Creation of a Radio Astronomy database using ColdFusion.

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NASA Partnership Awards for the Integration of Research (NASA PAIR)

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Our Project

- Learn and understand the basics of HTML
- Learn how to build a database using Microsoft Access or MySQL
- Practice Structured Query Language Programming
- Use and Understand the Application Server ColdFusion.
- Create a database for radio-astronomy data
Hyper Text Mark-Up Language

HTML

HTML is the standard language used for displaying all web pages on the world wide web.

A web page can also be referred to as a HTML document.

Strongest Attribute: It displays great graphics

Weakest Attribute: Does not process input at all
Creating a Database using Microsoft Access

Database:

Is a collection of information organized into inter-related tables of data and specifications of data objects.

Microsoft Access:

An entry level database that offers a flexible environment for database developers and users, plus it was readily available.
Structured Query Language

SQL

A Database query language that was adopted as an industry standard. This type of language helps in selecting columns of data from a database and the commands are used to specify selection criteria.
COLD FUSION

A Portal from database to the Web

A database already exists...

Why re-create it for web page publication?
WHAT IS COLD FUSION

- A rapid application development tool that enables the rapid creation of interactive, dynamic, and information rich Web-sites

- Cold Fusion provides you with a full range of database interaction functions to create complete dynamic, data driven web-pages
Cold Fusion is a powerful application server with a very flexible programming language.

It has a strong relational database interface and is fully SQL compatible.

Programmers can include SQL code directly in Cold Fusion programs.
THERE ARE TWO TYPES OF WEB PAGES

STATIC WEB PAGE  DYNAMIC WEB PAGE
ADVANTAGES OF A DYNAMIC PAGE

- Contains very little text
- Pulls needed information from other applications
- Dynamic web pages communicate with databases
COMPATABILITY

Cold fusion is compatible with

1. Windows and Solaris
2. Apache and IIS (Internet Information Services)

*Cold Fusion server can be run on a Windows 2K or XP machine running apache or IIS*
FUTURE WORK

Obtain data from the Radio-telescope Smiley; located at the Pisgah Astronomical Research Institute (PARI); and create a database using this information.

PARI, Rosman NC
Smiley- 4.6 meter radio telescope used to greet K-12 students, introduce them to Radio-Astronomy via the internet and make Smiley data available to them.
## Sample Database

<table>
<thead>
<tr>
<th>Right Ascension</th>
<th>Declination</th>
<th>Frequency (MHz)</th>
<th>Time</th>
<th>Date</th>
<th>Object Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>05:32:04.5</td>
<td>−05:24:45</td>
<td>1400</td>
<td>03:45</td>
<td>03:12:02</td>
<td>Orion Neb.</td>
</tr>
<tr>
<td>02:40:24.0</td>
<td>39:04:13</td>
<td>750</td>
<td>12:35</td>
<td>02:22:03</td>
<td>NGC 1023</td>
</tr>
</tbody>
</table>
Radio Astronomer

observe objects

1. Co-ordinates
2. Time of observation
3. Radio Flux

stored

Database and CF server

web page

Accessed by K-12 students
Acknowledgements

This work was funded by NASA-MURED through grant number NCC 5-454

Thanks to PARI for access to their facility.