REWYNDR

In**Site**

Image-based software for improving productivity and minimizing risk in field operations.

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Who is Rewyndr?

Carnegie-Mellon University team
➡️ inventing image-based technologies

Transformative technology
➡️ the PhotoGenome platform

Focused on solving perplexing business problems
➡️ field operations in energy and other industries

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→ inventing image-based technologies
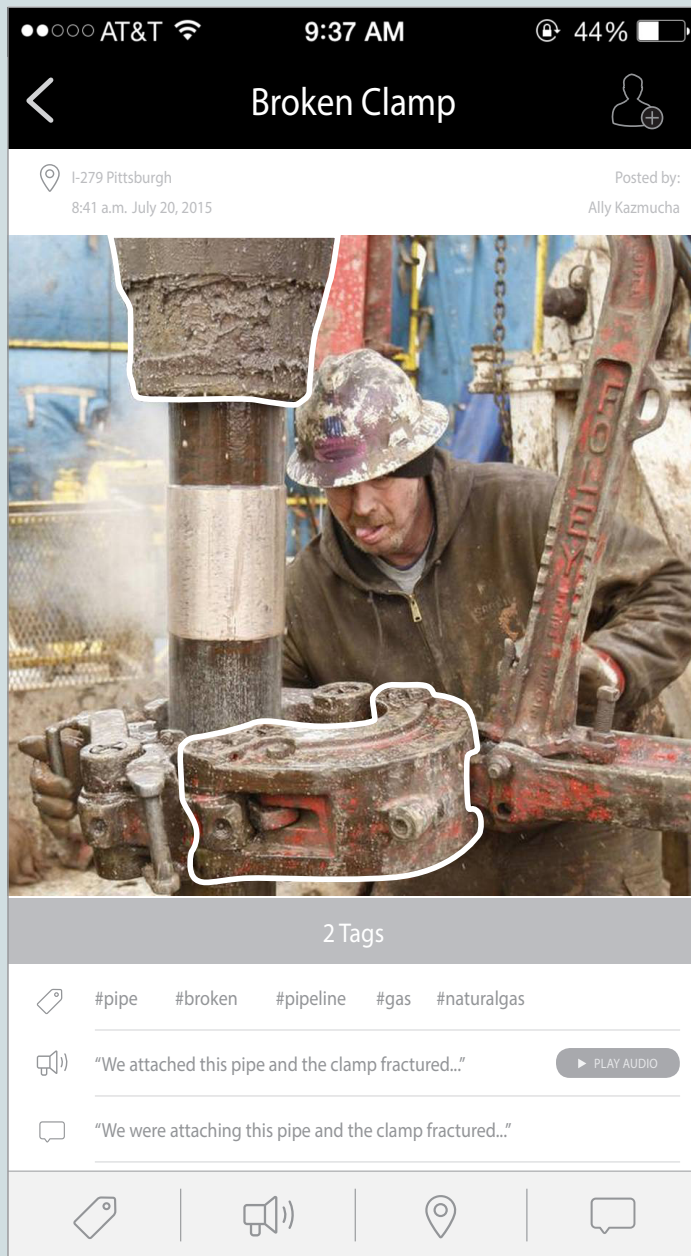
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What is InSite?

Image-based mobile application used by supply chain collaborators to improve productivity and avoid risk.

1 Blends visual, audio, text, and archived data on the photo

2 Remote parties dynamically collaborate

3 Expedites responses and enables more effective solutions

4 All data and transactions archived and instantly accessible

InSite Technology

Image Segmentation

1 We have developed algorithms that enable the user to isolate objects on an image for precise analysis and discussion. They do this by touching the photo to generate form-fitting boundary lines and shapes.

Shapeshifting Data Fields

2 Our invention creates a new form of a relational database; one where the photo becomes a record and the fields are shaped through user interaction with the image.

Blended Annotation

3 All data, including voice files, documents, and thread discussions are attached to the object in the image and easily viewed and comprehended.

Responsive UI

4 InSite offers a 'touch and talk' feature that enables users to simple touch an object on an image creating a boundary outline, and the speaking to the issue. An audio file is attached to the discussion thread as well as an audio-to-text translation.

