Capability Statement

Summary

Tachys Inc. is a company solely focused on web2.0 technologies aimed at the mobile and web applications market as such:

- ➢ iPhone Application development and Deployment
- ➢ Cloud based Mobile and Web Applications
- ➢ Multiple Mobile devices
- ➢ Game based educational platform
- ➢ Social Network sites
- ➢ Flash based video streaming applications

As a certified Local Disadvantaged Business Enterprise, Tachys has experience working in Fed Civilian and state agencies and is committed to excellence and creating innovative solutions for our clients.

Our clients include:

- ✓ Air force Technical and Analytical support Team
- ✓ Federal Aviation Administration
- ✓ Health care video production companies
- ✓ Physician networks

At Tachys our broad range of capabilities in a wide industry array help our clients maximize their investments in Information Technology. We are recognized for our in-depth knowledge and understanding of our clients' sectors with our world-class functional expertise. Our resources are picked carefully based on the client's need. The challenges faced picking and retaining high-end professionals over a period of time helped building Tachys with a strong base and concrete wall.

Solutions:

- iPhone Game Software development using Apple Core API's

- Mobile video content streaming for iPhone using HTTP Live Streaming

- Hybrid iPhone applications using Core data and Push notifications

- Web developments with Flash and Cold Fusion

- Database Administration and network administration

Portfolio for iPhone projects:

Tachys have proven skills in successfully developing solutions for mobile devices such as iPhone. We have experience implementing high performance mobile video applications leveraging cloud computing architecture from Amazon web services.

Tachys is involved with iPhone applications since the early release of iPhone SDK's and well experienced in advanced technologies such as http live streaming, push notifications, core data to efficiently store and retrieve data from the devices.

1.iOpera:

OPERA stands for Oncology patient education resource app, is the solution for Practices to reach out to their patients with a well informed educational/social platform that combines mobility and web technology to deliver high-def videos and brochures on your mobile phones and tablets so that patients get up to date information about the latest happening in cancer technology.

Client Need:
Build a mobile application to help the physicians and patients educate themselves with the advancements in Cancer Diagnosis and Treatments with Media Rich contents and social network.

Our Solution: Built a hybrid application that make use of both the processing power of the web servers and the graphical interface in mobile devices to deliver a highly engaging media rich application.

This application was built on Apple's foundation framework and UIKit framework.

Technologies used in iOPERA Application:

Extensive use of the following Frameworks:
1. MapKit.framework,
2. MessageUI.framework
3. CoreData.framework
4. UIKit.framework
5. Foundation.framework
6. CoreGraphics.framework
7. AddressBook.framework
8. AddressBookUI.framework
9. AudioToolbox.framework
10. AVFoundation.framework
11. CFNetwork.framework
12. CoreLocation.framework

13. MediaPlayer.framework
14. QuartzCore.framework
15. SystemConfiguration.framework
16. MobileCoreServices.framework
17. CoreMedia.framework

2.iTNM:
This application is designed for Lung, Breast and colon cancer. It helps doctors to find the TNM and Stage. Doctor can send the details via email.

Client Need:
To build an application to help the physicians to find the TNM and Stage of the cancer.

Our Solution: This application was built with Apple's foundation framework and UIKit framework.

Technologies used in iTNM Application: 1) Extensive use of Foundation Framework. 2) Extensive use of UIKit Framework. 3) MFMailComposeViewController class provider.

Ex : UIPickerView, UILabel, UIImage, UIImageView, UITableView, UITableView.UITableViewCell(Custom TableView Cell), UIGraphicsBeginImageContext, UIAlertView, UITextField, MFMailComposeViewController

Utilities:
1. Writing and reading Property List Files.

3.iChemoprotocol:

