Information Technology Organization Internet Information

By

Jeremy Potts

Submitted to
the Faculty of the Information Engineering Technology Program
in Partial Fulfillment of the Requirements for
the Degree of Bachelor of Science
in Information Engineering Technology

University of Cincinnati
College of Applied Science

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Jeremy Potts	Date
Russell McMahon, Faculty Advisor	Date
Patrick C. Kumpf, Ed.D. Interim Department Head	Date

Acknowledgements

I would like to take the opportunity to thank Professor Russell McMahon for his contributions to this project. He provided me with the idea to create this site as well as guided me through its' completion. I would also like to acknowledge Professor Robert Schlemmer for providing me with text to help get me going on the right track and also Keith Schneider for his help in getting me started in the right direction. Lastly, I would like to thank the College of Applied Science for providing me with the skills and knowledge to complete this project as well as giving me an opportunity to demonstrate what I have learned.

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Abstract

Information Technology Organizations Internet Information (ITO II) is a Web site that allows IT Professionals a way to manage and locate IT related organizations in their area on the Internet. There are currently no easy to use or navigable Web sites that allow a visitor to become a member and manage the IT organizations in which they belong. This Web site allows any visitor to become a member, add organizations to their profile, see when organizations have meetings and what the potential topic of the meeting may be, as well as the time and location. This Web site also allows Organization Representatives to manage their own organization on the Web site without having to go through the web administrator. This site has four types of users: the visitor who is just looking for information, the Member who has a username, password and utilizes the services available, the Organization Representative who manages their respective organization, and the Administrator who looks over the whole process and manages the web site. This Web site provides IT Professionals an easily accessible and easy to use management tool for participating in IT organizations.

Statement of Problem

There are an enormous number of Information Technology Organizations throughout the United States that provide members an opportunity to further explore their profession or hobby. According to a quick search on Google, one can find over one hundred thirty different organizations related to the internet alone and another 180 different user groups for different languages like C++, Java and Unix. Many of these organizations, however, are unknown to many people who may be looking for what these organizations are offering.

In talking with Professor McMahon, an organization known as The Circuit, has been collecting data on the different organizations that are within the tri-state area, so that they can make a compiled posting of the different organizations. The Circuit is an organization created to enhance the development of technology-related companies and institutions in the Cincinnati area. Prof. McMahon has already provided them with a compiled list that he created. This list is currently compiled into an Excel spreadsheet, but has become too large to continue to store it as such. After looking at the few sites that exist that provide organization information, I have created a list of what a good website should contain:

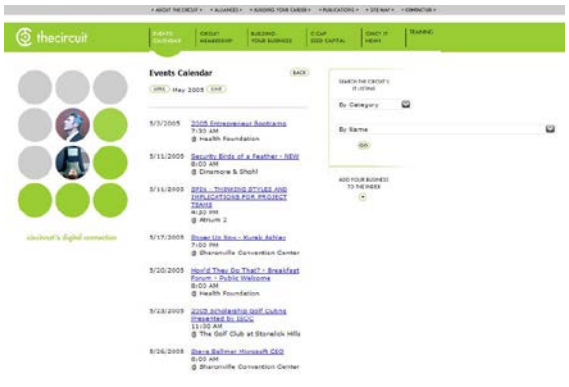
- First and foremost, the site should be user friendly so as to create a usable and organized way for a new user to navigate and get information.
- It should be dynamic in the fact that it should have different options for those who login. An administrator would have different rights and views that the standard user would not.

- It should be able to create reports so as to give the user the ability to search for specific information. For example, be able to see all organizations within a certain location or see all meetings within a certain month or even to the type of topic.
- It should provide information about the organization or at least a link to that organizations homepage.

Existing Systems

Currently there are only a few sites available on the internet that a person could find information relating to the types of organizations that exist and when such groups meet. The Circuit has made a start on their Web site of trying to organize different conferences and meetings that happen, but their layout is not functional (See Figure 1). The Web site TechVenue does have a usable calendar to which users can add their own information to about their group meeting, but the site itself is a busy looking site (See Figure 2). Doing a Google search on computer organization yields many sites, but none of them provide information on all the different organizations and the different aspects of each one.

Website Screen Shots



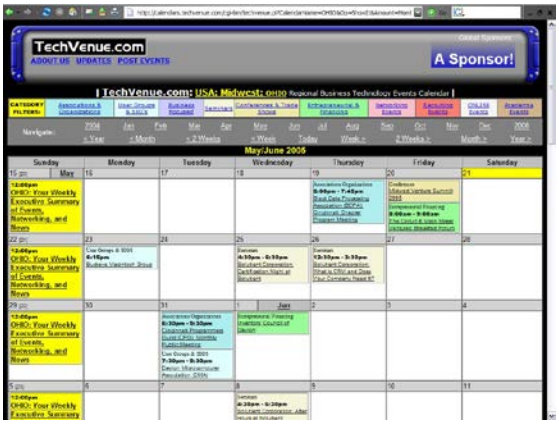


Figure 1

Figure 2

Description of Solution

ITO II

This Web site, Information Technology Organizations Internet Information, can provide people with a way to manage all the different IT groups that they belong to in one easy-to-use Web site. It can also provide visitors with information regarding each organization that is registered with the site. Someone who is looking to join an IT group is able to come to this site and find those organizations that are in the area and be able to see what they have to offer. The site provides a visitor with meeting information, who or how to contact the organization, as well as see what certificates are offered by the organization.

