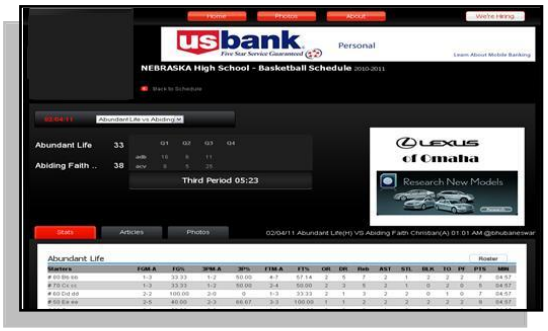
Online Statistical Sports Data System

Executive Summary



This client of ours is a sports statistical media company specializing in high school sports. They provided this high school sports statistical data through recording, display and storage of athletic events through multimedia outlets which included online viewing and mobile phone access. They had a range of products and were involved into research and development of their products. Recently, they came up with an Adobe AIR stat recorder application capable of producing box score display with the help of local programmers. They aimed at expanding their scope by developing additional recorder types and link them to an online web server. They also wanted to expand their website services.

They were looking for a company to outsource their next stage of development. These work involved inclusion of a variety of technologies like ColdFusion, MySQL, JavScript, HTML, CSS and many more which made the client very strict on selecting a development partner. They came across Mindfire and understood the benefits they would receive from our services. Finally, the development work started. Mindfire's team of developers at first analyzed their current code base for their AIR application, ColdFusion website and mobile website and then delivered the requests made by client.

About our Client

Client Sports Statistic Provider | **Location** USA | **Industry** Sports

Business Situation

After having developed an Adobe AIR stat recorder application that is capable of producing a box score display and can then be viewed on the web and mobile phones, the client was eager to expand their scope by developing additional recorder types and linking them to an online web server to view and store game stats. They were also interested in expanding their website services to include data analysis for multiple box scores and management of team information that can be sent to and used in the Adobe AIR application. The client was in search of an able outsourcing company who would understand their previous code base, match their objective and produce something that would be in sync with their existing process.

Mindfire's technical experts worked effectively to come up with three different modules for the client that helped them meet their objective. There were a number of technologies used to develop the modules which made this project bit complex but our technical team were confident enough to handle the variety and developed the modules which have many new features embedded in it.

Solution Details

The Mindfire Solution

Mindfire's technical team started the development work by looking at the previous code base of the Adobe AIR application, the ColdFusion website and the mobile website. They realized that, to meet client's expectation they need to develop an architecture that would consist of three different modules. So, they developed three modules which are:

- Desktop Application
- Web Admin
- Web Viewer

The functionalities of each module and sample working of them has been described below:

Desktop Application Module: This is the Statistics Recorder. It has the functionality to:

- ✓ Create game schedule
- ✓ Add players to different schedules
- ✓ Record statistics of a scheduled game
- ✓ Upload the recorded statistics into the central server

The desktop application provides an interface for creating a game schedule where we can choose gender, team type, state, school name, color, abbreviation of two teams, time, date, and place of scheduled game. It also allows user to enter player details through a separate UI. Recording is done by selecting a game from the schedule and clicking the "Recorder" tab. This application also allows the feature to swap players. The statistics recorded is stored in the local SQLite database and further can be uploaded to the central server. Game statistics can also be reviewed. The master and schedule data of local SQLite database can be synchronized with central server as follows:

File --> Sync Master Data: Syncs the master data.
File --> Sync Schedule Data: Syncs the game schedule which are present at admin site but not present in the local data base.

The sync feature calls the web service provided by the client's server internally. When we sync with the central server to post game statistics or to update schedule or master data the following internal operation is performed.

- Checks the on line connection of the application with the server.
- If the server is online then call the specific web service for the desired operation.
- Gets the result from the Web service call.
- Compares the record with the local data base.
- Updates the records in the local data base.

Web Admin Module: This is the module where user can schedule game, upload images and manage advertisement. In this module admin can login with valid credential and after that he/she can do the following operations:

- ✓ Create a new Schedule and view existing schedules.
- ✓ Add blog notes for a schedule game.
- ✓ Add images for a schedule game.
- ✓ Add weekly blog.
- ✓ Advertisement management for the Web viewer section.
- ✓ Add new schools.

The central database (MySql) is the backbone of client's application that stores the record updated from the Desktop statistics recorder. This database is directly connected to the Web admin through ColdFusion functions to fetch record and store record into the data base.