iChemoprotocols mobile app is an up-to-date guide to the latest chemotherapeutic regimens both on- and off-label available for the treatment of all major cancers. This easy-to-use application is always available for the health-care professionals to quickly access chemotherapeutic regimens while managing patients. Selected Regimens can be emailed from the app for later reference. More details about a drug can be found by directly accessing the DailyMed web site within the application.
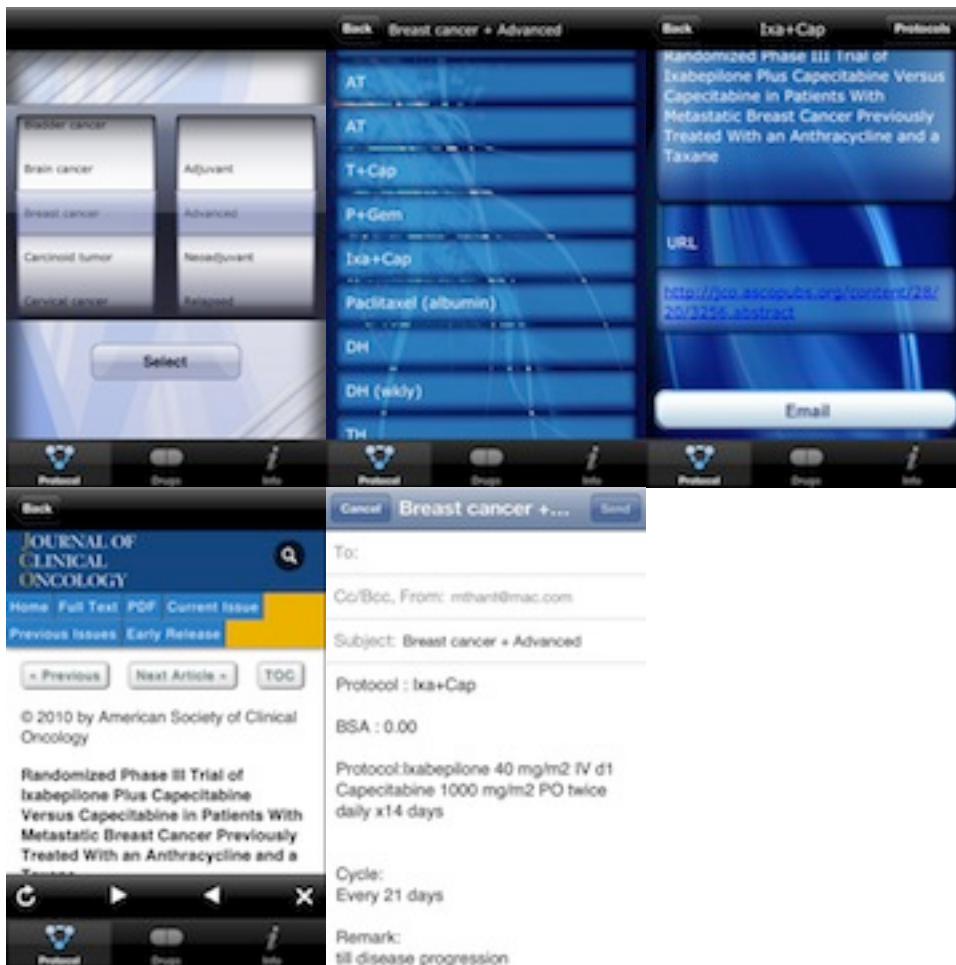
Client Need:

To build a Cancer Regimen application to help ease the physicians to refer the correct regimen for different cancer stages. Each device is synchronized with the server for the doctors to get up

to date information on drugs.

Our Solution:
Built a highly efficient hybrid iPhone application with push notification from a Java based web

server. The web server has an admin screen where the owner can upload the current data and schedule the Push. This application was built with Apple's foundation framework and UIKit framework.

Technologies used in iChemoprotocol(CTCAE) Application: 1) Extensive use of Foundation Framework. 2) Extensive use of UIKit Framework. 3) MFMailComposeViewController class provider. 4) JSON class provider. 5) Core Data

Some of the classes used are: UIAlertView,UISearchBar, UINavigationControllers, UITableView.UITableViewCell(Custom TableView Cell), UILabel, UITextField, UISegmentControl, UIActivityIndicatorView, UIPickerView, UIWebView, MFMailComposeViewController, JSON, UIPopoverController(for iPad Application)

Utilities:
Created a parser code used to convert "XML file to SQLITE Converter"
1) Read the XML data file and convert in to the SQLITE data.

Result:
The ChemoProtocol app is designed as a robust and efficient Enterprise application built for mobile devices with all the functionalities of a full blown web application. It is heavily used in the physician communities.

 4. CancerTrivia:

This application helps health care providers and general public to learn facts and information about cancer and its treatment while having fun playing the game.
There are eight categories or topics in this game based on the body parts. The settings have "On" and "Off" buttons for music that plays in the background or for each question.

CancerTrivia game application helps oncologists educate themselves with advancements in the field of Oncology to fuel their knowledge and growth with a fun playing mode.