Proof of Design

User Profiles

There are four main types of users that can access ITO II. They are outlined below.

Administrator

These users have full access to the site once they log in. They can view all information, make changes to it as necessary, access the database to input data as need requires and also be in charge of maintaining users of the site which follow below.

There are only a few administrators for this site. They are required to know how to use SQL Server 2000, only if there is a problem with the site, otherwise any maintenance can be done through the site.

Organization Representative

These users are able to create a user profile on behalf of the organization that they represent. They have to submit information to the administrator to be verified as a legitimate representative. They have full access to their organization profile and are able to manage it through the site. They are able to edit existing information as well as add new information. They are not able to delete information. For any deletion, they will have to contact an administrator for assistance. These users can also be organization participants as described below.

Organization Participant

These users are those who belong to an organization and simply wish to have a way to manage and see what is going on within the organization. These users are able to create a username and password to log in to the site. They can add different organizations to a list that manages and provides that user with specific organization information. These users are not able to change any of the organization's information.

Site Visitors

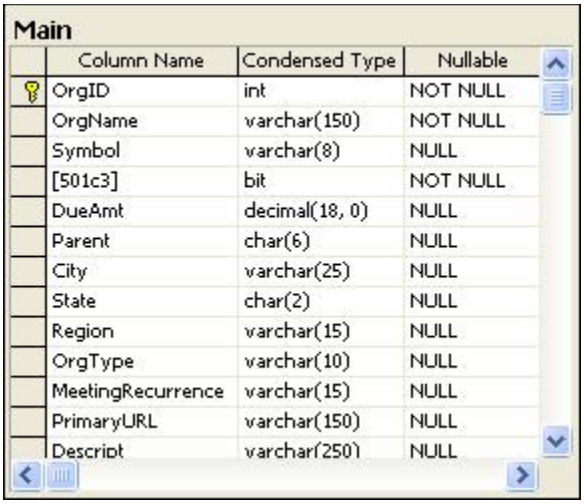
These users are those who simply want information about the different organizations within their area. They are able to browse the site for information on any of the organizations within the site. These users will not necessarily want to create a user profile because they are just using the site as a reference, but they can become an organization participant.

Design Aspects

There are two main parts to this project, the back end and the front end user interface. The user interface is what connects the two together. The database contains all the data needed by the Web site, while the user interface provides the user with an easy to use interface to access the database. The user interface has been done using ASP.NET which accesses the database. **Database Design** (IT_Orgs)

1. Main Table (Figure 3)

   This table is the center of the database that all other tables are linked to directly or indirectly. This contains the information regarding the organization itself.



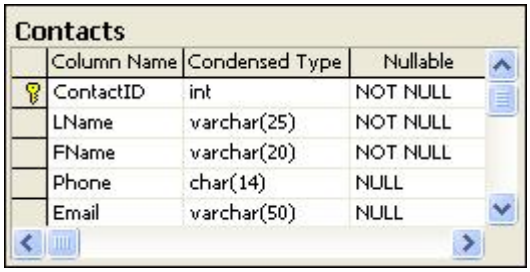
Main

Column Name	Condensed Type	Nullable
OrgID	int	NOT NULL
OrgName	varchar(150)	NOT NULL
Symbol	varchar(8)	NULL
[501c3]	bit	NOT NULL
DueAmt	decimal(18, 0)	NULL
Parent	char(6)	NULL
City	varchar(25)	NULL
State	char(2)	NULL
Region	varchar(15)	NULL
OrgType	varchar(10)	NULL
MeetingRecurrence	varchar(15)	NULL
PrimaryURL	varchar(150)	NULL
Descript	varchar(250)	NULL

Figure 3

2. Contacts Table (Figure 4)

   This table is connected to the Main table indirectly. This table provides the information for the contact for each organization.



Contacts

Column Name	Condensed Type	Nullable
ContactID	int	NOT NULL
LName	varchar(25)	NOT NULL
FName	varchar(20)	NOT NULL
Phone	char(14)	NULL
Email	varchar(50)	NULL

Figure 4

3. MainContacts Table (Figure 5)

   This table links the Contacts table to the Main table. This table allows for multiple contacts for an organization as well as one user being a contact for multiple organizations.

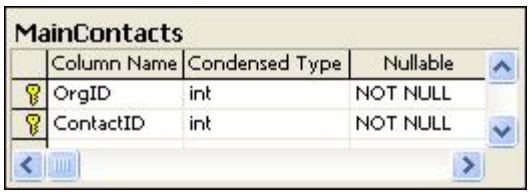
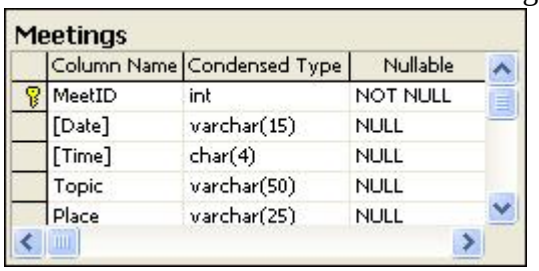

MainContacts
Column Name
Condensed Type
Nullable
OrgID
int
NOT NULL
ContactID
int
NOT NULL

Figure 5

4. Meetings Table (Figure 6)

This table connects to the Main table indirectly. This table provides the information for the individual meetings for each organization.



