

Low Cost Innovative Tablet Solutions at Veolia Water India



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Nobel Systems



Nobel Systems

Nobel Systems is a GIS company with special focus on Water Utilities. We leverage technology to bring High End GIS to our customers at a low TCO. Some of the technology enablers are:

- CLOUD – bringing down cost of ownership of GIS
- SCADA– Falling price of Sensors makes SCADA affordable
- GPS – GPS technology is continuously improving
- **Tablets - Powerful Tablet PC's becoming cheaper by the day**
- Advances in Geospatial technology
- Ability of Nobel to combine inputs from the above and providing GIS as a visualization platform which integrates the data and provides tools to work with the data for day-to-day activities .



Problem Statement

Veolia Water was working on a 24 X 7 Water Supply Project in India. One of the tasks that they had to undertake was a Consumer Survey which they traditionally performed using paper forms. There were some problems associated with Paper forms:

- **Time consuming**
- **Duplication of work (Paper forms had to be keyed in)**
- **Difficulty in managing large teams**
- **Poor quality of data captured**
- **Tight Budget not permitting high cost solutions**



Innovative Tablet Solution

Nobel developed an Innovative Solution leveraging Cloud Technology and low cost Android Tablets available in the Indian Market at a cost of under \$100.

Key features developed:

1. Data Captured and stored locally on the Tablet
2. Automatic Uploading to the Cloud server whenever connectivity established
3. GPS location capture using inbuilt GPS – Location of consumers is an important input for Hydraulic modeling to establish load at different nodes.
4. Picture, Video and Audio capture using in-built tablet features
5. Geo-fencing concepts employed for managing the team to ensure that surveyors were in the area they were assigned to cover.
6. Ability to track the location of team members at any time.
7. Reducing data entry errors with Online Validations.
8. Improving the productivity of the surveyors.



CustomerSurveyApplication

EDL AGOR: II KAI DL NO. 206

Latitude: * 13.0071355 Longitude: * 77.5546759

Locality:



ZONE * SUB ZONE * PIN * PROPERT * WARD NO * DOOR LOCK
Zone: ward Zone: ward Pin: Prop: Ward: Door Lock:

1. PROPERTY ADDRESS

NAME OF THE PROPERTY OWNER: *
DOOR NUMBER: *
ADDRESS: *
PHONE: *
E-MAIL:

2. DETAILS OF DWELLING UNIT

HOUSE UNDER CONSTRUCTION: Yes / No
NATURE OF DWELLING

Tablet Solution (New Features)

New features under development that will be released shortly

1. High accuracy external GPS plug-in (under 2M resolution)
2. Pushing of Maps onto the Tablets for offline Viewing
3. Providing redlining capability in Off-line mode
4. Consumer indexing using off-line map on tablet
5. Customer spot billing using tablet
6. Ability to generate and view reports and Analytics to support decisions in the field



Conclusion

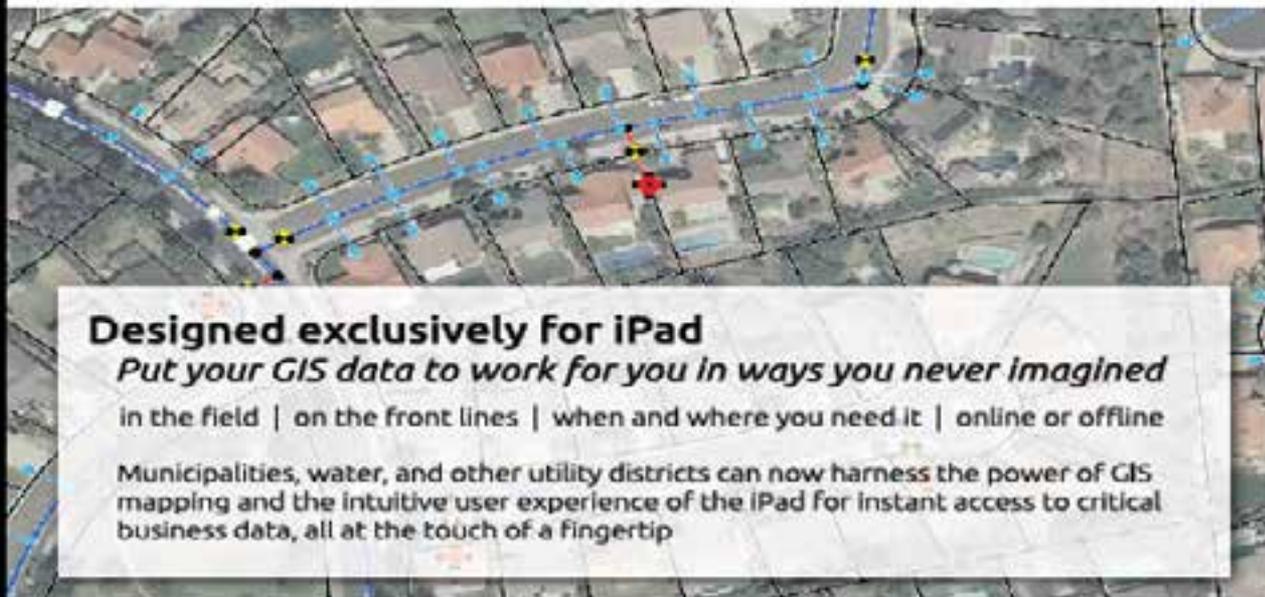
1. Low cost Tablets are transforming the way we work and any information or notes captured in the field can be put on Tablet
2. A \$100 Tablet has made a new range of applications possible to deploy on the field that were hitherto not commercially viable
3. For developing countries in APAC like India, there is a huge opportunity to deploy solutions on android Tablets that can also be deployed seamlessly on mobile phones.
4. There is a big demand for deploying Off-line maps on Tablets and giving the ability to work with it at a low cost.
5. Nobel Systems has been a pioneer in the use of Tablets in the Field and can build innovative solutions for your needs.



