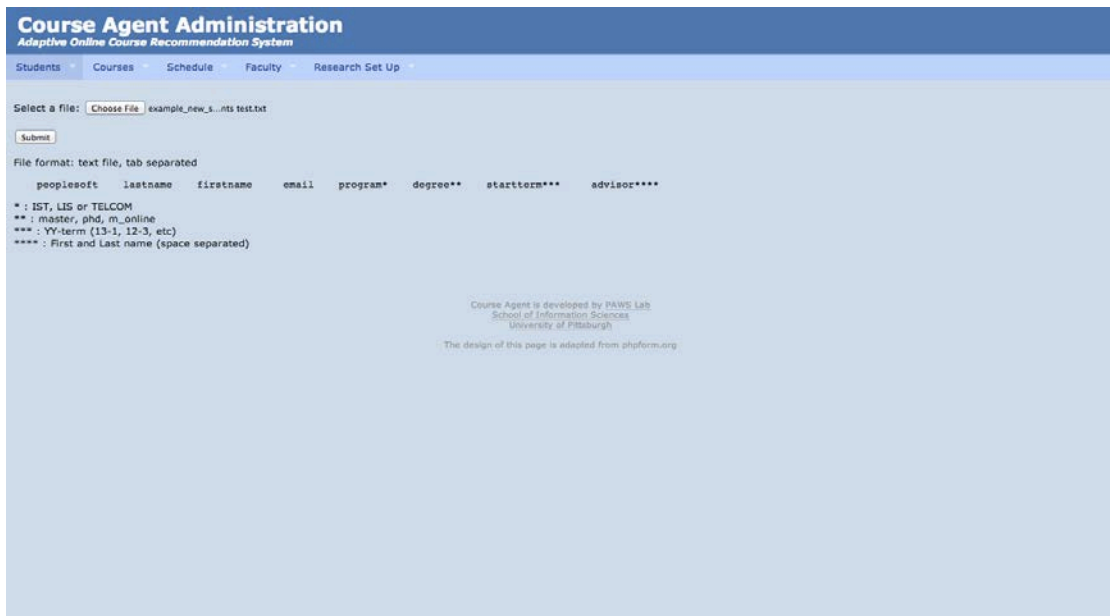
- Research Set Up



Since my main job is to finish the Add from List and Send Email. So in the following report I will articulate more detail.

### 1. Add from List

Administrator can add information of new students by uploading particular text file format. The uploaded file will be store in a folder called upload. The file included peoplesoft number, user id, user's first name, user's last name, password which equals to peoplesoft number, email, program, degree, email sent status, start term and the date the data has been storage.



After submit, they upload result displayed in three different forms:

- a) The accounts cannot be created because this user has already existed with same peoplesoft number.
- b) The accounts cannot be created because this user has already existed with same email.
- c) The accounts have been created.

The lines that have been created this time will also be showed.

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Students Courses Schedule Faculty Research Set Up

These accounts cannot be created because this user has already existed with same peoplesoftID

| User ID     | Peoplesoft Number | First Name | Last Name  | Email               | Program | Degree   |
|-------------|-------------------|------------|------------|---------------------|---------|----------|
| Pfakename12 | 0013930371        | Ppopey     | fakename1  | fakePpey1@gmail.com | LIS     | master   |
| Clastname41 | 195255707         | Carolyn    | lastname41 | lastname41@aol.com  | LIS     | master   |
| Nlastname51 | 195311827         | Nickie     | lastname51 | lastname51@pitt.edu | LIS     | master   |
| Slastname11 | 144813987         | Susan      | lastname11 | lastname121@aol.com | LIS     | m_online |

These accounts cannot be created because this user has already existed with same email.

| User ID     | First Name | Last Name  | Email               | Program | Degree   |
|-------------|------------|------------|---------------------|---------|----------|
| Pfakename12 | Ppopey     | fakename1  | fakePpey1@gmail.com | LIS     | master   |
| Clastname41 | Carolyn    | lastname41 | lastname41@aol.com  | LIS     | master   |
| Nlastname51 | Nickie     | lastname51 | lastname51@pitt.edu | LIS     | master   |
| Slastname11 | Susan      | lastname11 | lastname121@aol.com | LIS     | m_online |

