Esri Mobile Solution Overview

The intent of this session is to present Esri mobile GIS product positioning to help you select the most suitable product for your mobile application. Topics will include matching personas with products, product demos, and providing a decision-making tree. Furthermore, the session will outline the complete Esri mobile product line including ArcGIS for Windows Mobile, ArcPad, ArcGIS Engine, and ArcLogistics Navigator. A video of this session will be available on www.Esri.com/UC after the User Conference.

http://video.esri.com/watch/97/esri-mobile-solution-overview

Video Transcription

00:01 Okay, good morning, everyone!

00:02 Welcome to the Mobile Solutions Overview tech workshop.

00:08 My name is Jian Lange. I'm the lead for the mobile team at the Product Management Group at Esri.

00:16 In fact, our whole team is here to present this workshop.

00:20 This is Martin Copping, he is the product manager for ArcGIS Mobile.

00:25 David Cardella, product manager of ArcGIS for the Apple platforms, and...

00:31 ...Kerry Somerville, who is the ArcPad product manager.

00:38 So before I start our session, I just want to mention that it is a very exciting conference for our mobile team.

00:48 We have a brand new product, the ArcGIS for iOS, and we have major releases both ArcGIS Mobile and ArcPad...

00:57 Oh wow, that's good. More than last time.

00:59 ...and there are many workshops offered related to mobile products through the week.

01:06 This session is the overview and more detailed information about related to each specific product...

01:17 ...can be found in these specific sessions.

01:21 Don't worry that you can't write it down, I'll show this at the end as well, and it's also available on the agenda.

01:30 We also have two user group meetings, which I strongly encourage you to go.

01:36 If you do mobile GIS-related work, it's nice to go meet with other users and share experiences...

01:44 ...and hear about our latest updates of our products, and don't be concerned that Wednesday when you go to...

01:51 ...the mobile SIG that you'll miss your lunch, because we will provide your lunches at this mobile SIG meeting.

02:02 Okay, if you want to see the product demos, and more product demos will be shown at the Mobile GIS Island...

02:12 ...we have staff and we'll show you the product, answer your questions.

02:16 We also have scheduled demos at the Demos Theater in the Mobile GIS Island.

02:24 One thing I would like to encourage you to do, is you want to get hands-on experience.

02:28 You really want to use the product outside, collect data...

02:31 ...we offer this thing called Try ArcGIS Mobile live, which one of our staff will take you out with a real GPS device...

02:42 ...software running on the device, and you can actually go out and do your data collection...

02:48 ...work and see how the product really works.

02:52 So, back to our session.

02:54 This is what we're planning to cover today.

02:57 First I will go over the mobile GIS overview, and then my colleagues here will introduce you to the...

03:00 So here I'm searching on endangered animals, so all of the animals that Martin has gone out to the field to collect...

03:05 ...specifics of their products, and then you'll be stuck with me again when I want to share some tips...

03:15 ...on how to select the right mobile GIS solution for your specific use case.

03:21 at the end, we'll open for questions.

03:26 So, I mentioned earlier, the objective of this session, this is an overview session.

03:34 So our objective is to introduce you to our mobile GIS solutions.

03:39 We don't have a lot of time to cover the details, but at the end of this session you'll have an idea of what our products can do.

03:48 So another purpose of this session is also to provide you some guidance in selecting the appropriate solutions.

04:02 You probably remember this from the Plenary Session, when John showed this on the stage.

04:09 At ArcGIS 10, we'd like to see that ArcGIS is a complete GIS system.

04:16 So you can have this system on the cloud, on your enterprise server, or on your local machines.

04:23 And there are different ways to access the system.

04:27 Traditionally, through desktop.

04:29 How many of you are desktop users, ArcGIS Desktop users?

04:34 Yeah, so you know what I'm talking about.

04:36 You access your GIS through your desktop, your ArcGIS Desktop.

04:40 And more and more common is, people access their GIS system through either web clients...

04:48 ...or mobile and lightweight GIS.

04:51 What do I mean by mobile and lightweight GIS?

04:55 Simply put, it's GIS running on lightweight devices.

05:00 These lightweight devices can be phone devices or handheld devices or Tablet PCs or laptop machines.

05:13 So, why mobile GIS?

05:15 What are the benefits of mobile GIS?

05:18 The most obvious one, it replaces the paper map system you used to use in the field.

05:24 It makes all the GIS systems that in the past available only to you in the office, now available to you...

05:31 ...in the field on your hand.

05:34 And this clearly helps the field productivity. With all the data available to you, it helps you to make better decisions...

05:42 ...you can see the location of real-time information, and you can route or navigate to the places you want to go.

05:50 How do you make sure that the data you see in the field are current?

05:54 One of the important components of mobile GIS is to actually in the field collect data...

06:01 ...to maintain the data, keep it current, keep it accurate.

06:06 Once you have the data collected in the field through wireless synchronization, you can make this...

06:18 Then it helps to make the operational, more operationally aware, so people know what's happening, real time, in the field.

06:31 So what are some mobile and lightweight GIS challenges?

06:35 In other words, how is it different from the traditional GIS?

06:40 The first one is platforms.

06:42 We all know when we use desktop GIS, the dominating operating system is Windows, and in the mobile...

06:51 ...the Lightweight GIS space, we have many different platforms coexisting - we have Windows...

06:59 ...Windows Mobile, Apple platforms, and many more are coming.

07:06 We have different form factors.

07:09 For desktop GIS, there's desktop machines and there's laptops; that's pretty much it.

07:16 And in this space, we have phone devices with or without keyboards, attached screens, smaller screens...

07:23 ...bigger screens, we have handheld devices with or without GPS, we have Tablet PCs and laptops...

07:35 ...so many different form factors.

07:37 Each form factor defines a unique user experience, so if you use a phone application, running on the phone...

07:44 ...and applications running on tablets, it will require you to have different user experience.

07:51 Closely related to form factors are device capabilities.

07:56 I mentioned GIS, GPS already; that's the most obvious one.

08:01 And there are also cameras associated with devices.

08:05 Capturing photo is considered as part of the data capture these days and there are other sensors that can be integrated with your devices.

08:16 Range finder is one, which allows you to capture positions that are hard to reach, and there are many other sensors as well.

08:28 Bar code scanner center, RFID scanner, et cetera.

08:33 Last but definitely not least is the connection mode.

08:38 When you're in your field, you can have a device that's always connected.

08:43 A cellular phone is typically a cellular phone is always connected.

08:49 But you also have scenarios that, you work in the field in a disconnected mode, and from time to time...

08:56 ...you go to a hot spot or office and then you get connection.

09:01 Yeah, the last one is, obviously sometime you just work always, never connected mode.

09:08 And then only at the end of the day, you go back and synchronize your device.

09:13 So, how do we cope with these challenges?

09:16 From Esri, we're taking challenges to develop our application for the mobile space.

09:23 So, our answer is that we have different products that support different platforms, different...

09:30 ...form factors, different use cases.

09:34 Now I'm going to turn over to my colleague, Martin...

09:37 ...who is going to show you more details about ArcGIS Mobile.

09:41 Martin?

09:45 Thanks, Jian. Morning, everybody.

09:48 I'm going to give you a quick-fire introduction to ArcGIS Mobile.

09:52 Can I see a show a hand of hands with how many people are familiar with ArcGIS Mobile?

10:00 All right.

10:01 So, the question I always get asked is, what is ArcGIS Mobile?

10:04 Well, for those of you who are not familiar with ArcGIS Mobile, it's actually a technology framework that...

10:10 ...allows us now to extend the GIS from that traditional desktop server environment always out into the field.

10:17 And of course, it's not really geared, it's geared more toward the average field-worker.

