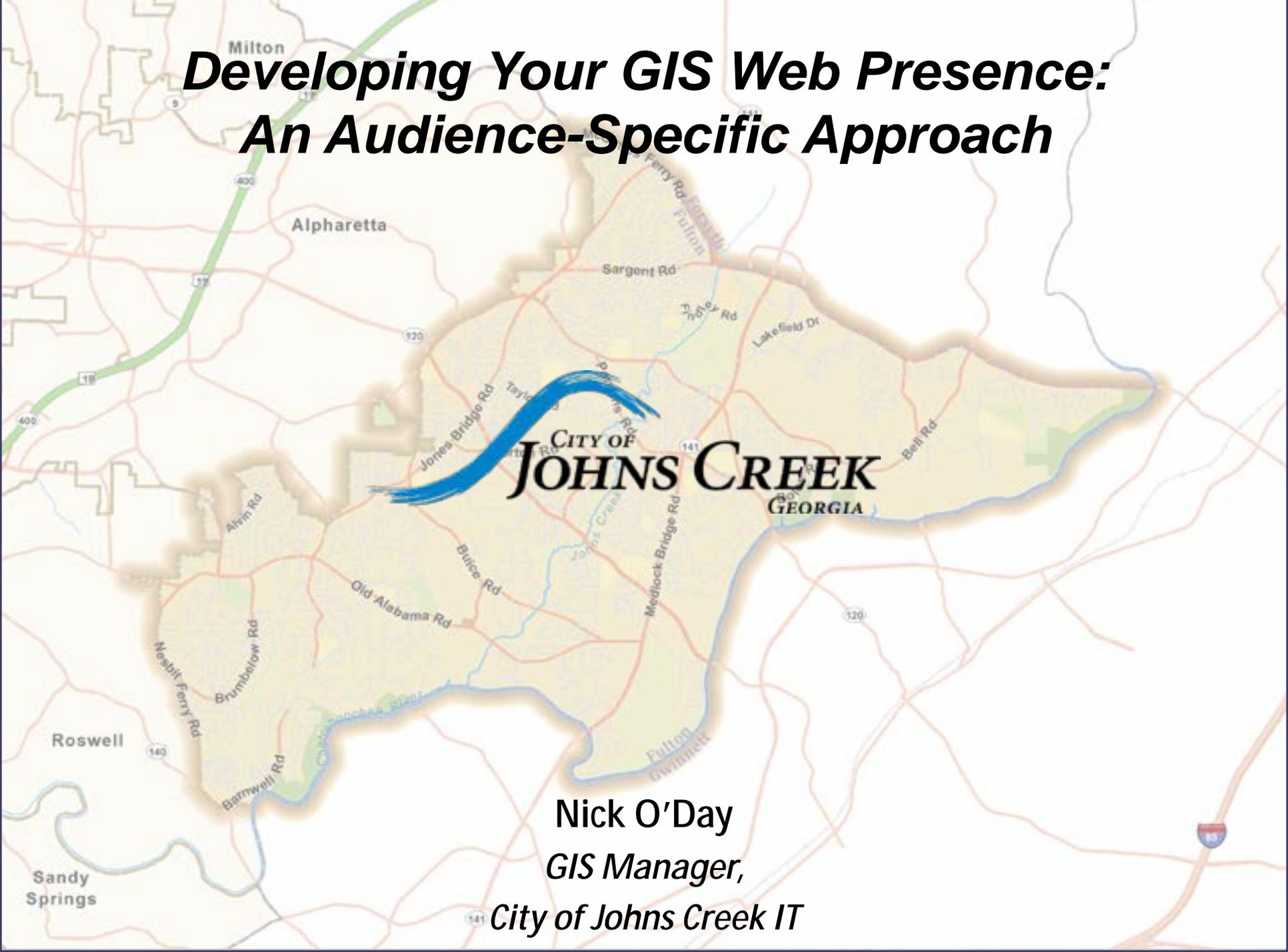# Developing Your GIS Web Presence:
## An Audience-Specific Approach

Nick O'Day

GIS Manager,

City of Johns Creek IT

Johns Creek's History…

- Incorporated December 2006
- 77,000 + population (2010 Census)
- Suburb of Atlanta and within Fulton County
- Total Area ~ 32 Square Miles
- GIS:
  - Esri & SQL-based systems for GIS data/web
  - Enterprise system, tightly integrated with Community Development, Finance, Public Works, Public Safety (Police & Fire)
  - Independent of Fulton County, but founding member of Fulton GIS Collaboration Group
  - Internal web apps:
    - Same as external, but with "CreekView" for staff
  - External web apps:
    - 18 apps/tools all based on ArcGIS API for JavaScript
    - ~3,000 – 5,000 hits/month
    - Hits are seasonal… big events or park activity registration cause spikes in usage

