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CUSTOM APPLICATION PLATFORM FOR FIELD WORK MANAGEMENT

The speed of no-code plus the power of low-code

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FIELD WORK

What is the challenge?

Backoffice/Management has reduced visibility into what is happening in the field

Data collection, reporting and analysis is often delayed, inaccurate, and manually constructed

Legacy data access and capture methods have deficiencies

Typical software solutions can be complex to implement, or restricting to use






Being offline in the field cannot be avoided and should not hinder performance



OPTIONS FOR IMPLEMENTING A BUSINESS APPLICATION



OPTIONS FOR IMPLEMENTING A BUSINESS APPLICATION

Building or buying a solution					
	“Native” development 	Low-code development 	No-code build 	SaaS platform 	COTS application(s) 
Implementation time:	Months/years	Weeks/months	Hours/days	Hours/days	Hours/weeks/months/years
Expertise required:	Software developer	Low-Code developer	Basic IT knowledge	Basic IT knowledge	Varies
Flexibility of features:	Maximum	Significant	Limited	Fixed	Fixed
Lifecycle support effort:	Major	Limited	Limited	None	Limited/none

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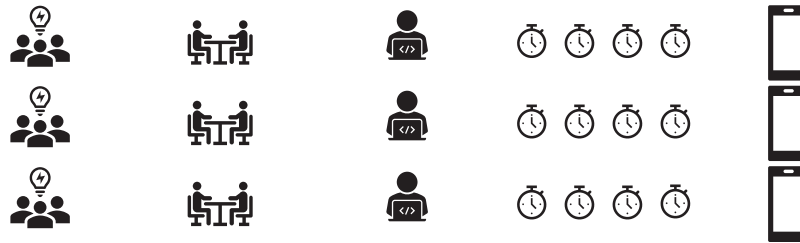


COMPARING TRANSFORM WITH CUSTOM APP DEVELOPMENT

Standard mobile development








<p>Customer idea</p> 	<p>Design</p> 	<p>Expert dev team</p> 	<ul style="list-style-type: none"> • UI • Business logic • Mobile features • Offline • Local storage • Authentication • Database connection(s) • Link(s) to backend 	<p>Build/Test/Publish/Debug</p>  <p>Weeks / Months to build Hours / Days to update</p>	<p>Delivered mobile app</p>  <p>(with risk of delay/failure)</p>
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Multiple apps required ?



3x the apps:
3x the build time or 3x the teams

Low/no code mobile development using Alpha Transform

<p>Customer idea</p> 	<p>Design</p> 	<p>Pre-built, data-driven mobile app</p> 	<ul style="list-style-type: none"> • Configure form data fields • Design form layout • Add custom workflows  	<p>Configure/Publish</p>  <p>Hours to build Minutes to update</p>	<p>Delivered mobile app</p>  <p>No risk (testable instantly)</p>
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Multiple apps required ?



It is the same app !

CAN A PRE-BUILT MOBILE APP BE POWERFUL AND FLEXIBLE ENOUGH ?

Standard Data Capture Apps need to include

- Various Field Types (Text, Date, Signature, Location, Photo)
- Connection to a Database
- User Interface – Responsive design
- Search / Sort / Filter of forms
- Authentication
- Android & iOS

Built-In to TransForm



Advanced Data Capture Apps can include

- User Permissions
- API, Webhooks, and Triggers
- On-line & Off-line support
- In-app calculations and validations
- Look-ups; local and remote
- On-device Data (databases and files)