Information Architecture

5 Designed to enable rapid search and discovery of relevant records.

Who are the customers?

Industry

Energy Producers
(e.g. Range Resources, Consol, EQT)
Service Providers
(e.g. Schlumberger, Halliburton)

Buyers

Executives responsible for drilling and completion
(e.g. VP of Operations or Production)
Regional Managers

Repurposing tanks on the fly

Scenario

In the midst of production of a well, the on-site operator discovers there is not enough capacity for condensate and needs to repurpose a tank that was previously used to store frac water to now store condensate.

Challenges

The trucking company needs to be able to distinguish between identical tanks. If the wrong material is hauled, it will lead to production delays, increased costs, unsafe conditions, and environmental damage. Rotating shifts and different vendors cause information gaps, amplifying risk of error.
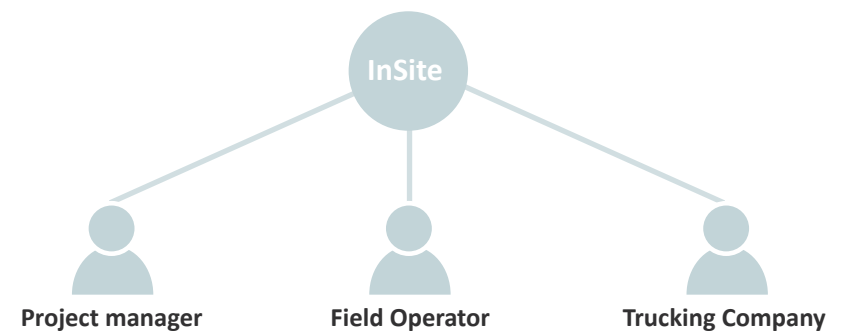
Solution

The operator takes a photo of markings on the tank filled with condensate as well as where it is positioned. He uses InSite's boundary recognition feature to isolate the marks on the tank and uses audio to speak instructions.

He also takes a photo of the tank's position, drawing an arrow on the photo to point to the tank.

This information is sent via an alert to all members of the community.
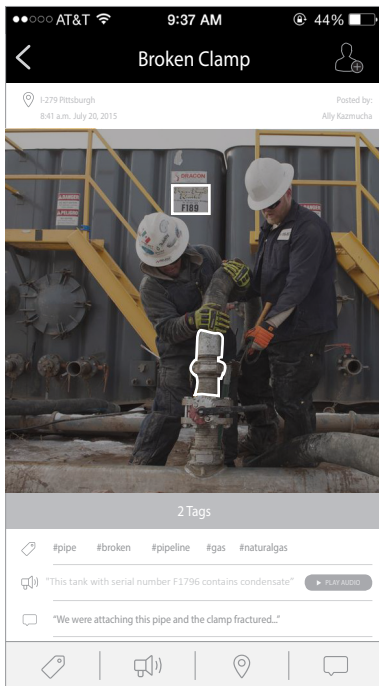
The hauler fills the tanker truck with condensate from the proper tank avoiding a costly and hazardous situation.

InSite

Project manager   Field Operator   Trucking Company

Use Case - Screen Shots

Repurposed Tank
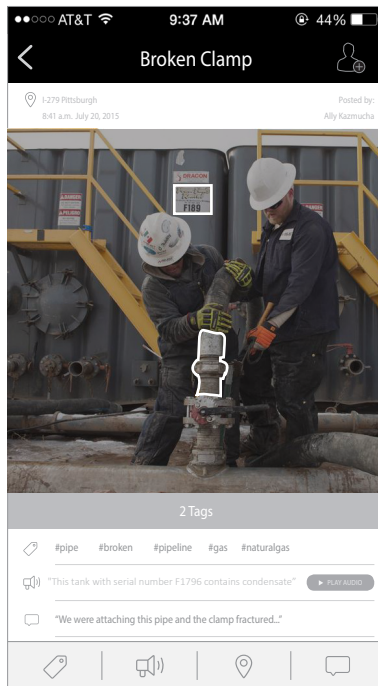

Boundary Tag and Audio

Operator touches photo activating auto-outline of markings and speaks instructions that are also translated as text on the screen.