These accounts have been created

| User ID         | Password | First Name | Last Name | Email | Advisor | Program | Degree | Term | Peoplesoft Number |
|-----------------|----------|------------|-----------|-------|---------|---------|--------|------|-------------------|
| 0 lines created |          |            |           |       |         |         |        |      |                   |

Course Agent is developed by PAWS Lab  
School of Information Sciences  
University of Pittsburgh  
The design of this page is adapted from phpform.org

## 2. Send Email

The users whose email sent status is 0 will be selected from the database, and email will be sent to these accounts. After that these accounts' email sent status will be changed into 1.

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The emails will be sent to these people

| Peoplesoft Number | User ID      | Email                 |
|-------------------|--------------|-----------------------|
| 195255707         | Clastname41  | lastname41@aol.com    |
| 195311827         | Nlastname51  | lastname51@pitt.edu   |
| 019530371         | Pfakename1   | fakename1@gmail.com   |
| 01930371          | Pfakename10  | fakeP1@gmail.com      |
| 0713930371        | Pfakename11  | fakePpe1@gmail.com    |
| 0013930371        | Pfakename12  | fakePpey1@gmail.com   |
| 095179607         | Pfakename2   | fakename2@gmail.com   |
| 144813987         | Slastname11  | lastname121@aol.com   |
| 195303342         | Slastname2   | lastname122@gmail.com |
| 195179607         | Slastname31  | lastname31@gmail.com  |
| 195303            | Slastnamer2  | lastname42@gmail.com  |
| 19530371          | Slastnamer21 | lastname431@gmail.com |
| 1953037           | Slastnamer26 | lastname413@gmail.com |

## Part IV. Database Design

Course Agent has more than thirty tables in database. But in my independent study, I only use tbl\_user and tbl\_faculty.

Tbl\_user used to storage some basic information about user.

|      |         |         |         |         |         |
|------|---------|---------|---------|---------|---------|
| name | u_id    | u_fname | u_lname | u_pwd   | u_email |
| type | varchar | varchar | varchar | varchar | varchar |

|      |         |           |          |            |          |
|------|---------|-----------|----------|------------|----------|
| name | advisor | u_program | u_degree | start_term | end_term |
| type | varchar | varchar   | varchar  | varchar    | varchar  |

|      |         |           |               |              |          |
|------|---------|-----------|---------------|--------------|----------|
| name | grp     | u_pic_url | u_grad_status | u_peoplesoft | ins_date |
| type | varchar | varchar   | varchar       | varchar      | varchar  |

|      |              |            |
|------|--------------|------------|
| name | mark_deleted | email_sent |
| type | varchar      | Int        |

u\_id was generated when adding user from list. u\_id was composed by first letter of last name and first name. u\_id is the primary key in the table tbl\_user.

email\_sent was used to define whether the user has been sent an email or not.

Instead of using advisor's name, we would like to storage advisor id into table tbl\_user. First select advisor id from table tbl\_faculty.

|      |         |         |         |         |         |         |         |         |
|------|---------|---------|---------|---------|---------|---------|---------|---------|
| name | f_id    | f_fname | f_lname | f_title | f_pwd   | f_email | f_web   | f_dept  |
| type | varchar | varchar | varchar | varchar | varchar | varchar | varchar | varchar |

Selected f\_id by faculty first name and last name then stored f\_id in to table tbl\_user.

localhost - phpMyAdmin - index.php?db=courseagent&table=tbl\_user&target=sql.php&token=cfa38b374c58e707341b76a39fb13d7

localhost - courseagent - tbl\_user

Structure SQL Search Insert Export Import Operations Triggers

tbl\_user

|                          | u_id                     | u_fname                  | u_lname                  | u_pwd                    | u_email                  | advisor                  | u_program                | u_degree                 | start_term               | end_term                 | grp                      | u_plec                   | u_grad_status            | u_people                 |
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