Why have a GIS web presence?
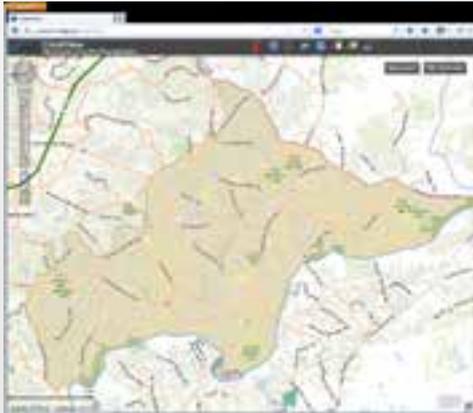
Support internal city ops and staff
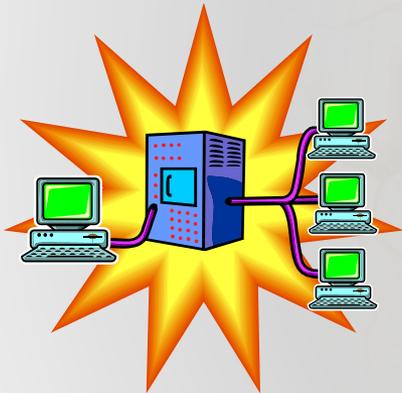
Deliver high-quality, reliable data to the public
Increase transparency

Save staff and citizen time by enabling users to find answers to common questions

Step #1a:
Identify your **Internal** *audience…*

Who are they? (now vs. in the future):

- City staff
- Contractors
- Council members/mayor

Level of technical ability?

- Don't build apps too complex for audience
- Time audience is willing to wait for answers

Access to the internet?

- Connection speed?
- Device(s) used? (laptop, tablet, phone)
- Institutional barriers: some places avoid use of Flash or deploy only iPhones

Step #1b:
Identify your* External *audience…

Who are they? (now vs. in the future):

- Citizens or Visitors
- Real estate/insurance agents
- Other government bodies (state, FEMA)

Level of technical ability?

- Wide range of abilities… assume no skills
- Time audience is willing to wait for answers

Access to the internet?

- Connection speed?
- Device(s) used? Most use phones/tablets
- What kinds of questions do they have?
- What are they looking for?

Step #2: What are your options?
Different APIs/ Services exist for different groups

Google Maps API

ArcGIS Online

ArcGIS API for Flex, Silverlight and/or Javascript

Step #2: What are your options?
Google Maps API

+ Major Advantages

- $0 cost to use API

  (until you pass hit threshold)

- Data/search services are robust & already configured

- Well known by all, even non-GIS people

- Major Disadvantages

- Not readily compatible with ArcGIS Server

- Tied to commercial system/service

- Data isn't updated as quickly as yours

- Stigma using it within GIS industry... some view it as the easy way out

Step #2: What are your options?
ArcGIS Online

+ Major Advantages

- $0 cost to use if you have an ELA, don't store data in Esri cloud, etc.
  (need to buy credits, and pay for seats otherwise)
- Integrates with ArcGIS Server
- <u>VERY</u> easy to implement
- Mobile-capable out of the box

- Major Disadvantages

- Not customizable unless you host apps
- Tied to commercial system/service
- Cost (if no ELA, or for overages when credits run out)

Step #2: What are your options?
ArcGIS APIs

ArcGIS Resource Center

+ Major Advantages
- $0 cost to use
- Integrates with ArcGIS Server
- Many samples exist to take/tweak/use
- Most customizable of all web options

- Major Disadvantages
- Requires some level of programming experience and/or guts
- No server software/hardware provided
- Different APIs have different strengths

Step #2: What are your options?
ArcGIS APIs Comparison

Flex/Silverlight   **JavaScript API**

+ Major Benefits
- Really cool effects, graphics
- No issues with browsers (I'm talking about you IE)
- Viewers already built for you

- Major Weaknesses
- Require browser plugins (How long will be around?)
- Some OS/devices don't support them anymore
- Not open to people with disabilities/screen readers
- Code is obfuscated

+ Major Benefits
- Mobile-capable
- No browser plug-in needed
- Works on <u>ALL</u> devices
- Really cool effects if you use jQuery, etc.
- Open to all… HTML/JS can be altered by users (larger font)

- Major Weaknesses
- Lots of debugging to ensure code is rendered uniformly

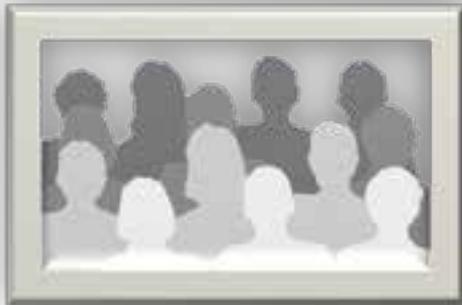# *Step #3: Select the approach that fits you*

