

Earth Drummers Running Team Web Site

By

Vincent Evans

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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Earth Drummers Running Team Website

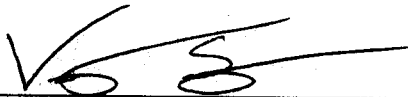
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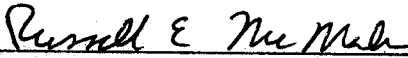
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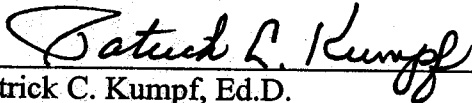
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Abstract

The goal of this project is to create a user-friendly Web site, which will display information for both members and non-members. The Web site will be set up for three general areas: the general public viewers of the Web site, Earth Drummers members, and Earth Drummer sponsored running team members. General public users will be able to navigate the Web site and view basic information about the runners and other information made public through the Web site. Earth Drummers members, who are members of the organization that are not on the sponsored team, will be able to login and create profiles containing contact information through a Members console. Earth Drummers sponsored team runners will be able to update profiles as well as track their official times and records from races through a Runners console. The Web site will be dynamic, with page information coming from the database to allow for ease of maintenance, through an Administrative console. This project will be completed using Microsoft Active Server Pages (ASP) .Net for layout and functionality and SQL Server 2000 for the database backend.

1. Introduction

The Earth Drummers is a United States of America Track & Field (USATF) registered running club made up of Greater Cincinnati Area runners, who strive to compete on local, national, and international levels. There are several USATF teams in the Ohio, Kentucky, and Indiana tri-state area, including the Indiana Invaders, Run Wild Racing, Run Ohio, Miami Valley Track Club, Buckeye Striders, and the Blue Thunder Track Club (8). These running teams promote running, jogging, and walking for the benefit of all (7). The Earth Drummers are trying continuously to improve the running community in the Greater Cincinnati Area (2).

The Earth Drummers team has recently become a non-profit organization and currently do not have a Web site, a means of tracking running data, race information, calendar of events, or a means to contact and store non-elite team members and their individual information.

Thus, the first aspect of this project is to create a user-friendly Web site, which will display information for both members and non-members. The Web site will be set up for three general areas: the general public viewers of the Web site, Earth Drummers members, and Earth Drummer sponsored running team members. General public users will be able to navigate the Web site and view basic information about the runners, calendar of events, and other information made public through the Web site. Earth Drummers members, who are members of the organization that are not on the sponsored team, will be able to login and create profiles containing contact information. Earth Drummers sponsored team runners will need to create and be able to update profiles as well as track their official times and records from races.

The profiles and contact information need to be stored in a database. This is a significant problem since this information currently is stored on paper in notebooks, in Excel files, and in personal cell phones, which means records can be lost, destroyed, or accidentally deleted. A database must be designed for this organization, such that their information remains secure and accessible. The database for this organization will track contact information, race event information, official race times, and user information. The database will need to allow for updating portions of the Web site including storing links for pages and articles posted on the site, checking sponsor links, and updating links for external pages.

The last aspect of this project may include multimedia to assist with Web design for this project. The Earth Drummers organization may ask for assistance with logo design, multimedia productions including audio and video, and with dynamic pages including animations.

This project will enable the Earth Drummers running team to announce its presence and market itself as an established running team, allow it to update the Web site, track runner information, contact information, and member information in one location accessible from virtually anywhere.

2. Solution

The basic overview of the solution for this project is to create a Web site that is extensible hypertext markup language (XHTML) compatible, with a database driven backbone. Several running teams in the Greater Cincinnati Area have created Web sites, examples are shown on the next page.

Figure 1. Below is a screenshot from <http://www.runwildracing.com/> (7). This site uses many features of the HTML language including graphics, roll over effects, and menus. However, the page appears cluttered and disorganized since pictures overlap and the menus are hard to distinguish.

Figure 2. Next page is a screenshot from <http://www.indianainvaders.com/> (3). This page has a nice linear layout and is a well-organized Web page; however, its HTML effects are limited to mouse over links effects. The biggest problem with this page is that one cannot tell where the text ends and the side links begin.



Figure 1. Cluttered Web Page

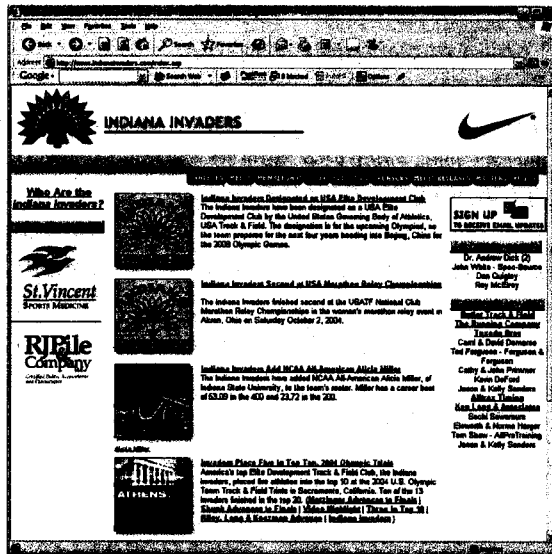


Figure 2. Borderless Web Page

The proposed Earth Drummers Web site will be built upon layout ideas similar to those shown above. It will contain graphical and text interfaces which the database backbone will allow for to be changed through an administrative console. The features of this layout will include various images and links to related pages and articles, both internal and external. Using the two layout styles represented above as a base will make this Web site: easy to read, navigate, find information, login/logout from, update links and pages, and have dynamic content based on user information and input.

Two possible solutions for this project are to use either Open Source or Microsoft software packages for scripting, database connection, and for the database storage. The Open Source option includes Hypertext Preprocessor (PHP) scripting language and MySQL database software. The Microsoft option includes Active Server Pages .Net 2003 (ASP .Net) and either Microsoft Access or SQL Server 2000 database software. The decision process for this project is show throughout the following paragraphs.

The first option for this project is using the Open Source community's PHP scripting language with a MySQL database system. When using Open Source products the Open Source definition is required to be applied to a solution. This includes ten points: free distribution, source code, derived works, integrity of the author's source code, no discrimination against persons or groups, no discrimination against fields of endeavor, distribution of license, license must not be specific to a product, license must not restrict other software, and license must be technology-neutral (6). This license agreement applies to nearly all open sourced programs and utilities; it is the foundation on which the Open Sourced community is based.

The PHP scripting language and MySQL database system combination offer many features required by this project. The first requirement is that the scripting language is able to create an easy to navigate Web site, which PHP supports by displaying static and dynamic hypertext markup language (HTML) pages (9). PHP also supports connections to multiple database systems including MySQL (9). The MySQL database system works well for small and medium database applications (9). The PHP and MySQL combination is cross-platform, meaning, that they can be developed both in Windows and UNIX environments and are supported by multiple Web browsers (9).

Although PHP scripting and MySQL provide a viable option for this project, it has been my experience that documentation and how-to information is difficult to find and understand. The Open Source requirements also make this less appealing since it requires divulging code for this project to the public. Making the code publicly available is a security concern, which could result in potential hacking attacks and destruction of data.

The second product solution is to use Microsoft's Active Server Pages .Net 2003 (ASP .Net) in combination with a Microsoft Access database. For the first requirement, ASP .Net allows for creating dynamic and static HTML pages. The content of any ASP .Net page can be dynamically edited based upon user input and can connect to any database and return results to the browser. Security is also a key issue, ASP .Net is not Open Source, the code is not shown by the browser, only the HTML code is displayed, which also means it is supported in multiple Web browsers.

The first database option considered for ASP .Net is to use a Microsoft Access database. Access is a database system designed for small to medium sized databases. However, Access is a single file-based database and can be opened easily in administrative mode with only a single password. Access databases become locked and restrict users from manipulating data when more than one user logs into a database. This would be problematic when multiple users are trying to access the database at the same time. However, this would be a viable option for a small Web site with modest database usage.

The second database option considered for ASP .Net is to use Microsoft SQL Server 2000. SQL Server is Microsoft's powerhouse database system, which allows for multiple simultaneous users, requires login and password information for security purposes, and is well documented through SQL Server Books Online (5). SQL Server although designed for large databases is reliable and allows for controlling database size, growth, and creates log files to track changes made to the database (5). The decision matrix for this project is below in *Figure 3*.

Technology	Static/Dynamic HTML	Open Source	Secure	Multiple Browser Support	Cost
PHP & MySQL	Yes	Yes	No	Yes	Free
ASP.Net & Access	Yes	No	No	Yes	\$1,000
ASP.Net & SQL Server	Yes	No	Yes	Yes	\$2,000

Figure 3. Decision Matrix

Although ASP .Net and SQL Server constitute the most expensive option, the combination offers the most complex and powerful solution for this project. SQL Server allows expandability, design changes, and among the best security available for databases. The most important feature of SQL Server is that there can be many interactions with the database at any given moment in time, allowing for multiple site logins and multiple data-driven pages to be accessed simultaneously. Since this Web site will be powered heavily from a database backend, this feature is crucial.

3. Project Resources and Timeline

3.1 Project Resources

The resources needed for this project start with a complete computer system. This system would require all hardware necessary for a developer desktop system. The next step requirement is an operating system for this computer system, for this project Windows XP Professional. The software packages required for this project are: Microsoft's Office 2003 Professional, Visual Studio .Net 2003, and SQL Server 2000. Lastly, an Internet connection and domain registration must be set up. The anticipated costs for this project are shown in *Figure 4*.

Item	Cost
Complete Computer System	\$1400.00
DSL/Cable Internet (1 year)	468.00
Domain Registration (1 year)	10.00
Microsoft Windows XP Professional	100.00
Microsoft Visual Studio .Net 2003	500.00
Microsoft Office 2003	500.00
Microsoft SQL Server 2000	1500.00
Total	\$2983.00

Figure 4. Cost Analysis

Sources: Microsoft (4), Zoomtown (10), Dell (1)

3.2 Project Timeline

The timeline for this project began on September 23, 2004 and will end on June 3, 2005. Senior Design I goes through the proposal phase including the presentation of the proposal. This phase of the project will conclude on December 2, 2004 with the presentation of my proposal given on November 18, 2004. Senior Design II goes through the requirement gathering and prototyping phases. This will begin, January 3, 2005 and conclude, March 11, 2005. In the Senior Design II course, the design freeze and a functioning prototype will be complete. Senior Design III requires a complete and fully

functioning project. This will begin on March 28, 2005 and conclude, June 3, 2005. An outline of this project is diagrammed below in *Figure 5*.

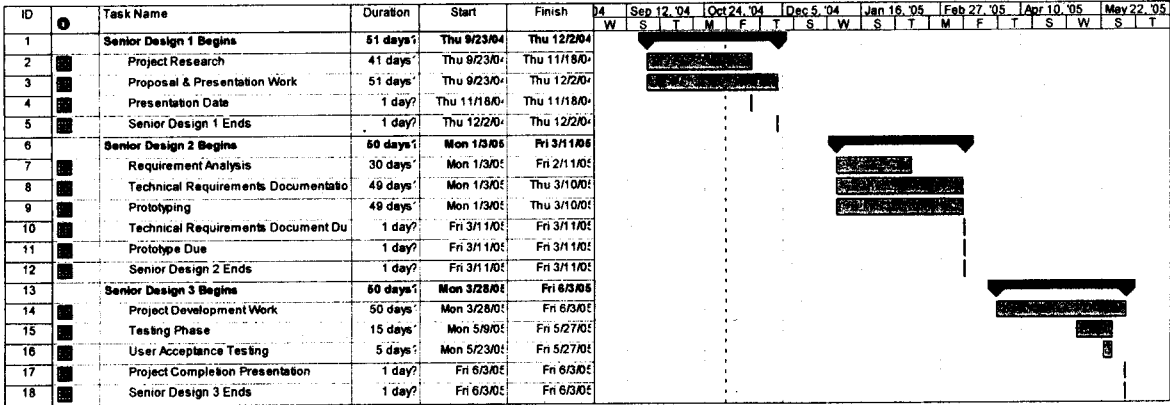


Figure 5. Project Timeline

4. Product Description and Intended Use

The goals Earth Drummers Running Team Web site project: to create an easy to use and navigate Web site, to create a well-designed layout that is both graphical and informational, to use latest versions of HTML, to create a database for storing member, Web page, sponsor, race, and calendar information. This project intent is to get information about the Earth Drummers out to the public and runners in the Greater Cincinnati Area. The members of the elite running team will keep a log of their running experience and race times through the Web site.

The technologies used to drive this Web site are Microsoft Active Server Pages (ASP) .Net 2003 and Microsoft SQL Server 2000. The database system has to be robust since it will handle the majority of the information for the Web site. For this reason, the database must be highly reliable and versatile. The core languages will be Visual Basic .Net and Hypertext Markup Language (HTML). Visual Basic ASP .Net allows for connecting to SQL Server 2000 and manipulating data and displaying this information in HTML pages. This technology meets all criteria for this project also allows for expansion and ease of maintenance.

There are three basic users for this site: Administrators, Elite Runners, and Site Users. Administrators will be able to login to the site and make changes using the database system to change links on pages, update information and to perform maintenance tasks. The Web site Administrators are there to manage and update the system as well as to recover the Web site incase of a disaster. The Elite Runners will login to the Web site and update their profiles and running journals on a frequent basis. This will enable them to track their official race times and to log their training records.

Site Users will be able to login to the Web site and update profile information. All three types of users will have to login to the site using a username and password when they create their personal profile.

5. Project Design Overview

This project will encompass Web development, database programming, and multimedia design aspects of the Information Engineering Technology Senior Design program. The primary area is Web development to create a functional easy to navigate Web site. A database and multimedia will be used as the backbone for the Web site.

5.1 Microsoft Visual Studio .Net 2003

Microsoft Active Server Pages (ASP) .Net and Visual Basic .Net 2003 are the programming languages that will be used for completing this project. These technologies allow for creating dynamic Web pages that will be driven from information contained within the database.

5.2 Microsoft SQL Server 2000

SQL Server will be used to create an operational transaction based database, which is accessible by multiple simultaneous users. This database will be accessed from the Web pages and will store runner, member, and Web page data using relational tables.

5.3 Multimedia

Multimedia programs such as Adobe Photoshop and Adobe ImageReady will be used for graphical and layout designs. Page loading performance is an important factor in production of this site so graphical user interfaces must be designed with this in mind.

5.4 Programming Practices

Programming practices for coding will be used to ensure ease of maintenance, update, and enhance the ability to read and comprehend project source code. The

majority of the code for this project will be hypertext markup language (HTML)
based with Visual Basic scripts that will perform specialized tasks.

6. Use Case Statements and Diagrams

The use case statements are diagrammed in the Use Case Diagram, Sequence Diagrams and in the Class Diagram following the Use Case Statements below, see *Figures 1, 2, and 3*. These diagrams show the capabilities of the users in three-tiers: administrators, runners, and Web site users. The following use case statements explain what these three user types will be able to accomplish when logged into the Earth Drummers Running Team Web Site.

6.1. User Profile

6.1.1. Create User: when a new user is created, the following attributes for the user are created.

6.1.1.1. User Name: uniquely identifies the user in the database.

6.1.1.2. Password & Confirmation: user creates a password and confirms it for security purposes.

6.1.1.3. Name: used to identify the user and for page customizations.

6.1.1.4. Email Address: used as a means to contact the user.

6.1.1.5. Creation Date: used to track member usage history.

6.1.2. Update User: once a user has been created passwords, names, and email addresses can be updated.

6.1.2.1. Change Password: users must enter current password, which will be verified, then enter the new password and matching confirmation.

6.1.2.2. Change Name: users will be able to edit their name within the database.

6.1.2.3.Change Email Address: users will be able to edit their email address within the database.

6.2. User Login

6.2.1. Login: default state for page is all users are logged out.

6.2.2. Logout: ends user's session.

6.3. Login Procedure

6.3.1. Members page

6.3.2. Input Username & password or create user.

6.3.2.1.Username & password information sent to database.

6.3.2.2.Username & password validation confirmed.

6.3.2.3.Redirect to main member page.

6.4. Create User

6.4.1. Check username availability.

6.4.2. Validate information supplied by user.

6.4.3. Create user in database.

6.4.4. Redirect to created user page.

6.4.5. Link to log in page.

6.5. Logout Procedure

6.5.1. Click logout link or session timeout.

6.6. Runners Journal

6.6.1. Create new journal entry.

6.6.1.1.Enter information - select date, create title, and write details.

6.6.1.2.Submit information.

6.6.1.3.Insert information into database.

6.6.2. Update journal entry.

6.6.2.1.Retrieve information from database.

6.6.2.2.Edit as necessary.

6.6.2.3.Submit information.

6.6.2.4.Update information in database.

6.7. Running Articles

6.7.1. Create new article.

6.7.1.1.Enter information – author, title, date, and article text.

6.7.1.2.Submit information.

6.7.1.3.Insert information into database.

6.7.2. Update articles

6.7.2.1.Select information from database.

6.7.2.2.Update information.

6.7.2.3.Submit information to database.

6.8. User Options

6.8.1. Update Profile

6.8.1.1.Change email and password.

6.9. Runner Options

6.9.1. Update Profile

6.9.1.1.Change email and password.

6.9.1.2.Update Biography

6.9.1.3.Change biography information.