10:21 So right now, most traditional GIS is for the technician or analyst level.

10:26 So ArcGIS Mobile now allows you to extend these tools or this power to your mobile workforce, in general.

10:32 So they do not actually have to be technician or analyst-level GIS people; they can be your common meter reader...

10:39 ...your valve installer, your arborist, your environmentalist, your surveyor, your engineer, et cetera.

10:44 With ArcGIS Mobile, we actually provide two ready-to-deploy applications.

10:49 Many of your may have heard us refer to these as out-of-the-box applications.

10:53 So, technically there's no box anymore; you can now download it from arcgis.com.

10:57 And so they're ready-to-deploy applications, both for Windows Mobile and for the Windows desktop.

11:03 And of course, we also provide a full .NET SDK, so that if you want to extend these applications...

11:09 ...or build your own custom applications from scratch, you can do so as well.

11:13 And what we've done is we actually listened to our users and we've provided them with tools that you can author...

11:19 ...and provision out these projects in a much more simpler fashion, a much easier fashion...

11:23 ...than say going through the ArcGIS Server Manager framework.

11:28 So we've got a question about, who's using ArcGIS Mobile?

11:31 You'll see a list up here on the screen; this is just a small sampling of organizations, both locally...

11:37 ...and internationally, who are using ArcGIS Mobile.

11:40 Many of you were here for the Plenary Session, so you'd have seen reference to the tragic...

11:44 ...gulf oil spill that we have, so ArcGIS Mobile is actually used very widely there by almost every organization...

11:51 ...that is supporting that effort, from the US Coast Guard to the US Fish and Wildlife Service...

11:56 ...the National Guard; of course, all of BP's different staff as well...

12:00 ...in helping to collect information and get this back into the office, or into the incident command center in real time.

12:09 So, Jian showed you this slide a little while ago.

12:11 And we've seen here that ArcGIS Mobile is really broken up into these four pieces - platforms that we support...

12:17 ...connectivity modes, form factors, and of course our device capabilities.

12:21 And so the objective here was to go out and do every single device necessary...

12:27 ...but look with some really key platforms are majorly used in the industry today.

12:31 So, for platforms, we support Windows Mobile, this will be everything from Windows Mobile 5.0 to 6.5.

12:38 And of course, Windows, the traditional Windows desktop, so Windows XP, Windows Vista...

12:43 ...and Windows 7, as well.

12:45 So it will run on a tablet or a laptop device, or a Netbook, for that matter of fact.

12:50 And of course, the form factors here are smartphone devices, so you have a HTC Tilt from, say,...

12:55 ...AT&T, or you have a Motorola Q running Windows Mobile, it will run on that phone.

13:01 You can actually leverage ArcGIS Mobile to do simple collection on that particular device.

13:06 Now of course you have the traditional handheld devices, much like the Trimble symbol GeoXT, GeoXHs, Junos...

13:12 ...Nomads, Topcon GRS-1.

13:15 You have several of those large, high-accuracy devices running in the Windows Mobile operating system that it will work on.

13:22 And of course Tablet PCs, laptops as we've mentioned, really supporting that in-vehicle mounted...

13:27 ...system, the fat finger or gloved hand, touch screen devices.

13:32 Of course, our devices are leveraging all the connective capabilities on those devices; GPS...

13:38 ...the cameras, integration with laser range binders, and of course, any other sensors...

13:44 ...that you'd want to plug in or use with ArcGIS Mobile.

13:48 I think one of the most important things is the connectivity issue.

13:51 ArcGIS Mobile will support both a connected and a disconnected workload.

13:55 So many times, if you think about it, the average field-worker does not have cell or Wi-Fi capability in the field...

14:03 ...and so ArcGIS Mobile will allow him to take his project and his data with him and still be productive...

14:08 ...and still be able to perform his functions and his duties in the collection of data.

14:12 Naturally, of course, if he does have connectivity in the field with cell or Wi-Fi, he can then synchronize...

14:18 ...that data back in near real time.

14:20 Or, he can stop into Starbuck's or MacDonald's, anywhere they're able to get free Wi-Fi, and jump on the network...

14:26 ...and of course update the data as well there.

14:30 So, some of the key things we've done with ArcGIS Mobile at the 10 release - 10 being, of course...

14:34 ...a very major release for us at Esri, is we've enhanced a lot of the applications.

14:38 So, many of you at 9.3.1 would have seen the handheld or the Windows Mobile application.

14:44 We've enhanced that; we've added capabilities for GPS streaming, and we've also added the author post feature.

14:49 So if you have a particular worker going through a particular workflow process, you wouldn't...

14:55 ...really want to ask them to stop that process and remember to synchronize data, if he is, does have a connection.

14:59 So it's then, as a business partner, you can resell that application as your product.

15:01 So we've been enabled author posting where every time the data changes or at particular time intervals...

15:06 ...the data will get automatically synchronized back, running in the background.

15:10 And of course, we've also implemented searches and queries where you can predefine these ahead of time...

15:16 ...and of course provision them out with your projects.

15:19 That way you're not asking the field-worker to be a query builder or some kind of search creator...

15:24 ...although they do have the ability to create those on the fly, if needed.

15:27 And of course, we've also enabled photo capture so information actually can capture...

15:31 ...a single photograph for a feature, if it has a raster field in the geodatabase.

15:36 Or they can actually collect multiple features with BLOB fields in the geodatabase, as well, for that single feature.

15:42 And of course, what we have done too is also given you the ability to track your field user or the actual device...

15:48 ...and of course they have a field crew extension now where you can geocollaborate with each other in the field.

15:53 And of course we have the mobile project center; it's probably one of our biggest pieces.

15:57 It's now a separate install from ArcGIS Server, so you can actually sit there on your traditional desktop machine...

16:03 ...and create your projects, and of course then provision these out.

16:07 I think the major thing...to highlight here is the fact that now ArcGIS Mobile comes...

16:12 ...and works with the ArcGIS Desktop license.

16:15 So every user of ArcGIS Desktop, whether ArcView through ArcInfo, will get a single license of ArcGIS Mobile...

16:22 ...and then of course, you can synchronize the data through the desktop, create your projects, provision them...

16:27 ...out through the mobile projects center, and then of course bring those projects back into

the office...

16:32 ...and of course then synchronize them back and those changes back into the database without the need for a server.

16:37 That, of course, the limitation is you cannot synchronize data across the network.

16:41 It does require you to bring the device back in, synchronize it through active sync through a cable...

16:46 ...and then run that process to check it back into your database.

16:51 So, we got a lot of questions too about, what's the workflow?

16:54 And if you think about the traditional workflow, the traditional workflow is maybe data stored on flash drives...

17:01 ...or personal drives and portable hard drives.

17:03 Maybe some data stored up on a server...well, they're kind of all over the place, and so no way to define data model, in some cases.

17:11 So now, with the adoption of ArcGIS as a complete system, people will find that, look, I need to have a nice...

17:17 ...predefined data model.

17:19 I need to make sure I design my maps properly for my field use.

17:22 And so maybe they're leveraging ArcGIS Server or leveraging the file geodatabase for the storage and management of data.

17:29 And so we design our data models, and we manage it whether it's through ArcGIS Server or...

17:34 ...through a file geodatabase system.

17:35 And then we use ArcGIS Desktop, and here's we design and author and build our maps.

17:40 And something to bear in mind, if you are building a map for mobile deployment, it is not a complex map...

17:46 ...that you would, say, produce for web production or paper map production.

17:50 It needs to be a very simple, intuitive map, something that a field-worker could look at and...

17:55 ...know exactly what they're doing.