Be honest with yourself
- Budget
- Your abilities and desire to learn
- Your time (development & maintenance)

Ask around
- What are your neighbors doing?
- What are leaders in GIS doing?
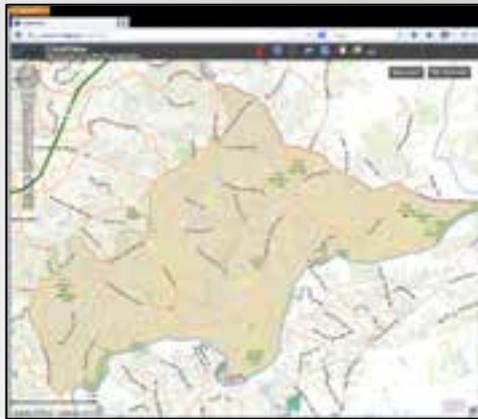- Where is technology heading?

FOLLOW THE LEADER

Your audience

Johns Creek's path…

18+ Task-specific apps
- JavaScript API-based
- One app per "question"
- Responsive web design for all devices

1 "all purpose" app for internal use
- Flex API-based
- All layers, full functionality
- Designed for trained users
- Will phase out for JS app before 2014

Step #3: Work with Communications/Web Staff
Why?

Communicate clearly
- Graphic designers
- To embed or not to embed
- Web development experience

Highlight the good
- Help you highlight the good the city does
- Help you avoid hot-topics (aka politics)

Evaluate the "final" product from non-GIS perspective

Step #3: Work with Communications/Web Staff
How To

A) Develop a rough plan before meeting
- "Decide" on an API/product
- Show that you've done your homework
- Build or show a simple example

B) Make changes to the plan at the meeting
- Stay open to other staff's suggestions
- Involve directors, data owners in process
- Don't speak in GIS or IT
- Have a "due date" or other deadlines

C) Act on the plan and report back
- Do the work and stay to the plan
- If you run into issues, communicate!
- Soft launch...

Step #3: Work with Communications/Web Staff
After the meeting

Soft launch the web app
- Stay open to criticism/critique
- Use resources (Don't make me Think)
- Test with sample of target audience

Make adjustments based on feedback

Step #3: Work with Communications/Web Staff
Launching & Marketing

Launch the web app (for real this time)

- Demo to Department directors
  (Individually or at C-level meetings)
- Demo to city council/mayor
  (Preferably at council meetings… media will be present)

Market the web app

- Focus on the problem the app solves
  - Time savings
  - No need to call a person at city hall
  - Useful services (address verification)

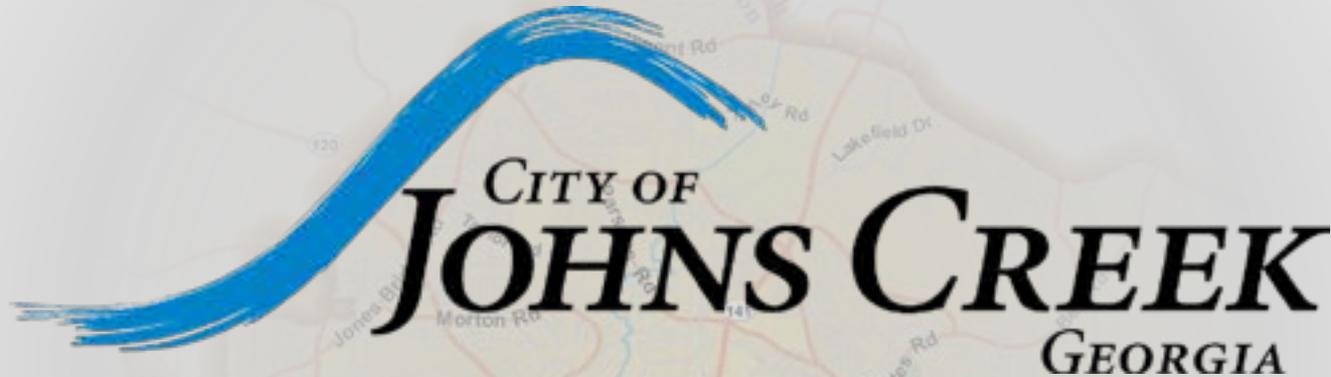**SOLD!**

Keep improving…

Make plans of changes to make
- Tech changes… stay relevant
- Listen to feedback and hit count
- Make sure the app still answers the questions users ask

Keep Communications/web staff in the loop
- Get feedback/buy-in from them
- Listen to other apps they want/problems you can solve

Always focus on your audience!

Questions & Contact

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