6.9.1.4.Update Personal Bests

6.10. Administrative Options

6.10.1. Set user types for runners and administrators.

6.10.2. Show all users from database.

6.10.3. Update web page information.

6.10.3.1. Show web page information for each page in editable fields.

6.10.4. Create and Update running articles.

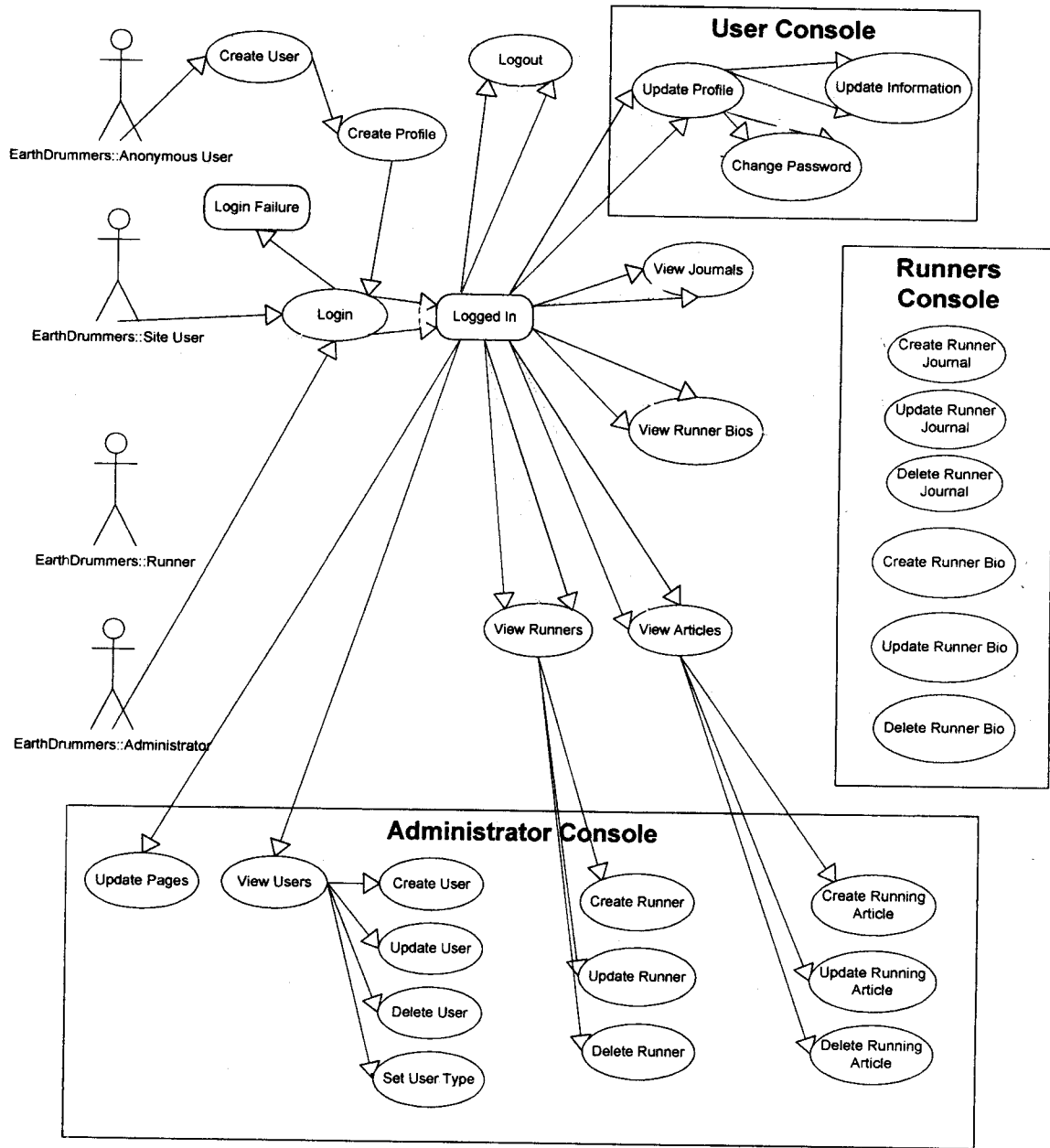


Figure 6. Use Case Diagram

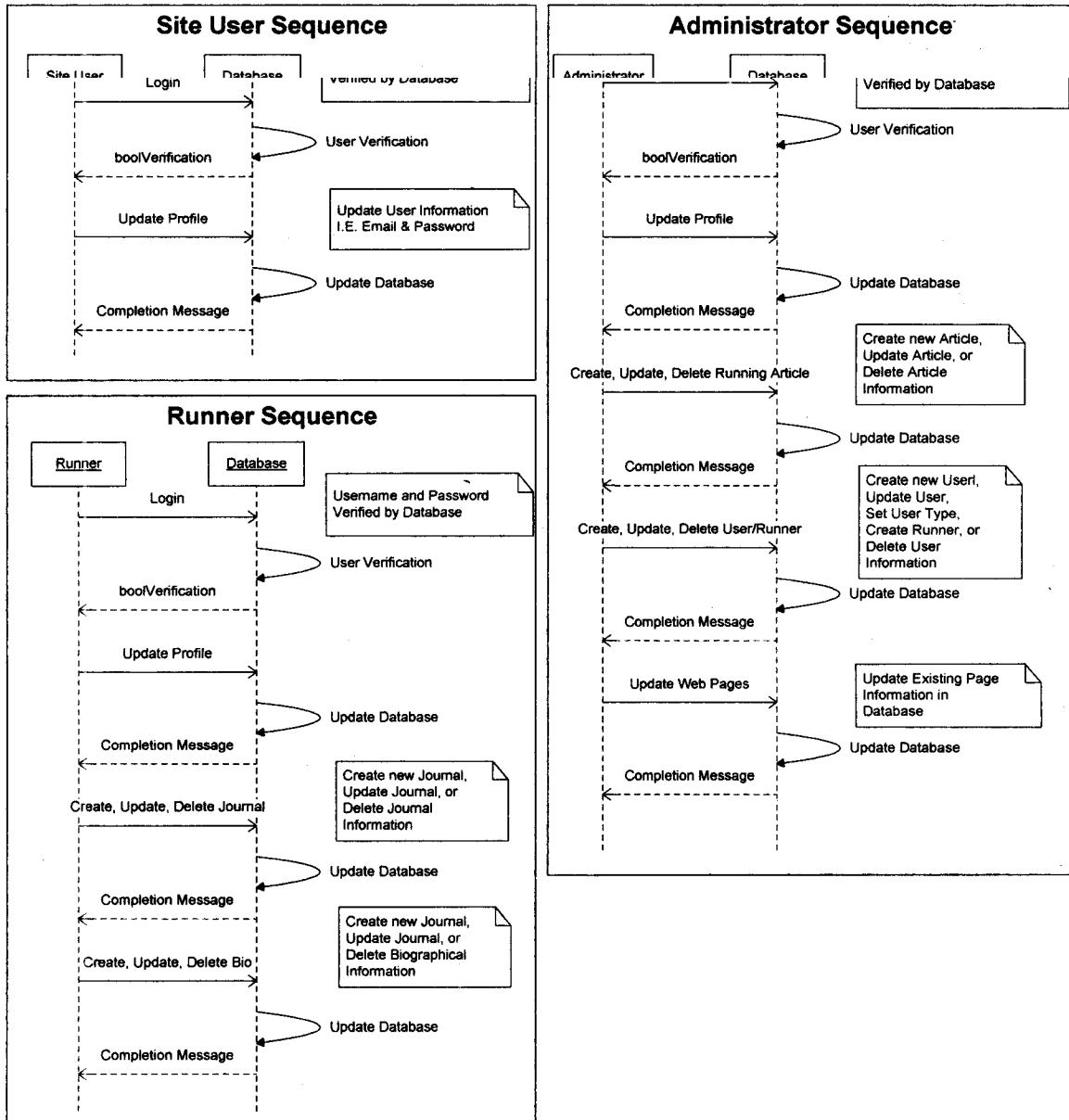


Figure 7. Sequence Diagrams

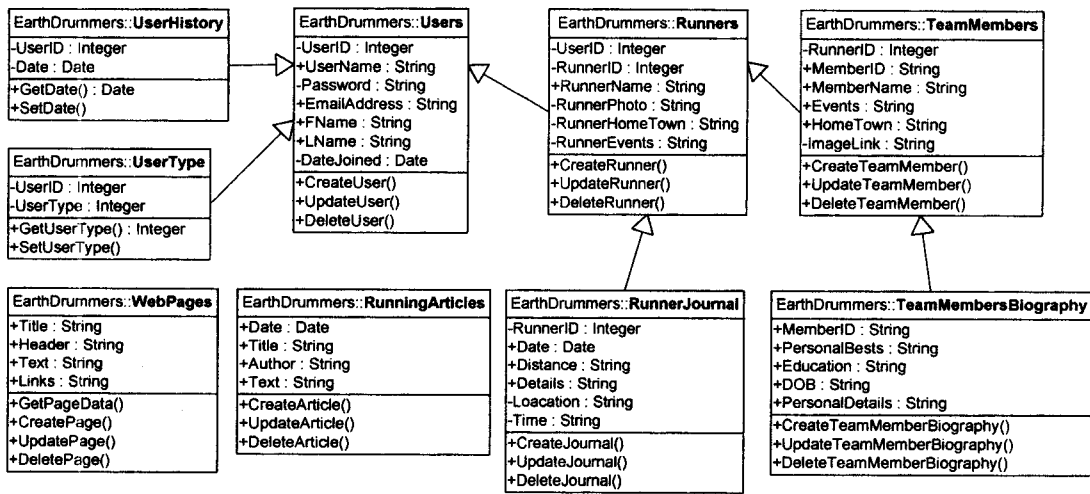


Figure 8. Class Diagram

7. Database Design

The database for this application is divided into two main sections. The most comprehensive section is for user and runner information. This section of the database is used for all users, runners, runner details, and upcoming events. The users section of the database will store usernames, passwords, user details including name and email address, runner information including biographical information and the events they compete in, and upcoming events organized by the Earth Drummers Running Team. The runners will be able to create journals documenting their running careers. These tables are diagrammed below in *Figure 9*.

Users Table: this table stores general information about the users including username, password, first name, last name, and email address. This table is linked to the UserType table to determine whether the user is a site user, runner, or administrator.

UserType Table: only site administrators can access this table, it stores the UserTypeID, which is used by the system to determine access privileges.

UserHistory Table: this table is used to track when users have logged into the system.

Runners Table: this table stores general information about the runners and assigns them a RunnerID, which is used as foreign keys in other tables to link race, event, and biographical information to the runner. This information is stored in a separate table since not all runners may be users of the Web site.

RunnersBio Table: this table stores biographical information and can include long text segments that may not be accessed on a regular basis. This information is displayed when users open the biography page of the runner.

RunnersJournal Table: this table is stores journal information created by the runners. This information is only displayed to site members and is displayed when users open the journals page.

RunnerHistory and RaceInfo Tables: these tables are used to store information about the races that the runners have participated in as well as events organized by the Earth Drummers.

RunningArticles Table: this table can only be updated by administrators and is used to store running articles and other running information.

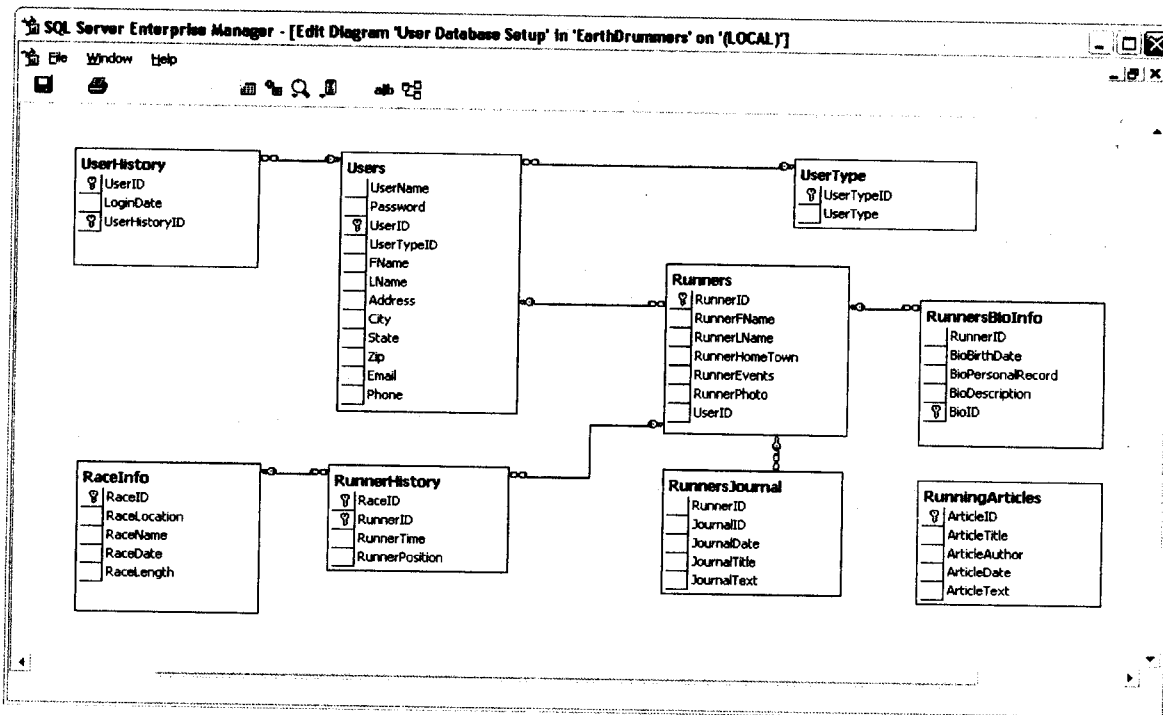


Figure 9. Database Design for Administrators, Users, and Runners

The second portion of the database is used for storing Web page information. This will be used to track internal links and make the site easily maintainable through the Administrators Console. These tables will be used to store page content, titles, and other

page specific information allowing for a dynamic Web site. These tables are diagrammed below in *Figure 8*.

WebPages Table: this table stores information about specific pages including the page name, the link to the page, page title, page location, and the page text. The available links are stored in the WebLinks table. This information is linked through the WebPageLinks table allowing for a many to many relationship, such that more than one link can be displayed on a given page.

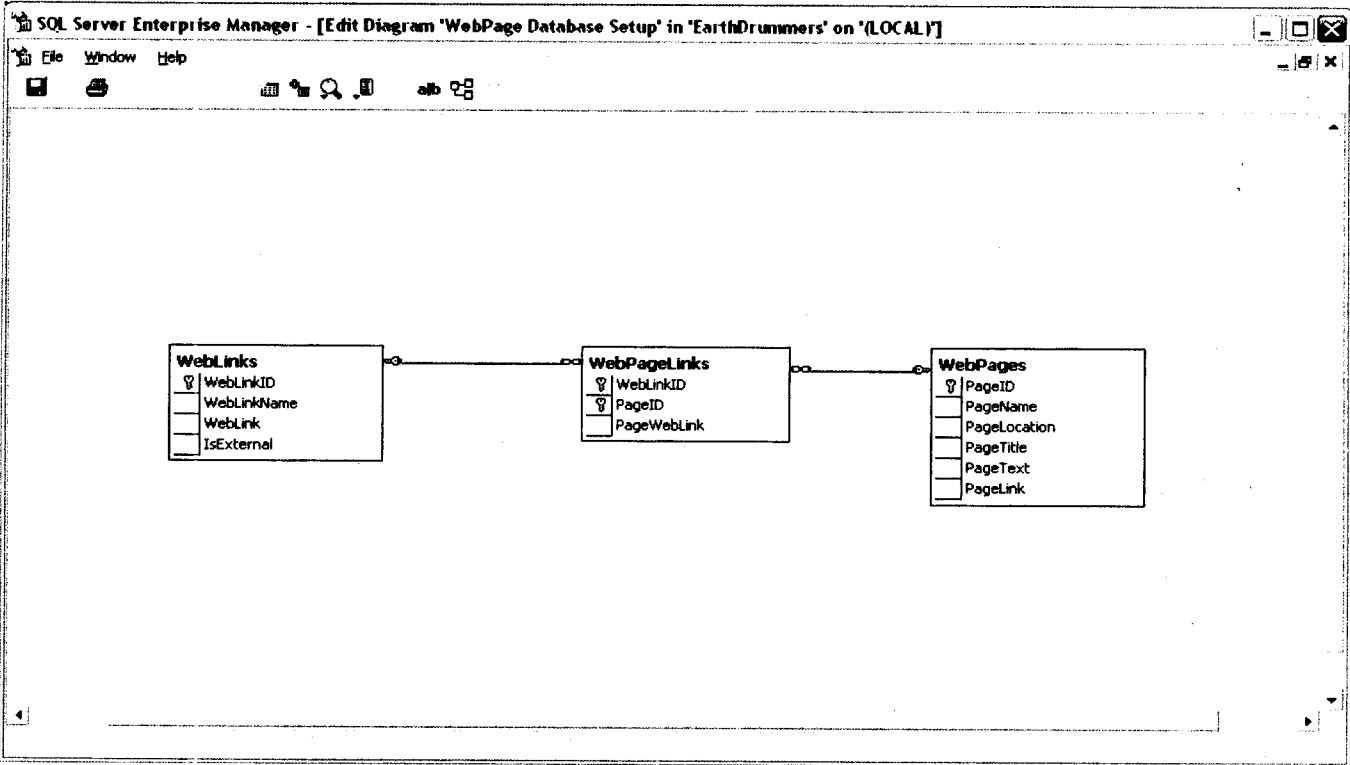


Figure 10. Database Design for Web Page Information

8. Project Deliverables

- 8.1. Functional Web site to be available at EarthDrummers.net
- 8.2. Static front pages – information pulled from database
- 8.3. Members only pages
 - 8.3.1. Administrators
 - 8.3.1.1. Administrative Console
 - 8.3.2. Runners
 - 8.3.2.1. Runner Console
 - 8.3.3. Members
 - 8.3.3.1. Member Console
- 8.4. Database driven
- 8.5. Pages will get content from database.
- 8.6. Graphical design and layout
- 8.7. Administrative Console - for updating and editing existing pages content and information.
- 8.8. Runner Console - for creating, updating, and editing online journals.
- 8.9. Member Console - for creating, editing, and updating profile information.

9. Proof of Design

The proof of design for this project will walk through the deliverables outlined above and identify how each deliverable was satisfactorily completed. This section will also contain screen shots of various portions of the project to supplement descriptions of Web pages and deliverables.

9.1 Functional Web Site at EarthDrummers.Net

The Web site is available at the <http://EarthDrummers.net> link, which will load the Earth Drummers Running Team Web site. This Web site is currently hosted on a Microsoft Windows XP Professional machine using Microsoft Internet Information Systems (IIS) version 5.1. The software applications used for completing this project are Microsoft Active Server Pages (ASP) .Net with Microsoft Visual Basic scripting and Microsoft SQL Server 2000 as a database backend.

9.2 Dynamic Pages

The site's front-pages, the public area of this Web site, pull their page information from the Microsoft SQL Server 2000 database. The reasoning for storing the page information in the SQL Server database is for ease of maintenance by the Web site Administrator. Through the Administrative Console site administrators are able to update page information by editing the HTML code for each front page text and information section.

There are several pages in this section, which are as follows the home, team, coaching, events, history, training, links, and members' pages. Each page will be displayed and outlined throughout the next few pages.