17:56 Still, of course, leveraging symbology that they're used to seeing every day, and of course making...

18:01 ...it easy to interact with, not a very crowded or clogged-up map, if you would.

18:06 And of course, once these maps are produced and designed, they can be then stored out of course...

18:10 ...on your own on-premise or cloud-based ArcGIS Server.

18:13 Or, now you have the ability to store them out to arcgis.com, so you could store them out online...

18:18 ...and then go through and share these with all the members of your organization, allowing...

18:22 ...them to be able to connect to and download your projects to perform their duties.

18:27 Of course, you use the mobile project center, in this case, to design and build those projects...

18:31 ...assigning various tasks and tools, and then of course you can provision those projects back out now to arcgis.com...

18:39 ...ArcGIS Server, whether on-premise or in the cloud, and then the mobile field-worker has the ability through the ...

18:44 ...ArcGIS Mobile application to connect to the server from the field, or to connect to arcgis.com and get these projects...

18:51 ...brought down to them, and then they would of course go out and perform the desired functions that you have created.

18:58 So, kind of the licensing update. I did touch on this a while ago.

19:02 The main thing is now it's available to you at the desktop.

19:05 So every license of ArcGIS Desktop will have a single license of ArcGIS Mobile available to you.

19:11 That license is not tied to the specific machine or specific license.

19:16 You can use your ArcGIS Desktop license and if you have a mobile worker, you can actually...

19:21 ...give that mobile license to them for use.

19:24 If you have more than one, which I'm sure that more than...all of you have more than one single field-worker...

19:29 ...you can buy five-pack deployment bundles for the desktop scenario.

19:33 For those of you who have ArcGIS Server Advanced Enterprise, previously it was limited or capped...

19:39 ...in the number of mobile deployments.

19:40 Well, at 10, now you have unlimited mobile deployments with Advanced Enterprise.

19:47 So I'm going to be going through a brief demo.

19:49 I'm going to sit down for this, and I'm going to walk you through the process of kind of how we could create a map...

19:56 ...provision a map, and of course use it in the field.

19:59 I'm going to show you the tablet-based application, and many of you are familiar with the handheld application.

20:04 I'm going to show you how the desktop form factor looks.

20:19 Okay. So this is the mobile project center, as I said it's a separate install from ArcGIS Server running...

20:25 ...here locally on my laptop, and this is a project I have already configured for the sake of the demonstration, time wise.

20:32 Of course if you want to see more, you definitely come by the Mobile Island; we can walk...

20:35 ...through the step from scratch.

20:37 But we have the ability add operational layers and basemap layers to our mobile project.

20:42 So, this operational layer can also be added naturally from an ArcGIS Server, or from a local cache online machine...

20:50 ...that I would have created using the new GP tools that we've given you with ArcGIS Desktop.

20:56 So I can go ahead and add these operational layers.

20:58 I can then add many basemap layers, whether it's an ArcGIS Server map cache or pull it from an ArcGIS Online service.

21:06 So, because the application can run in a connected mode, we do have the ability, if you are connected...

21:12 ...to stream in the ArcGIS Online content into your basemap.

21:16 So you're leveraging the beautiful cartography or the imagery that we provide you as part of your...

21:21 ...day-to-day field process.

21:23 Once we're completed, we can have the ability to go in and work with the different layers...

21:28 ...setting up whether they are searchable or editable, or they need to be hidden from the field-worker.

21:34 We can define how the forms are interacted with, when a person doesn't identify a search or a query...

21:39 ...what sort of results are returned to them.

21:41 How does it look?

21:43 You know, if it's coming out of an SDE database, wouldn't want to have SDE underscore some kind of acronym...

21:49 ...and then the field name.

21:50 That would confuse...the average field-worker wouldn't know what you're talking about.

21:54 So if it's a bird, it could just say bird, or bird type, and it's matter of fact.

21:58 And of course we have the ability to interact with our GPS settings.

22:02 So, for individual layers in a mobile or a project, we can set the type of GPS accuracy that we would require...

22:10 ...and of course we can also allow them to change this GPS accuracy or settings in the field, on the fly.

22:16 We can then of course go in and assign tasks to the project.

22:21 So, in this case, we simply want them to view the map, we want to be able to interact or view members of your...

22:26 ...field crew, we want to give them the option to collect and search, and of course the managing of your edits.

22:32 And here is where we would go in and use the Autopost option.

22:35 So we can see that we never, you can set to never Autopost , so that Autopost would be a manual feature...

22:41 ...or only when we're connected or when the data changes, then automatically go ahead and synchronize.

22:46 And we can also set the timing default when we want to do that.

22:49 Because the application does have an extensible framework, you can build many extensions or...

22:54 ...add-ins to these two ready-to-deploy applications without having to build them from scratch.

23:00 And so you could particular extensions that fit your business needs or your workflows...

23:05 ...or maybe you have a particular device that you want to be able to connect to read information from or a sensor...

23:10 ...you can create an extension to actually connect those devices and pull the data in to ArcGIS Mobile.

23:16 And here is where you would provision that extension out to that mobile project.

23:21 And once we are finished, we have the ability of course to save, and we give the project a name...

23:26 ...and we can choose to save that locally so if you're taking your tablet or your laptop with you in the field...

23:30 ...you can store the project locally from right here, you can connect to a web server, or you can serve it out on arcgis.com.

23:37 So, for this demonstration, what we've done is we've gone out ahead and we've published it out to arcgis.com...

23:43 ...and it publishes out as a Windows Mobile package.

23:46 And once we do that, we have the ability, of course, to then share it with other users, and I've chosen to share it...

23:53 ...with the members of my ArcGIS Mobile group.

23:56 So this Windows Mobile package is now available.

23:58 So from my mobile device, or from my ArcGIS Mobile application, I can now have the ability to go out and...

24:04 ...connect to arcgis.com and download that project for use in the field.

24:10 So we'll go ahead and we'll switch over to that.

24:11 And of course, associated with that project is a web map, as well, too.

24:15 So naturally, you want to chart your project and see what's happening in the field, and as this user collects...

24:20 ...information and synchronizes it back to the server, someone sitting back in the command center...

24:25 ...back in the office, can actually see these updates come in live in real time.

24:29 And we'll walk through that process.

24:31 So why don't we go ahead and look at the particular project that we've created.

24:35 I want to close this real quick, and if you notice here, the resolution is going to go stack them all together.

24:42 But from a single point, or from a single application in the field, I have access to actually multiple projects.

24:48 So, it's one application running multiple projects, so our user can actually carry different projects...

24:53 ...with him in the field on a single device through a single point of contact or through a single application.

24:59 So for this matter of fact, I'm going to ahead and sign in to an application, and we're leveraging the sign-in feature...

25:05 ...so we actually want to know who is using this application?

25:06 We'll go ahead and do some simple collection.

25:08 So we're going to go ahead and prompt them to sign in, and so the application is then collecting and saying...

25:13 ...look, Martin is the one actually doing the collection here today in the field.

25:18 As you've noticed, it has the ArcGIS Online content streaming in the background live, using the same picture...

25:25 ...I created in my mobile project center or actually mimicking what I have created through my MXD.

25:31 I can then of course go in and interact with other members of my field crew, and by simply clicking on them...

25:37 ...it pans and shows me where they are at all times in the field.

25:41 If my device did have cell capability, or had all the information about my users, I could click on the context menu...

25:48 ...and I could send them an e-mail, I could send them an SMS, I could interact with them.

25:53 I also have the ability to create an extension that would allow me to use a navigation software to route to them...

25:59 ...to get their location in case I did need to find them or help them in their day-to-day process.

26:08 It's a simple...what is happening here is actually looking at the geodatabase, it's looking at the, all the different...