Use Case - Screen Shots

1
Repurposed Tank

2
Location

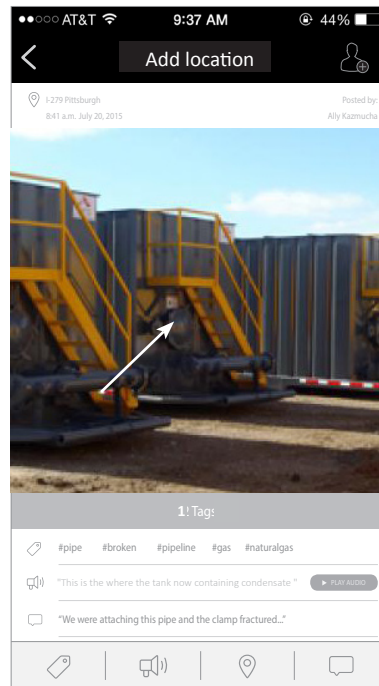**Boundary Tag and Audio**

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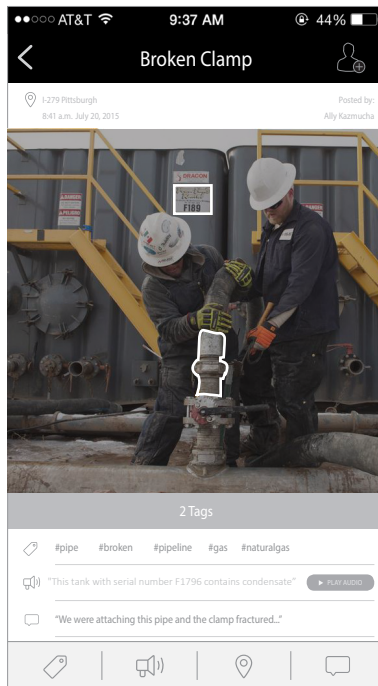
Arrow Tag and Audio

Operator swipes photo creating an arrow pointing to the specific tank and speaks instructions that are also translated as text on the screen.

Use Case - Screen Shots

(1) **Repurposed Tank**

(2) **Location**

(3) **Community Collaboration**

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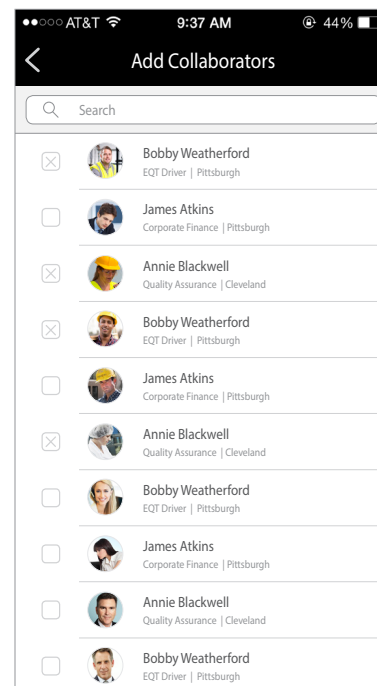
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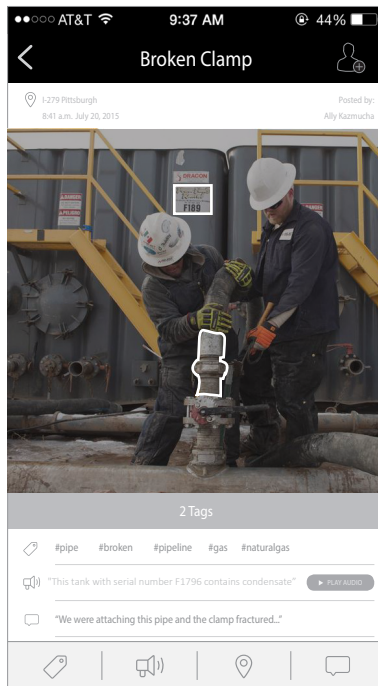
Alert Operators and Vendors

Operators and vendors are instantly alerted and become aware of the situation.