9.3 Web Site Pages

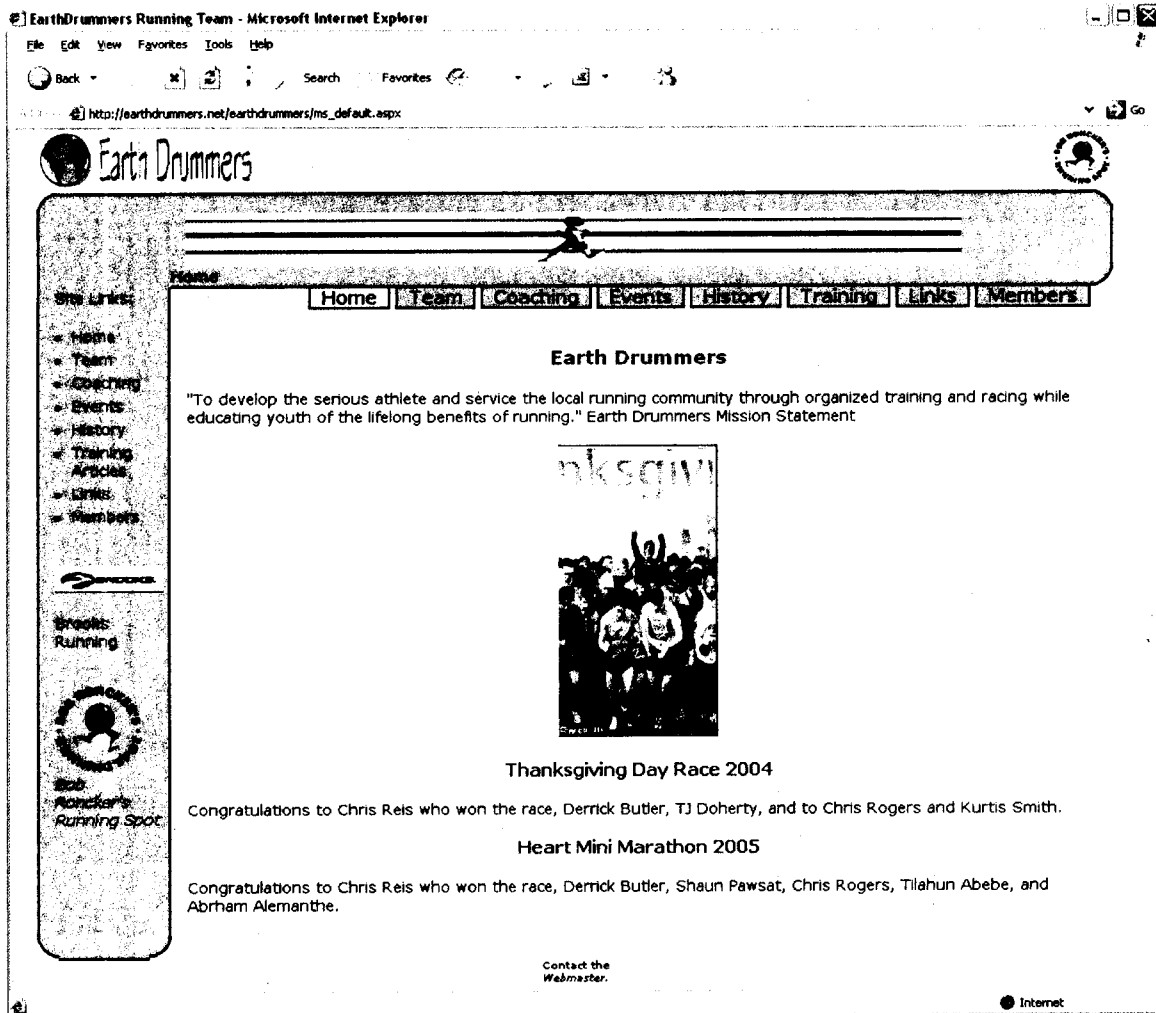


Figure 11. Site Home Page

The site's home page is displayed above this is the page that is presented to the user when visiting the <http://EarthDrummers.net> Web link. The layout template with the orange wrap around bar is standard for all pages in the Earth Drummers Running Team Web site. Links along the left margin are static per each page and are different based upon information on each page. The links along the top in the tab section only change when logged into the Web site and will display appropriate links according to user type, defined more clearly below.

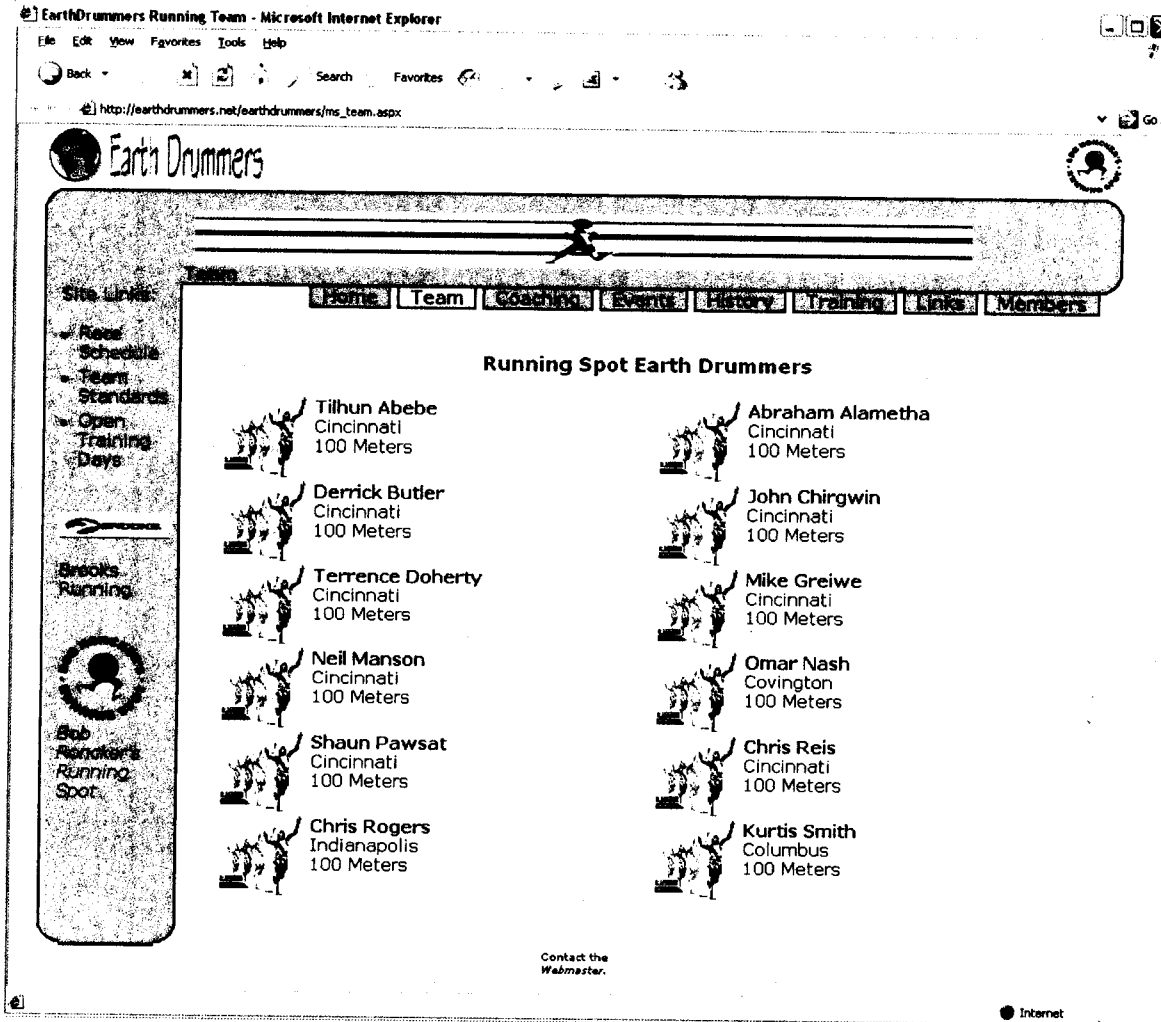


Figure 12. Site Team Page

The site's team page using the same template displays basic information about the runners, which is dynamic and comes directly from the SQL Server database. This is organized by using Visual Basic scripts to write out HTML tables and format the data within the rows and columns giving the layout shown above. Each runner has an available profile by clicking on their name, this will bring up another template page which displays the information contained in the database about that runner.

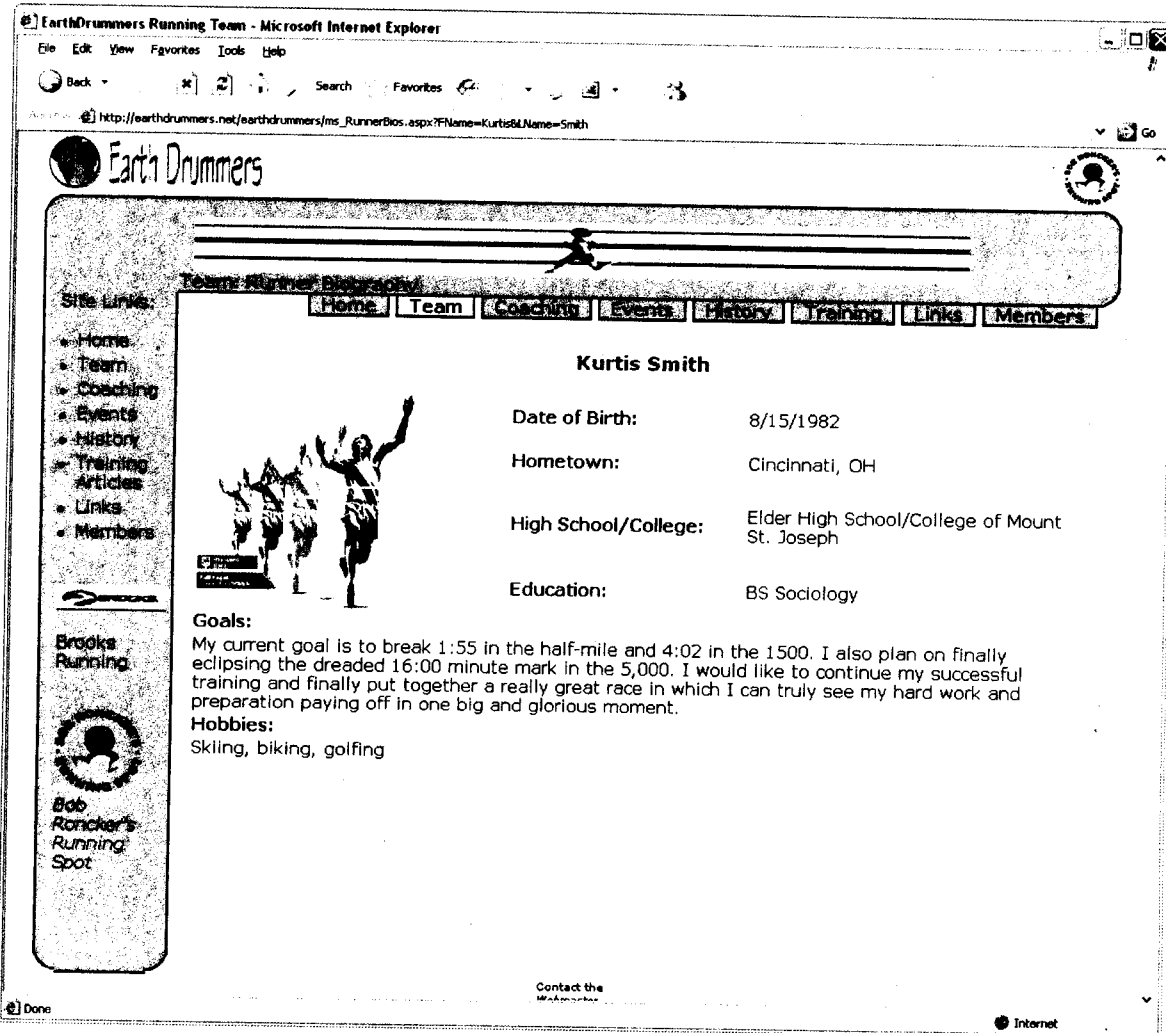


Figure 13. Site Runner Biography Page

The site's runner biography page using the template displays the runner's biographical information, which is updatable by each runner through the Runners Console. This page displays detailed information about individual runners, which includes their educational background, their goals, and hobbies. This page retrieves this information based on a query string passed from the team page including the runners first and last names.

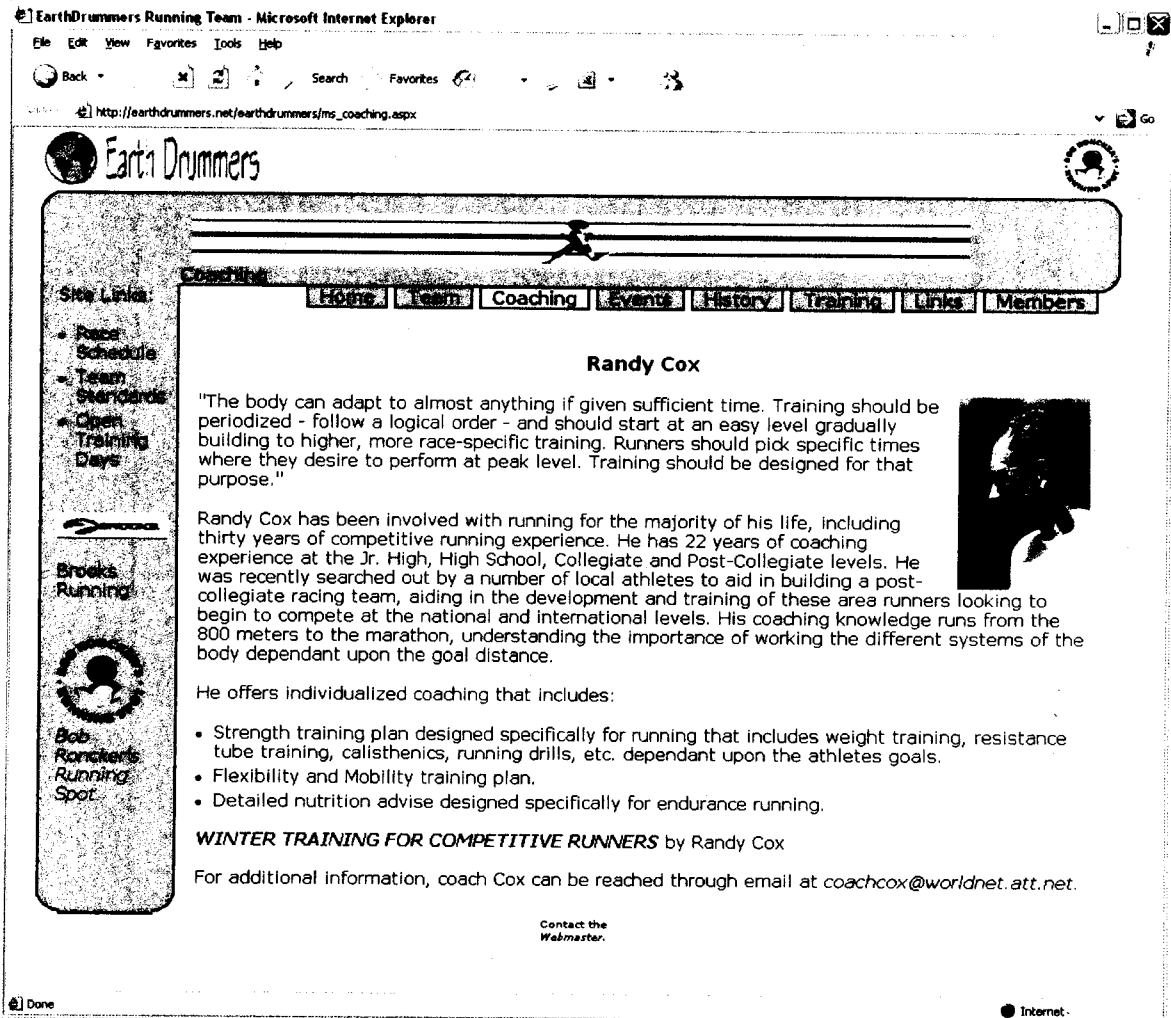


Figure 14. Site Coaching Page

The site's coaching page using the template displays information about the teams coach, Randy Cox. This page is dynamic with its information coming directly from the SQL Server database, using a Visual Basic Server.HtmlDecode(string value) the HTML information stored in the database is displayed on this page. This HTML information is editable through the administrators console to be described below.

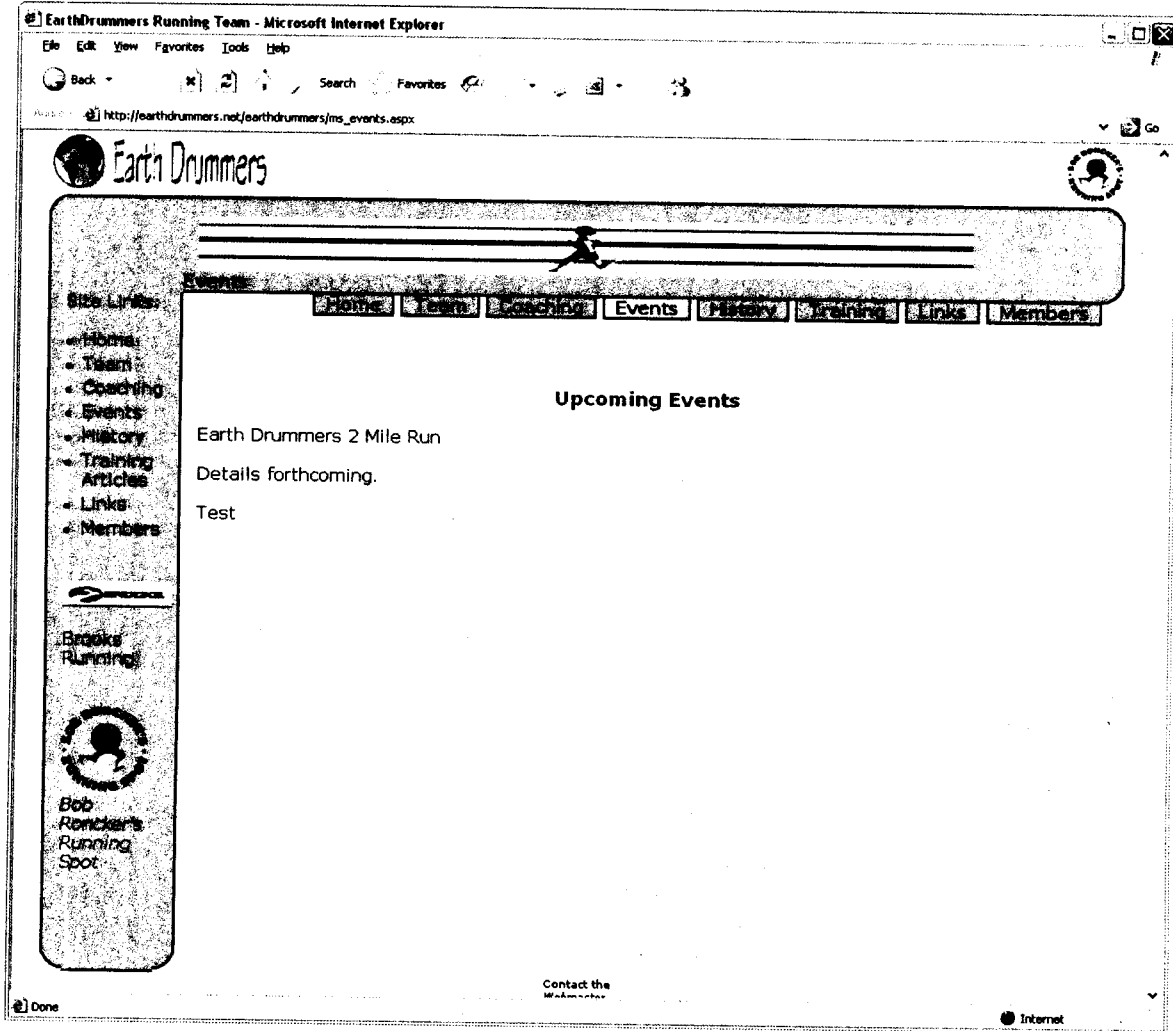


Figure 15. Site Events Page

The site's events page is a dynamic page with its information coming from the database as well. This page will be used to display a list of upcoming events and is moderated through the Administrators Console.