26:15 ...functions of the geodatabase, and it's bringing back the same symbology that we had set up in our MXD.

26:21 And through a domain geodatabase, it's simply presenting with a very simple pick list.

26:26 So if this was a touch screen device, I could simply touch on the bird, and I could go ahead and I could collect the location.

26:33 We don't have GPS indoors, so I'll go ahead and collect the location by clicking on the map.

26:38 Once I hit Accept, I can then go and collect the feature information from very simple drop-downs...

26:44 ...or very simple fields to add and I'll go ahead type land Vessel number 1, 2, 3, 4.

26:50 I'll put in my name and then I need to know what type of species.

26:54 You know, if I try to close this form, it would actually tell me I couldn't do that, because we have that...

26:59 ...valid field that needs to be filled out before the field-worker moves on.

27:03 You're actually capturing or allowing them to do some good QA/QC right there in the field...

27:08 ...without just capturing a boat ID or a personal ID, without capturing what exactly they're looking at.

27:14 So, I can then pull this particular feature, and in this particular application, this is for a US

Fish and Wildlife...

27:20 ...I have a really lengthy list of every single bird you could possibly want to collect on.

27:27 It's over 125 different birds, and this is pulling from the subtype of the domain.

27:33 And so, for this one - and please don't shoot me if I pick the wrong bird that doesn't exist in the gulf...

27:39 ...but we'll say Bald Eagle as a matter of fact.

27:41 And then we have the ability to go through and capture date and time.

27:44 It's natively capturing the x,y location of this specific animal or creature.

27:50 I can then finish.

27:51 I then have the ability to go ahead and collect another bird right away using the default attributes.

27:56 I'm going through a slew of birds who are of the same species.

28:01 I don't have to actually have to keep repeating my collection process.

28:05 I'm just using those default values and capturing their location.

28:08 I can choose to collect a new one or I can choose to go out and collect a completely new feature altogether...

28:14 ...or I can simply return to my map.

28:16 I was probably going too fast and you didn't notice it, but right up here in the corner you would have seen...

28:21 ...what looks like two little arrows spinning around, and what's happening is we're using the Autopost...

28:26 ...feature in this application.

28:28 So as soon as I collect information or change information and hit Save, it automatically posts it back to the server.

28:34 So we'll switch back over very quickly to our web map, and I'll go ahead and in my mobile application...

28:40 ...you'll notice I have four, in my web map I have three, and as I simply pan and the service refreshes...

28:46 ...here lies my fourth, my fourth animal shows up immediately.

28:51 And then of course I have the ability to attach a photograph as well if I wanted to, and that photograph would also...

28:56 ...get sent back to the server, as well, in real time so that you can see what's happening.

29:00 16...who's not a GIS-savvy person or who is not a GIS person would want to see what's happening in the field...

29:02 And the beautiful about this is, now, this web map or this map can actually be consumed by someone...

29:07 ...using the Apple iOS that David is actually going to show you.

29:11 So someone back, say, in the incident command center, or maybe an executive within your organization...

29:22 ...or what is my mobile workforce doing, or what is my GIS people doing.

29:26 Well, now you have the ability to share this information with him without him having to learn any new...

29:31 ...piece of software or technology.

29:33 You can actually access it to his Apple iOS or ArcGIS for iOS application.

29:38 So I'm going to let David show that to you.

29:41 Great, thanks.

29:54 Martin, You have the hands of a surgeon. That was well done. Okay.

29:58 Good morning.

30:00 Before I start, there's probably about seven or eight seats up front. There's a lot of folks standing at the back.

30:07 If you want to come up and take a seat, that would be great, now would be a good time. You won't disturb me.

30:12 It's okay. Come on up. Don't be shy. There we go. Okay.

30:16 Alright. How many folks in the room have an iOS device?

30:22 iPod, iPad, iPhone. Okay, so there's quite a few of us. That's great.

30:28 How many have the iPad, the new iPad? Did you line up?

30:32 [Audience response] Huh?

30:33 Did you line up for it?

30:35 [Inaudible audience response]

30:40 Smart! Smart! Very good! You had your 10-year-old grandson line up. Beautiful. Beautiful.

30:48 Well, that's what the grandkids are for.

30:50 Okay, so. Here we have the iPad.

30:54 We have a couple of ArcGIS - or, sorry - ESRI, Esri, pardon me, Esri applications.

31:01 You've seen a couple of these in the plenary.

31:04 The one I'd like to show you now is ArcGIS.

31:07 So, Martin had mentioned that because he authored his data into a web map, and because he's collecting data...

31:15 ...on a particular layer that's in that web map, any clients that support web maps can also view that data.

31:22 It can also view changes to that data, as well.

31:26 So, the application gives me a few ways in which I can access maps.

31:34 Maps are supported in the application.

31:37 So, for those of you who have downloaded the application, and want to connect directly to your REST endpoints...

31:43 ...directly to your ArcGIS Server services, you'll need to author those services in a web map first, okay?

31:51 We're going to go into detail about this in the Intro to iPhone session tomorrow morning.

31:56 But I bring that up because there's been a lot of questions, a lot of questions on the form...

32:00 ...a lot of questions on e-mail, et cetera, on that.

32:03 So I just wanted to make that clear.

32:05 So the application allows us to search on various maps and it'll save my recent queries, but we're not going to do that.

32:15 I'm going to browse to it through map galleries, and you'll see here - if those of you who are familiar with arcgis.com...

32:24 ...the portal into our ArcGIS Online system - you have various galleries in which you can navigate...

32:30 ...most recent, featured, highest rated, et cetera.

32:35 We have the same types of galleries here.

32:38 We notice here at the bottom I've signed in.

32:41 I've signed in using my Esri Global Account.

32:44 When I sign in, I am given two groups up at the top - my groups and my maps - and those refer to the groups...

32:52 ...that I belong to and obviously any maps that I've authored using the authoring tools on arcgis.com.

33:00 The other gallery there that I get for free is Favorites, so I don't need to be signed in for that.

33:07 So I'll go ahead and navigate to all the groups that I belong to.

33:10 So, it looks like I'm fairly popular.

33:12 Actually, I just joined all these groups last night to make it look good.

33:15 At any rate, at the bottom we have ArcGIS Mobile.

33:19 I can go and I can look at the details of that group, but more useful to me is to go into the group and see some of the maps.

33:29 And we see here that we've got a map, USFWS, that is the same web map that Martin authored and showed you.

33:38 So in arcgis.com, Martin showed you two items with the same name.

33:42 One was a mobile project and one was a web map.

33:46 So the application that you see here is accessing the web map.

33:50 I can take a look at some of the metadata and I can invoke some actions on this.

33:55 I think, because I'm going to be using this map every day, I went ahead and I added it to my favorites.

34:00 So you saw on the list of map galleries there was a Favorites gallery.

34:03 That map is now accessible through that Favorites gallery.

34:09 Okay. Let's go ahead and open this map.

34:11 So right now the application is consuming or it's using the web map, and we see here that we've got some...

34:17 ...of the birds that Martin has collected, and I can identify - oh, it's missed it a little bit but let's see if it picked up a features.

34:27 No. Shaky fingers this morning.

34:31 Okay. So we see we have a feature here.

34:34 The default display field is Martin's name.

34:37 I can drill into some of the data that Martin has collected, so...

34:42 ...we see that the date. The date is today's date.

34:47 This map is also authored - just cancel out of the Identify tool - it's also authored with a couple of...

34:55 ...well, in this case, one predefined query.

35:38 Just happens to be the one that Martin authored.

35:42 Let's click on another one, and we see we have another bird here; we can get at the specific

data for that.

