

# Efficient Mobile GIS-Integrated Work Order Management

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# Overview

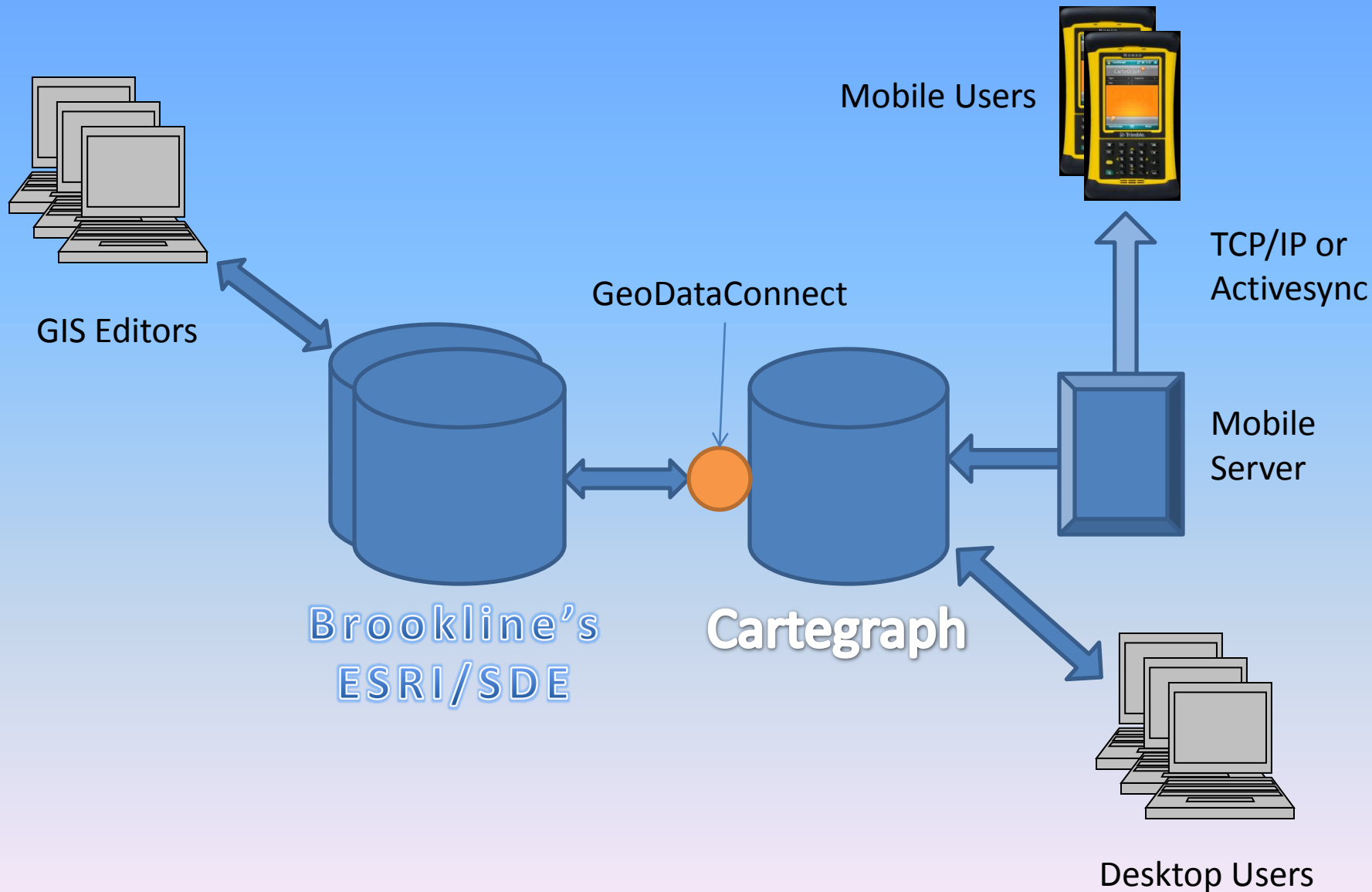
- How GIS Integration Works with Mobile Devices
- Overview of the Mobile Application
- Video Demo: Mobile Work Order Management