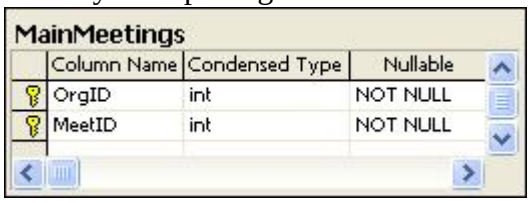
Meetings

Column Name	Condensed Type	Nullable
MeetID	int	NOT NULL
[Date]	varchar(15)	NULL
[Time]	char(4)	NULL
Topic	varchar(50)	NULL
Place	varchar(25)	NULL

Figure 6

5. MainMeetings Table (Figure 7)

This table links the Meetings table to the Main table. This table allows for multiple meetings for an organization as well as one meeting being attended by multiple organizations.



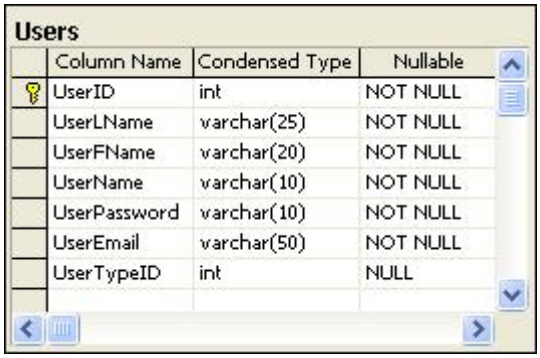
MainMeetings

Column Name	Condensed Type	Nullable
OrgID	int	NOT NULL
MeetID	int	NOT NULL

Figure 7

6. Users Table (Figure 8)

This table connects to the Main table indirectly. This table provides the information for the individual users for each organization.



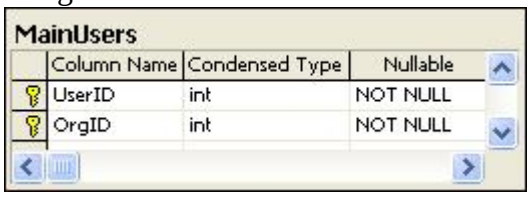
Users

Column Name	Condensed Type	Nullable
UserID	int	NOT NULL
UserLName	varchar(25)	NOT NULL
UserFName	varchar(20)	NOT NULL
UserName	varchar(10)	NOT NULL
UserPassword	varchar(10)	NOT NULL
UserEmail	varchar(50)	NOT NULL
UserTypeID	int	NULL

Figure 8

7. MainUsers Table (Figure 9)

This table links the Users table to the Main table. This table allows for multiple users for an organization as well as one user being a member of multiple organizations.



MainUsers

Column Name	Condensed Type	Nullable
UserID	int	NOT NULL
OrgID	int	NOT NULL

Figure 9

8. UserType Table (Figure 10)

This table links to the Users table and provides the definitions of whether a user is an administrator, a representative, or a general user.

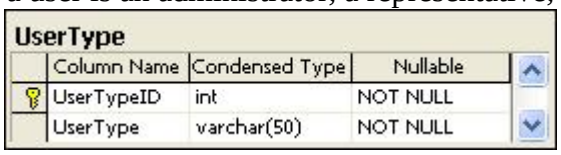


Figure 10

9. UserCert Table (Figure 11)

This table links to the Users table and provides the Web site with the certificates that each user has added to his/her profile.

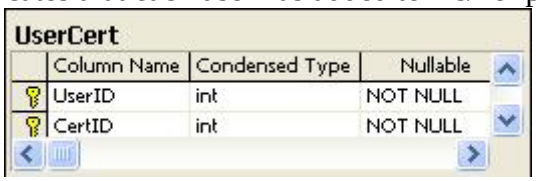


Figure 11

10. Reps Table (Figure 12)

This table links to the Users table and is the table that assigns a user to be a representative of a specific organization.

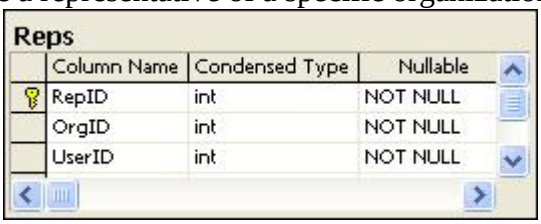


Figure 12

11. Certificates Table (Figure 13)

This table links directly to the Main table. This table provides information about a specific certificate that an organization offers. It also allows for an organization to offer multiple certificates, if available.