35:52 Okay. The map was also authored with another layer, and that other layer was the coil plume.

36:01 So I have the ability within the application to turn on and off layers that have been authored within the map.

36:10 So we see here that we've got a plume here.

36:12 I can also get a rough idea of some measurements to the coast in this case.

36:18 Meters, I'm not interested in meters.

36:21 I'd like to change this to miles, and we can get some measurements as well.

36:31 Right. Yeah. Yeah. Maybe. Exactly. Alright.

36:37 So, the other thing that I can do, because I want to be able to share this map, I want to be able to share this map...

36:43 ...with my other colleagues.

36:45 I want to be able to share this map with my boss or my boss's boss.

36:49 There is an ability within the application to also share the map via e-mail.

36:59 We see here, part of the actions that I showed you earlier when I added this map to the Favorites...

37:06 So we see here that by default we have some text that comes up, the name of the map is in this e-mail...

37:11 ...there is a link to this map, there's also a note to the receiver of this e-mail that says, hey, if you don't have this...

37:18 ...ArcGIS application that runs on your device, go ahead and get it from the App Store.

37:23 So for those of you who have an iOS touch device, you're familiar with going to the App Store...

37:27 ...downloading your applications and installing them, this e-mail will give you a handy link there.

37:34 So, let's go ahead and I'll send it to my GMail account, and that has been sent off.

37:48 Now, what I'd like to do is show you the e-mail.

37:57 Okay.

38:06 Now, before I get called out on this, I know the time stamp of that e-mail you see there, is seven thirty-five.

38:08 Okay.

38:09 So we're about five after nine right now.

38:11 It's going to take a couple of minutes for the e-mail to get in there.

38:14 I've noticed GMail just takes a little bit of time.

38:16 Also, we've got a bit of pressure on the network.

38:19 So I do have, already, that e-mail in my in-box.

38:24 However, I'll be happy to show anybody who wants to see after the actual e-mail and then we can go from there.

38:30 But the experience is exactly the same.

38:33 So, as the receiver of this email, I can go, I can open up this e-mail and I can click on the link for the map.

38:39 Now, because I already have the ArcGIS application installed, this system, or my platform...

38:47 ...knows the URI of the map that's in the e-mail.

38:52 So, when I - whoops, clicked on the wrong link.

39:03 So when I clicked on that link, it's recognized by the platform.

39:07 The ArcGIS application opens up and the map is displayed.

39:11 I have the exact same capabilities in the iPhone or iPod touch that I just showed you in the iPad.

39:22 Right? That's one way in which we can share our data. Okay.

39:33 Yeah, well, I gotta come back here anyway. Thank you.

39:39 So there's been a lot of talk about iOS.

39:41 iOS this, iOS that.

39:43 For those of you who were familiar with the product that we were building and have downloaded...

39:48 ...the public beta of our API, you've noticed that we originally called this ArcGIS for iPhone.

39:54 Well, recently, Apple has changed the name of their operating system that runs on all of their touch devices.

40:01 So, their iPod touch, their iPad, and their iPhone all ran on an operating system they used to call the iPhone OS.

40:10 Recently at their annual developer's conference, it was announced that there was going to be a name change to iOS.

40:17 So iOS represents the platform and/or the operating system for all their touch devices.

40:23 We followed suit in changing the name of our product to include iOS, so you're going to hear ArcGIS for iOS...

40:31 ...you're going to hear ArcGIS API for iOS.

40:35 So that is the origination of the term "iOS."

40:40 So what about the product itself?

40:41 The product itself is built to run in a connected, an always connected environment right now.

40:48 It takes advantage of the device capabilities inherent within the platform and the device itself...

40:54 ...like the GPS, like the camera, like access to the address book.

41:00 It also takes advantage of some common communication protocols - SMS, e-mail, et cetera.

41:06 And we support all of the iOS touch devise platforms - the iPad, and the iPhone, which you saw, but also the iPod touch.

41:18 So what exactly is this product?

41:21 Well, this product is basically two components.

41:24 It's an application, which you just saw me demonstrate, which, by the way, is available in the...

41:29 ...App Store right now; more information on that in a moment.

41:33 And it's also an API, it's an API that you and or your developers can use to build your own GIS and mapping applications.

41:43 So the application itself is our first iOS application.

41:49 It runs on both iPad, iPhone, and iPod, as you've seen.

41:54 That means it's a universal application.

41:56 So Apple has a term. It's a universal application.

41:59 What does that mean?

42:01 Well, it means that when you're in the App Store - how many of you have noticed, in the App Store...

42:05 ...you see this little plus sign beside some applications?

42:10 Okay, good, yeah.

42:11 That plus sign means it's a universal app, which means that it recognizes the platform or the device in which...

42:16 ...you're downloading to.

42:18 For example, if you download our ArcGIS application to an iPhone, it's going to use the native...

42:24 ...iPhone UI components.

42:26 If you download the application to an iPad, it's going to use different components where it makes sense.

42:32 For example, you saw me bring up the toolbar with Identify Measure.

42:36 That's a popover.

42:38 We also have the ability to take advantage of the split screen view in the iPad.

42:42 So both of those are examples of user components, or interface components, that the iPhone doesn't...

42:49 ...have because of its smaller screen, its screen real estate.

42:53 The application works with maps.

42:55 These maps, we showed you an example, can be hosted online.

42:59 And also on your own on-premises server.

43:03 So ArcGIS Server at 10, when you install ArcGIS Server, you get what's called a content server and that...

43:11 ...content server can be used not only to store some of your mobile projects that Martin had showed you earlier...

43:18 ...but you can also store web maps, the same web maps that you author and store on arcgis.com.

43:25 So, you don't have to use arcgis.com at all for hosting your web maps, or your data, for that matter.

43:34 Some of the capabilities, I think we demonstrated most of these; of course we can browse and search some map galleries.

43:40 We can access online data; we didn't show you the on-premises data.

43:44 Come to the Intro to iPhone session and we will go into a lot more detail about what it means to access on-premises data.

43:51 We can execute predefined queries. As we saw, we can measure distances, linear as well as area.

43:57 We can share this map with other iOS users on other platforms.

44:04 The API. What is the API?

44:06 The API allows developers to build more focused applications for the iOS platform.

44:13 Any developers? Apple? Well, iOS developers out in... Okay, a couple.

44:20 The native language for iPhone, iPad, iPod developers is Objective C.

44:27 Our API is a native Objective C API.

44:30 What does that mean?

44:31 Well, it means a number of things.

44:33 If you've been following the changes to Apple's licensing agreement, it means that we are in compliance...

44:37 ...with their licensing agreement, okay?

44:39 There's no Flash, no Silverlight going on, we're not allowing developers to develop in a nonnative language...

44:47 ...and have that language converted over to Objective C, so rest assured, we're in compliance.

44:53 We've had a lot of questions about that, especially when the licensing agreement first got, or last got edited.

44:59 The other thing that it means is that if you are familiar with developing iOS applications, this will not be...

45:05 ...a big leap for you.

45:07 The Objective C ArcGIS API is integrated.

45:10 It's integrated into Xcode, which is the development tool, or the development IDE, for iOS developers.

45:18 And because of the tight integration and this native Objective C API, you'll also be able to put mapping or GIS...

45:26 ...applications into existing solutions that you have.

45:31 All right.

45:37 Now Martin, you be careful. All right.

45:43 Now I hope this automatically picks up my network.

45:46 What I'd like to do is, I'd like to show you an example of an application.

45:57 Just everyone, close your eyes.

46:02 All right, okay.

46:03 So, the city of Philadelphia is one of our early adopters of the API.

46:11 And what they are actively doing is, they are building a 311 application.

