Datch Voice Assistant at Con Edison Substations Demo Day
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About the Need/Opportunity

Con Edison and Datch will integrate the Datch application with Con Edison’s Engage work planning application to allow work planners to use voice to capture work order requirements via mobile devices in the field.
## Example work orders / Datch benefits

<table>
<thead>
<tr>
<th>Field Planning - Work Order Descriptions</th>
<th>Datch Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example 1</strong></td>
<td></td>
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<tr>
<td>• Inspecting field conditions</td>
<td>• Planner can assess and talk through the physical conditions of the area in real-time</td>
</tr>
<tr>
<td>• Inspecting equipment</td>
<td>• Describe lighting, requirement of ladders, portable grounds etc.</td>
</tr>
<tr>
<td>• Procedure review to ensure that information attached to job plan is consistent with the asset.</td>
<td>Result: Planning report automatically completed without time in the office</td>
</tr>
<tr>
<td><strong>Time Required: 3 hours</strong></td>
<td>**</td>
</tr>
<tr>
<td><strong>Example 2</strong></td>
<td></td>
</tr>
<tr>
<td>• Walkdown to assess alarm condition with Supervisor</td>
<td>• Planner can talk through their walkdown procedure in real-time.</td>
</tr>
<tr>
<td>• Locate prints by inspecting panels associated with the alarm loop</td>
<td>• While onsite, they can describe field conditions.</td>
</tr>
<tr>
<td>• Print searching in Adept</td>
<td>• They can also narrate what prints are needed when they return to the office</td>
</tr>
<tr>
<td><strong>Time Required: 4 hours</strong></td>
<td>Result: No double handling required, and work order logged while onsite, eliminating tedious post-processing requirement.</td>
</tr>
<tr>
<td><strong>Example 3</strong></td>
<td></td>
</tr>
<tr>
<td>• Multiple field walks with PST, Engineering, Operations, EH&amp;S, &amp; SSM, and vendor that produced new throw over switch.</td>
<td>• User can narrate field conditions of this alarm loop and diagrams so they can then organize the data in the job plan.</td>
</tr>
<tr>
<td>• This work is pending an outage request, as we determined that the drawings were incorrect and not consistent with field conditions.</td>
<td>Result: In a long day of field walks, the planner can report all important details live on site, boosting the quality of the work order data and reducing fatigue-related safety risks.</td>
</tr>
<tr>
<td>• Outage required to remove a feeder out of service as panel in question feeds both lines of PW for this respective feeder.</td>
<td>**</td>
</tr>
<tr>
<td><strong>Time Required: 12 hours</strong></td>
<td>**</td>
</tr>
</tbody>
</table>
About the Technology - Overview

• Datch is an intelligent voice assistant for industry
• The Datch Assistant replaces tedious frontline work processes with intuitive, natural conversations allowing data entry of work orders, maintenance logs, safety reports, and other records using voice commands.
• For the pilot with Con Edison, Datch will be integrated with Con Edison’s work planning application, Engage, to complete job plans using voice technology.

Partial schematic and field overview of the Con Edison process
About the Technology - Features

- **Intelligent structuring**: Datch’s propriety NLP and Intention engines recognize and structure industrial language.

- **Feedback correction loops**: Each spoken phrase or manual correction is used to train the AI on how the user speaks and solves for strong accents and jargon.

- **Audio playback**: Each phrase is recorded as an audio file and can be replayed. Timestamping is also useful to calculate a sequence of events.

- **Offline Mode**: Audio recording occurs locally and is transcribed once in service.
### About the Technology - Integration

**Example processes, by operational areas**

<table>
<thead>
<tr>
<th>Maintenance</th>
<th>Operations</th>
<th>Safety</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work order History</td>
<td>Raising Tickets</td>
<td>Incident Reports</td>
<td>Inspections</td>
</tr>
<tr>
<td>Notification Text</td>
<td>Installations</td>
<td>Hazard Reports</td>
<td>Audits</td>
</tr>
<tr>
<td>Measurement Points</td>
<td>Issue Logs</td>
<td>+ Others</td>
<td>+ Others</td>
</tr>
<tr>
<td>+ Others</td>
<td>+ Others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Datch can be mapped to any utility process across disciplines and integrates with both common and custom databases alike.
Project Scope

What do you aim to learn at the end of this project?

The benefits to user experience of capturing and recording field information.

What is being tested / proven?

The utility and efficacy of using voice to conduct field-related administrative tasks and creating richer system of records.

What are you doing specifically in your demonstration, when and where?

Con Edisson used the Datch application to capture job plan details for various work orders at one or more substations in October.

What are some remaining key milestones?

1. **User Feedback Session** (1st week of November): Users will be providing detailed feedback on functionality, usefulness & potential applications of Datch

2. **Executive Review** (3 days after User Feedback Session): Datch and ConEd will be reviewing a list of qualitative & quantitative datapoints, usage metrics, and success metrics set at the start of PoC.
Project Scope Cont.

If successful, what would you want to happen after this demonstration is complete?

1. Roll out the work planning application to the wider ConEd workforce

2. Identify additional applications for voice technologies within Con Edison’s operations that would allow different teams to begin using voice for data collection.

In an ideal world, what would be the next path to further scale this technology?

Identification of additional use-cases within utility operations in areas such as work management, planning, safety, and operational tasks (e.g. time sheets), and to begin implementations with other Incubate Energy utilities.
Learnings to Date

What have the teams learned to date? ______

Are you on schedule? ________________________________

What are successes so far? ____________________________

What are the barriers so far? _________________________

Has your scope changed since its inception? If yes, how so? How has the team made adjustments based on learnings (if applicable)? ______

There are additional complexities involved with working with a 3rd party software vendor and managing utility IT security requirements within tight timeframes. Our plan is to streamline this process even further for follow up pilots.

Almost. Testing is being run this week and should be done by end of month in time for the report.

Although the multiparty integration process had some one-off complexities, each party (Datch, ConEd, Endevor) engaged effectively and we were able to finalize and pass all security requirements, while deploying to production within the timeframe allocated.

Scheduling requirements required to coordinate multiple parties.

The scope initially changed for the work planning tool Datch would be integrating with. The teams were flexible and open to scope changes and were able to execute on the agreed pathway in time.
Our Team

Utility Representative(s):
Matt Walther, Section Manager – Asset Management, SME / Team Lead
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Startup Representative(s):
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