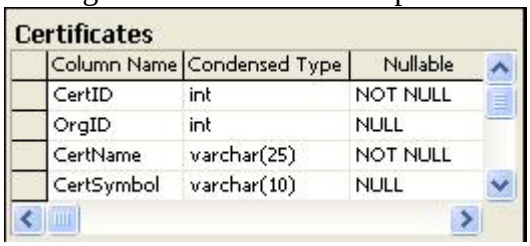


Figure 13

Interface Design

There will be four main user interfaces to be designed and implemented. The first is the Home page interface. This interface is the first interface any user comes to for the site. From here the user will be able to log into the site or browse the site (See Figure 14). The second main interface is the respective type of user logging in. The administrator page is where the administrator can modify any aspect of the database including user maintenance and organization maintenance (See Figure 15). The representative page is where the rep for the organization can modify his/her organizations information, meetings or certificates (See Figure 16). The user page is a simple layout that allows a user to quickly see the organizations that he/she belongs to, meetings that are coming up and certificates that the user has (See Figure 17). The third interface consists of a calendar that displays past, present and future meetings (See Figure 18). The user can then click on the day to get more information about those meetings (See Figure 19). The next interface is that of the organization. This interface allows any visitor the ability to see all the organizations that are available on the site (See Figure 20). Each organization can be clicked on and the visitor will be able to view the information about that specific organization and members can even add that organization to their profile (See Figure 21). There is also a certificates interface that is similar to the organizations that also allows any member to add a certificate to their profile (See Figure 22, 23). Lastly, is the search page that allows any visitor the ability to search for a key word that may appear in an organizations name or description (See Figure 24).