46:16 We've all heard about 311 applications, we saw an example of one in the plenary.

46:20 They're building a 311 application, again, that will allow their citizens to report on problems in their community.

46:27 And they want to solve two problems.

46:29 They want to increase transparency between their government, their public works department, and their citizens.

46:35 But they also want to try and reduce phone calls.

46:38 Reduce calls into their public works department, complaining about or reporting graffiti, garbage...

46:45 ...that's been dumped, et cetera.

46:48 So there are a few things in which we can do when we open this application.

46:51 One of the things is we can create a new request.

46:54 And I can specify a problem type, through a list of problem types.

46:59 But first I'm going to capture some information such that I know what problem type.

47:06 So in order to do that, I'm going to take a photo.

47:10 And I can use the camera, or I can use the pictures that I already have on my phone.

47:17 Well, the pictures that I already have on my phone will be of no interest to anyone in this room, I can guarantee you that.

47:23 So, I'm going to use the camera.

47:26 Now, can everybody just move to the middle and...no.

47:33 Oh yeah, here we go. Martin?

47:37 [Inaudible comment]

47:40 Martin and I do this demo.

47:43 We've done it a couple of times, and so we've been posting Martin's picture back to the city of Philadelphia quite often.

47:51 Yeah. They feel as though they know you quite well.

47:55 So, that is a great...look at that.

47:58 That is just great.

48:00 We're going to use that; that's a great picture.

48:02 Okay. So we specified the picture, and now, now, the problem type.

48:08 Let me see.

48:11 Yeah, let's be nice.

48:14 Okay, Martin, I've seen you, you've dumped some garbage in an area that you shouldn't.

48:20 Most important, I need to tell the city where this problem is.

48:25 Immediately it wants to use my current location.

48:28 So, the premise behind this application is that it's on a mobile device; it's on an iPhone, in this case.

48:35 So a citizen will be out in their city and they want to use their current location.

48:38 They want to use the device capabilities already inherent in the platform.

48:42 Now, because we aren't in Philly, I'm not going to allow that.

48:46 And we're going to go ahead...we're going to go ahead and just zoom in.

48:51 Now this is data that's being served through ArcGIS Server.

48:55 It's Philadelphia's data, so it's not using any basemaps through arcgis.com.

49:00 And it's actually quite performant, and as I zoom in, I can see more and more detail of this data...

49:06 ...so this is actually quite well done.

49:10 So the other way in which I can specify the location, is I can go ahead and click on the map.

49:15 When I do that, we see that the address for that location gets displayed.

49:19 So that's all information that can be sent back to the city.

49:24 And then, of course, I can add some contact information.

49:28 And so the contact information would be obvious.

49:30 See, my information is such that the public works department can keep me apprised of what's going on.

49:39 Once I send this in, what's happening is that all the data is now being sent back to the city of Philadelphia.

49:45 Not only textual data, but of course, Martin's beautiful face is also being sent back there, as well.

49:51 So we have all this information, and what they can do now is, they can allow the submitter...

49:59 ...of this information to request the status on it.

50:03 So that, in turn, will reduce calls in to their public works department.

50:08 They can reduce or increase the transparency between themselves and their citizens by also proactively...

50:16 ...contacting citizens when a problem has been resolved because they have their contact information.

50:20 So you see here, I'm not sure if you can see in the back, but the status right now is created...

50:25 ...and it's created as of today's date.

50:27 Now, when I request an update to this, because I've just sent it, I'm not going to get much of an update...

50:34 ...but I will get an update, and I believe the update is going to say, Pending, and it does.

50:40 So, I've submitted something, I've immediately requested an update, and I haven't been very patient, but it is pending.

50:47 So someone in their public works department is going to take this information, and they're going to look at...

50:52 ...Martin and they're going to send an emergency crew out immediately, I'm sure of it, and resolve the issue.

51:05 Well, we can access service layers.

51:10 And that's pretty important because, unlike the application that uses maps, and maps are a collection of services...

51:20 ...the API itself uses services directly.

51:24 So we support multiple map projections, both tiled services as well as dynamic, or operational layers.

51:33 We also support Bing and OpenStreetMap.

51:38 We have a graphics layer in which you can sketch or allow a user to sketch.

51:41 Now, we saw an example of that when I sketched a point.

51:44 Sketching a point isn't that exciting 'cause you just tap on the map.

51:47 However, that was part of the sketching capabilities.

51:50 You can create callouts.

51:51 You saw in the ArcGIS application, in the first example, that we had callouts to get it more detailed data of...

51:57 ...in this case, the birds that Martin was collecting.

52:00 And we've got various capabilities or tasks that we expose through the API, as well.

52:05 You've seen some of the common ones, query identified, et cetera.

52:08 We can also locate addresses, which you also saw.

52:11 Various geometry operations for reprojecting, getting distances.

52:16 We can access geoprocessing tasks.

52:19 So, if you've got a geoprocessing task that you've got served out, you can access that through your iOS device.

52:27 You can collect GIS features, as well, so that's very important, right?

52:31 So that's what this application and other 911 applications built with our API demonstrate, the ability for the...

52:38 ...application to collect data and send it back.

52:43 So who is this for? Who is the application for?

52:46 Who is the ArcGIS application for, who is the API for?

52:48 Well, really, it's for everyone.

52:50 It's for existing customers; it's for existing customers who are currently serving out their data through ArcGIS Server...

52:58 ...and who wants to see their data on an iOS device.

53:01 So what you would need to do is, then, author a web map bringing in that data, and either store that...

53:05 ...web map on arcgis.com or on your own on-premises servers.

53:11 That web map will allow you to bring your data into the application that we provide you.

53:17 No development, nothing.

53:20 Consequently, if you want to build a custom application, it's also for our GIS developers to...

53:26 ...access those ArcGIS Server endpoints directly.

53:31 We also envision, and our Esri business partners are really adopters, are...

53:34 ...already doing this - they're using the API to build a suite of solutions.

53:39 Not only for one vertical market but to cut across multiple vertical markets.

53:44 Because the API is also a native Objective C API, it's for the iOS community, for them to build iOS...

53:52 ...applications that have GIS functionality in it.

53:54 But what we're also noticing is that we're also getting a lot of folks downloading our off-the-shelf application...

54:02 ...from the App Store, downloading it, who don't know anything about GIS.

54:06 They're just map enthusiasts.

54:07 It really, really is for everyone.

54:11 So, what is our release schedule?

54:12 The ArcGIS application is already in the App Store.

54:16 We have over 45,000 downloads. It was released on July 5, so that's just over a week.

54:23 We're really happy about that.

54:24 We think that it's making some really great penetration and it's doing very, very well.

54:30 We are, or at least were, number 2 on the productivity list for free applications.

54:37 We actually had that alarm clock beat out for a short period of time, a short period of time.

54:43 But actually we fell back down to number 2, and before this presentation, I took a look at it and I think we're 3 or 4 now.

54:50 But that's okay.

54:51 I'll tell you, that alarm clock, it's tough to get...tough to dethrone that.

54:57 But we have a theory, we have a theory on our team.

55:00 Folks are using the alarm clock to remind themselves to download our application.

55:06 So, it's very difficult, very difficult to overthrow that.

55:09 Actually I stole that from Kerry.

55:12 The API. The API is available on our iOS Resource Center right now.

55:17 It's not final, it's in beta, but it's a public beta.

55:21 And it's a free download, and it's free for you to use to build your applications.

55:27 And we plan on having that final this summer.

55:30 Note, when it is final, it is still going to be available from the iPhone Resource Center.

55:35 It's not going to be up on the App Store, it's not an application, it's an API, it's a developer tool...