Questions



GeoViewer Mobile



Designed exclusively for iPad

Put your GIS data to work for you in ways you never imagined

in the field | on the front lines | when and where you need it | online or offline

Municipalities, water, and other utility districts can now harness the power of GIS mapping and the intuitive user experience of the iPad for instant access to critical business data, all at the touch of a fingertip

Connected:

Access GIS data anywhere

Mobile access to comprehensive distribution network renderings, field documents, work order history, and more, with or without internet access, along with the tools to link field crews and office staff to GIS data in a seamless experience

Integrated:

Streamline workflow, reports and communication

Built-in, process-driven design puts GIS data in the hands of the field crews and managers who need it to save time, improve communication and aid decision making

Customized:

Create a solution for your specific needs

GeoViewer Mobile is fully scalable for agencies of all sizes, with customized modules to match the wide-ranging and complex needs of municipalities and utilities



Powerful: Enhance the capability and connectivity of your GIS team

Designed with the end user in mind, GeoViewer functionality supports

- Inspections
- Pipeline network tracing
- Work orders
- Parcel identification and notes
- Valve isolation analysis
- Dig alerts

GeoViewer Mobile



Customizable Solutions, Unlimited Possibilities

Get more out of your GIS data every day, in the office and the field



Asset Info

Provides for quick identification of asset locations, and easy access to all relevant data



Work Orders

Integrates seamlessly with your work order management system to update both field and office crews on open, pending, and completed work orders



Leaks

Allows field crews to isolate the right valve to shut off in the event of pipe and main leaks, even displaying which parcels will be affected by the shutoff



Dig Alerts

Displays location of dig alert coordinates, making asset marking and documentation fast, accurate and easy



Valve Exercising

Synchs with equipment to record turns & torque required, displaying historical data to guide assessment of maintenance, repair or replacement needs



Flushing

Gauges water lost during mandated hydrant flushing, allows for data input & reporting, and offers frontline access to historical data



Enterprise Systems

Custom modules for enterprise system integration and support, including SCADA, CMMS, GIS, AVL, LMS and more



GeoViewer Mobile



Powerful. Portable. Practical.

*An application designed to transform the way
field crews interact with GIS technology*



Snapshots

Snap images of assets in need of repair or maintenance, areas flagged and marked before digging, or even meter reads



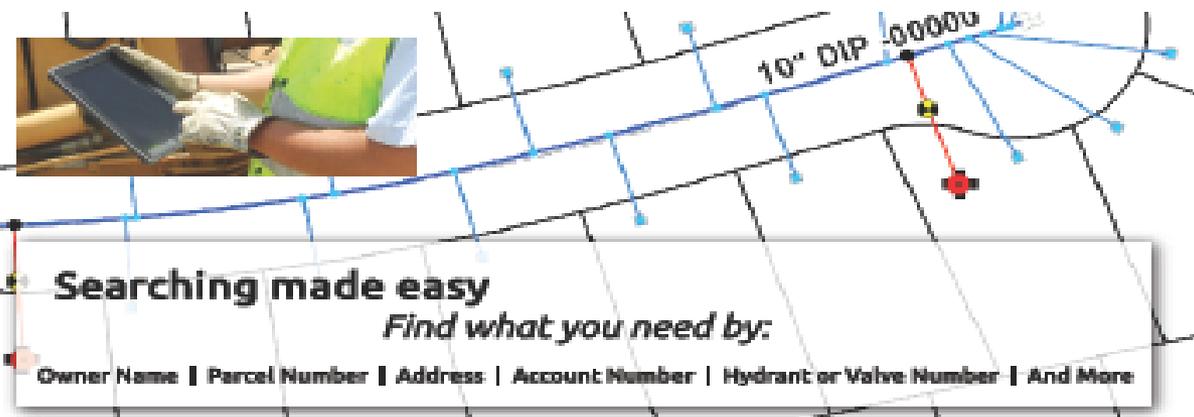
Video

Record incidents, such as leaks or breaks to help determine water lost and prioritize repair or replacement



Voice to Text

Voice to text capability allows crews to speak their notes, creating more comprehensive digital archives



Searching made easy

Find what you need by:

Owner Name | Parcel Number | Address | Account Number | Hydrant or Valve Number | And More



Historical Data

View customer data, work history, service calls, as-built design drawings, SOP manuals and more



Field Notes

Intuitive recording of location specific data provides for easy documentation of institutional knowledge



Document Finder

Access relevant documents in your vicinity with the touch of a finger

Thank You

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