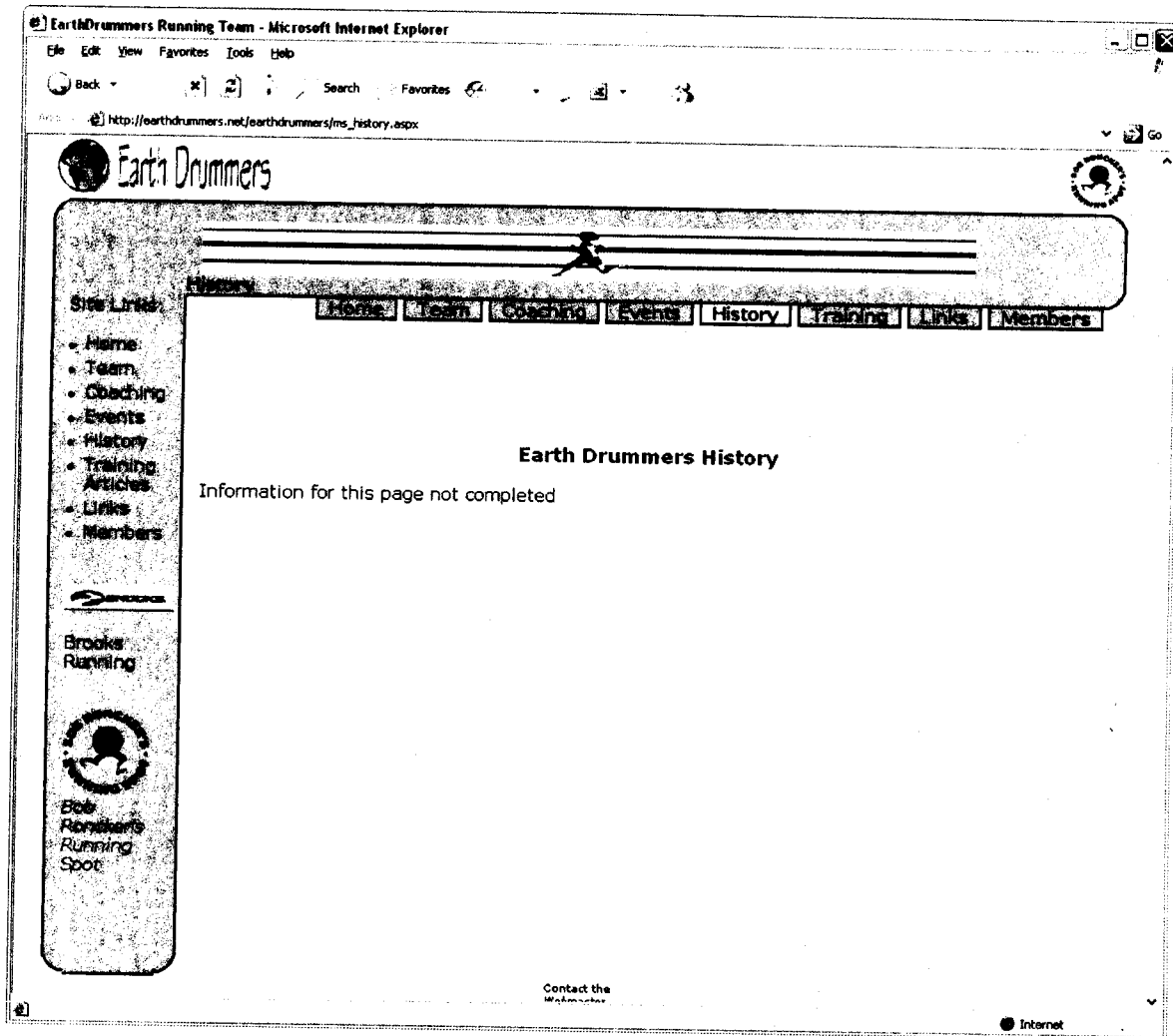


Figure 16. Site History Page

The site's history page is a dynamic page with its information coming from the database as well. This page will be used to display a history of the Earth Drummers and is moderated through the Administrators Console.

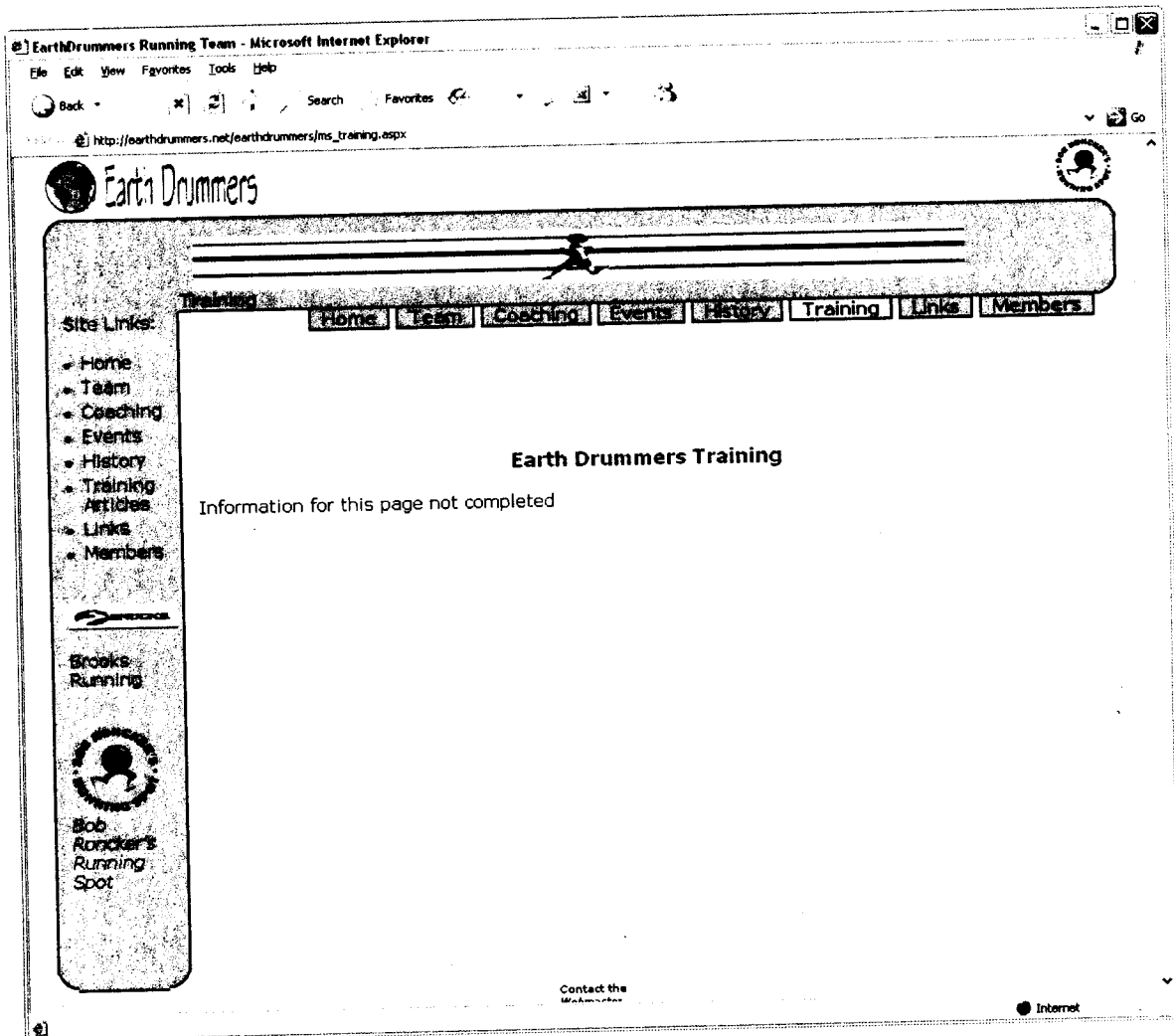


Figure 17. Site Training Page

The site's training page is a dynamic page with its information coming from the database as well. This page will be used to display a list of training articles and events; this page is moderated through the Administrators Console.

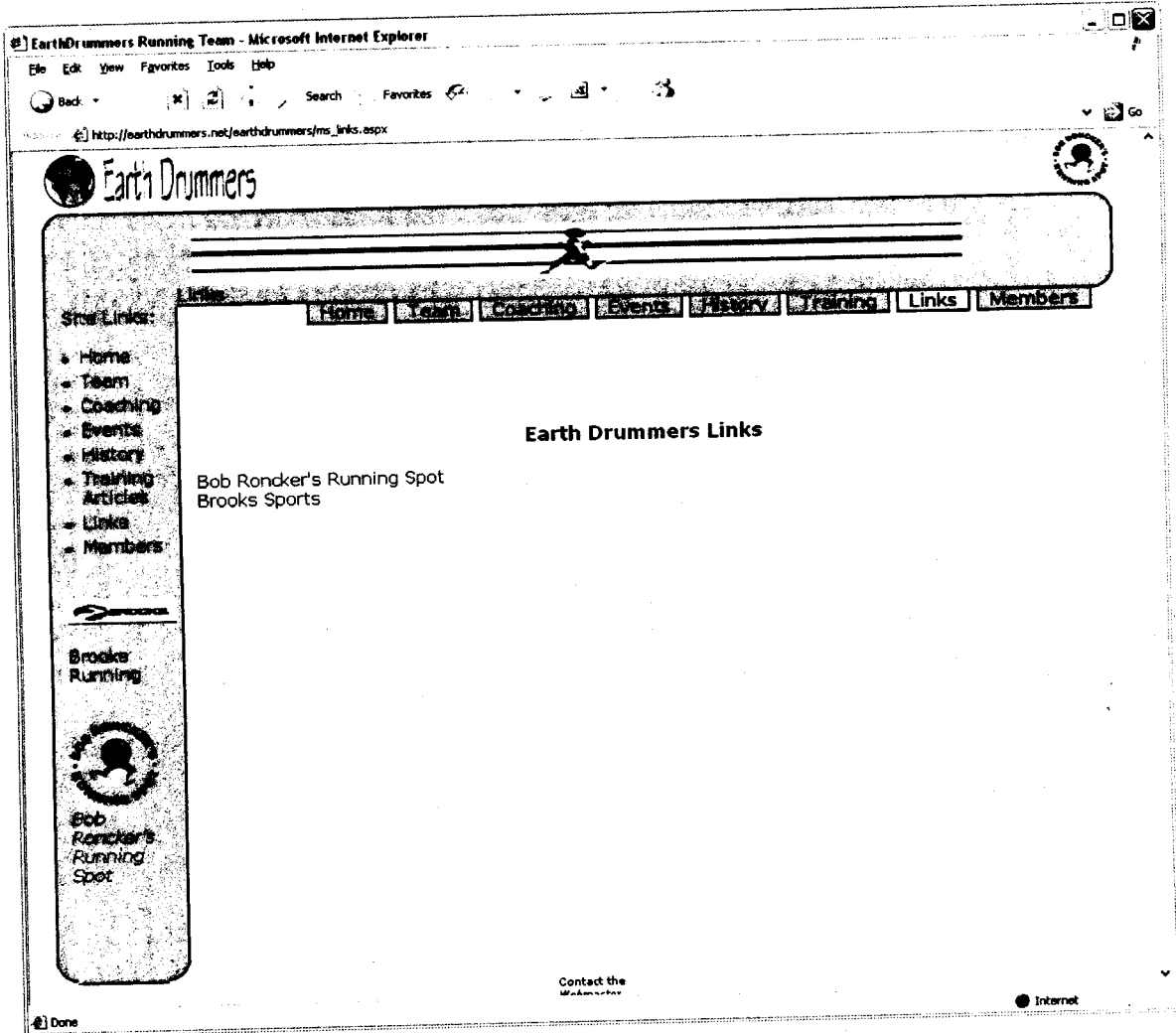


Figure 18. Site Links Page

The site's links page is a dynamic page with its information coming from the database as well. This page will be used to display a list links to sponsors and other area running teams; this page is moderated through the Administrators Console.

9.4 Member Only Pages

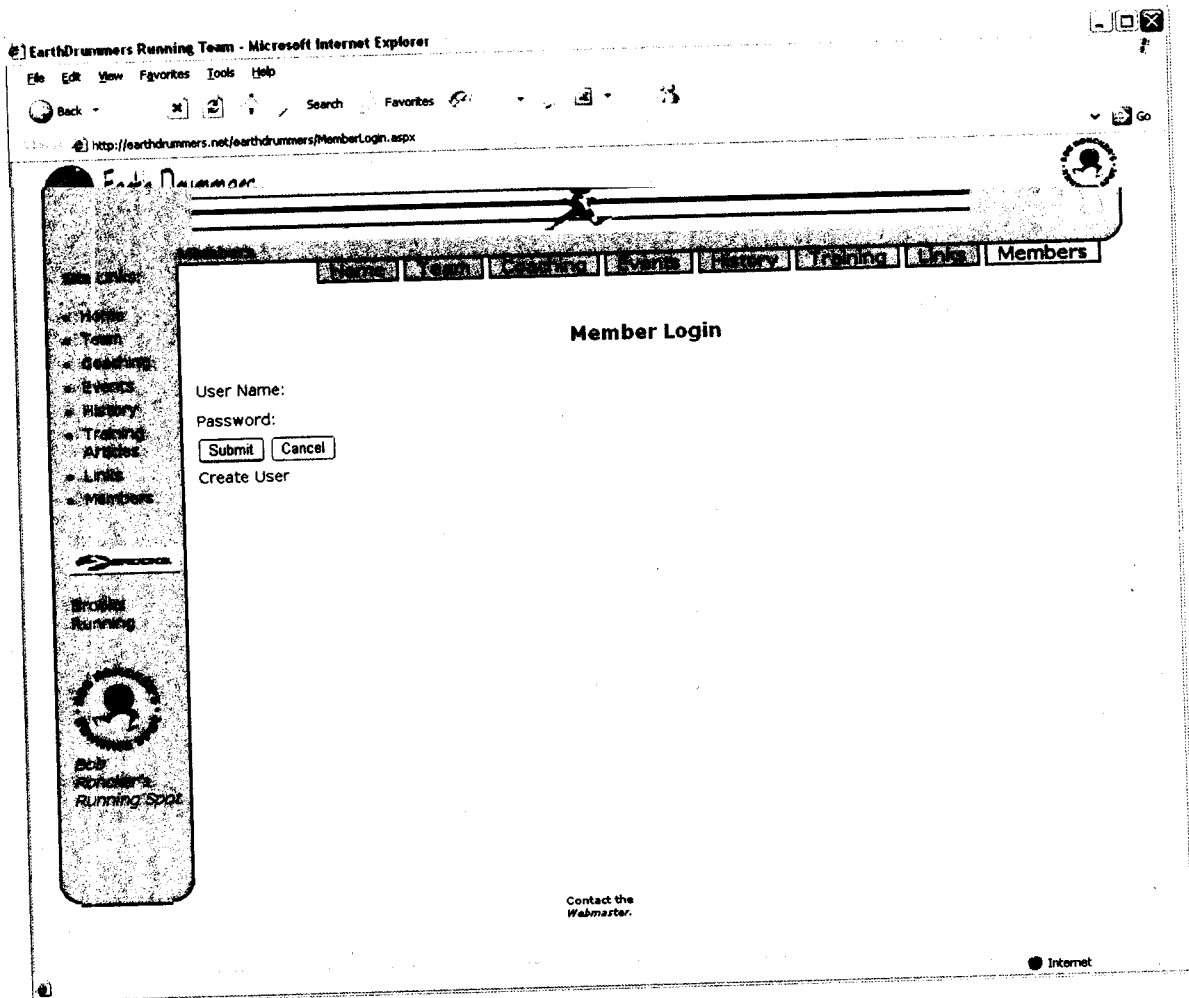


Figure 19. Member Login Page

In order to gain access to the Members area all users must first log in by clicking on the Members tab and log in using the members login page. This page through Visual Basic scripts will check the user's validity to access the site by verifying their username and password and then will redirect the user accordingly. This page also allows for creating a new user by clicking on the link below the log in button.