# CarteGraph Mobile App

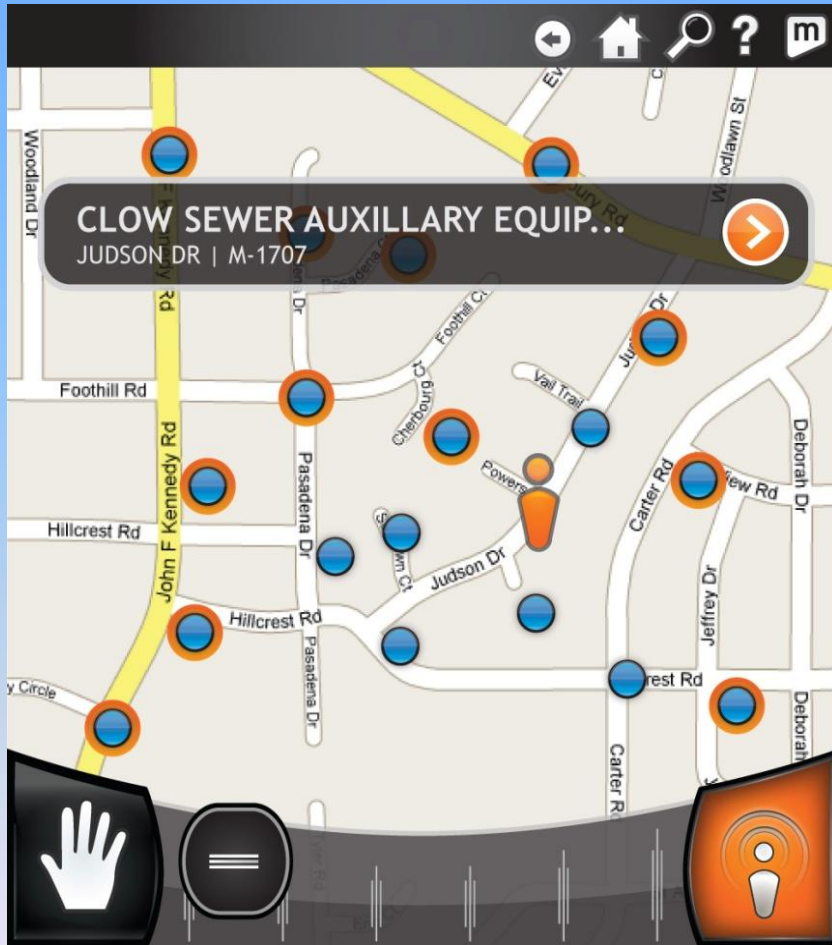
- Combines steps of asset record creation, GIS feature creation, field checking of data, and all attribute entry, including photos
- Efficient mobile data entry which utilizes:
  - libraries (drop-down menus)
  - forms (display layout)
  - filters (attribute queries)



# GIS Integration with Mobile Devices



# GIS Integration with Mobile Devices



- User Decides:
  - Which assets are joined to GIS layers, including which field are mapped to GIS fields
  - Which asset modules are sent to the mobile device
- Create new features and edit existing data on a scaled-down version in the field

Video:  
Configuring Mobile  
Server URL on device

All other setup,  
including database  
connection, performed  
on Mobile Connect  
Server