55:41 ...so it will still be available from the resource center.

55:45 Great.

55:47 So I'll hand this over to Kerry.

56:07 With four of us up here, there's shuffling back and forth; we had to practice this.

56:14 Let's talk about ArcPad. So, what is ArcPad?

56:18 Most people that are familiar with Esri technology are familiar with ArcPad.

56:23 It has the distinction of being Esri's first mobile application back in 2000, so 2010 is...

56:32 ...for us, a very exciting release with ArcPad 10.

56:37 It marks not only significant improvements in ArcPad with our user interface but also the tenth anniversary...

56:46 ...of ArcPad, and so we're very excited about what we've done here.

56:51 ArcPad is a mobile, lightweight GIS focused on field data collection.

56:58 It does support high-accuracy GPS, GIS, and external data collection devices, and it's important to note...

57:06 ...that it does this out of the box, ready to go.

57:10 So it supports these devices natively; right now, today, when you start to use it.

57:18 We use it for advanced field GIS functionality.

57:22 And we're going to talk about, what do we mean when we say advanced field GIS functionality...

57:27 ...and I'm going to demonstrate a little bit of that here in a moment.

57:31 But, advanced field GIS functionality and the ability to support what we refer to as an ad hoc workflow.

57:38 And what this means is, we can actually make changes out in the field.

57:44 If I need to create a new database out in the field, I can do that.

57:48 If I need to edit a database in the field, I can do that.

57:52 If I need to create a whole new project in the field to account for things that we didn't account for...

57:59 ...you know, back in the office when we were setting up our projects and doing our work on [ArcGIS] Desktop...

58:04 ...well, now we're out in the field, there's something I didn't think about, I didn't account for, so what do we do?

58:11 Well, ArcPad allows you to do these kinds of things and make those changes out in the field.

58:19 It is integrated with ArcGIS systems, so ArcGIS Online, ArcGIS Server, ArcGIS Desktop...

58:28 ...natively integrated with the rest of our Esri stack, and it can be customized using ArcPad Studio.

58:35 Now, ArcPad Studio is part of the package, comes with it, no extra cost, and allows you to...

58:40 ...create your own extensions to ArcPad.

58:50 Now you've seen this a couple of times already.

58:51 We showed this with the iOS and with ArcGIS Mobile.

58:56 So, what is ArcPad? You know, what are the platforms that ArcPad runs on?

59:00 Well, it's Windows Mobile, and Windows...Win 132 applications - Windows XP, Windows 7, and so on.

59:10 The form factor - handheld devices and tablets.

59:14 So, just like other mobile devices, you can run ArcPad on any Windows mobile platform.

59:22 Device capabilities - GPS, camera, range finders, and other various sensors.

59:28 ArcPad has a number of them that it works with, again, out of the box, so we don't have to build...

59:34 ...any custom applications or extensions to make these devices work with ArcPad.

59:40 They already work natively with ArcPad.

59:44 And what about connectivity?

59:46 Now, we've talked about connectivity a little bit today, so what do we need with ArcPad?

59:51 Well, ArcPad can run in either a connected or a disconnected or an occasionally connected state.

59:59 So I don't have to have connectivity to go out and work with my data or do data edits.

1:00:09 So ArcPad 10, as I said, this, for us, is a major new release; we're very excited about it.

1:00:15 It's a recent release, June 29, 2010, became available through Esri's electronic software delivery system...

1:00:25 ...so it became available the same time as ArcGIS.

1:00:29 It does support ArcGIS Online and Bing Maps, so this is a new feature.

1:00:34 As you go out in the field and you're out in the field, you can actually connect to ArcGIS Online...

1:00:41 ...or Bing Maps and download and use that.

1:00:45 Now, what if I don't have connectivity?

1:00:47 Because I said we can use this in a disconnected state.

1:00:50 Well, we can actually do that back in the office before we leave.

1:00:55 We can download that data from Bing Maps, save it to our device, and take it out in the field.

1:01:01 So we still have the use of that.

1:01:03 Just because I don't have connectivity doesn't mean I can't use those services.

1:01:08 One of the things that we did with ArcPad 10 is, we focused on ease of use.

1:01:14 Now, as I said, we can do, we can create new tables, we can edit tables, we can do these things out in the field...

1:01:23 ...but we wanted to make this very easy for our field-workers that are out there, so we focused on ease of use.

1:01:28 Forms for related tables, for example, are created automatically on the fly.

1:01:35 You can set those up in your project before you leave the office, put that on your mobile device...

1:01:40 ...and they're already created; you don't have to do additional work to make that happen.

1:01:44 And we have a new Quick Capture toolbar that I'm going to demonstrate...

1:01:47 ...again, that creates data entry on the fly, so I don't have to go in and create data forms for my custom projects.

1:01:58 They're created automatically for you.

1:02:01 We've continued to focus on our professional GPS and GIS data collection workflow.

1:02:08 This is very important for a lot of ArcPad users.

1:02:11 They need high-accuracy devices and they need to be able to collect that data out in the field.

1:02:17 And then, as I mentioned, our ad hoc data collection; and again, ad hoc means, you know...

1:02:24 ...I need to make changes out in the field; I can't always account for everything that's going to happen.

1:02:29 So, those are the important things for us in ArcPad.

1:02:33 So let's take a quick look at ArcPad.

1:02:43 We'll see if it's going to reach here.

1:02:53 Okay, now as I said, we focused on ease of use a lot, and so one of the things that you see when we first open ArcPad...

1:03:00 ...is just a very simple interface here.

1:03:03 Do we want to start with a new map?

1:03:05 A quick project, which we're going to talk a little bit about.

1:03:08 I can choose a map to open or I can just simply say, you know, Open the last map that I used, which I'm going to do.

1:03:14 And what we're going to see here, now this is some of the same data that Martin and David used in...

1:03:20 ...their demonstrations, and we're going to talk a little bit about how we might use ArcPad differently.

1:03:27 First thing I'm going to do is, we're going to take this data, and I'm going to go out to Bing Maps...

1:03:35 ...and I'm going to open a Bing aerial map here.

1:03:39 Now you'll notice, it's asking me to save this.

1:03:42 Why? Well, because that's so that we could put it on a mobile device and take it out in the field.

1:03:49 So we'll add that real quickly.

1:03:52 I'm going to turn off our scat division areas.

1:03:57 And what we're seeing here is a map that has boom deployments on it.

1:04:03 Now, these boom deployments, this data was part of our project, and when we brought this into ArcPad...

1:04:12 ...it automatically created forms for this.

1:04:17 We didn't have to go in and customize forms.

1:04:20 And this is what we referred to as our Quick Capture toolbar.

1:04:24 Now, the Quick Capture toolbar is very handy because, again...don't mean to say this too many times, but it's automatic.

1:04:31 You don't have to create these forms.

1:04:34 As your project comes across, it creates these for you.

1:04:37 So I'm going to come in here and I'm just going to say, okay, well, I need to go out in my area and I need...

1:04:44 ...to propose some areas where we should place booms.

1:04:47 So I'm going to come in here and I'm just going to quickly draw this.

1:04:51 Now, it's important to note that, if I had GPS and I had that active, we could just go out and do this using GPS.

1:05:00 And when I complete that, we get the form.

1:05:03 On this form, I can put information in here. I can say, okay, Tom Patterson, who is a longtime colleague...

1:05:11 ...and friend of ArcPad, we're going to put his name in here, and you can see that we have

the different...

1:05:18 ...fields for this. We could take a picture.

1:05:21 But one of the things I want to do here is, I'm going to click on this Repeat Attributes button.

1:05:26 And what this means is that since I'm going to do the same data collection over and over today...