Use Case - Screen Shots

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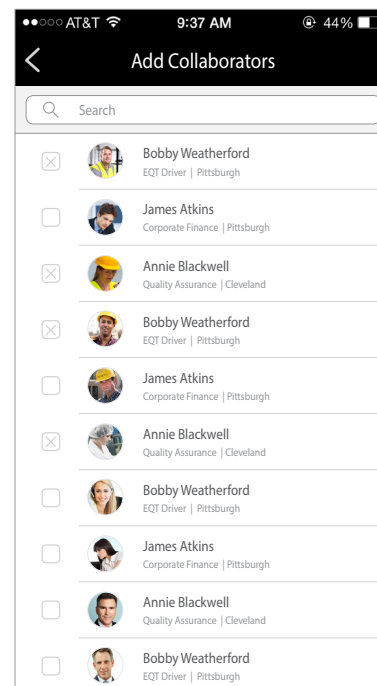
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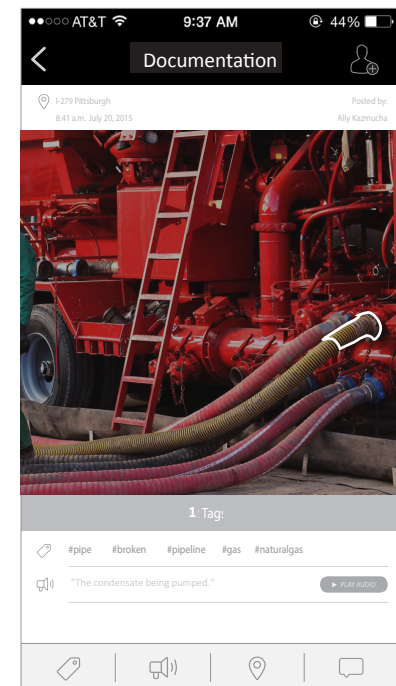**3**

Community Collaboration

Alert Operators and Vendors

Operators and vendors are instantly alerted and become aware of the situation.

4

Disposition of Condensate

Documentation of Proper Disposition

Trucking company sends images confirming proper delivery and fixture of a leak.

Other scenarios

1 **Multiple parties providing power, water, chemicals for production**
requires synchronized communications.

2 **Broken parts at drill site**
requires immediate expert consultation from remote sources.

3 **Accident and injury**
requires medical and OSHA personnel to advise on action.

4 **Spill**
requires legal and EPA and PR specialists to collaborate on actions and communications.

5 **New vendor**
requires compliance to operating procedures and safe practices.

What problems do customers face ?

Increase in number of vendors, contractors, and multi-party transactions leads to information disparity and increased risks.

1   **Production and shipping delays**

2   **Increase in operating costs**

3   **Unsafe conditions**

4   **Incidents of nuisance or environmental damage**

5   **Loss of knowledge**

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What solutions do customers need ?

Producers and service providers need a unified platform:

1 Coordinate activities to **optimize productivity and avoid downtime**.

2 **Avoid high cost mistakes** involving resource availability, routing, safety, and environmental regulatory compliance.

3 Create an **active visual record** for rotating shifts.

4 **Institutionalize expertise** of senior talent that can be readily transmitted to new work force.

InSite impacts KPIs

Growth
Raise MCF targets, # of wells completed

Productivity
Minimize NPT, increases MCF per rig/mo

Operating Costs
Decrease OT, hrs/rig completion, avoidance of contractor penalty fees

Safety Incidents
Reduction in TRIR and DART

Environment
Reduction in spills and DEP reportable incidents

Why is it better than alternatives?

1 **Convergence of information**
Single platform, single view.

2 **Precision**
Algorithms allow for specific visual
instructions.

3 **Scalability**
Easily extendable through invite feature.

4 **Ease of use**
Touch and talk; any device.

5 **Organization of information**
Isolate by community, date, process, or
incident. History provides instant context.
Search provides comparable for problem
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What are the plans for commercialization?

1 Identify candidate for **pilot project.**

2 Extend to enterprise through **licensing agreement** with SaaS pricing model.

3 Identify **baseline metrics** and track performance, using incremental improvement as basis for direct sales.

4 **Extend** beyond Energy industry to Field Equipment, Construction, Manufacturing.

5 Develop **sales distribution partnership** with system integrators.

What does Rewyndr need?

1 **Partner for pilot**

2 **Capital**

Thank you