Client Need:

 A game based educational application for the cancer network and physicians, on mobile devices.

Our Solution:

We chose Apple's iPhone device as the delivery platform. It is more users friendly. The navigation is more personal with a touch of fingers. Apple's core framework gives a rich graphical interface with animation and audio capabilities which are extensively used in this application to have a more enjoyable experience while playing the game.

Technologies used in Cancer Trivia Game:

1) Core animation: For in game transition and back ground animations.

CancerTrivia game is designed with iPhone's unsurpassed graphics and animation technologies—Quartz and Core Animation. Quartz is a powerful 2D drawing engine for creating vector graphics, bitmap images, and PDF content. Core Animation is the technology that adds smooth motion and dynamic feedback to your user interface by creating an illusion of motion.

2) Extensive use of Foundation Framework.

The Foundation framework defines a base layer of Objective-C classes. In addition to providing a set of useful primitive object classes, it introduces several paradigms that define functionality not covered by the Objective-C language. The Foundation framework is designed with these goals in mind:

Provide a small set of basic utility classes. Make software development easier by introducing consistent conventions for things such as deallocation. Support Unicode strings, object persistence, and object distribution. Provide a level of OS independence, to enhance portability.

3) Extensive use of UIKit Framework.

The UIKit framework provides the classes needed to construct and manage an application's user interface for iPhone and iPod touch. It provides an application object, event handling, drawing model, windows, views, and controls specifically designed for a touch screen interface

> Some of the UIKit framework used in this application are: UIButtons, UILabels,UIImageView,UIWebView,UIScrollView.

4) Audio technologies: AVAudioPlayer framework.

 An instance of the AVAudioPlayer class, called an audio player, provides playback of audio data from a file or memory. Apple recommends that you use this class for audio playback. This class is used to provide background music in the application.

Results:

Our extensive knowledge in programming the iPhone application, with advanced technologies raised the level of confidence with our clients resulting in a successful product launch.

5. iOncologyTv:

iOncologytv is a video content streaming on iPhone for oncology network. This program uses http live streaming technology created by apple. This application is heavily used all over the world and hence the performance is imperative that we have to use a highly available resource. Amazon cloud computing is the answer for this.
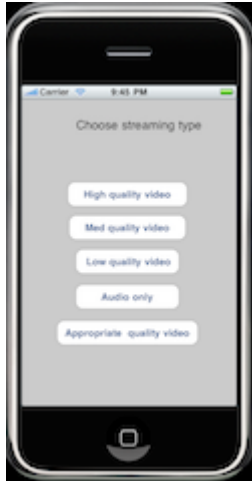
Client Need:

Emediamed, a video production company for cancer related contents, were in need of a web and mobile platform for their viewers to view their contents online anytime, anywhere in the world.

Our Solution:

We created a flash based streaming web application portal with web 2.0 technology where users can watch online video streaming contents and also can exchange information about their unique experience. Physicians can update their knowledge with the latest advancements in their field of interest. With overwhelming traffic to the site there was a demand to podcast the video contents in mobile platforms. We successfully created a mobile application on the iPhone platform for viewing the streaming contents. We used Apple's proprietary API's for streaming videos on iPhone such as HTTP streaming, media segmenter to disintegrate the length of video files into small bits and indexed them for a fast and reliable video streaming. The end product uses Amazon cloud computing to hosting the application.

Technologies used in iOncologyTV Application:

Amazon EC2:

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. It is designed to make web-scale computing easier for developers. Amazon EC2's simple web service interface allows us to obtain and configure capacity with

minimal friction. It provides you with complete control of your computing resources and lets you run on Amazon's proven computing environment. Amazon EC2 reduces the time required to obtain and boot new server instances to minutes, allowing you to quickly scale capacity, both up and down, as your computing requirements change.

Amazon Simple Storage Services: (Amazon S3):
Amazon S3 is storage for the Internet. It is designed to make web-scale computing easier for developers.
Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web. It gives any developer access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure.

Apple Technology used in this project:

1) FFMpeg video encoding.

   To convert raw video file to MPEG-2 transport stream (.ts file).

2) Apple's video segmenting tools: mediafilesegmenter, mediastreamsegmenter.

   mediafilesegmenter : To segment video files directly from the stored location in the disk.

   mediastreamsegmenter : to segment video file feed from UDP port or stdin

3) Variant Playlist feature for videos : chooses appropriate video based on Internet speed. Supporting four types - high, medium, low, audio only.