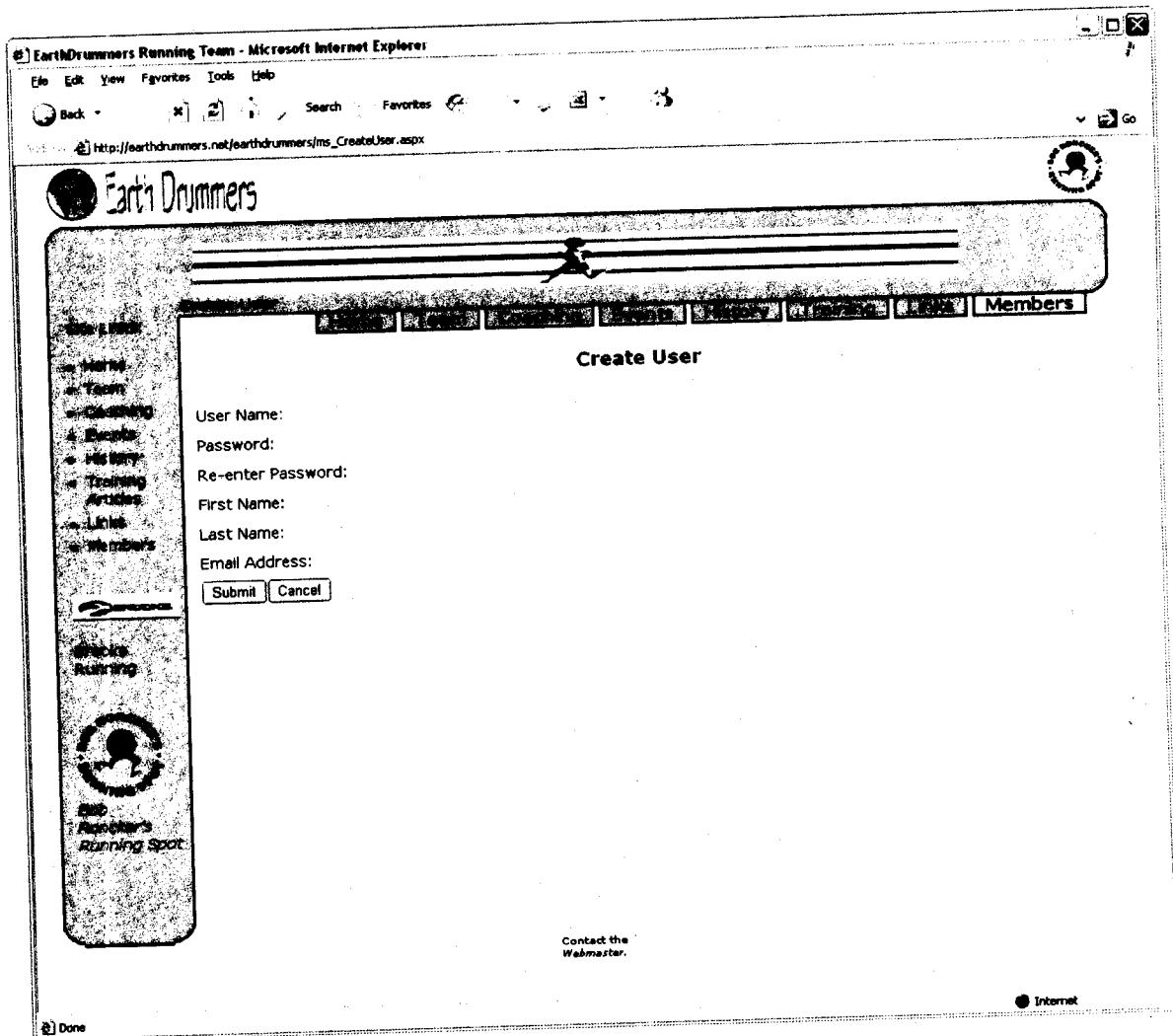


Figure 20. Create User Page

The site's create user page enables visitors to the site to create a login and gain access to the site member features. This page will check to make sure there are no duplicate usernames created, that the passwords match, and that information on the page is complete through Visual Basic scripts. Provided the information is complete and the username has not been duplicated the form will create a new user and redirect the user to the Members Console.

9.5 Administrative Console

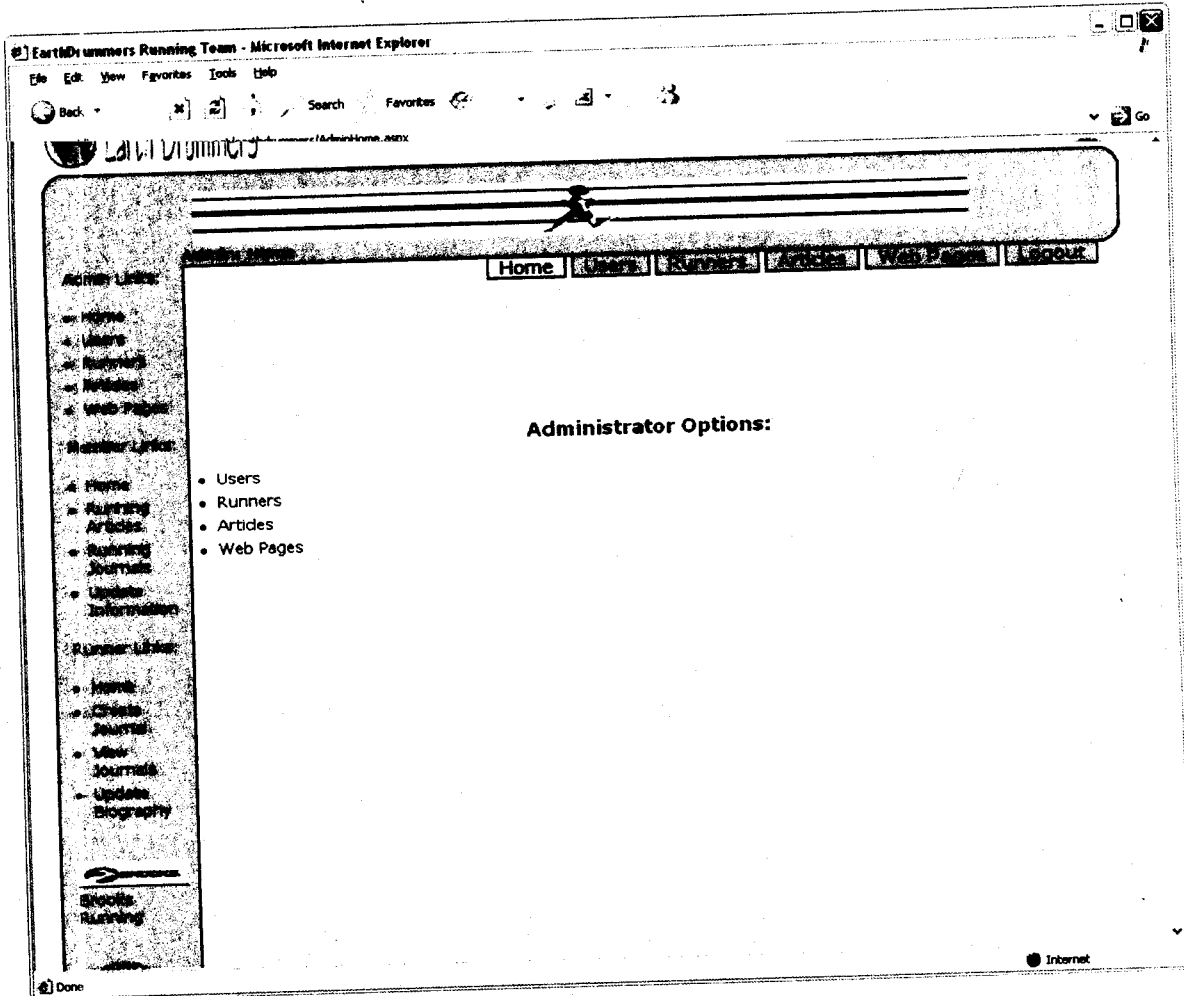


Figure 21. Admin Home

The site's Admin Home page is specifically for administrators of the Web site. This page is a welcome page for administrators and displays all of the options that are available to administrators. The links along the left side for each console display only links appropriate to the user. Administrators have full access to the site and thus have all three link sections, Admin Links, Member Links, and Runner Links.

The original deliverables for the Administrative Console only called for the ability to update and edit existing page content and information stored within the

database. These deliverables were expanded upon greatly to include several necessary features. At the completion of the project through the administrative console, administrators can dynamically change the contents of the front site pages, change user types, create and delete runners, and create and update submitted running articles.

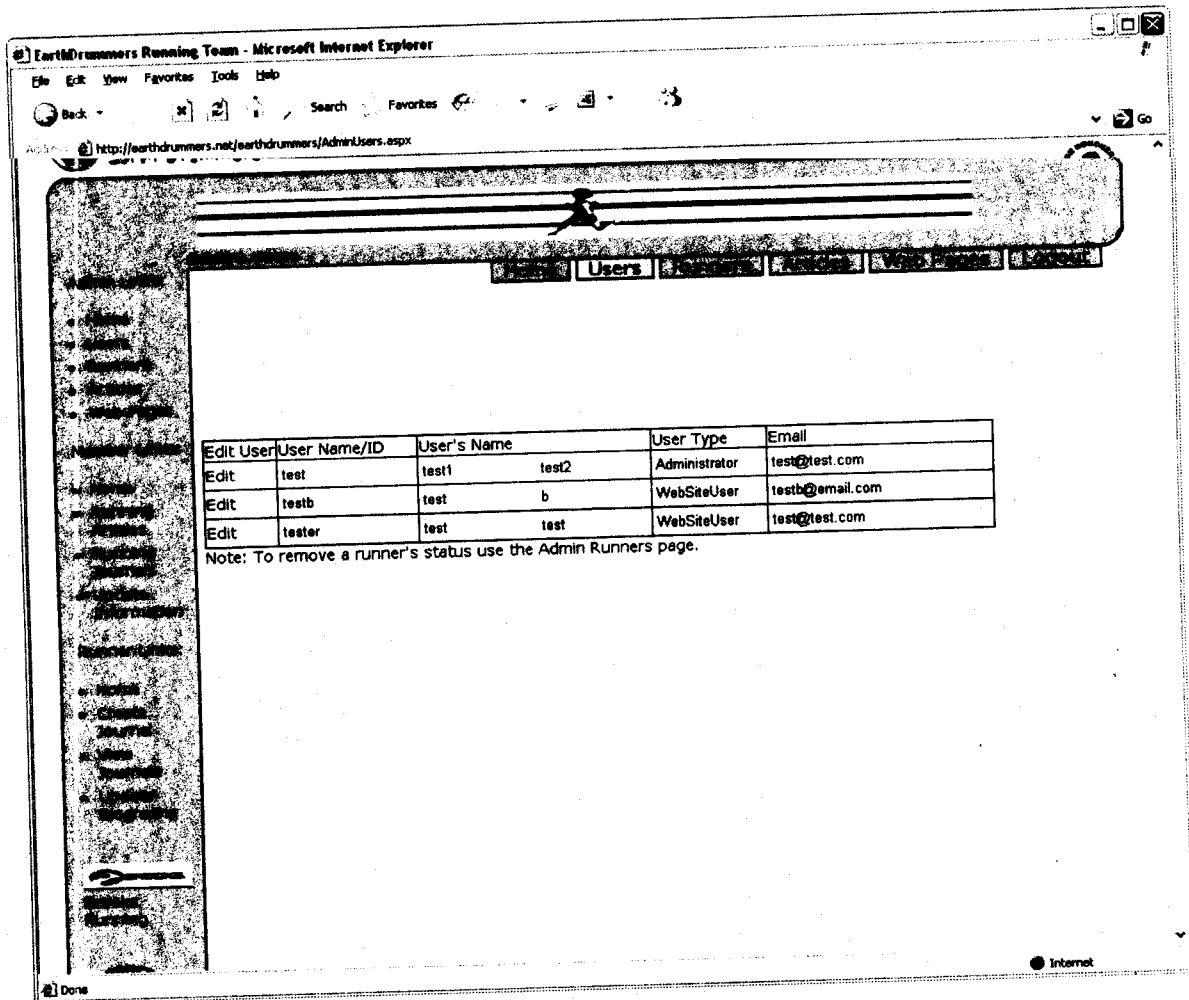


Figure 22. Admin Users

The site's Admin Users page allows administrators to view members of the Web site. Administrators are not able to change user data through the Admin Console; they are only able to change the user type. When new users are created, they are granted Web Site User permissions and can access to the Member Console. The Administrator has the ability to grant the users runner and administrator privileges as well as the ability to remove these privileges. Administrators cannot disable or delete users through this console.

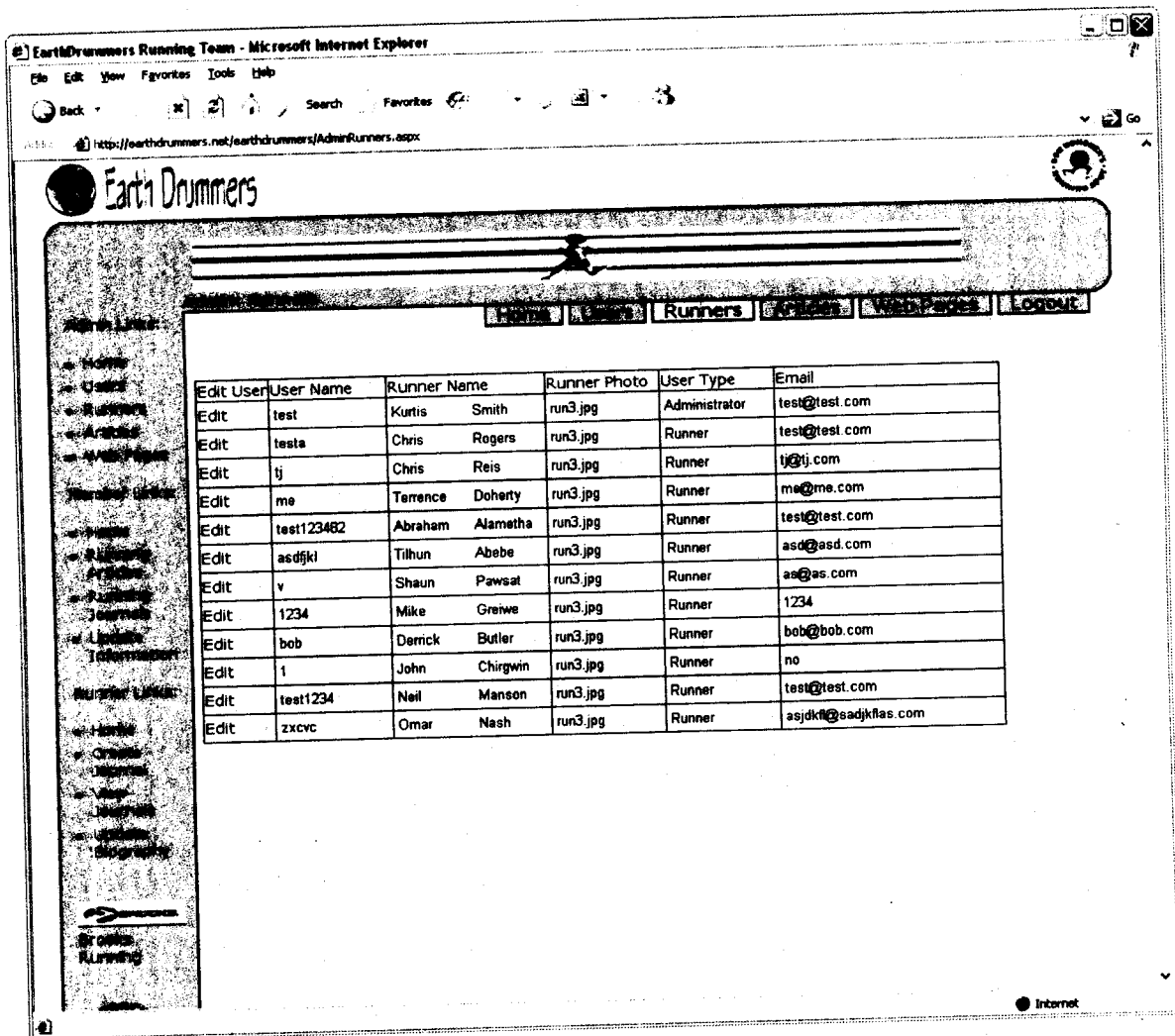


Figure 23. Admin Runners

The site's Admin Runners page displays all of the runners associated with the site. When a runner is created from the Admin Users page by changing a user's type to Runner, they are added to the Runners table in the database and it creates a blank runner profile that will display on the Team page available to the public. The Administrator only has the ability to change the User Type on this page as well. To remove a Runner from the database the user's type must be set back to Web Site User, which will remove their runner information from the database.

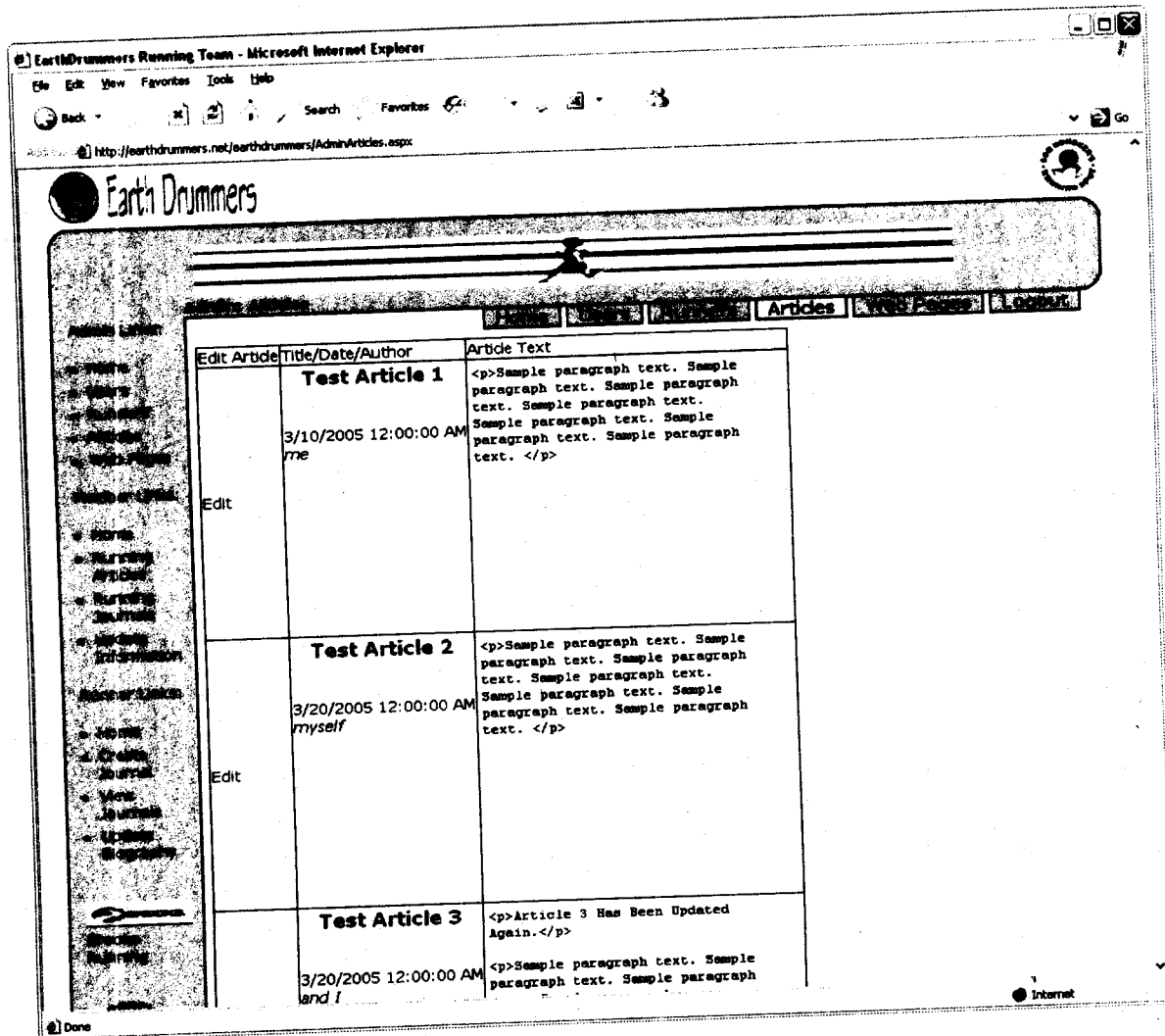


Figure 24. Admin Articles

The site's Admin Articles page allows the Administrator to view HTML source code and update running articles. The administrator is able to put formatted text into the database so that it displays properly when articles are viewed by members. This page gives a partial preview of what the article looks like after its information has been entered into the database. The running articles are only on display to members and are listed on the Members Running Articles page.