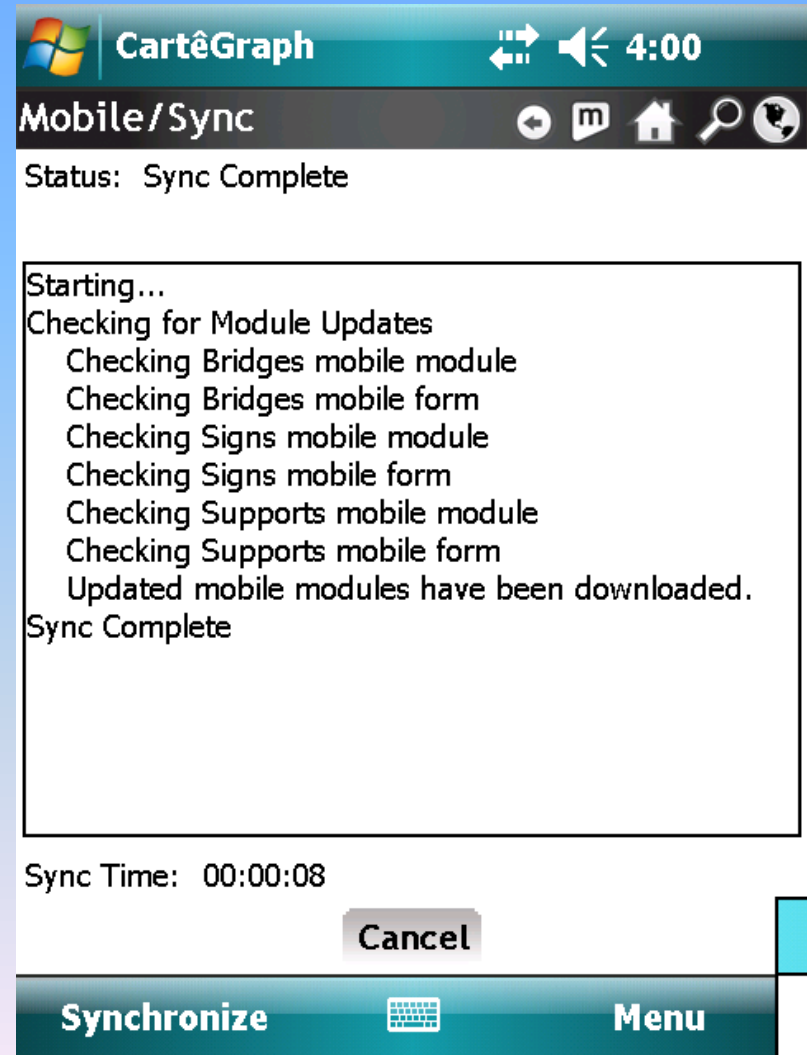
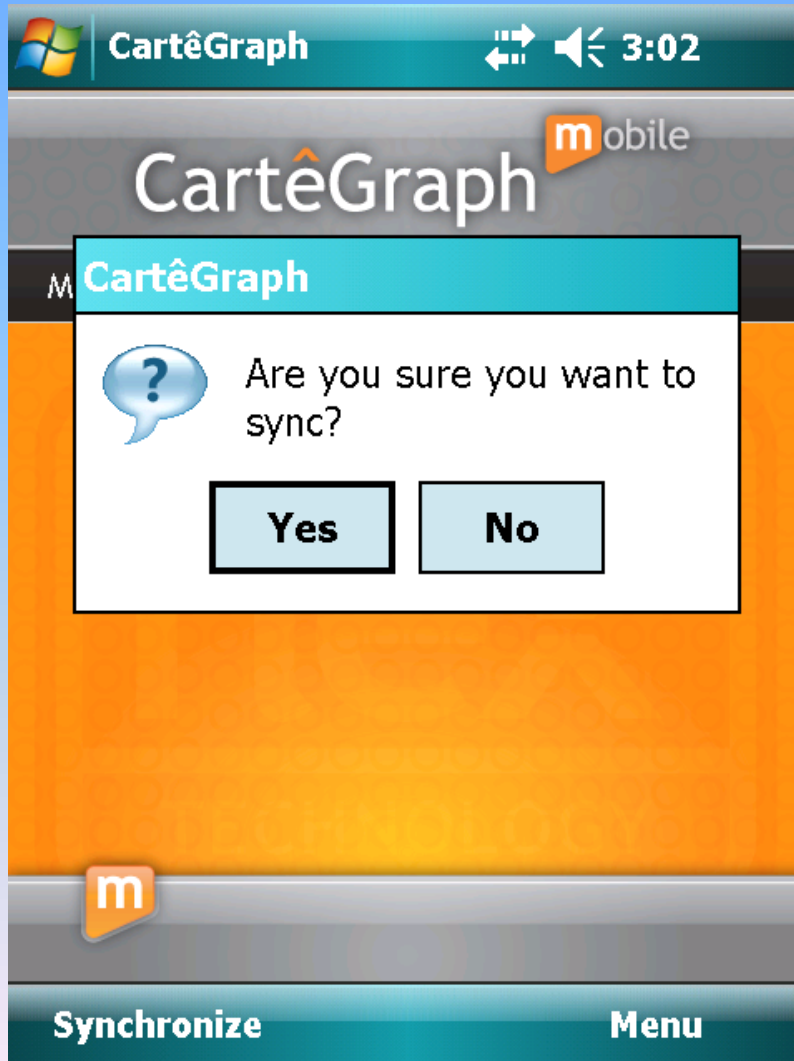


