

Atlas MOBILE

AN INNOVATIVE GIS AND DATA VISUALIZATION PROOF OF CONCEPT
FOR MOBILE

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CDC Program Sponsors

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Kim Elmore

Program Background & Objective

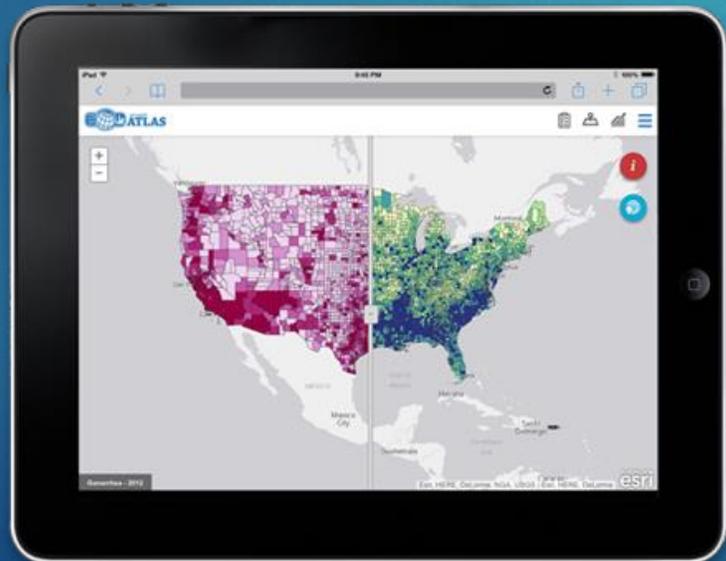
- ▶ **10 years** of Surveillance Data
- ▶ **Currently Covering:** HIV, AIDS, Viral Hepatitis, Tuberculosis, Chlamydia, Gonorrhea, and primary and secondary Syphilis.
- ▶ Current NCHHSTP ATLAS does not work on Mobile!!!
- ▶ **Objective:** Pilot an Atlas Mobile Application with Current Atlas Data set
 - ▶ Formulate an approach for data visualization applications on Mobile within CDC infrastructure.
 - ▶ Explore possibilities of providing Mobile users with improved access to Public Health information.

Mobile is Different

- ▶ Mobile is different in public health: message delivery and targeting should cater to recognized end-user mobile behavior patterns and focus on end-user interest in site/app.
 - ▶ **1:1:** An opportunity exists for Public Health interventions as you have the user's **undivided attention**
 - ▶ **Engagement:** Users have expectations from content, they get bored in 5 seconds if content is not interesting or **appears** not to answer their question(s).
 - ▶ Make Public Health resources **discoverable** and more accessible.