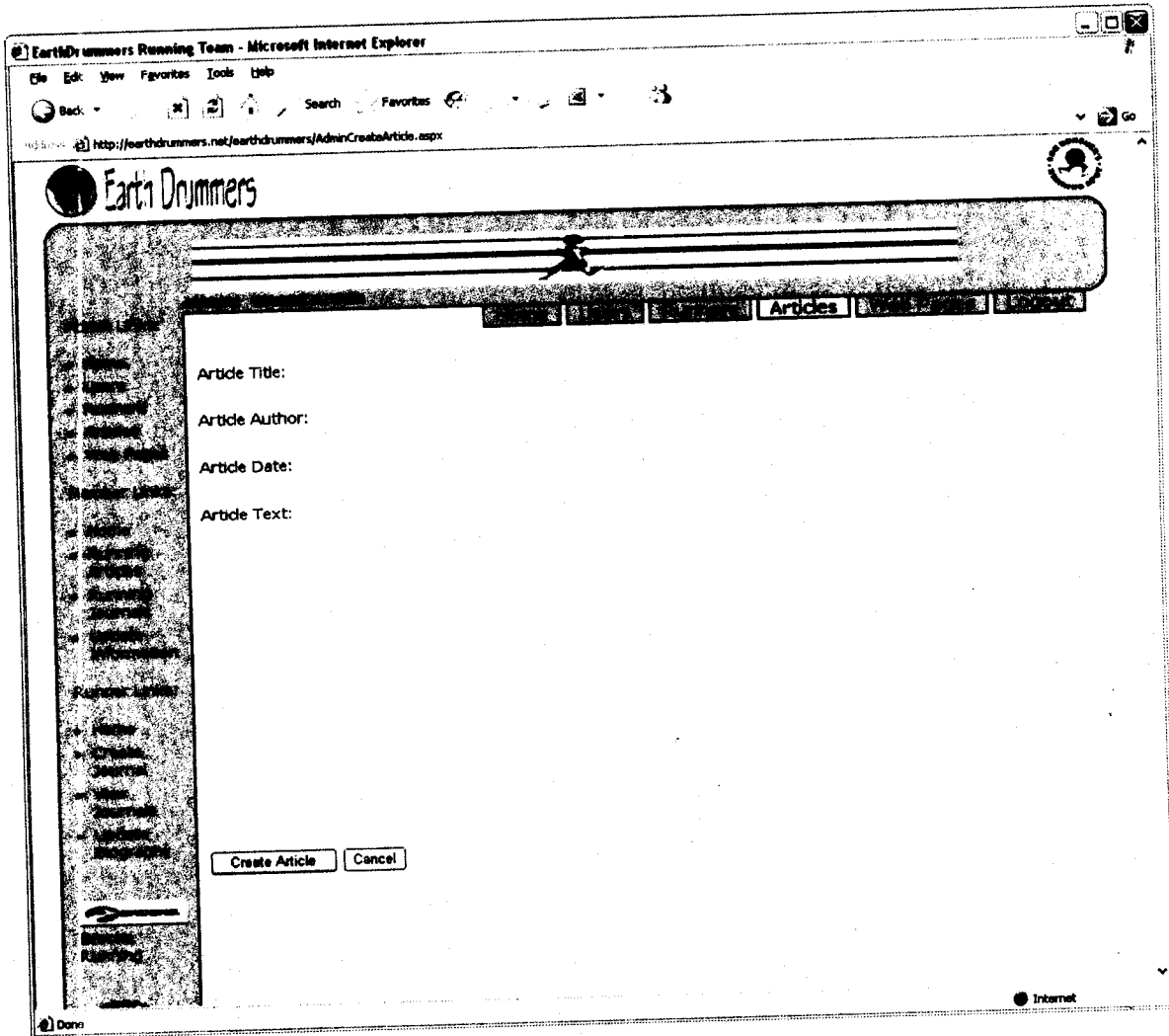


Figure 25. Admin Create Article

The site's Create Article page is used to create running articles. It is a Web form setup to get the articles information including title, author, date, and the text of the article. The Administrator puts formatted HTML text into this form for displaying the article properly, this allows for adding pictures, tables, and any other HTML element. This allows articles to be scalable and appear in an appropriate format for each article.

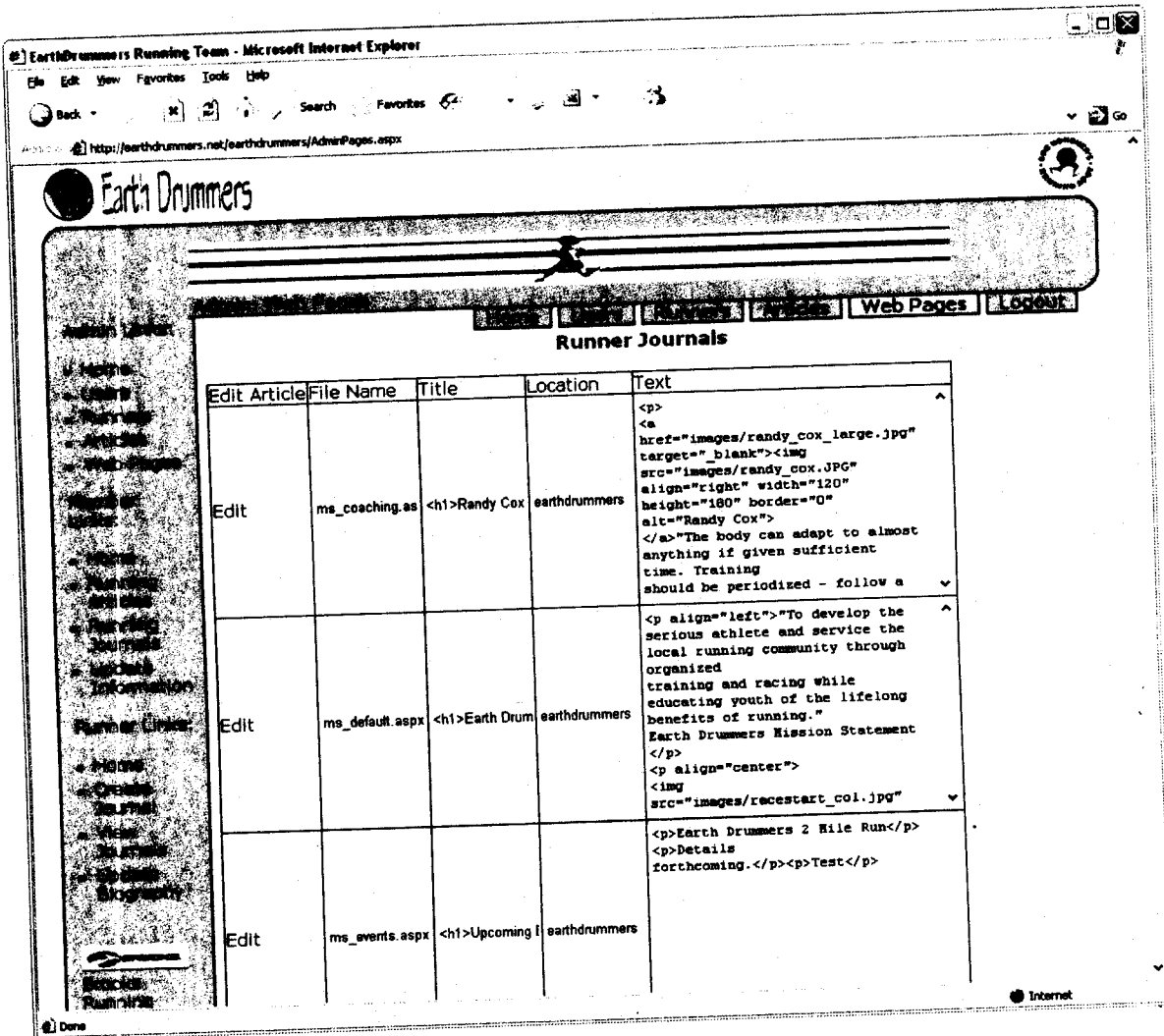


Figure 26. Admin Web Pages

The site's Admin Web Pages allows Administrators to update the front pages of the site. The title and text boxes contain editable HTML code for each page, this allows for quick and easy site maintenance. This works by putting the HTML code into the database and then retrieving and displaying it when each page is loaded. Having this information stored in the database and editable through the Administrators Console makes this site truly dynamic.

9.6 Runner Console

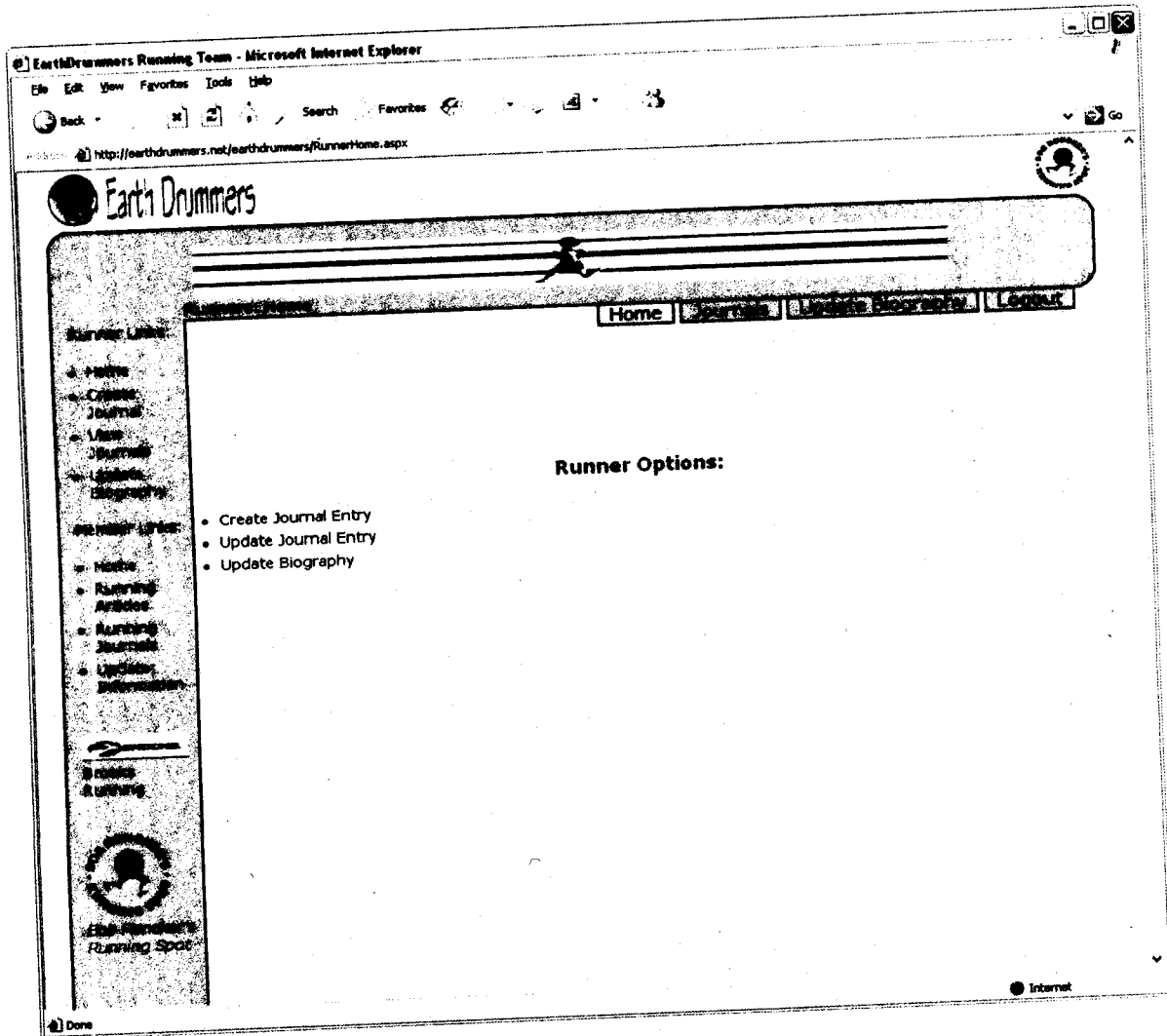


Figure 27. Runner Home

The site's Runner Home page is specifically for runners of the Web site. This page is a welcome page for runners and displays all of the options that are available to the runner. The links along the left side for each console display only links appropriate to the user. Runners have partial access to the site and thus have two link sections Member Links, and Runner Links.

The original deliverables for the Runner Console called for the ability to create, update, and edit online journals which information is stored within the database. These

deliverables were expanded upon to include the ability to update a runner's profile. At the completion of the project through the Runner Console, runners can dynamically change their online journals by creating and updating journal entries and they can update their biographical information displayed on the Team page.

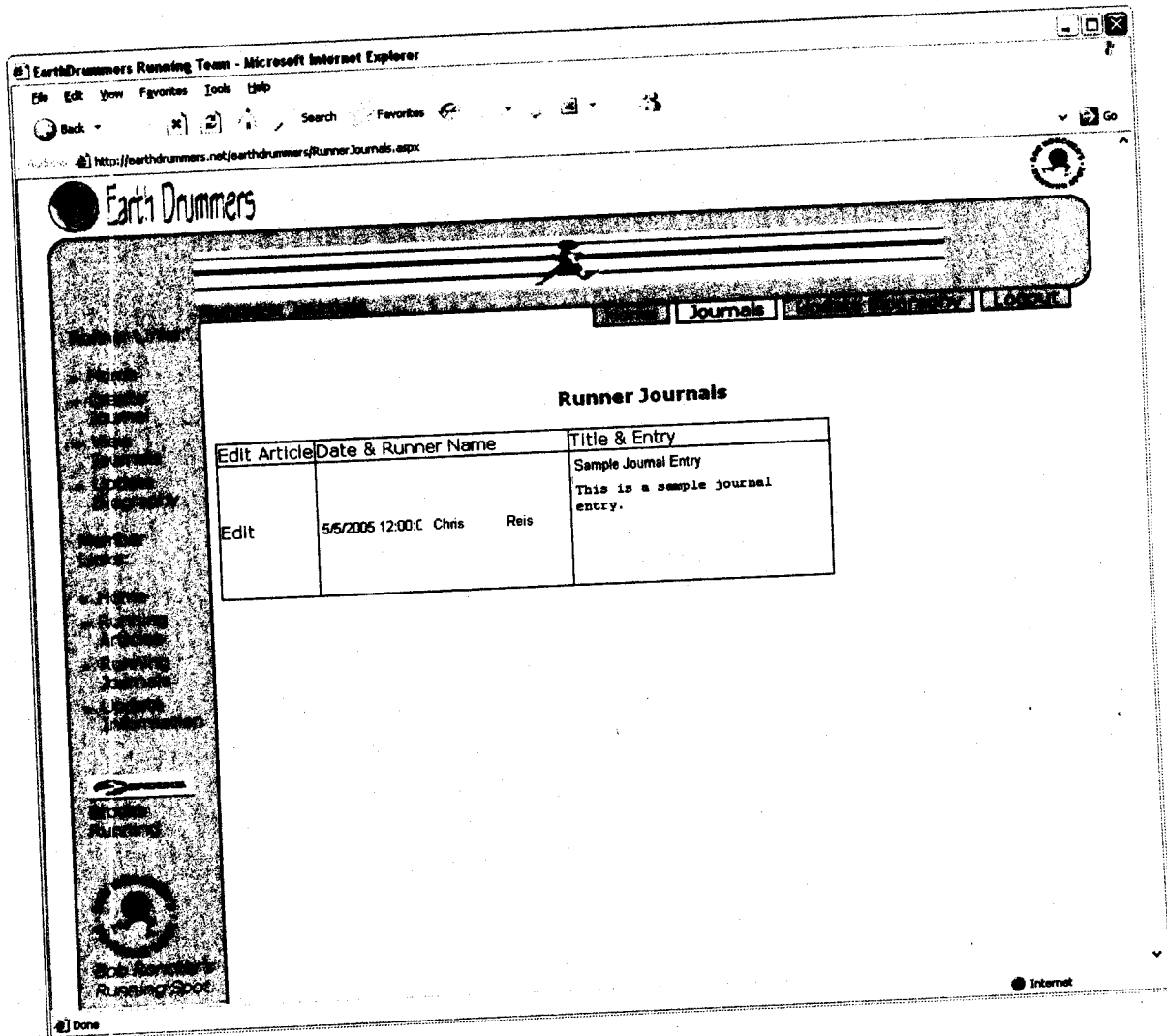


Figure 28. Runner Journals

The site's Runner Journals page allows the Runner to view and update journal entries. The runner puts journal information including title, text, and date into the database. This information is stored within the database and is retrieved based upon which runner is logged in, as they are only able to update their own online journals. When journals are viewed through the Members Console, it displays the journal properly when viewed by members. The running journals are only on display to members and are listed on the Members Runner Journals page.