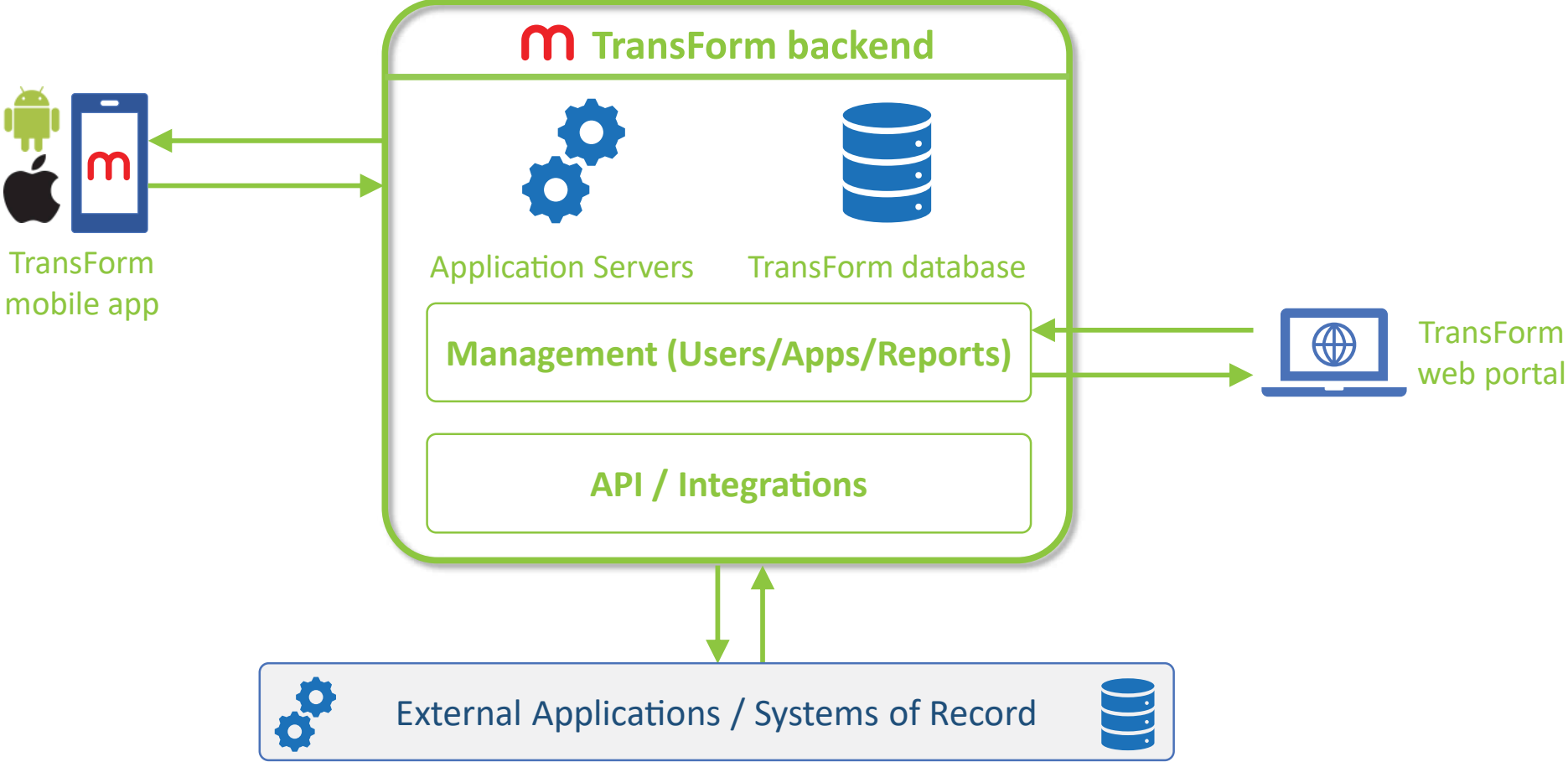
Built-In to TransForm



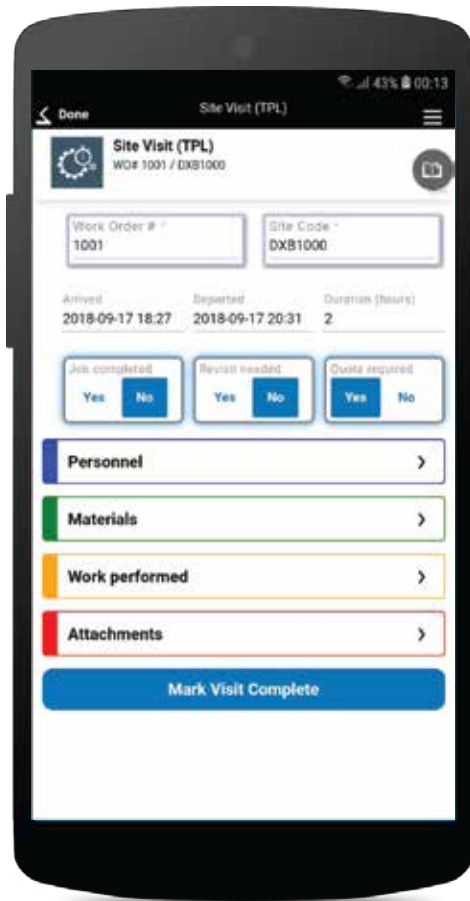
Built-In to TransForm



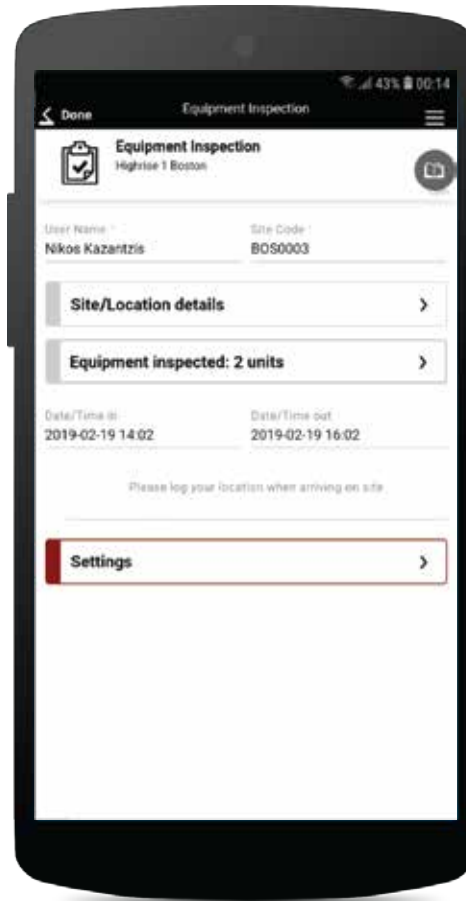
MOBILE AS PART OF A COMPLETE SYSTEM



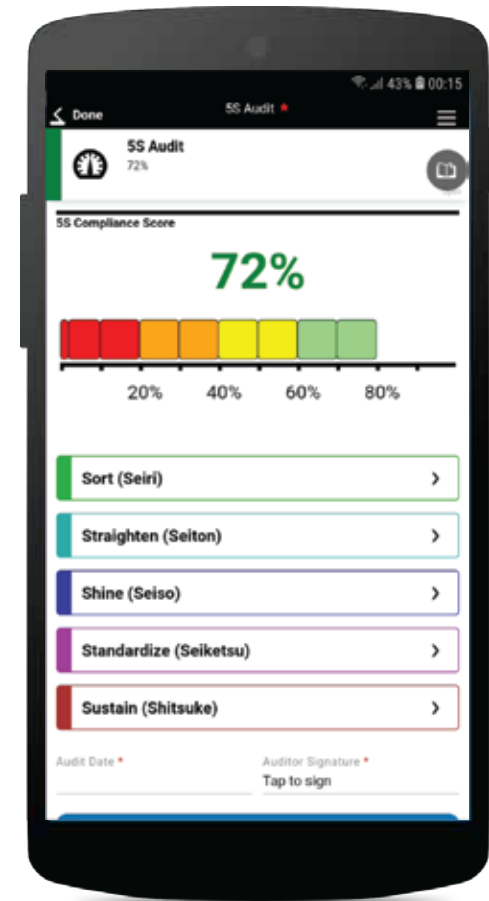
EXAMPLE



Site Visit