Figure 14

Figure 15

Figure 16

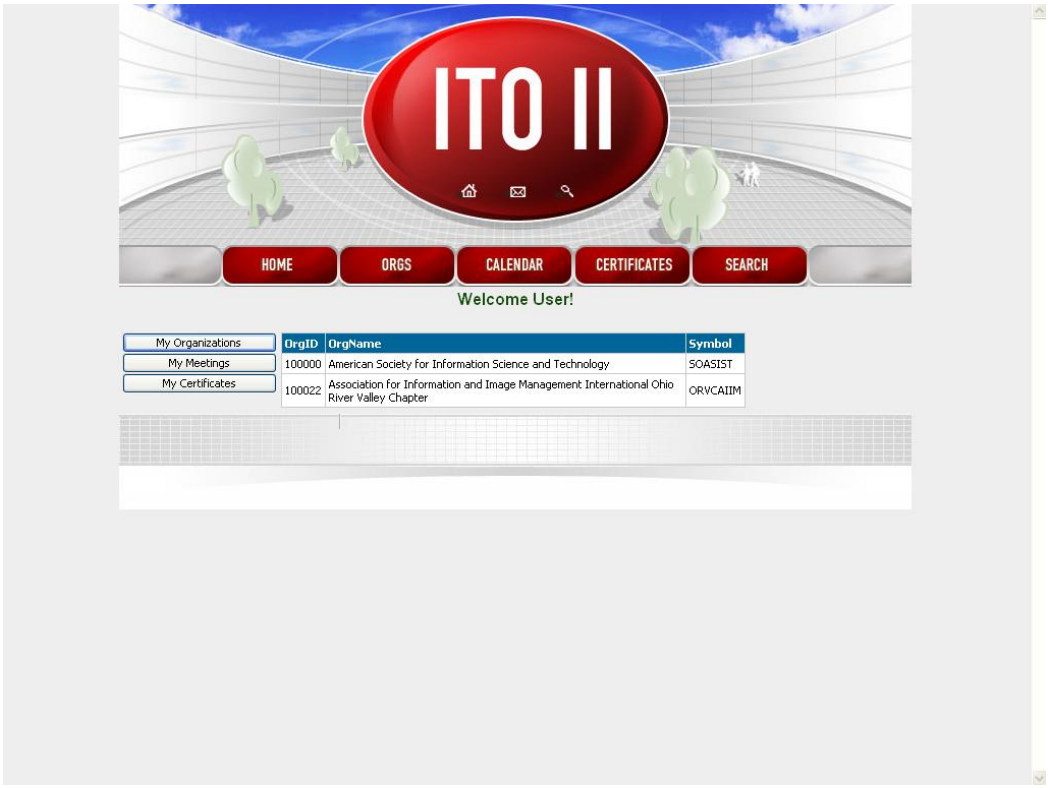


Figure 17

Figure 18

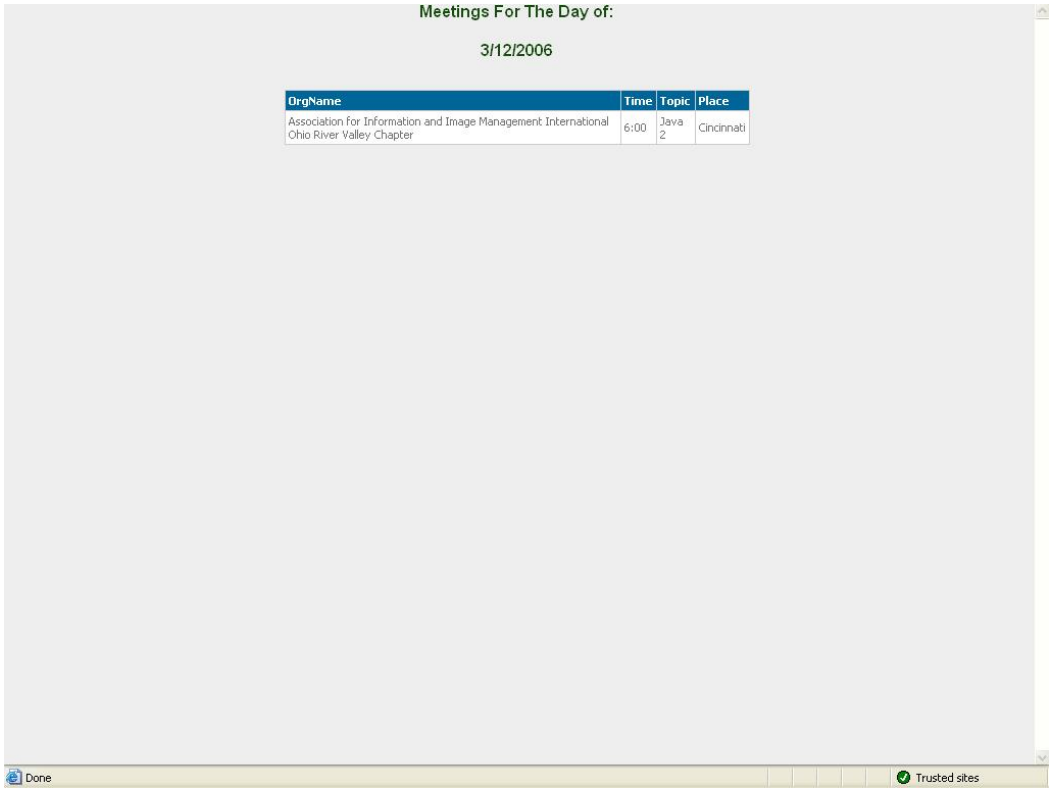


Figure 19

Figure 20

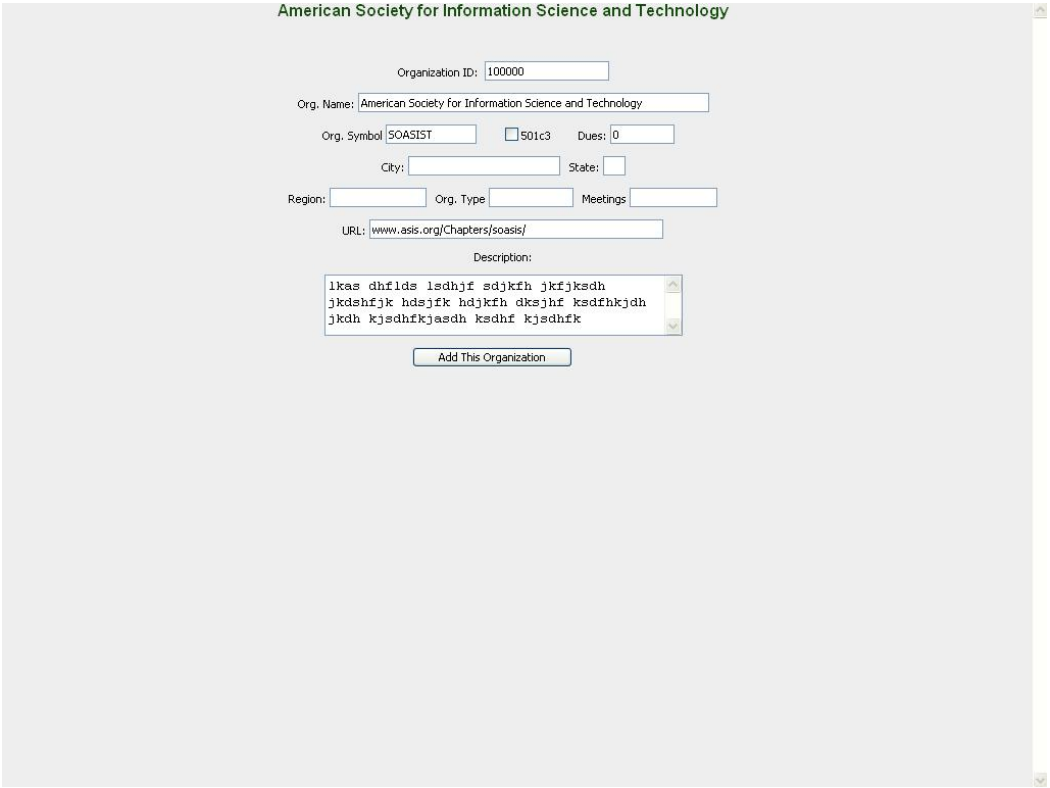


Figure 21

Figure 22

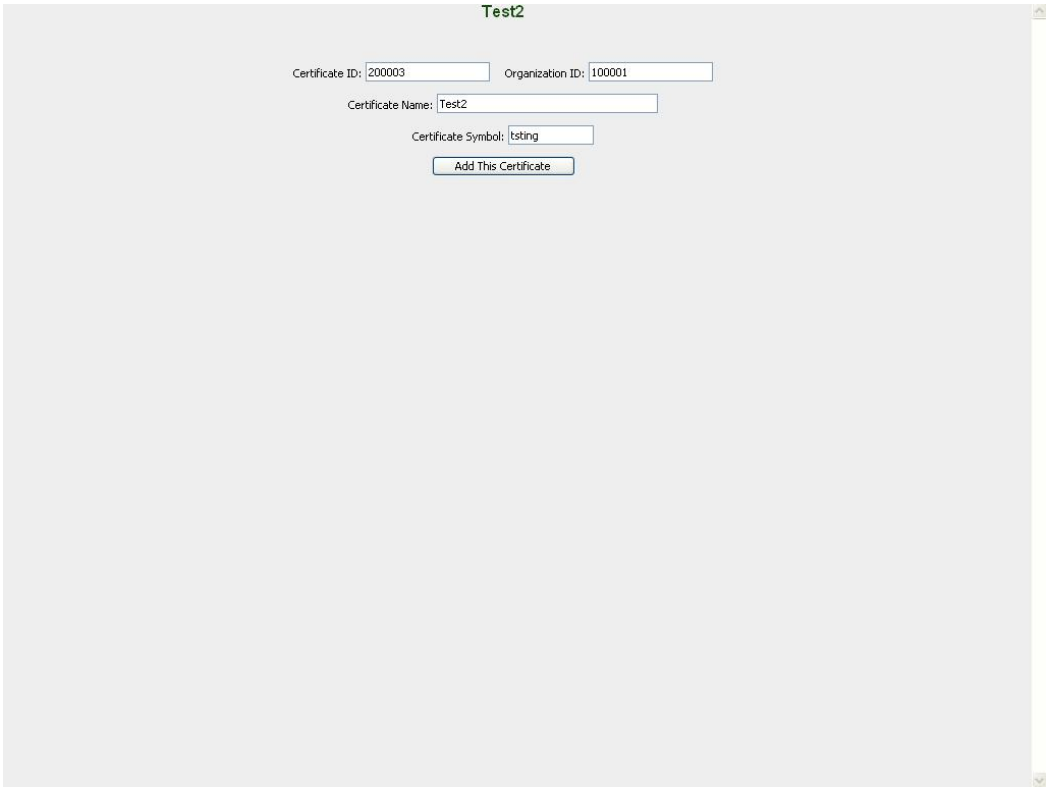


Figure 23


ITO II
HOME
ORGS
CALENDAR
CERTIFICATES
SEARCH
Search
Enter Search for Orgs.:
cincinnati
Search
Applesiders of Cincinnati
lkas dhflds lsdhjf sdjkfh jkfjksdh jkdshfjk hdsjfk hdjkfh dksjhf ksdfhkjdh jkdh kjsdhfkjasdh ksdhf kjsdhfk
Cincinnati .NET Users Group
lkas dhflds lsdhjf sdjkfh jkfjksdh jkdshfjk hdsjfk hdjkfh dksjhf ksdfhkjdh jkdh kjsdhfkjasdh ksdhf kjsdhfk
Cincinnati Java User Group
lkas dhflds lsdhjf sdjkfh jkfjksdh jkdshfjk hdsjfk hdjkfh dksjhf ksdfhkjdh jkdh kjsdhfkjasdh ksdhf kjsdhfk
Cincinnati Linux User Group
lkas dhflds lsdhjf sdjkfh jkfjksdh jkdshfjk hdsjfk hdjkfh dksjhf ksdfhkjdh jkdh kjsdhfkjasdh ksdhf kjsdhfk

Figure 24

A few other minor interfaces that were created include a sign up page that allows visitors to sign up to be a member (See Figure 25). This sign up takes affect instantly. Another simple interface was created for users that may have forgotten their password. This screen allows users to recover their password knowing their username and email address (See Figure 26).