Image upload is a primary task done here. During uploading of an image to the central server five copies for a single image are created to serve at different places.

- The Original Image.
- Big image.(For Web Viewer)
- Medium Image.(For Web Viewer)
- Thumbnail image.(For Web Viewer)
- Image for Mobile viewer.

By creating these five images the uploading time will increase but we are reducing the time when the images are accessed by different applications. This increases the performance of the web page. The five images have the same aspect ratio as that of the original image so the quality of pictures are same as that of the original image.

Web Viewer Module: This is the public end user website for viewing the game statistics and downloading images of a game from the site. This module internally fetches data from the MySql database. It is again divided into two sub modules for device specific viewing.

- Web Viewer – A web application
- Mobile Viewer – A mobile compatible web application

The difference between these two viewing mode is that the mobile viewer css designing is different from the general web viewer which is more suited for low bandwidth devices with small screen size. Also, while developing the mobile viewer web application the use of client side variables (cookies and JavaScript variables) have been minimized as mobile devices have less runtime memory. Thus, the efficiency of web application on mobile environment increases. The mobile viewer has been tested with Blackberry Smartphone Simulator 6.0.0 and Apple iPod environment successfully.

Achievements

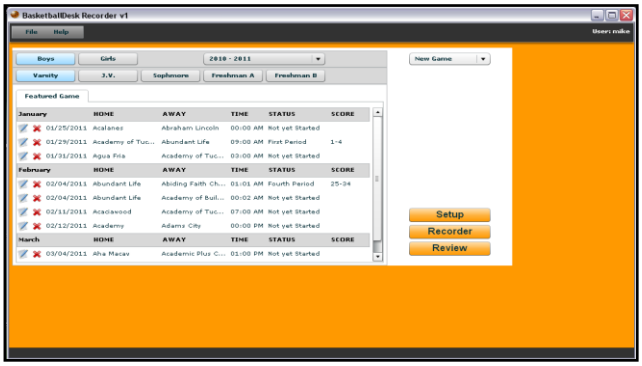
Our development team successfully delivered every task in spite of the variety of given. The real challenge in this project was the use of variety of technologies to develop the modules. Client's requirement for a robust application was met but the process to achieve the goal was challenging. Regardless of all the difficulties involved, our development team managed to handle the pressure well and come up with a solution that met client's objective.

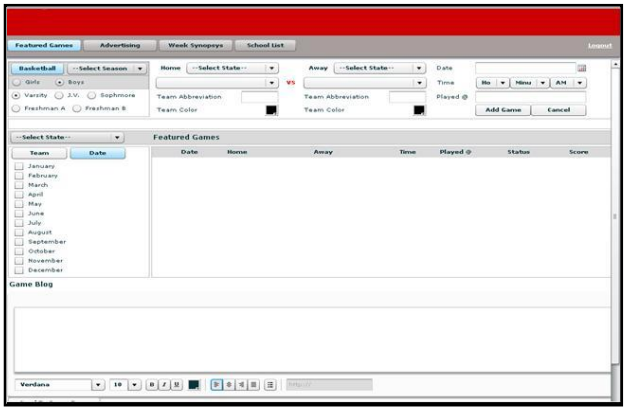
Technologies

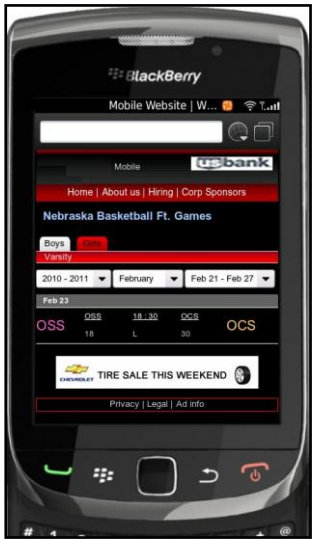
Adobe AIR (Flex SDK 3.4.1), SQLite, ColdFusion web service, Action Script 3, ColdFusion 9 Application Server, My SQL 5, HTML, CSS, JavaScript.

Final Results

Software System







Customer Benefits

The application developed was very much a robust one meeting client's objectives. The development of a mobile version of the application proved to be a bonus for the client as they received a lot of profit.

Future relationship

The client's experience with Mindfire's team was proved to be fruitful. The client was so happy with our service that he offered us two new projects even before this project ended.