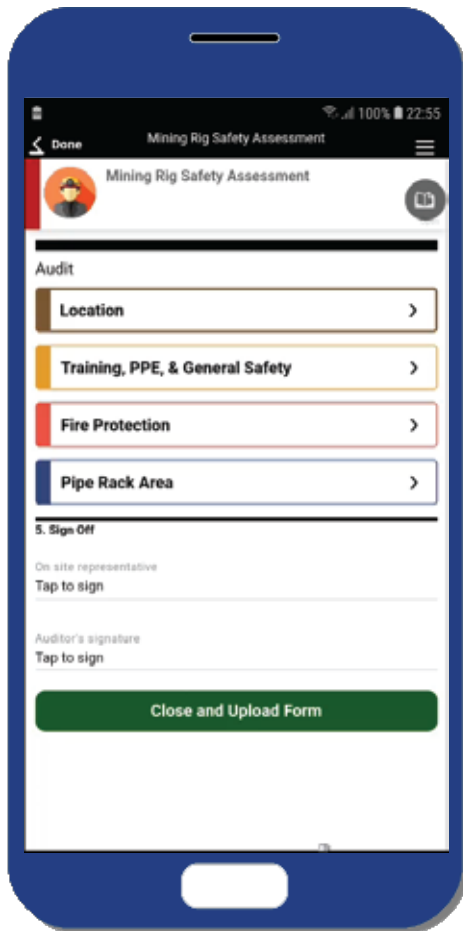


Equipment Inspection



5S Audit

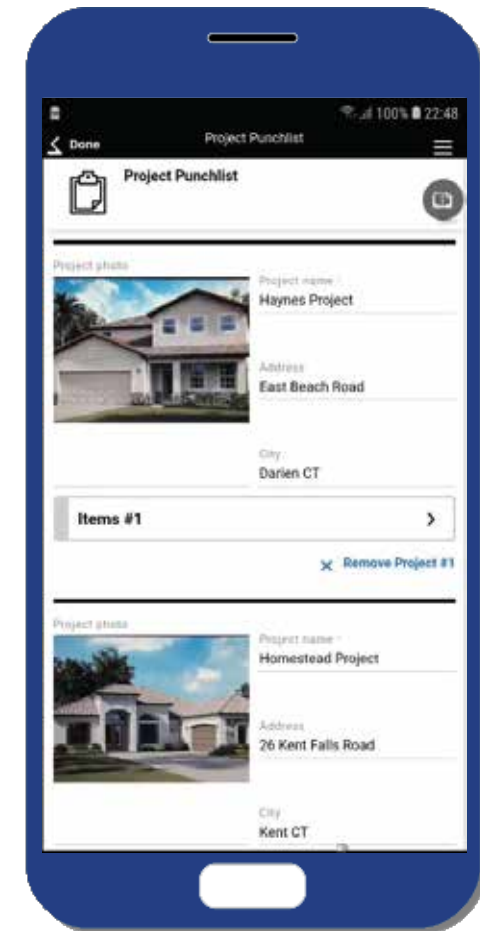
EXAMPLE



Mining Rig Safety Assessment

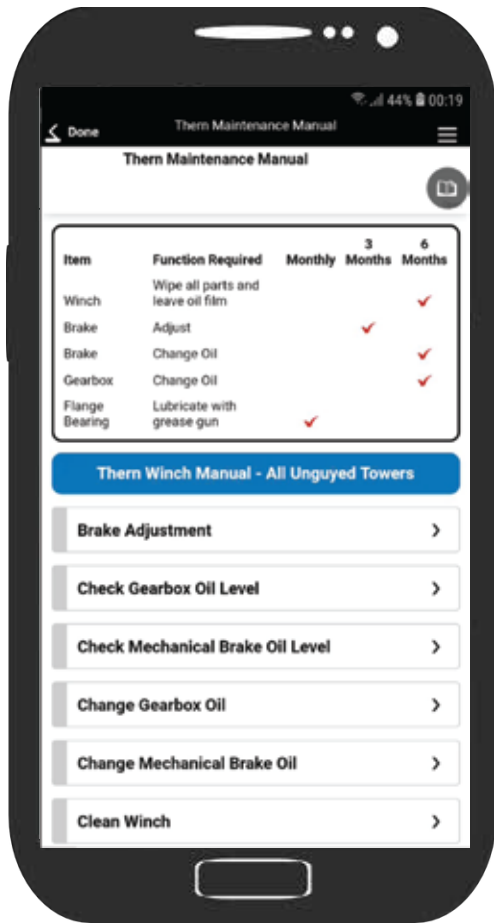


Perioperative Nursing Record



Project Punchlist

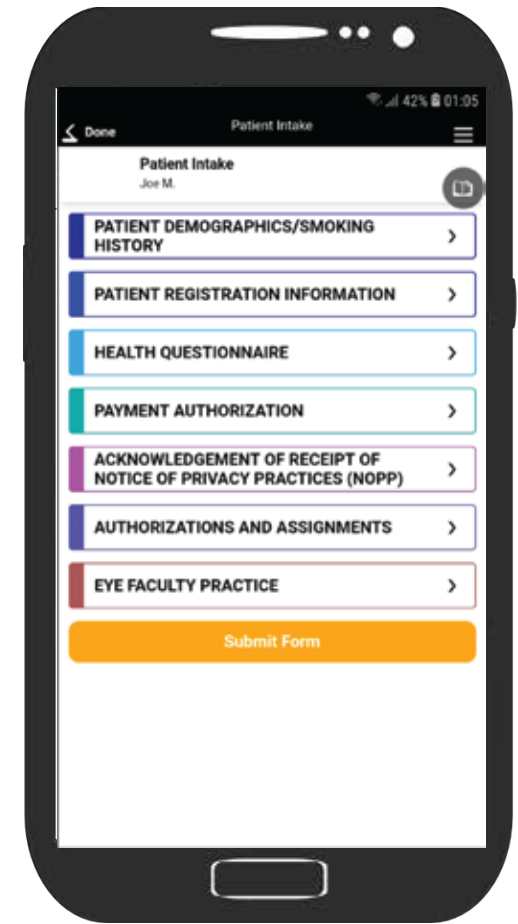