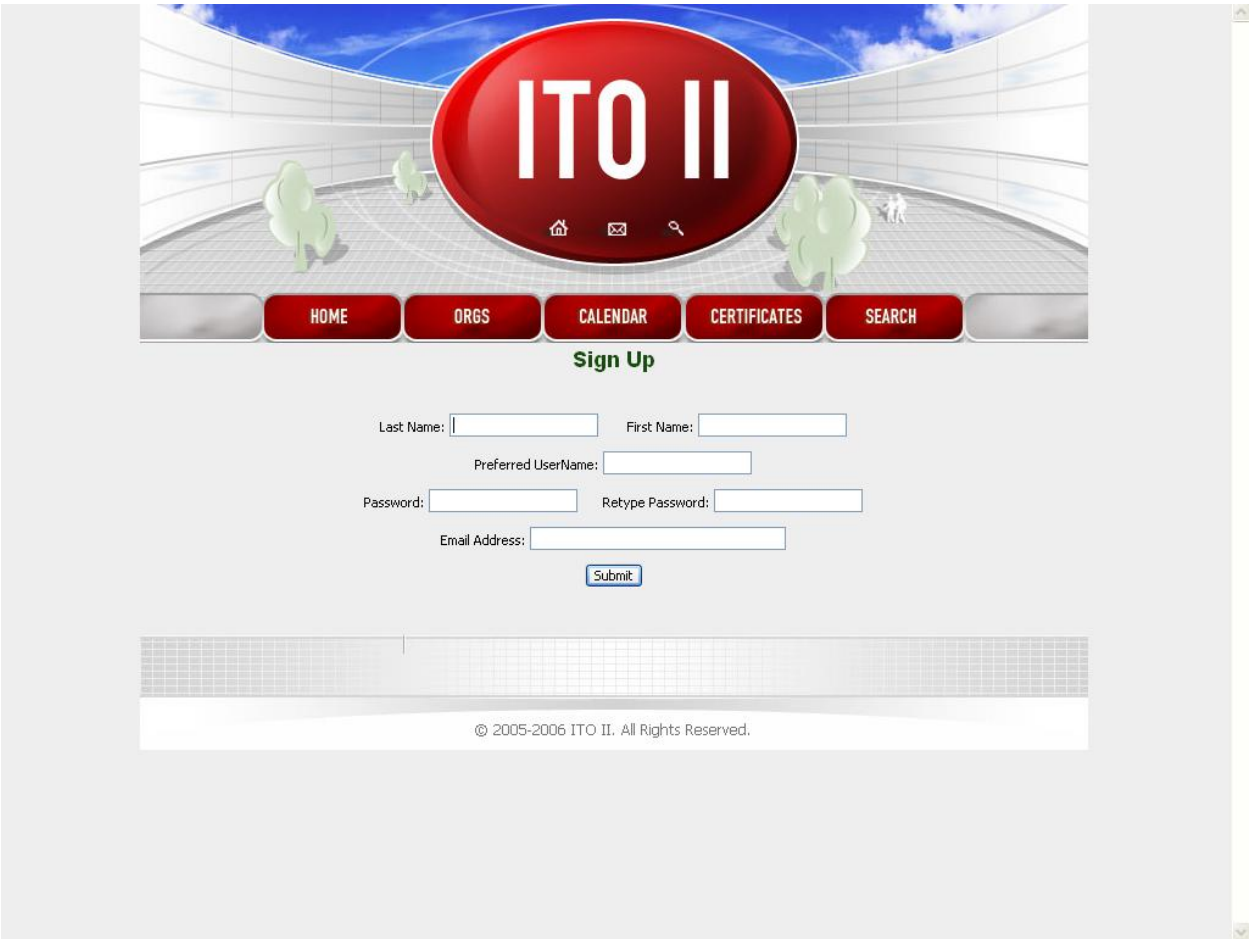


Figure 25

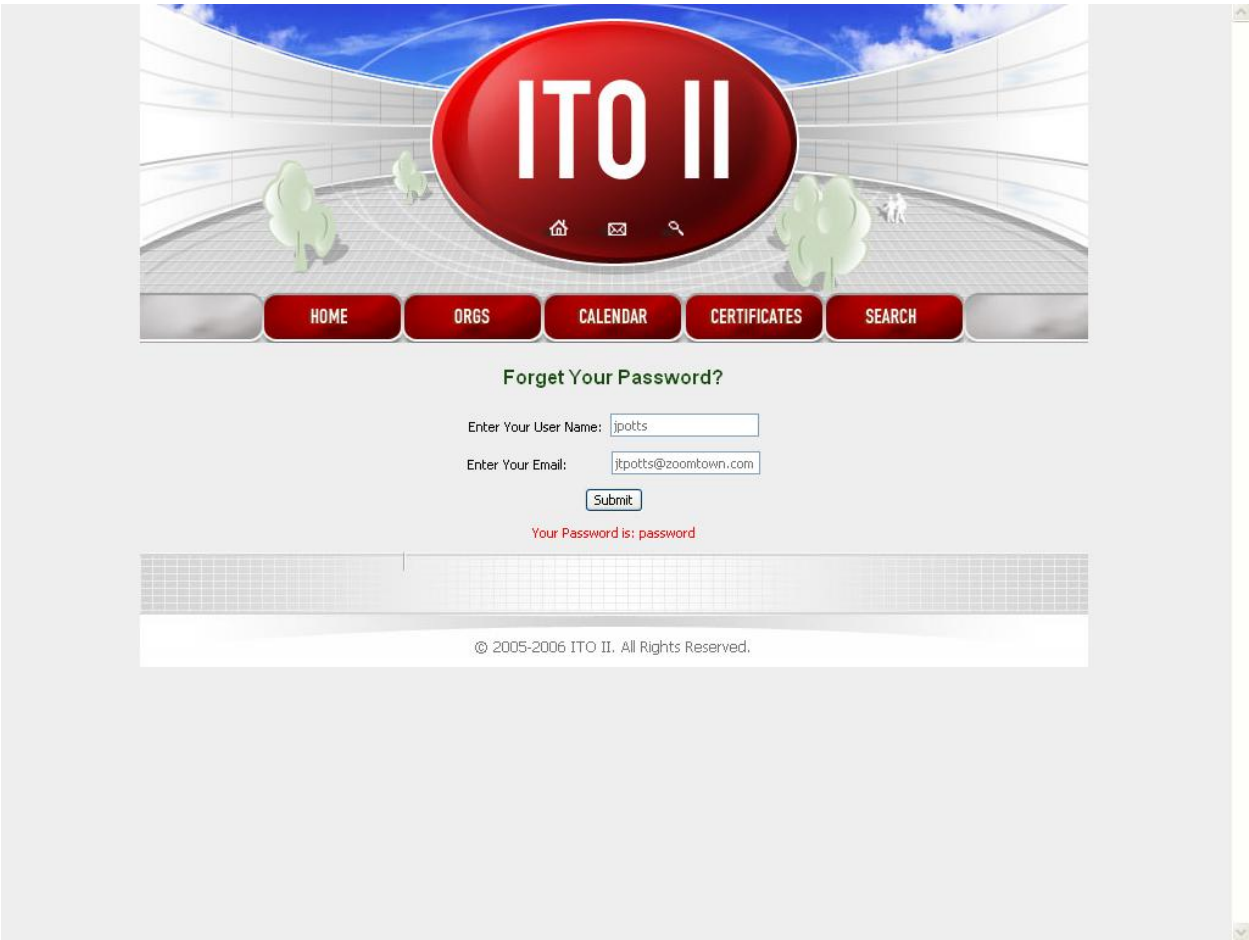


Figure 26

Testing Plan

The testing plan is an important part of this project. Valid mock data was inserted into each of the databases for testing purposes. The mock users were set up with random configurations to help separate what data one user is supposed to see compared to another. Upon completion of the project, a user is able to log into the Web site and verify that only the data that pertains to that specific user is showing. Each link was clicked on to ensure that it does go where it is intended and that data is accurate. As for the administrator user, only a few users are designated as administrators. The administrator was then logged into the site and all data, layouts and links needed for the administrator

were confirmed. A few users were assigned as organization representatives. These users were then logged into the Web site and tested to ensure that they are only able to update and create information within their own organization as well as test all links. Once any bugs that are discovered during testing are fixed, the database will be emptied and filled with working data and the Web site will then be placed on the internet. Should any problems occur during use, a user can contact the administrator and inform them of any problems.

Timeline

I have outlined the course of this project which is displayed below (See Figure 27). Some dates are not exact due to presentation dates, but otherwise reflects the approximate date.

Microsoft Project 2002 Screen Shot

		Task Name	Duration	Start	Finish
1		Research	47 days?	Mon 3/28/05	Fri 5/13/05
2		Proposal	9 days?	Sat 5/14/05	Sun 5/22/05
3		SD 1 Presenation	1 day?	Mon 5/23/05	Mon 5/23/05
4		Design Database	14 days?	Tue 5/24/05	Mon 6/6/05
5		Design UI	41.5 days?	Tue 5/24/05	Mon 7/4/05
6		Program	280 days?	Sun 6/12/05	Sat 3/18/06
7		Present Prototype	1 day?	Mon 8/29/05	Mon 8/29/05
8		Debug/Test	280 days?	Sun 6/12/05	Sat 3/18/06
9		Present Final Project	1 day?	Sun 3/19/06	Sun 3/19/06

Figure 27

Budget

As far as the cost of this project, the following diagram (Figure 28) shows the actual cost of the project and my cost of the project.

Microsoft Excel Cell Import

	Actual Price	My Price
Web Server	$1,500.00	$0.00
SQL Server	$1,500.00	$0.00
Labor	$38,408.00	$0.00
Microsoft Visual Studio 2003	$695.00	$0.00
Microsoft SQL Server 2000	$1,280.00	$0.00
Development PC	$1,000.00	$0.00