Presenting the Atlas Mobile

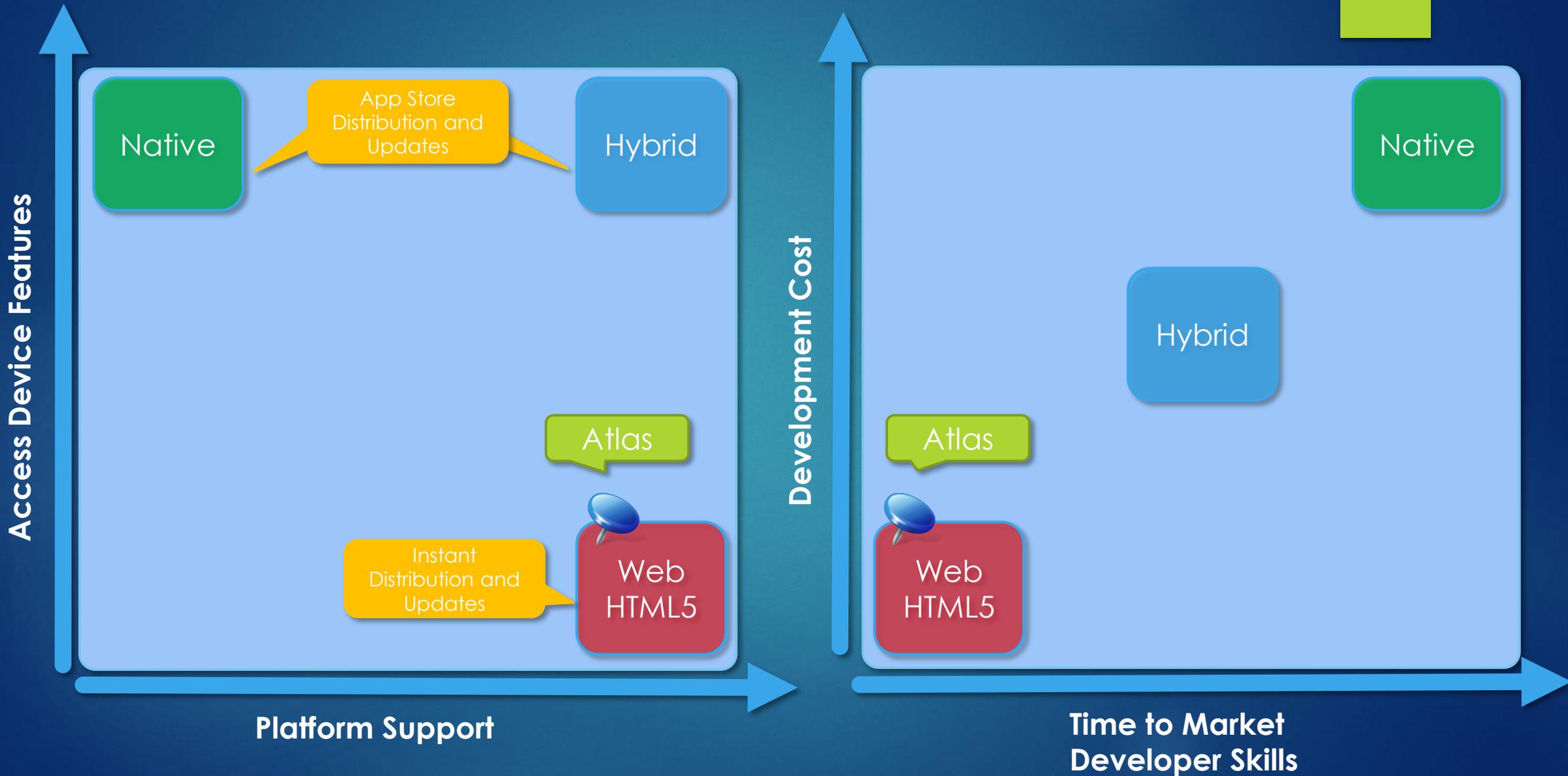
Demo Only



Our Priorities

- ▶ Cross Platform – Work across devices
- ▶ Adaptive – Work on different screen sizes
- ▶ Performance – Quick to respond to user interaction.
- ▶ UX – Highly usable and intuitive UI
- ▶ Interactive Visualization – Make it interesting. Invite the user to play with data viz
- ▶ Use device features – GPS to search the map
- ▶ Compliance: 508