EXAMPLE



Maintenance Manual

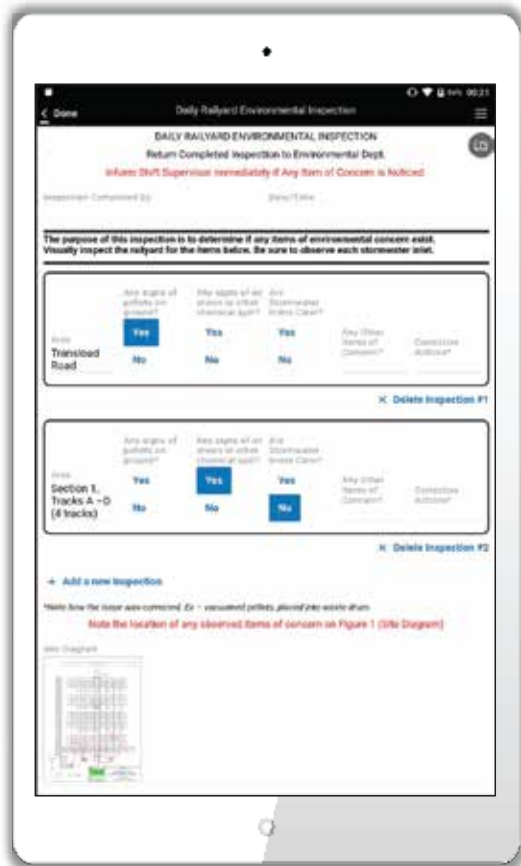


Maintenance/Rollout/Inventory



Patient Intake

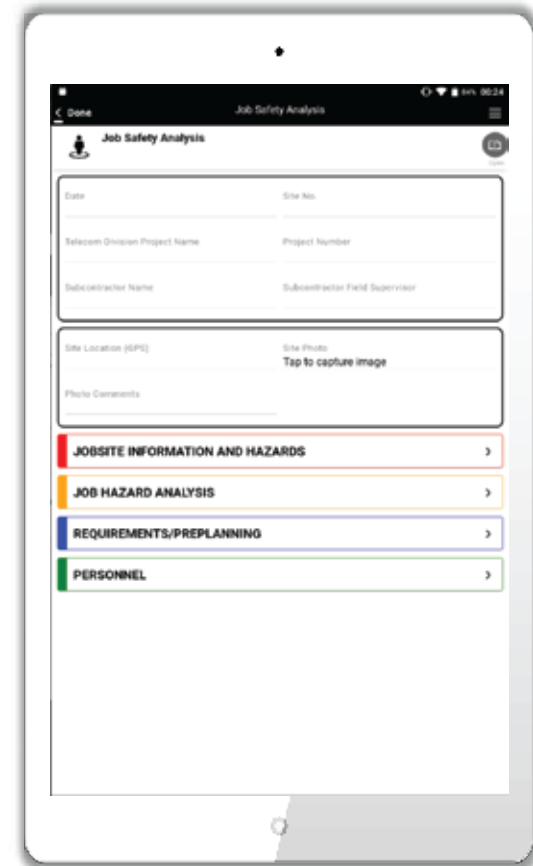
EXAMPLE



Railyard inspection

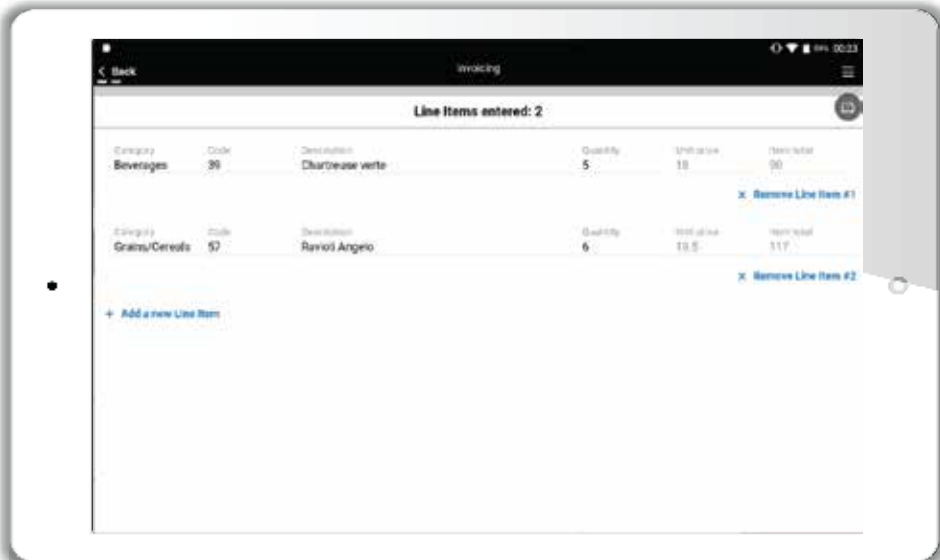
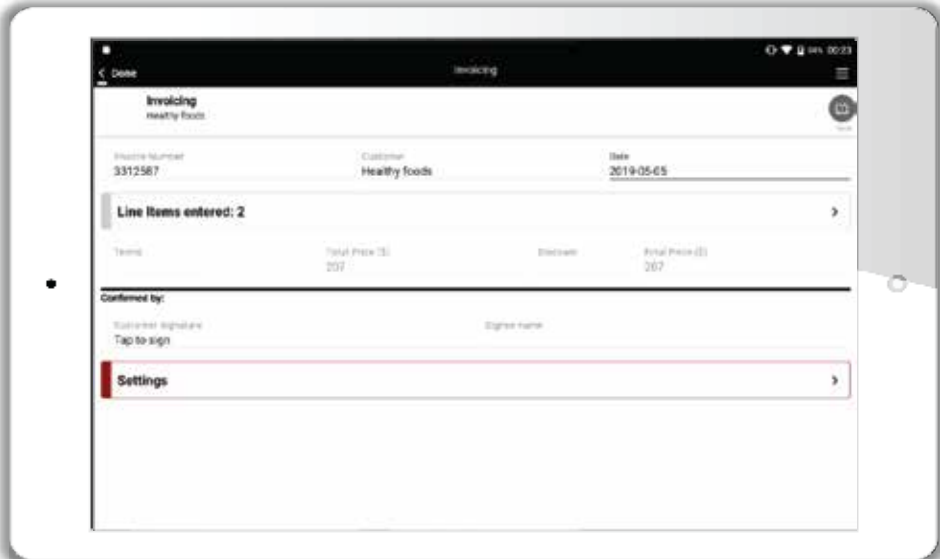


