

DevGeo Keynote Speech

James Richards, president of Artisan Global LLC discusses how his company used the ArcGIS API for iOS to add rich mapping capabilities to the CitySourced application, as well as an Earthquake application.

<http://video.esri.com/watch/150/devgeo-keynote-speech>

Video Transcription

00:01 I'd like to bring up James Richards. James Richards is the president and founder of...

00:05 ...Artisan Global. He's been working with Esri technology for...

00:10 ...well, it's well over 14 years now I think.

00:12 And he's been working with the web APIs for several years and recently has...

00:17 ...put together a few iOS applications.

00:19 So I have had the pleasure to work with him on that as an early adopter.

00:23 And I'd like to invite James up here now to tell us his experience with

00:29 Thanks Dave.

00:30 So, yeah so like Dave said my name is James.

00:33 I'm from Artisan Global LLC.

00:37 We provide consulting services to our clients to help them integrate mapping...

00:42 ...into whatever their business processes, or whatever their business needs are.

00:46 And usually that involves building some kind of a custom application for them.

00:51 So I have about 18 years of experience developing on the Esri platform...

00:57 ...and recently as Dave said I've doing a lot of work with the iOS SDK...

01:01 ...and I'm very excited about it.

01:03 So I'd like to tell you why.

01:08 So, why am I excited about the iOS SDK?

01:11 So when I first started working with this type of technology with mapping technology...

01:18 ...these are the types of computers that we were working with.

01:20 These old PCs...and for those of you who've been using Esri technology...

01:25 for awhile you'll see PC ARC/INFO on the screen there.

01:29 And this was what we used in the early '90s.

01:33 And back then you had to interact with these mapping systems through...

01:40 ...the command line and by writing scripts.

01:43 So we've come a long way since then.

01:47 And for me I was very interested in this...this...this space because...

01:53 ...I was interested in the way that people interact with geographic...

01:56 ...information and user interfaces to geographic information.

02:00 So, so I was kind of involved in doing some study and some thesis work...

02:05 ...on how people interact, and how graphical user interfaces work with...

02:11 ...mapping and geographic information systems.

02:15 So fast forward about 10 years and I, this is around 2001.

02:23 This is a Dilbert cartoon so I found the ultimate tool for the mobile profession.

02:28 It's a combination PDA, phone, pager, digital camera, fax, e-mail, laptop, and shredder.

02:33 Alright.

02:35 And it clips to the belt and you can see that picture over there is this...

02:37 ...ridiculous looking thing that no one would ever clip to their belt.

02:41 Right?

02:42 So this is interesting to me because this isn't very long ago but in...

02:49 ...popular culture people were kind of making fun of this idea...

02:52 ...that you could have an all-in-one device in a usable form factor.

02:57 Right?

02:58 He's making fun of this because he doesn't really think it's possible...

03:01 ...but yet, just a few years later we have the iPhone and...and...

03:07 ...you know the iPhone basically has everything that was in that except for the shredder.

03:12 Right?

03:14 And, and it has a lot of other things as well.

03:16 It has a lot of things that nobody even thought you could do on a mobile device.

03:19 So, so to me this is like you know super exciting...

03:25 ...and particularly from a perspective of...

03:28 ...of user interfaces and how people interact with geographic information... 00:03:34

03:41 This is something that just wasn't possible even ...you know...a few years ago, so.

03:46 So to me this is like very exciting.

03:50 And I do want to also just talk a bit about why I'm excited about mobile.

03:55 So you know, Dave's talking about the different APIs that are available.

03:59 And, and I'm going to focus in a little bit on the iOS API , but we have...

04:04 ...the Android API, the JavaScript API, the Silverlight API, which now...

04:08 ...right now you could build Windows Phone 7 apps with.

04:12 So why am I excited about mobile in general? Well, Morgan Stanley...

04:17 ...Research did this study earlier this year.

04:21 And they're forecasting that within five years, mobile Internet users are... 00:04:25

04:28 Right?

04:29 So this is a massive shift in the way that people are interacting with you...

04:34 ...as a business or you as a municipality.

04:38 They're going to be interacting with you on their mobile devices and if...

04:41 ...you're not there...

04:42 ...they can't interact with you there.

04:45 So I think it's very important as your looking forward to be looking at...

04:49 ...mobile and saying to yourself, well how can I meet my customers...

04:54 ...where they want me to be.

04:56 Right, and so, so that's to me exciting.

04:59 And it's exciting from a business perspective as well because...

05:04 ...you know even though mobile is exploding right now it's still...

05:07 ...relatively early in the adoption, in the adoption cycle.

05:12 Right. So.

05:16 So I want to show you three examples of apps that were built with the

05:24 ...I'm not going to dive real deep into the apps. I just want to kind of give...

05:28 ...you an overview of, of the types of things that are possible to get your, you know...

05:32 ...get your idea, get some ideas out there.

05:36 The first app is...was written by some folks up at the University of

05:41 Now Dave mentioned some of the things you can do with the API...

05:44 ...so I'm just going to kind of reinforce that message a little bit.

05:47 So he mentioned authoritative content and performing analyses...

05:50 ...and there's...I'll show you a couple examples from this University...

05:53 ...of Oregon application that reiterate those points.

05:57 Then I'll show you an app called Quake Feed which is one that I've...

06:00 ...been working on, it's going into the App Store.

06:03 I'll be submitting it next week.

06:05 And what we're doing in this app is we're taking some third-party content...

06:10 ...and displaying it on top of the rich basemaps so that we get through the...