4) Media technologies: MPMediaPlayer - Classes in the Media Player framework adopt this protocol in order to provide a consistent way of starting, stopping, and managing the playback of media files. The interface presented by this protocol supports both audio and video media types.

Results:

The streaming technology for iPhone is new when this project was implemented and had bottlenecks in performance. This application was designed with performance as the main factor. As a result the client was completely satisfied with the end product.

6. mPt Brochure for Tarceva:

This project is handy for medical representatives when they explain about drugs to physicians. They can refer the application and navigate to a particular category with a flip of a card deck.

Client Need:

To create a brochure application for the Medical Reps for easy browsing of different products in detail with finger tips.

Our Solution:

The project was designed with the core animation feature in Apple iPhone SDK.The application is created like a series of files in a folder which allows one to navigate easily to browse for information.

Technologies used in Tarceva Application:

1) Core animation.

     Core Animation is a collection of Objective-C classes for graphics rendering, projection, and animation. It provides fluid animations using advanced compositing effects while

retaining a hierarchical layer abstraction that is familiar to developers using the Application Kit and Cocoa Touch view architectures.

2) Extensive use of Foundation Framework.

3) Extensive use of UIKit Framework.

Ex : UISegmentedControl, UIButton, UIView, UIScrollView, UIWebView, UITableView, UIImageView, UILabel, UIScrollView.

4) Interesting things : Added buttons to images. When we zoom the images buttons inside those images will also get zoomed and will change its position dynamically with image scrolling.

Result:

The simple and easy navigation design is a plus point in this application which was intriguing to the user community.

7. iOncologist:

This application is designed as a calculator. It helps doctors to calculate body surface area based on height and weight and to calculate the chemo regimen. This application comes handy for a doctor to calculate the dosage with ease of use.

Client Need:

To build a calculator application to help ease the physicians to calculate the dosage based on the Body surface area.

Our Solution:

This application was built with Apple's foundation framework and UIKit framework.

Technologies used in iOncologist(CTCAE) Application:

1) Extensive use of Foundation Framework.

2) Extensive use of UIKit Framework.

Ex :
UIAlertView,UISearchBar,UINavigationControllers,UITableView.UITableViewCell(Custom TableView Cell), UILabel, UITextField, UISegmentControl, UIActivityIndicatorView.

Utilities:

Technologies used in "PDF to Property List Converter" utility [which is used in iOncologist(CTCAE)]:

1) Inspecting PDF Document and parsing.

2) Wring and reading Property List Files.

Result:

This application was built as a prototype to create a hybrid iChemoprotocol application. Successful creations of this prototype lead to the creation of the iChemoprotocol application, which is currently under development.

Things to consider when deploying an iPhone App:

1. Determine if the application is only for the device or it should support hybrid environment like browser based also.

2. If the web application is already in use and users are accustomed with it, then the iPhone app should be almost similar to the web content that should deliver to the small device with the device features such as navigation, accelerometer, push notifications etc

3. Try to reuse the components that are in the web already so that you do not have to re-write the same app again.

4.The smaller size of the iPhone and iPod touch screens also means that your application's user interface should be well organized and always focused on the information the user needs most.

5. The network is not reliable on the device as the users move from one location to another. So if you are designing a hybrid application with more interaction to the web server to synchronize the content effectively you should design the application to monitor user's bandwidth and accordingly sync the data to the app server and if the connection could not be established store the information locally in the device and sync later when the network is available.

Certifications:

Certified Locally Disadvantaged Business Enterprise (LDBE)

Minority owned small business (8a) certification

Contracts:

Working under the sub-contract agreement for the prime contract # F33657-00-c-0016 – for the Secretary of Air force Technical and Analytical Support.

Working under the sub-contract agreement for the prime contract, CONTRACT NO. DTFA01-02-A-000066 for Federal Aviation Administration.

FAA eFAST Prime contract.

Eligible for GSA contracts and could team up with prime contractors who is eligible for FSS,GWAC

NAICS Codes:

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Regardless of being awarded a contract, we are interested in meeting our clients and sharing our experience.

Contact:

Ron Pillay
Tachys Inc
43368 Wintersrun ct
Ashburn, VA 20147
Phone: (703) 627-2954
Fax: (703) 880-8918
Email: sales@tachysinc.com
Web: http://tachysinc.com