OSHA Self-Inspection Checklist



Job Safety Analysis

EXAMPLE



Invoicing



WHY USE TRANSFORM?

Line-of-business

Digitize field data capture with no programming expertise

Utilize photo capture, barcode scanning, geolocation and other mobile features

“Same-day” deployment of complete apps to mobile

Only a single app to download from App-Stores –regardless of the number of apps deployed

Software developers / system integrators

Backoffice/Management has reduced visibility into what is happening in the field

Manage lifecycle for a larger number of projects –easily support 10s or 100s of different deployed apps

No App-Store submissions required to deploy and update apps

Built-in low-code programming language to extend no-code capabilities

Rich integration options for connecting with other IT systems



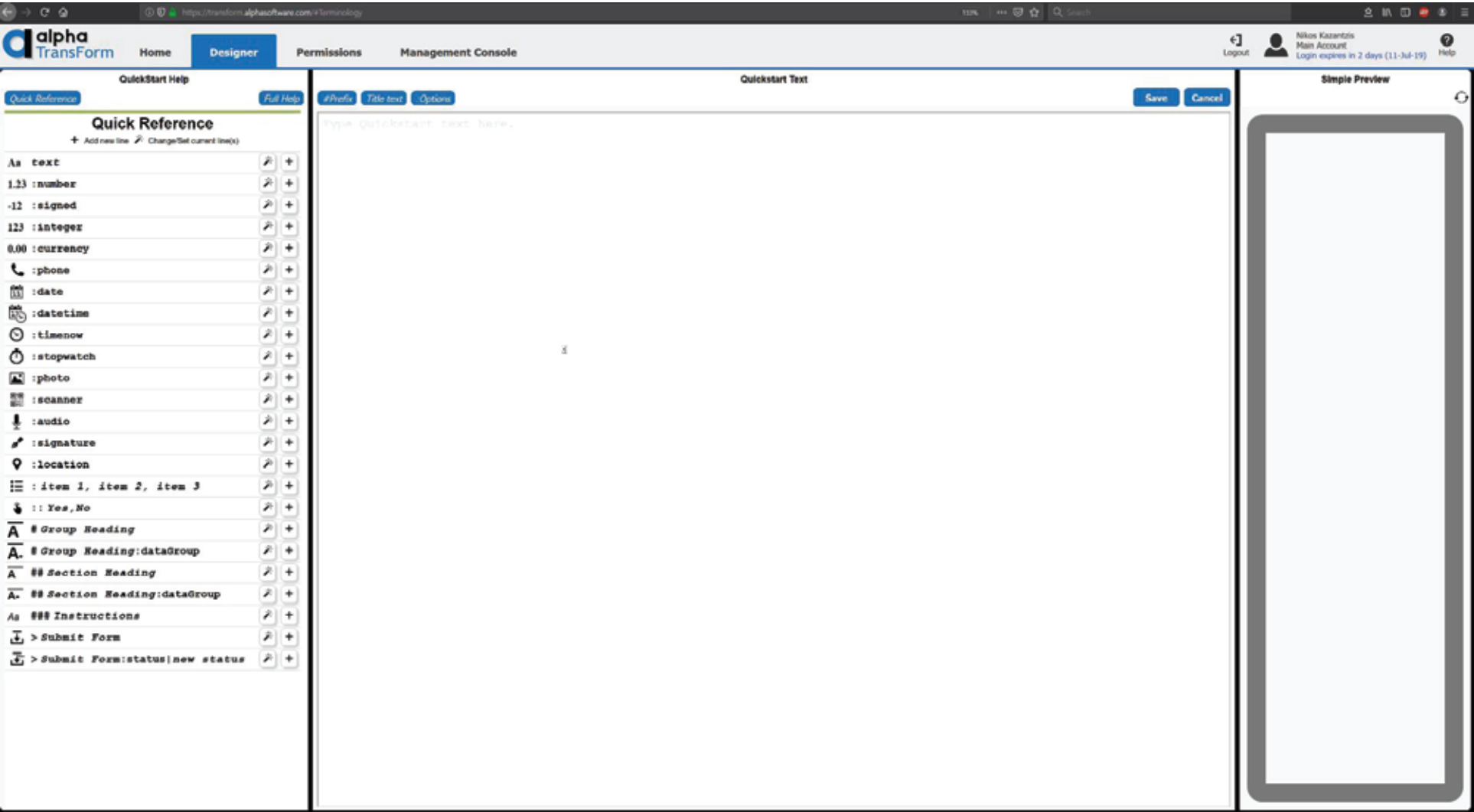
MaziaEVP Transform 2 minute Demo

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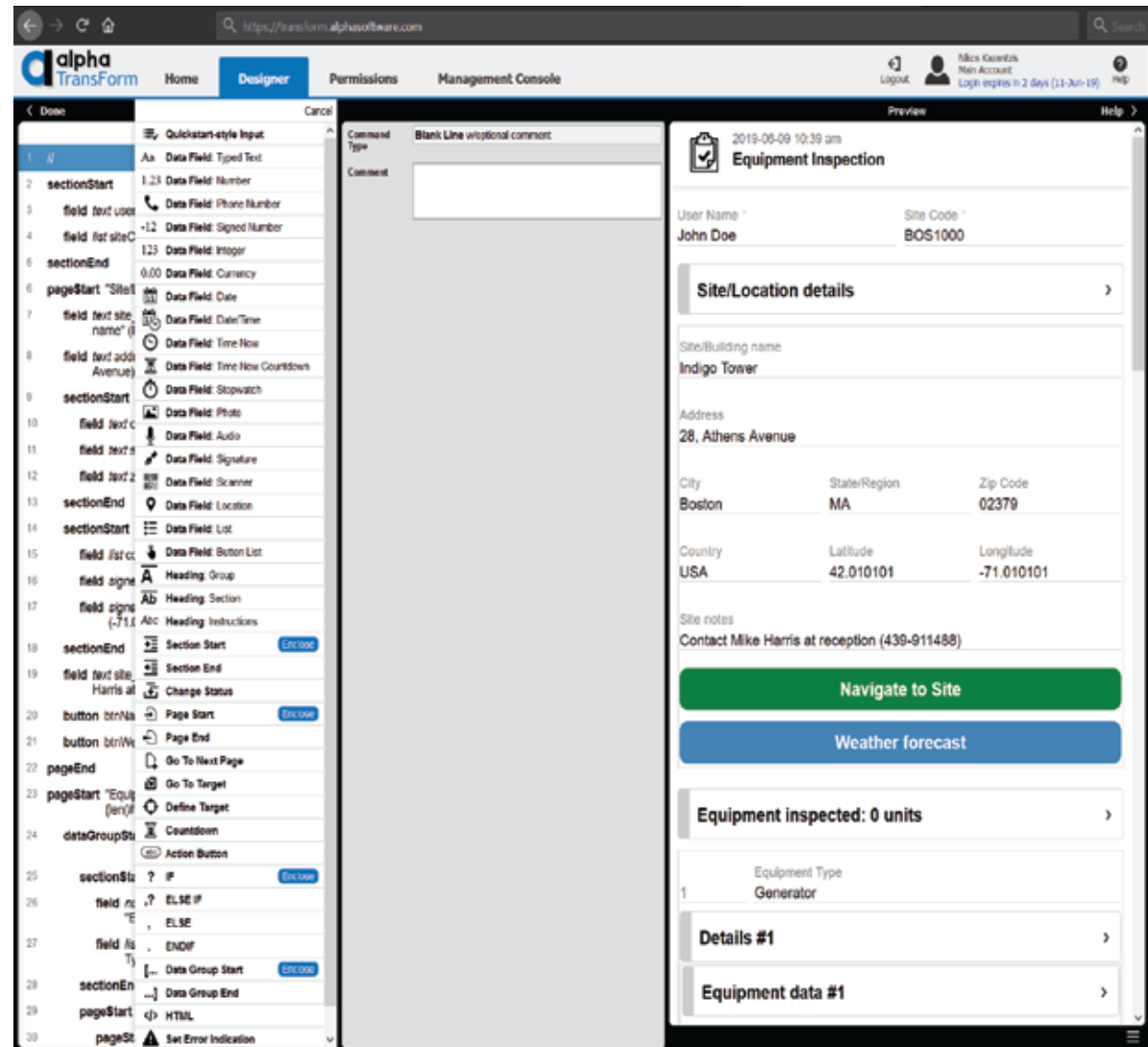
FORM DESIGN QUICKSTART



BUILD APPS BY CONFIGURATION (CODING OPTIONAL)

A WYSIWYG builder allows creation of complex applications, that can include:

- a rich set of data capture field types
- datagroups in single or hierarchical levels
- conditional branches (IF/ELSE)
- layout/UI
- pages/sections/navigation



LAY OUT THE UI TO MAXIMIZE EFFICIENCY

Responsive controls that allow apps to:

- operate in portrait and landscape
- fit on small devices
- take advantage of available screen area of larger devices

The screenshot displays the alpha Transform Designer interface. On the left, a code editor shows the layout structure for a mobile app, including sections for user information, site location details, and equipment inspection. A red box highlights a section of code for site location details, and a yellow callout box points to it with the text "Define sections enclosing elements to layout".

In the center, a configuration panel allows users to define responsive layouts per mobile device size/orientation. It includes options for SMALL, MEDIUM, LARGE, and EXTRA-LARGE screen sizes, with settings for columns, indent, border, width, height, position, and vertical alignment. A yellow callout box points to this panel with the text "Define responsive layout per mobile device size/orientation".

On the right, a preview view shows the rendered mobile app interface. It includes a header with the user name "John Doe" and site code "BOS1000". Below this is a "Site/Location details" section with a "Preview result" button. The details include the site name "Indigo Tower", address "28, Athens Avenue", and a table with location information:

City	State/Region	Zip Code
Boston	MA	02379

Below the table are buttons for "Navigate to Site" and "Weather forecast". The bottom section shows "Equipment inspected: 0 units" and a list of equipment types, including "Generator".