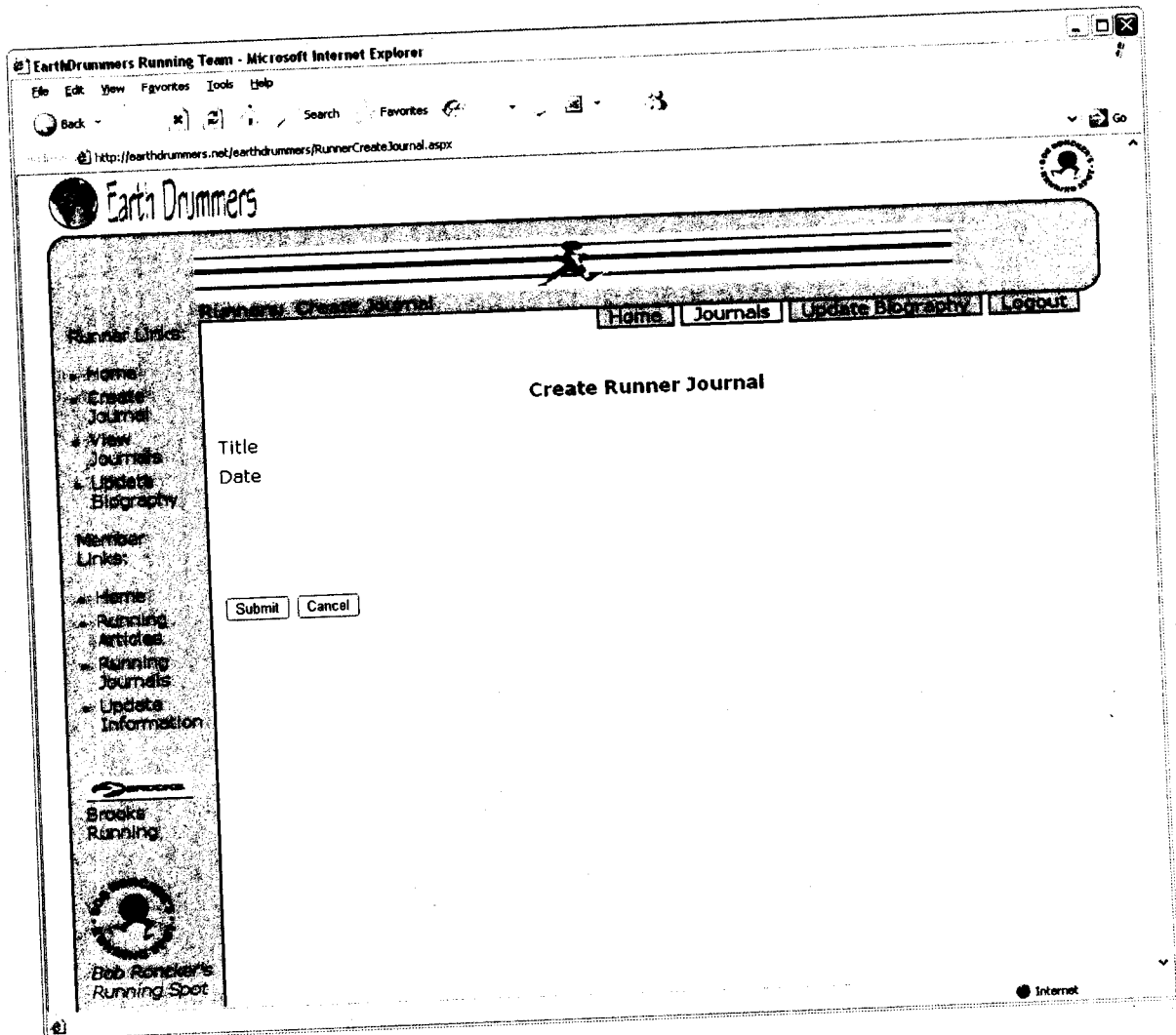


Figure 29. Runner Create Journal

The site's Create Journal page is used to create running journals. It is a Web form setup to get the journal information including title, date, and the text of the article; the author information is taken from login information. The Runner types plain text into this form. HTML code is built when the journal is viewed. All journals follow this template and will display properly without runners having to input HTML element tags.

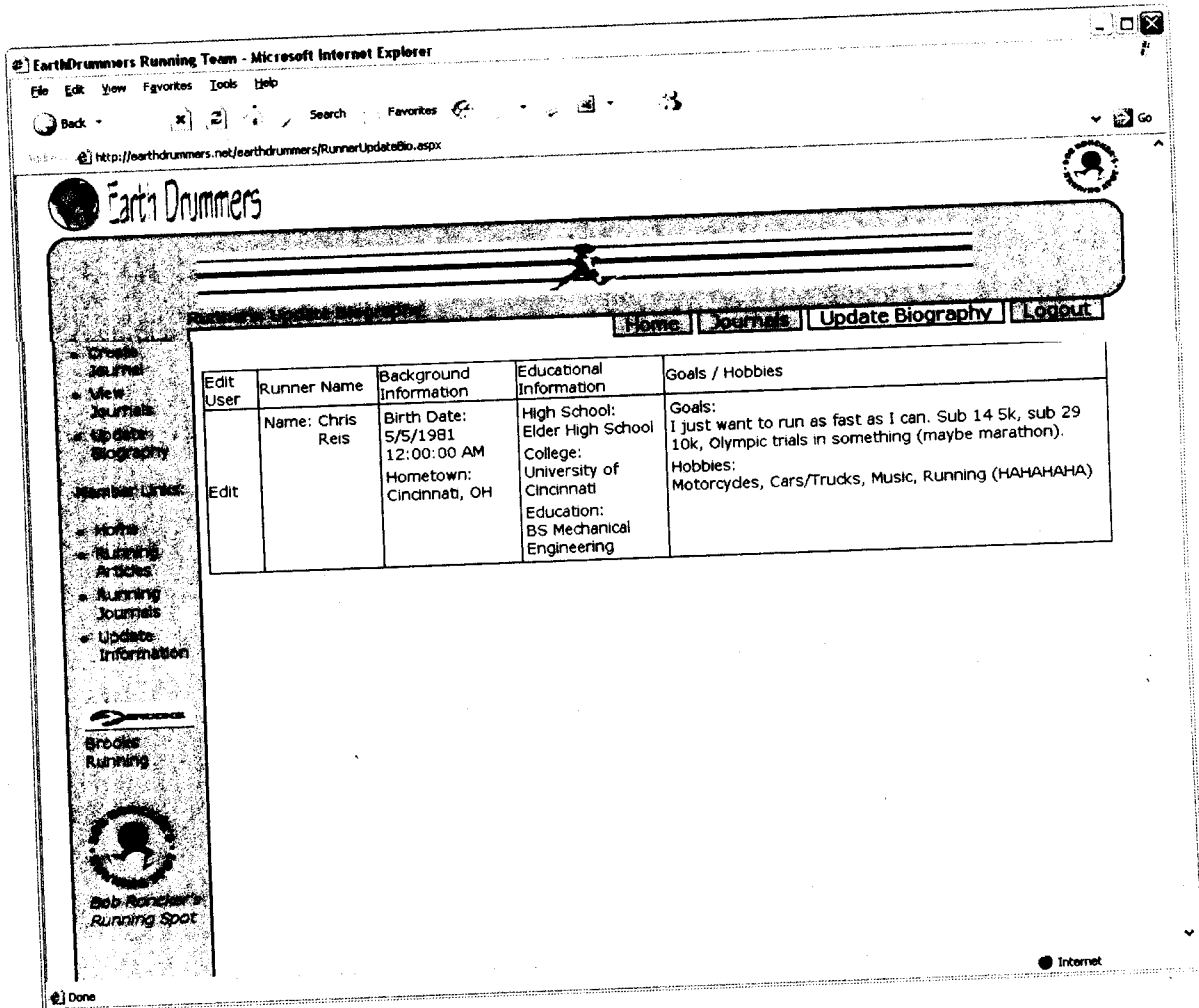


Figure 30. Runner Update Biography

The site's Runner Update Biography page allows runners to update their personal biography as displayed on the Team page. This information is stored within the database and is retrieved based upon which runner is logged in, as they are only able to update their own profile.

9.7 Member Console

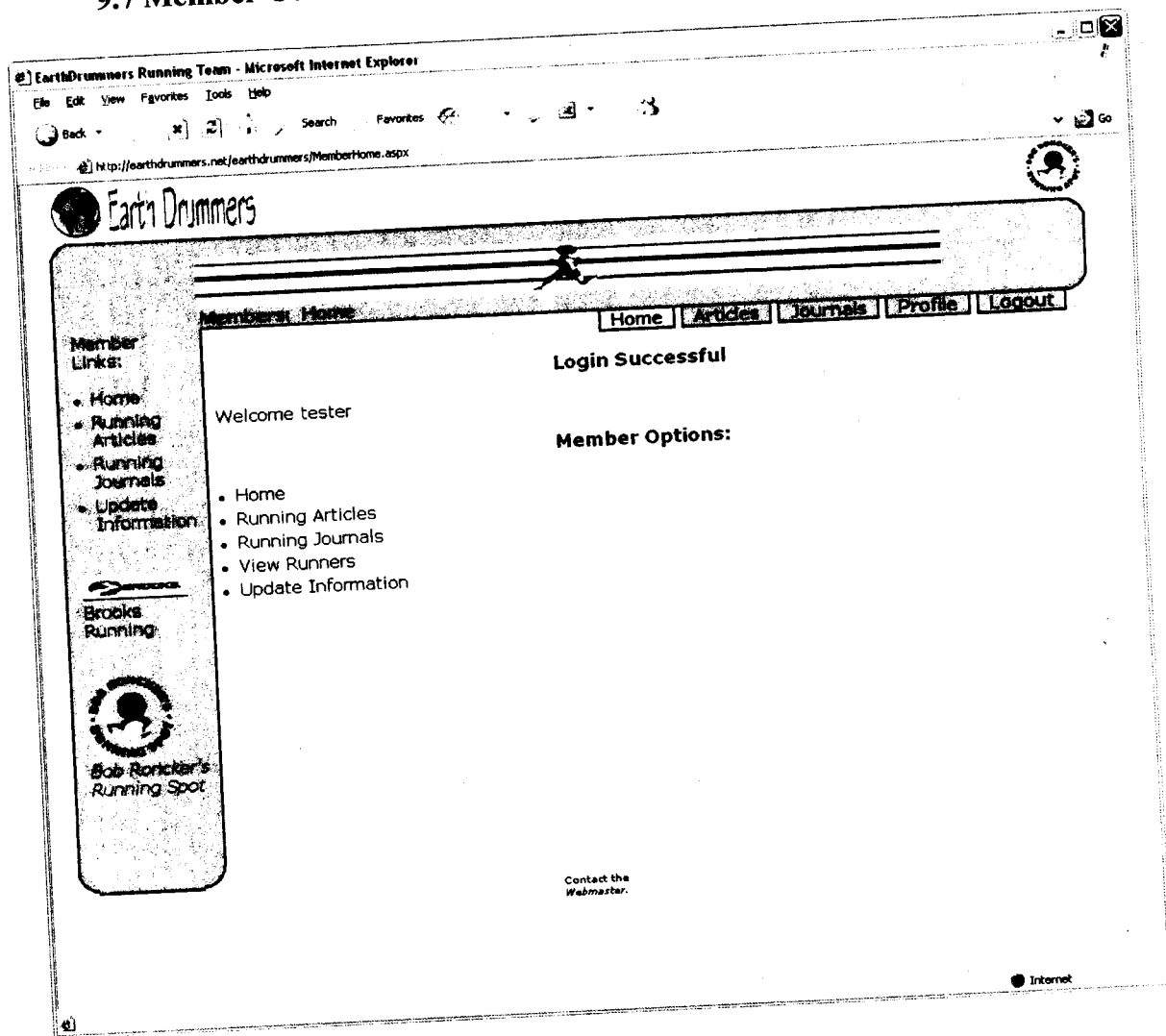


Figure 31. Member Home

The site's Member Home page is specifically for members of the Web site. This page is a welcome page for members and displays all of the options that are available to them. The links along the left side for each console display only links appropriate to the user. Members have limited access to the site and thus have the Member Links section.

The original deliverables for the Runner Console called for the ability to create, update, and edit their personal profiles which information is stored within the database. These deliverables were expanded upon to include the ability to view runners' journals

and running articles. At the completion of the project through the Member Console, members can dynamically change their profiles and account information also they can view information on the site not available to the general public including runners' journals and running articles.

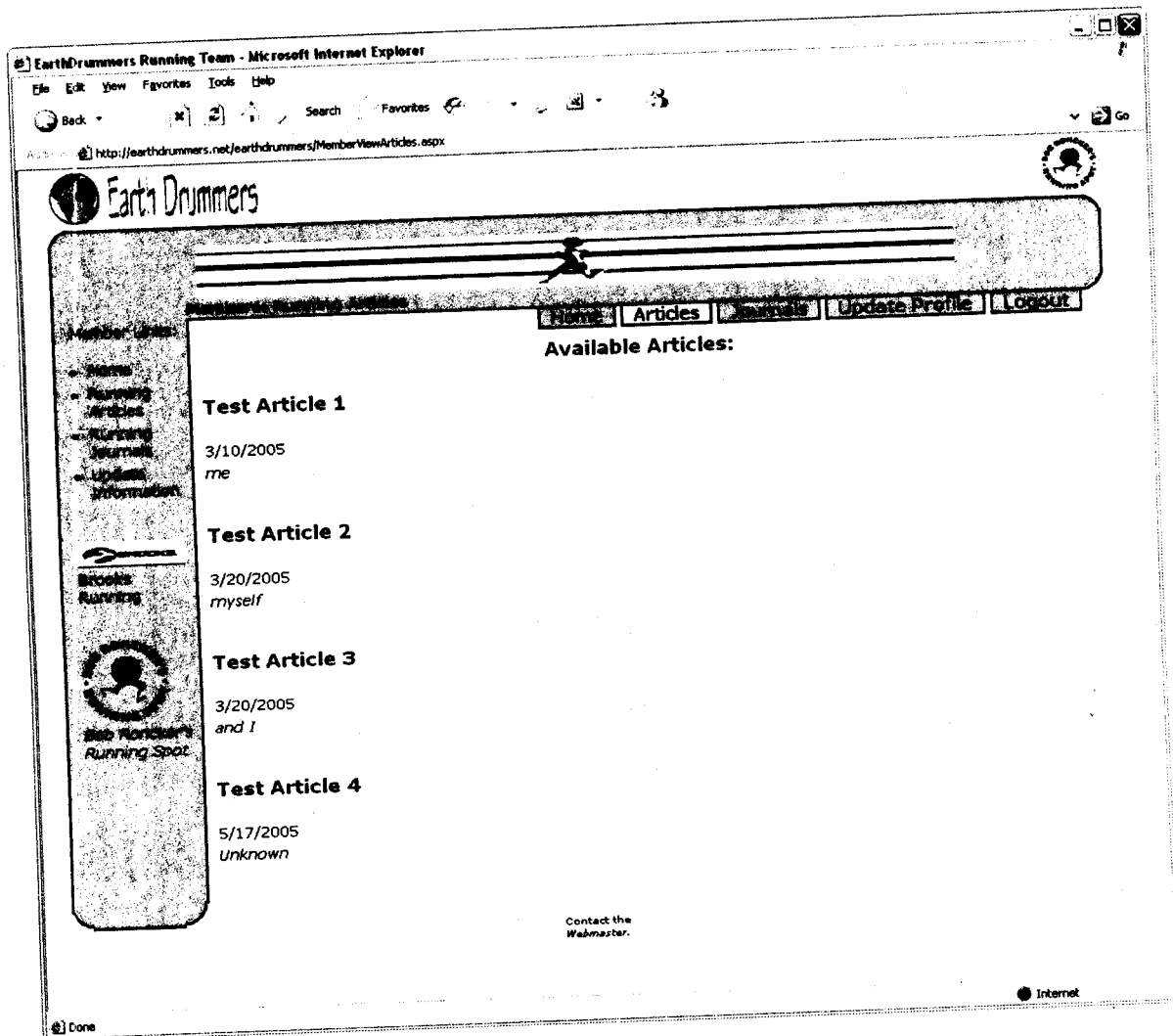


Figure 32. Member List Running Articles

The site's Member List Running Articles page allows the members to view a list of all of the sites running articles. The members are able to click on any article title to view the full article. The running articles are only on display to members and are listed only on the Members Running Articles page.

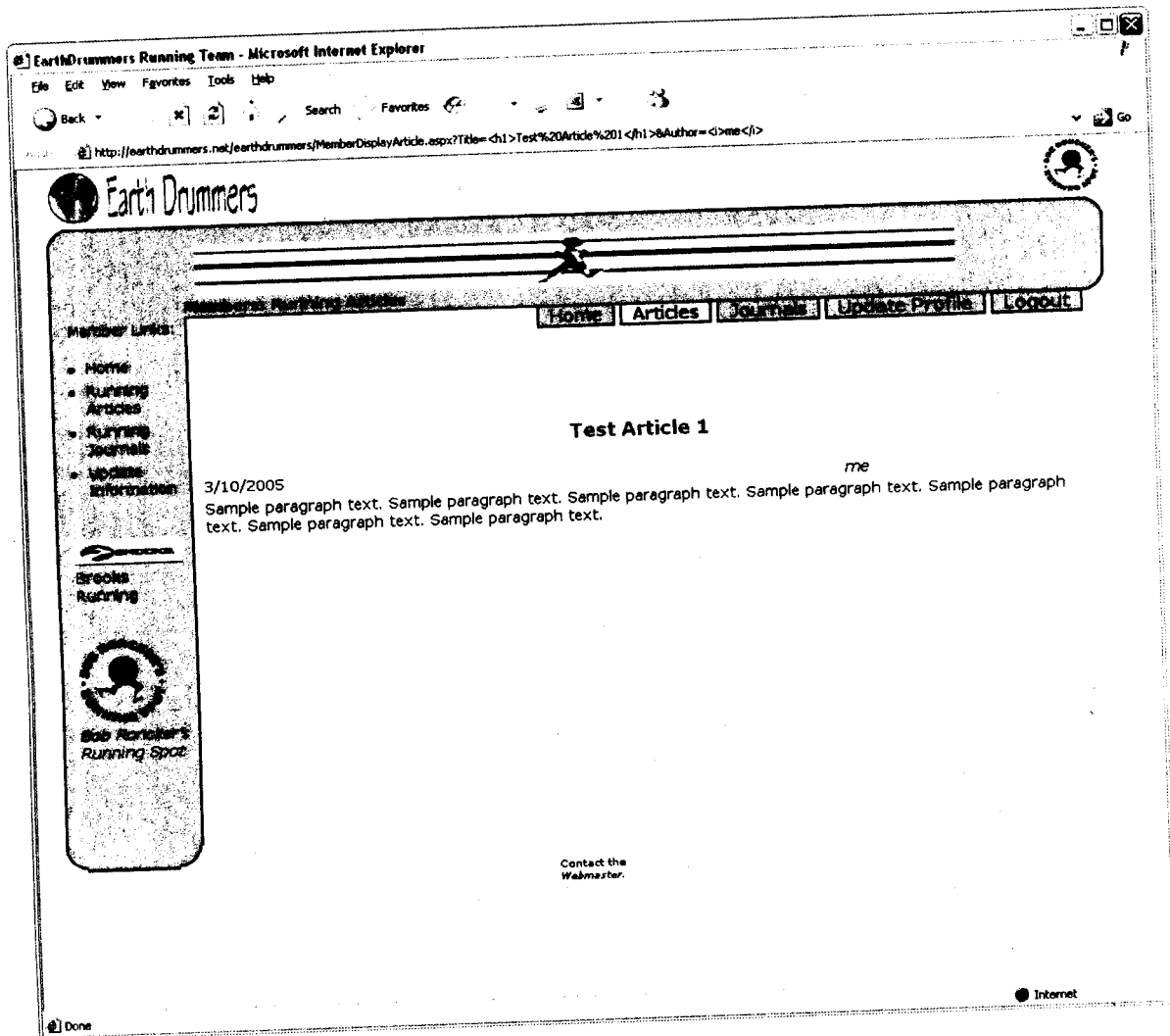


Figure 33. Member View Running Articles

The site's Member View Running Articles page allows the members to view the full text of a selected running article. The members are able to click on any article title to view the full article. The running articles are only on display to members and are listed only on the Members Running Articles page.