NATIVE vs HYBRID vs WEB





Atlas Technology and Architecture

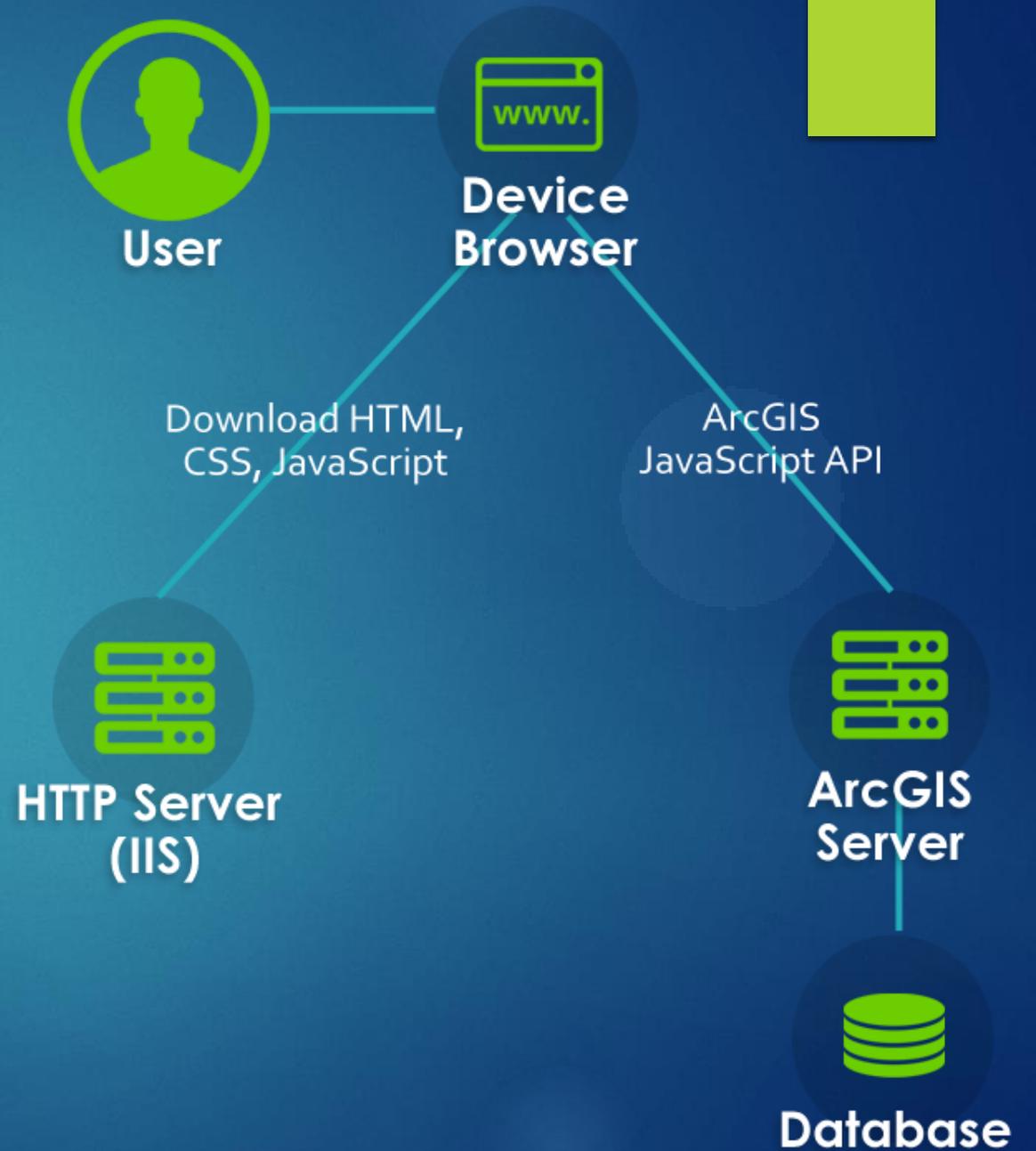
ArcGIS Server 10.1

ArcGIS JavaScript API

HTML5

JavaScript

CSS



Lessons Learnt

- ▶ Easy to chase technology...Always have program goal in mind first.
- ▶ Do not copy what you did for desktop
- ▶ JavaScript is awesome!!! And your new best friend*. Development is efficient: it took 6 weeks for the development of POC
- ▶ Network infrastructure scalability will impact performance when getting more impressions