INDIVIDUAL APPLICATION THEMING

Personalize apps with:

- built-in icon library
- custom SVG icons
- text/background/indicator colors

The screenshot shows a configuration interface for a form. At the top, there is a header with a date and time '2019-06-09 11:15:09', a user profile icon, and the text 'Form Name' followed by three colored indicator bars. Below the header, there are three sections for customization: 'Background Color' with a color palette and a text input field containing '#A00'; 'Text Color' with another color palette and a text input field containing '#000'; and 'Icon SVG' with a large empty text area. Below these sections, a note states: 'The SVG must be in an SVG tag and should have a height and width no greater than 50.' At the bottom, there is a grid of various icons for selection.



ADVANCED FEATURES - CUSTOM EMBEDDED BUSINESS LOGIC

Add powerful client-side (offline) calculations, actions and behaviors using the “low code” Transform Programming Language (TPL):



Data input validation

- Verify value or range
- Check input limits
- Compare with other values – on device or external



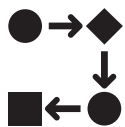
Web service REST API integration

- Call any web service to retrieve list items
- Call any web service to validate data
- Push data to web service



Calculations

- Client-side calculated values (sums, averages, products) from entered data
- Rich set of built-in functions that include date arithmetic
- Can be linked to events for automatic re-calculations



Work flow

- Manage form “state”
- Trigger actions based on “state”
- Process “state” based on entered data

TPL EXAMPLES

Validation of entered data within a permitted range of values to produce Pass/Fail results automatically

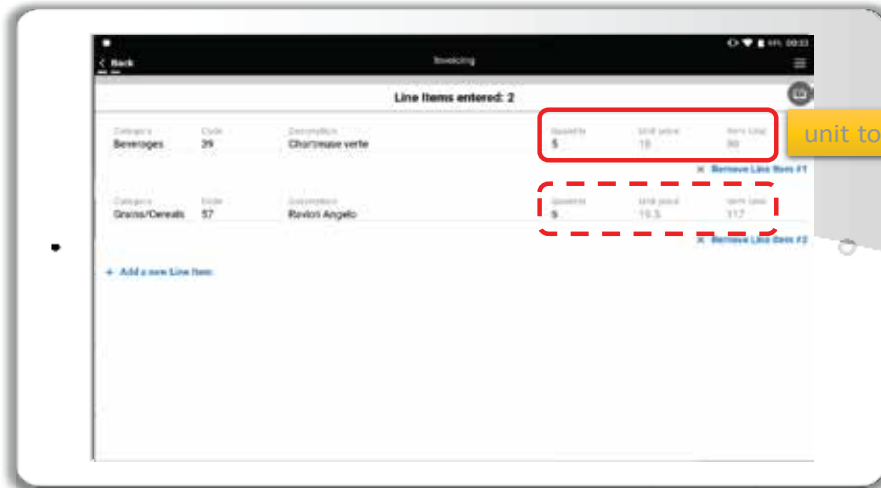
The screenshot shows a mobile application interface for 'Equipment Inspection'. It features a table for data entry with columns for '% of span', 'UNITS (mmH20)', 'Actual Input (mmH20)', 'As found (mA)', 'Calibration Min/Max (mA)(-/+2%)', 'Failure Min/Max (mA)(-/+5%)', and 'PASS/FAIL'. The table has three rows: 0%, 50%, and 100%. Annotations highlight the data entry process: 'Entering a measurement' points to the 'Actual Input' field where '19.1' is entered; 'Checks it against Min/Max limits' points to the 'Failure Min/Max' field where '19.20/20.80' is entered; and 'Automatically determines Pass/Fail' points to the 'PASS/FAIL' column where 'FAIL' is displayed. A 'Step 8' instruction at the bottom explains the failure handling process.

% of span	UNITS (mmH20)	Actual Input (mmH20)	As found (mA)	Calibration Min/Max (mA)(-/+2%)	Failure Min/Max (mA)(-/+5%)	PASS/FAIL
0%				3.68/4.32	3.20/4.80	PASS
50%			10.9	11.68/12.32	11.20/12.40	FAIL
100%		19.1		19.68/20.32	19.20/20.80	FAIL

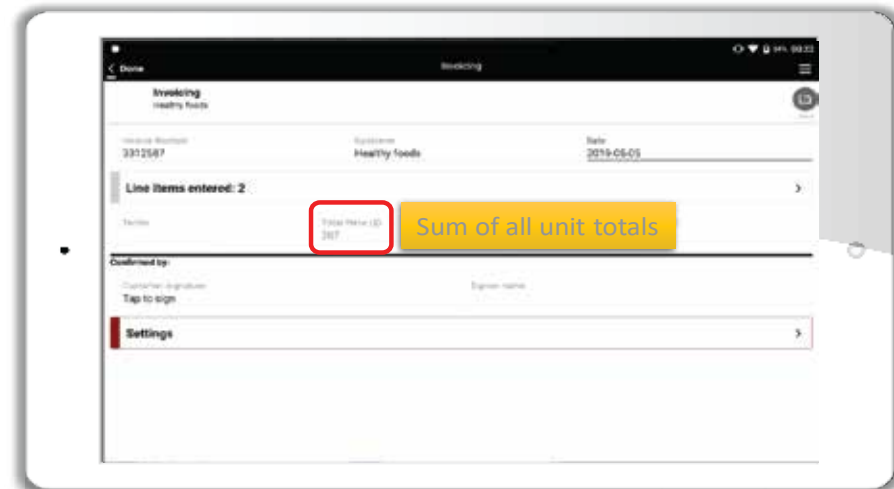
Step 8 If the calibration test failed the test enter the failure code, repair the transmitter and re-test the transmitter as in Step 6.
If the calibration test fails the calibration accuracy, repair the transmitter and re-test the transmitter as in Step 9.
If no failure and within calibration, the test is complete.

TPL EXAMPLES

Calculation of product and sum values across arbitrary quantity of elements



unit total = quantity * unit price (only defined once, automatically applied to all added rows)



TPL EXAMPLES: DYNAMIC LISTS AND REMOTE LOOKUPS

Equipment Inspection

Site/Location details

Site/Building name

Address

City State/Region Zip Code

Country Latitude Longitude

Site notes

Fill in fields manually ?