1:05:30 ...I don't want to have to keep filling things in.

1:05:34 So we're just going to say, "Repeat the attributes," and we'll say "Okay."

1:05:38 Now we'll go out there and let's add a second one, and you'll notice that when I do that...

1:05:47 ...Tom's name is in there because we said to repeat the attributes.

1:05:52 Now we come in here and now we have a new photo capture.

1:05:56 We're going to take a photo of this area real quickly here.

1:06:01 This area contains these two gentlemen here in front. Wave, say hi.

1:06:09 So we can capture that photo, and photos become part of a related table.

1:06:14 So the related table is associated with this data capture, as well.

1:06:21 One of the other things that we can do, again, out in the field, as we go out there, is...

1:06:27 ...let's say that one of these existing booms has moved, it shifted.

1:06:32 So what I want to do actually is, I want to come in here, and I want to edit this just a little bit.

1:06:39 So we can see that this has been moved and we can adjust for that.

1:06:44 And then the final thing that I want to do, again, because we can't always account for things that...

1:06:49 ...we might see and if I'm a field GIS person or I'm somebody out there that is doing work, I might find that...

1:06:56 ...there's something I need to do.

1:06:58 So what I'm going to do now is, I'm going to come in here, and we're just going to say okay...

1:07:02 ...I need to create a new, I'm going to use a shapefile, and let's make this shapefile a polygon.

1:07:12 We can make it a text and put a name to it, we'll say okay, we're going to save this.

1:07:27 Okay, and now it's going to ask me, "Do you want to create a quick form for this shapefile?"

1:07:32 Okay, in other words, do I need a data entry form?

1:07:34 I'm going to say yes, I do.

1:07:38 Okay, and how do we create this form?

1:07:40 Well, I want to have pictures associated, I do want to do symbology, some attributes, geography.

1:07:46 I could set the text in background from here.

1:07:50 We'll say, "Okay," and you'll notice that it's now added a polygon to my toolbar.

1:07:58 So I didn't have to go in and build custom forms, I didn't have spend a lot of time doing that.

1:08:03 It did all of this for me on the fly.

1:08:05 And now I can come in here and we can now capture a polygon area, possibly one of those...

1:08:12 ...oil plumes that David talked about earlier, okay?

1:08:17 We've got our data form. We can fill it out and move on.

1:08:23 I'm sorry?

1:08:29 We running a little short of time here, so I'm going to cut some of your question time and all of us will...

1:08:38 ...stay after the session for any questions.

1:08:41 I do apologize for that.

1:08:44 So, after you've seen all these capabilities that my colleagues have shown you of each of your products...

1:08:51 ...a natural question probably is, when do I use what?

1:08:55 Which solution should I use?

1:08:57 So here I would like to provide some general guidance, which hopefully to help you make that decision.

1:09:04 So, of all these applications, I can put them in two categories.

1:09:10 The first category is a ready-to-deploy solution.

1:09:14 I still have an old habit to say "out of the box," so Martin will slap me if I say that.

1:09:21 So there's no box, but what does "ready to deploy" mean?

1:09:25 It means you can take it as is and use it right away.

1:09:29 So the ready-to-deploy solutions include ArcGIS Mobile application; ArcPad...

1:09:36 ...as Kerry just showed you; and ArcGIS for iOS application.

1:09:42 The second category is a custom solution that can be built using one of these three

developer tools.

1:09:50 The ArcGIS Mobile SDK, ArcPad Studio, Kerry mentioned that ArcPad can be customized using ArcPad Studio.

1:09:58 I'll go in more detail with the ArcGIS Mobile SDK later on.

1:10:03 And David showed you that using the ArcGIS API for iOS, you can build custom solutions like...

1:10:10 ...the city of Philadelphia's 311 demo, or application.

1:10:18 So what are the benefits of selecting a ready-to-deploy solution?

1:10:23 You don't need to customize it.

1:10:25 So minimum customization configurations are required.

1:10:29 Because it's not a customized, focused application; it is flexible, it's more, different field task and workflows.

1:10:40 It's cost-effective, because you don't need to hire a developer to develop this custom app.

1:10:48 No developer skills needed, you just use it as is.

1:10:52 If you decide that you would like to have a ready-to-deploy application, and your required platforms are...

1:11:01 ...Windows or Windows platforms, you have two options - you have ArcGIS Mobile application, you have ArcPad.

1:11:08 If your platform is Apple iOS, then we have ArcGIS for iOS application.

1:11:17 So now, ArcPad and ArcGIS Mobile both support Windows and Windows Mobile platforms.

1:11:23 How do you differentiate these two products?

1:11:27 ArcPad targets the traditional GPS/GIS data collection market.

1:11:34 It supports this ad hoc field data collection, as Kerry just showed in his demo.

1:11:41 It includes advanced GPS/GIS editing functionality, such as posprocessing, and support...

1:11:50 ...related tables, and therefore it supports this high-accuracy GPS/GIS workflow.

1:11:59 Because of the advanced editing functionalities, because of these field GIS capabilities...

1:12:05 ...a typical ArcPad user would require some GIS training.

1:12:11 ArcPad can be customized, and the customizing environment of ArcPad are scripting.

1:12:18 So it's for GIS analysts who are more comfortable with a scripting environment.

1:12:26 ArcGIS Mobile, on the other hand, supports a focused and planned workflow.

1:12:33 Martin showed it to you in his demo.

1:12:36 He used the mobile project center to design your project in the office...

1:12:43 ...and then you define what you need to deploy in the field.

1:12:47 And after you deploy it to the field, it has this task workflow, task-based user interface...

1:12:55 ...which is very simple to use.

1:12:57 So a typical field user of ArcGIS Mobile does not require to have GIS training.

1:13:05 And ArcGIS Mobile also comes with ArcGIS Mobile SDK, a .NET SDK.

1:13:12 So compared to the scripting environment for ArcPad, this is a .NET environment for developers...

1:13:18 ...so you can extend your ArcGIS Mobile application or you can build your own custom app from scratch.

1:13:29 So, what are the benefits of a custom solution?

1:13:35 Because it's customized, it's well-suited for a predefined workflow, because you can use and leverage your...

1:13:43 ...in-house developer's resources, and then you can tailor your app to the unique business needs of your organization.

1:13:55 Many times the mobile application is not an isolated component.

1:14:01 It's part of a big system.

1:14:04 So using customization, you can build this integration between your mobile application to a back-office system.

1:14:11 For example, it can be integrated with the CRMs database.

1:14:18 It's cost-effective because economy of scale.

1:14:22 If you have a large deployment, it's more cost-effective to develop a custom app to focus on your task.

1:14:29 And it also saves training for a large field crew.

1:14:35 The last one definitely is a very important point.

1:14:40 You've seen the iOS app David showed from city of Philadelphia.

1:14:46 Does it look at all like an Esri application? No, it doesn't.

1:14:51 Using the custom SDK, the API, you can build an application that has your look and feel with your branding.

1:15:08 So, we have three developer tools that allow you to build custom applications.

1:15:14 If your developer has the skills of .NET, there are .NET developers, use ArcGIS Mobile SDK.

1:15:15 ...scripting environments, JavaScript, VBscript.

1:15:23 If you have a GIS analyst in your organization, you're more familiar with, more comfortable with...

1:15:34 ArcPad Studio is, you can use ArcPad Studio to add new tools available in ArcPad...

1:15:42 ...automate tasks in ArcPad, et cetera.

1:15:46 If you have iOS developers and want to build custom applications for Apple's platforms, we have ArcGIS API for iOS.

1:15:56 So, that concludes this technical workshop.

1:16:01 We'll stay here for any questions and...