**If your need allows for it.*

Opportunities

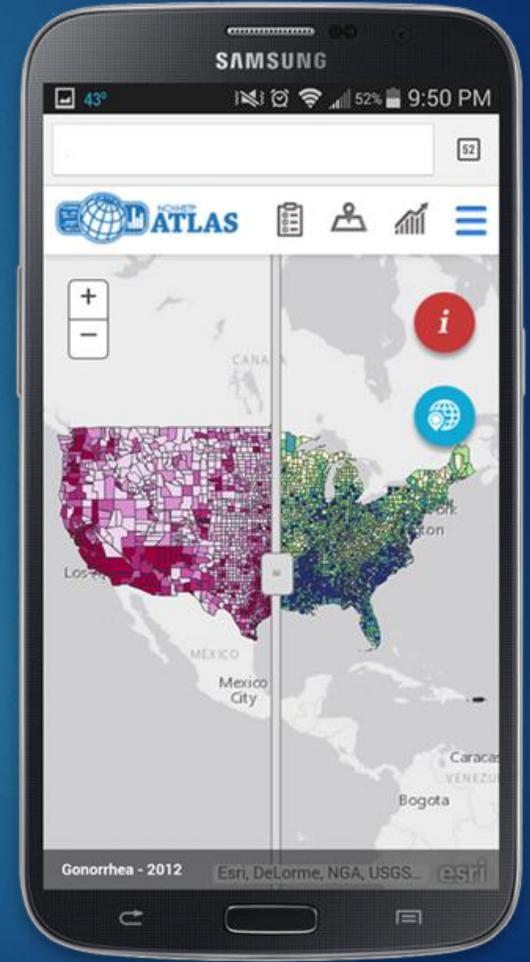
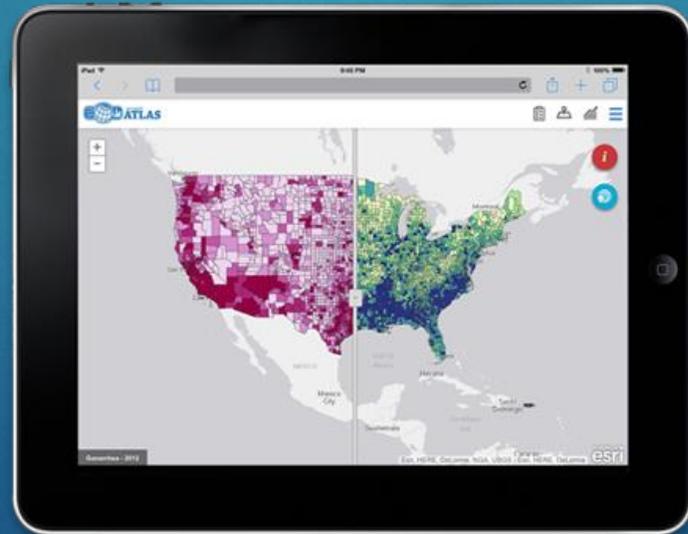
- ▶ Get your Data to work for you – Move it from Passive to Active – Invite users to explore data with innovative visualizations
- ▶ Think of it as a platform
 - ▶ Use Platform to recognize location for targeted messaging
 - ▶ While you have a user's attention, deliver public health prevention messages and direct to informational / prevention services
 - ▶ Web Service API for CDC and other PH Partner programs to easily integrate the Atlas maps into their applications (embed URL)
 - ▶ And of course add more layers of data from other Public Datasets (Data.gov, Twitter Sentiments etc)

Next Steps

- ▶ Current app is a POC (for Demo Only)
- ▶ Steps to make ATLAS Mobile available to public
 - ▶ Establish a Charter
 - ▶ Engage Security (OCISO)
 - ▶ Define Scope and requirements
 - ▶ Perform programming and development
 - ▶ Prepare for scalable backend visualization infrastructure for greater volume of queries
 - ▶ Publish the App (Go Live)

Thank you & Credits

- ▶ Thanks CDC Program for support
 - ▶ Brian Lee
 - ▶ Thom Sukalac
 - ▶ Gustavo Aquino
 - ▶ Gail Scogin
 - ▶ Rob Nelson
 - ▶ Kim Elmore
- ▶ CACI Development Team for making this happen
 - ▶ Siva Rangarajan
 - ▶ KB (Khongbeng Xiong)
 - ▶ Rishi Tarar



Backup Slides



The Atlas Mobile

- ▶ Full featured Esri Map
 - ▶ Layers for Disease Rate
 - ▶ Layers for No of Cases
- ▶ Interactive Rich Map
 - ▶ Compare two metrics on the same Map
 - ▶ Layer Swipe Visualization
 - ▶ Dynamic Class Breaks
 - ▶ Zoom in Zoom out
- ▶ Interactive Infographics
 - ▶ Charts and Trends
- ▶ Quick Survey
 - ▶ EpiInfo
- ▶ Device GPS
 - ▶ Search in your location
- ▶ Share your Map
 - ▶ Social Media
- ▶ Tested on Desktop, Tablet , Mobile , Android TV

ArcGIS Mobile capabilities compared

Capability	Native	Hybrid	Web
Offline Use	Yes	Yes	No
Routing and geocoding	Yes	Yes	Yes
GeoEnrichment	Yes	Yes	Yes
Analysis	Yes	Yes	Yes
Model-based analysis	Yes	Yes	Yes
Geometric network tracing	Yes	Yes	Yes
Advanced cartography and symbology	Yes	Yes	Yes
Animate large numbers of features	Yes	No	No
Local file based data	Yes	Yes	No

Src: <https://developers.arcgis.com/net/desktop/guide/native-vs-web.htm>

NATIVE vs HYBRID vs WEB