06:14 ...Esri ecosystem through ArcGIS.com, ArcGIS Online, some of the...

06:19 ...basemaps that Dave was showing you.

06:22 And then the third app is called CitySourced and this is an app that...

06:25 ...allows you to collect volunteered geographic information.

06:29 So...here this is a citizen- and a consumer-facing app that allows ordinary...

06:34 ...people to report issues in their neighborhood...

06:38 ...issues that are local to them to their local authorities.

06:46 Okay. So here's the University of Oregon app...couple of screen shots here.

06:53 So the screen shot on the left is showing a campus accessibility map.

06:58 So what we have here is the campus engineering department is...

07:03 ...maintaining this data about where the accessible paths are...

07:08 ...where the accessible parking areas are.

07:10 And they want to...they want to make this data available in their

07:13 campus specific application.

07:17 Now...I should say that this application isn't just about maps.

07:21 There's a lot of other information in this application that is not...

07:25 ...mapcentric. However they have this nice mapping portion of the...

07:30 ...application where you can view a variety of these types of maps.

07:34 So this is just one example of that.

07:37 And this is being displayed on top of the reference basemaps...

07:41 ...that you get through ArcGIS.com.

07:47 This is also the example of an application that performs analyses in the cloud.

07:51 So in this case you can get walking directions on campus. So the app is...

07:56 ...location aware, it knows where you are, you tell it where you want to go.

07:59 And because the engineering department maintains data about...

08:03 ...where all the paths are, where all the shortcuts are, for a lack of a better...

08:06 ...word on the campus, they can give you more accurate...

08:09 ...more accurate walking directions than you would get from one of the...

08:14 ...consumer mapping services out there that may not have that information...

08:17 ...at their disposal.

08:21 I would also point out that there's...that...there's lots of other types of...

08:28 ...analyses that you can do in the cloud so this is just one example of that.

08:31 Dave showed a couple of examples of that as well...

08:34 ...like the solar mapping application.

08:36 You could for example have an application that allowed you to calculate...

08:41 ...solar footprints, go out to the cloud, do that calculation, display it on the...

08:46 ...device, let's say if you were doing estimates for someone, right...

08:51 ...or for your business.

08:52 So that's just an example.

08:56 So the second app is...demonstrates, well how can I overlay content...

09:01 ...from third-party sources on top of the rich basemaps that I get...

09:05 ...through the Esri API.

09:07 So this example brings in earthquake information from the USGS...

09:13 ...so the USGS... publishes a GeoRSS feed...

09:21 ...and that GeoRSS feed contains earthquakes within the last seven days...

09:27 ...that are magnitude 2 and a half or higher.

09:29 And this is just like if you read blogs whatever...

09:33 ...you have an RSS feed that delivers snippets of content to you.

09:37 However with the GeoRSS feed there are geotags.

09:40 So there is a location associated with each piece of information...

09:44 ...that comes in through the feed.

09:45 So we can take that, and we can display it like you might on the left...

09:50 ...like you might normally display an RSS feed which would be in a...

09:54 ...in a tabular display.

09:56 We can also display that on a map like we have in the center.

10:00 And then in the right we're displaying a, a detailed view of one of the earthquakes.

10:05 So a couple of things I'd like to point out here is that...

10:09 ...in the center you can see there are some different colored dots there.

10:14 So one of the things that's great about the iOS API and all of the...

10:18 ...different client APIs that Esri offers is that you have a very rich set of...

10:25 ...objects or an object model that gives you lots of different options...

10:30 ...for how you symbolize your data and how you display your data...

10:35 ...and it makes it really easy to do things like split data up into...

10:38 ...categories, give different symbols to different categories, and display...

10:42 ...different things in different ways depending on what your business needs are.

10:45 So I think that's one of the great things about all the APIs is that they...

10:49 ...give you really easy tools in a consistent model...

10:58 So the last application, or the third application, is called CitySourced...

11:04 ... and this is a client of ours and they've built this app that allows...

11:10 ...citizens to report issues to their local authorities.

11:14 So you pull up the map on your iPhone and you take a geotagged...

11:18 ...photo of whatever the issue is.

11:20 So in this case we have a broken streetlight.

11:23 And you select the type of issue, maybe enter in a couple of comments...

11:28 ...hit Submit Report, and that application goes up through their servers...

11:33 ...and is delivered to the local municipality.

11:36 So what we did for them in this project was...

11:41 ...they were using the built-in Map Kit API initially and they wanted to...

11:45 ...replace it with the Esri iOS API...

11:49 ...because many of their clients are Esri clients and those clients...

11:55 ...have their own authoritative data they would also like to display...

12:00 ...within the context of the application or display right within the application.

12:05 So we're not doing that yet, but we've made this transition to get them...

12:09 ...onto the Esri platform so that they can then integrate more deeply...

12:14 ...with their clients who are also Esri customers...So...

12:19 ...this is also a great example of collecting information like...

12:23 ...Dave was saying, volunteered geographic information or crowd sourcing.

12:27 There's lots of different terms for it.

12:30 Other...other types of applications in this vein would be like disaster management application.

12:36 So when, you know, people were volunteering in the gulf during the oil spill...

12:42 ...there were a lot of crowd-sourced and volunteered geographic information-type applications...

12:46 ...where people were saying, yes I was here, I cleaned something here...

12:50 ...and, you know, we're keeping a catalog of these types of things...So...

12:54 ...hopefully that'll give you a little bit of an overview of some of the things that you can do.

10:10:53 ...across the different APIs to do the same types of things.