Total	$44,383.00	$0.00

Figure 28

The total of My Price column is zero due to a couple reasons. The servers are being provided by the IT department. Through the Microsoft license agreement that the school has, it provides the software needed free of charge. I already own and have used the development PC. The labor is covered by the fact that this is a requirement of the project. The Actual Price is what it would cost a company if they were to start from scratch. The prices of the servers are an estimate from Dell.com with specifications that would support the servers intended use. The price of the software is what it would cost from Amazon.com. The labor cost is based on a nine month average salary of a programmer that would be doing what I am doing within the Cincinnati area according to SalaryExpert.com.

Deliverables

- ASP.NET C# web site currently to be hosted by UC
- Web site created using Microsoft Visual Studio .NET 2003
- Web site with 4 user profiles
    - Administrator
        - Interface to Update, Delete and Insert information
    - Organization Representative
        - Interface to Update and Insert data
    - Organization Participant
        - Interface to manage different organizations they belong to
    - Site Visitor
        - The ability to browse the site and find all information that a registered user would have access to
- Will contain 4 main interfaces
    - Home Page – viewable by everyone
    - Profile Page – viewable by logged in user, customized to each profile
    - Calendar – viewable by everyone, customized to specific search
    - Organization – viewable by everyone
- SQL Server 2000 database
    - With partially entered data that will be agreed upon
    - Will contain above 11 tables with key constraints

Conclusion

This paper is an overview of the work that is now completed and informs the reader of what was done and how things look and work. It provides the reader with a product description and intended use as well as the profiles that were created for the users of this project. It outlines the database and interface design aspects of the project and also informs the reader of the needs of the project. It provided a testing plan for when the project was finished and also a timeline and budget for the project. Lastly, it provides a list of deliverables that were agreed upon and have been met for the completion of the project.

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