# Mobile Form Design

The screenshot displays the Cart@Graph Navigator - WORKdirector software interface. The main window is titled "cgWorkOrders [Design]" and shows a mobile form design workspace. The workspace is divided into several sections:

- Left Sidebar:** Contains navigation options for "VERSView", "WORKdirector", "Work Request" (Requests), "Work Order" (Work Orders), "Resources" (Worksheets, Labor, Equipment, Materials, Vendors), and "GIS" (WATERview, SIGNview, BRIDGEview, PAVEMENTview, LIGHTview, SEWERview, MARKINGview, VERSView).
- Main Design Area:** Features a grid of form fields. The top row includes fields for "WO Numbers", "Activity:", "Department:", "Assigned To:", "Issue:", and "Details:". The right side of the top row has "Status:", "Priority:", "Start:", "Total Cost:", and "Notes:". Below these are two empty rectangular boxes. The bottom row includes fields for "WO Number:", "Material ID:", "Start Date:", "Activity:", "Location:", "Transaction:", and "Quantity:". Below these are two empty rectangular boxes. The bottom-most section is labeled "Labor" and includes fields for "WO Number", "Labor ID:", "Rate Name:", and "Start Date".
- Right Panel:** A "Work Orders Fields" panel with a dropdown menu set to "All Fields". It lists various event categories such as "Associated Requests", "Associated Work Order", "Attachments", "Bridge Events", "Circuit Events", "Equipment Events", "Equipment Log", "Events", "Facilities Events", "Facility AC Events", "Facility Alarm System I", "Facility Boiler Events", and "Facility Computer Eve".
- Bottom Status Bar:** Displays "Work Orders", "Work Order Number: BD0610615", "Viewing", "Record: 1 of 763", "Total: 26680", "Filter", and "Sort".
- Taskbar:** Shows the time "1:21:46 PM", the application name "FormDesign", and the instruction "Switch form to Design mode".

# Mobile Data Synchronization





# Data Editing

- Fully customizable mobile forms, allowing for varying display sizes
- Field mapping will update both Cartegraph and SDE databases when device is synced back at the office

The screenshot displays the CartêGraph mobile application interface. At the top, the title bar shows the Windows logo, the application name 'CartêGraph', and system icons for connectivity, volume, and time (3:32). Below the title bar is a navigation bar with icons for back, home, search, and refresh. The main content area is titled 'Add Signs' and contains several input fields: 'ID' (text box with '2'), 'Sheeting' (dropdown menu with 'Diamond Grade LDP'), 'Backing' (dropdown menu with 'Aluminum'), 'MUTCD' (text box with 'R11 - Yield'), 'Height' (text box with '24' and a unit dropdown with 'in'), and 'Width' (text box with '16' and a unit dropdown with 'in'). To the right of these fields is a preview area labeled 'No Preview'. Below the input fields is a horizontal scroll bar with a central indicator. Underneath the scroll bar are three tabs: 'Feature', 'Location', and 'Support'. At the bottom of the form are two buttons: 'Save' and 'Close'. Below the buttons is a virtual QWERTY keyboard with various function keys like '123', 'Tab', 'CAP', 'Shift', and 'Ctl'. At the very bottom of the screen are two large buttons: 'Synchronize' and 'Menu'.

# Adding a New Feature and Closing an Existing Work Order from the Mobile Device



# Creating a new Work Order from the Mobile Device



# Brookline's Status

- Currently Implemented:
  - Trees
  - Signs
  - Water Cross-Connections
- Future Implementations:
  - Pavement Markings
  - Park Inventory
  - Water Network
  - Stormwater/Wastewater Network

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