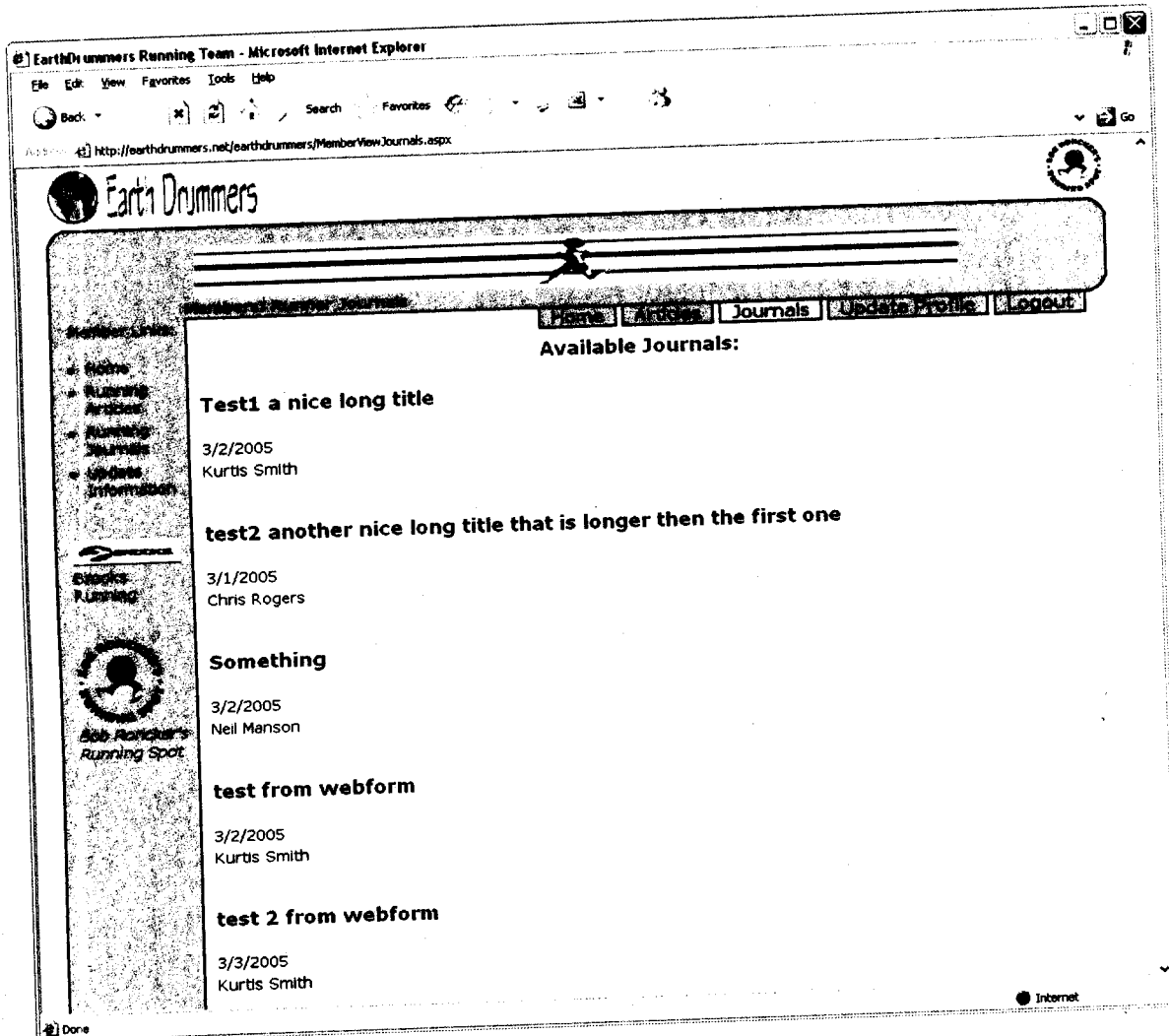


Figure 34. Member List Runner Journals

The site's Member List Runner Journals page allows the members to view a list of all of the sites runner journals. The members are able to click on any journal title to view the full journal entry. The runner journals are only on display to members and are listed only on the Members Runner Journal page.

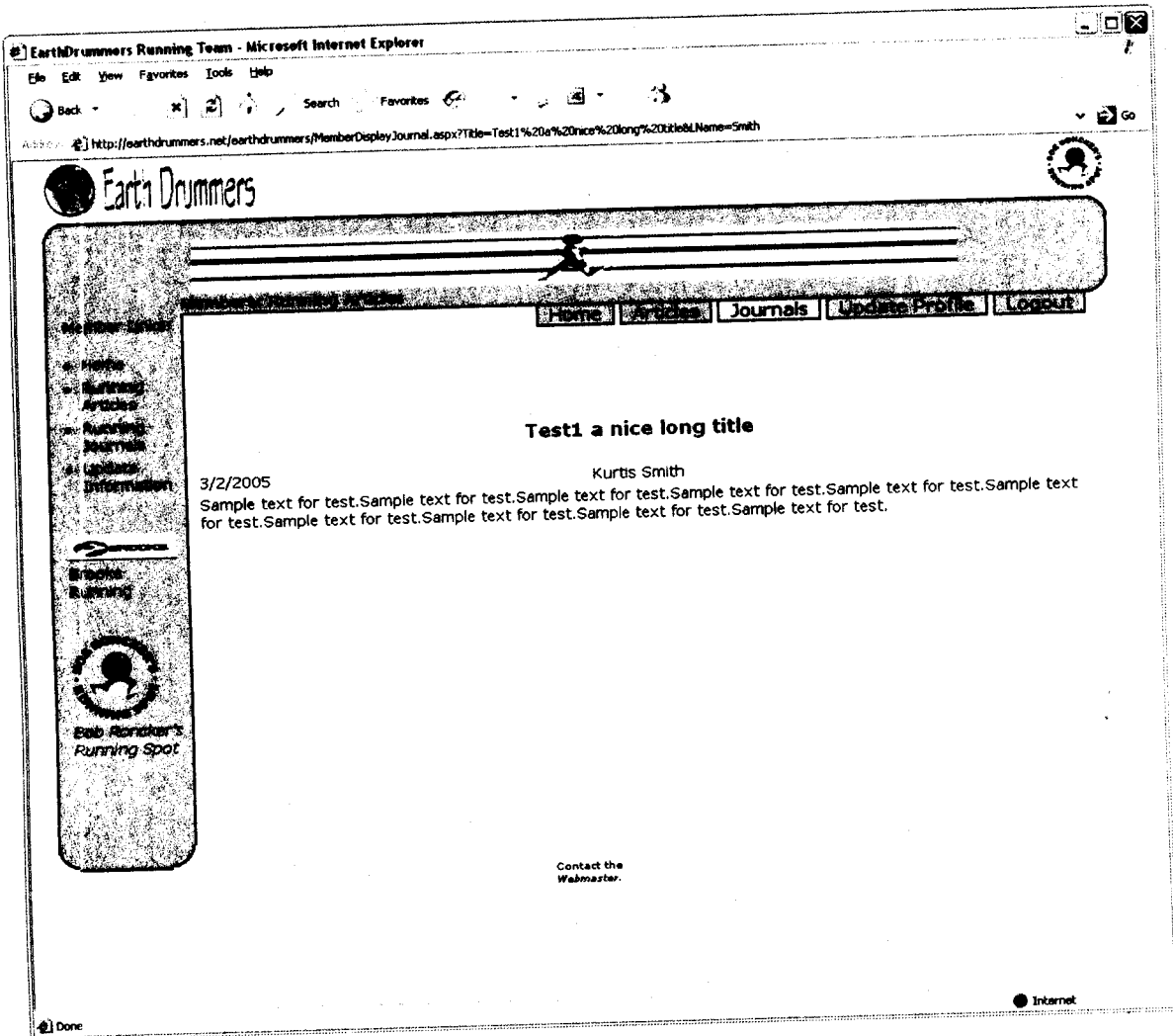


Figure 35. Member View Runner Journal

The site's Member View Runner Journals page allows the members to view the full text of a selected runner journal. The members are able to click on any article title to view the full journal entry. The runner journals are only on display to members and are listed only on the Members Running Journal page.

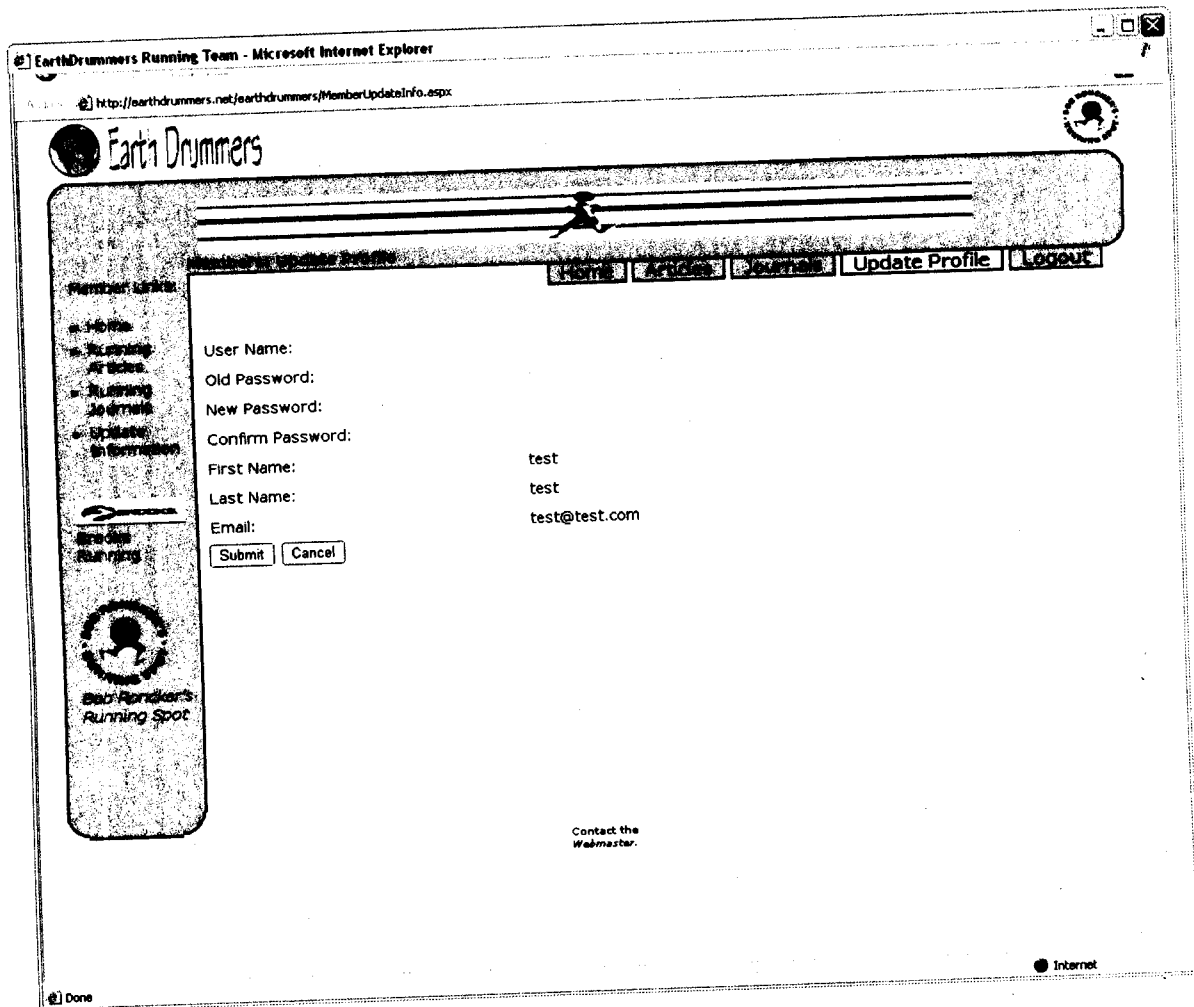


Figure 36. Member Update Profile

The site's Member Update Profile page allows members to change personal information, passwords, and email address. In order for the password to be changed, the member must put in the old password and confirm the new password.

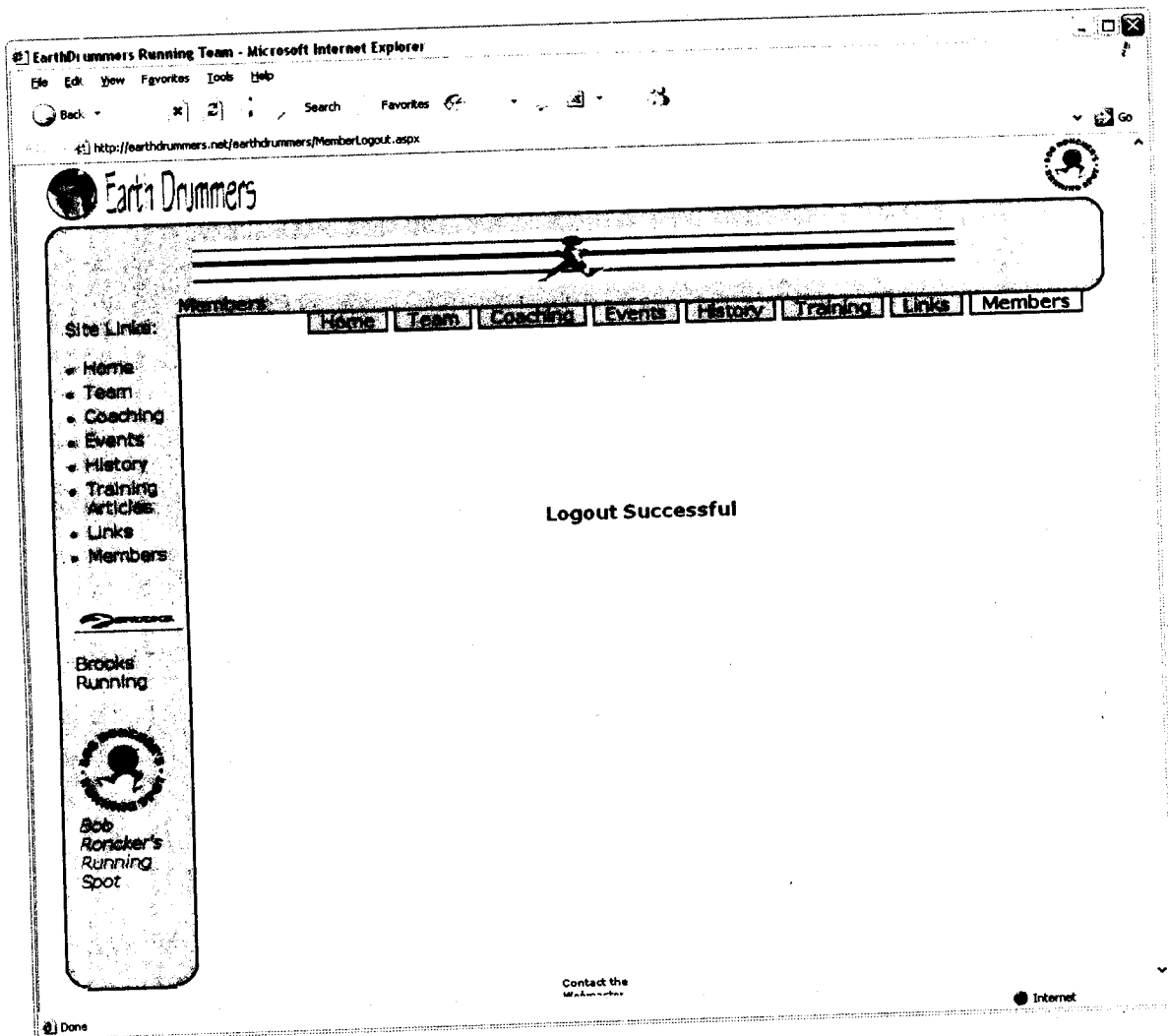


Figure 37. Member Logout

The Member Logout page allows members to return to the front pages of the Web site and continue browsing.

Testing for this project will be based upon iterative test plans and follow use case scenarios. These test plans will be written before project coding to ensure the project follows requirements. Each test plan will be executed for each new project release when major changes are made to the source code.

11. Summary

The Earth Drummers Running Team Web site project, EarthDrummers.Net, is to implement a dynamic database driven Web site utilizing Microsoft Active Server Pages (ASP) .Net 2003 and Microsoft SQL Server 2000. This Web site will be developed using an informational and graphical user interface and will allow for users to login. Users will be able to view runners' journals and update their personal information through a Users Console. Members of the running team will be able to create journals documenting their running career, and update the events in which they have participated through a Runners Console. Administrators will be able to update Web pages, Runner Articles, Users, and Runners easily through an Administrator Console.

12. Conclusion

The Earth Drummers Running Team Web site project uses the most current version of Microsoft's ASP .Net to create an easy to use and navigate Web site. This project encompasses creating a well-designed layout that will be both graphical and informational, using the current version of HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets), and connecting to a database for dynamic page information, race event information, member information, runner journals, and user profiles. The Earth Drummers Running Team Web Site was completed earlier than expected and presented at Tech Expo 2005 at the Cincinnati Convention Center on the Twentieth of May 2005.

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