Equipment Inspection

Site/Location details

Site/Building name
Indigo Tower

Address
5, Main Str.

City Boston State/Region MA Zip Code 01123

Country USA Latitude 42.313131 Longitude -71.070707

Site notes
Retrieve pass from Reception at Entrance C

Fill in fields automatically via external data source (e.g. REST API or Google Sheets)

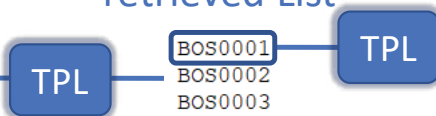
Site_Code	Site_Name	Address	City	State	Zip	Country	Lat	Lon	Site_Notes
BOS0001	Indigo Tower	5, Main Str.	Boston	MA	01123	USA	42.313131	-71.070707	Retrieve pass from Reception at Entrance C
BOS0002	Hghrise 5	24, Oak Str.	Boston	MA	01211	USA	42.343434	-71.171717	Call Security Officer before entering
BOS0003	Hghrise 1	24, Part Str.	Boston	MA	01212	USA	42.353535	-71.161616	No security in building

Equipment Inspection

User Name *
Nikos Kazantzis

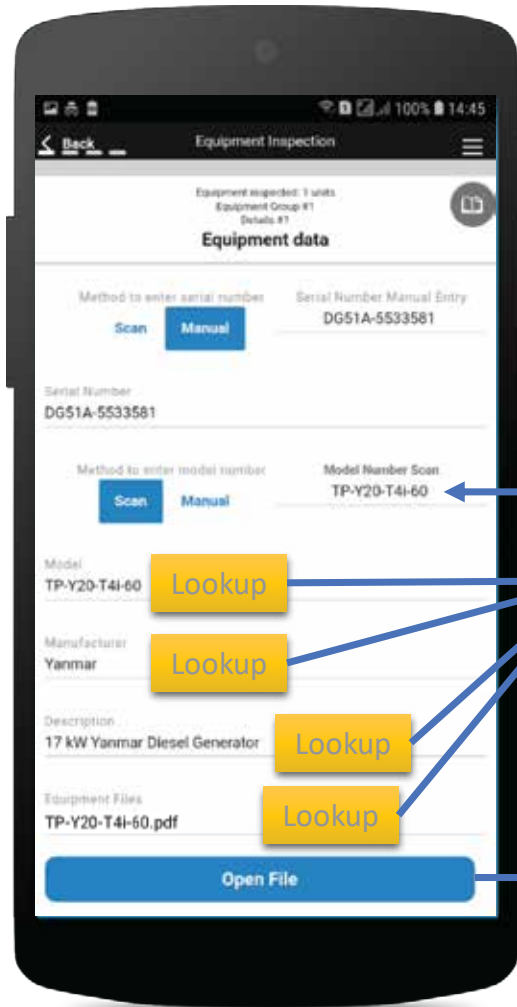
Site Code *
BOS0001

Pick from
retrieved List



The relevant data is automatically filled in on the form

TPL EXAMPLES: ON DEVICE LOOKUPS AND FILES



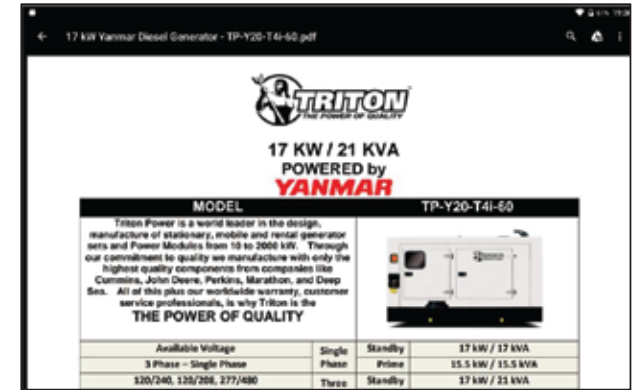
Scan barcode



Store barcode

Lookup barcode from on-device SQLite database and populate form fields with reference data

Access relevant on-device files (PDFs, videos, images etc.) via suitable native mobile device apps



Complete process can operate offline

TPL SCRIPTING - CODE EDITOR

A built-in TPL code editor:

- event-based at field and app level
- rich function library with documentation
- custom user functions with arguments

The screenshot displays the alpha Transform Designer interface. The top navigation bar includes 'Home', 'Designer', 'Permissions', and 'Management Console'. The user is logged in as Nikos Kazantzis. The main workspace is divided into three panels:

- Form-Level On-Handlers:** A table listing various fields with their corresponding data types and edit/change buttons. Fields include Invoice Number, Customer, Date, Line Items entered (len(#lineItemsArray)), Item Group 1, Category, Code, Description, Quantity, Unit price, Item total, Terms, Total Price (\$), and Discount.
- Code Editor:** A text area containing TPL code for calculating the total price with a discount. The code includes comments and logic for rounding and applying a discount percentage.
- Reference Code Fields:** A panel showing a 'Function List' and 'All Built-in Functions'. The function list includes categories like Ajax, Array, Date, Execution, Interim, JSON, Math, Msg, Number, Object, Regexp, String, and Time. The 'All Built-in Functions' section lists 106 functions such as abs, acos, ajaxGET, ajaxSendRequest, args, arglen, array, arrayConcat, arrayCopy, arrayCopyMap, arrayFilter, arrayFilterIndex, arrayFirst, arrayFirstIndex, arrayIndexOf, arrayInsert, arrayJoin, arrayObjValue, arrayPop, arrayPush, and arrayRemove.



TPL - A POWERFUL TOOL, NOT A BARRIER

TPL is an optional capability

Only a small percentage of Excel users write VBA code.

Yet millions of people continue to use Excel very effectively without knowing about VBA.

Similarly, sophisticated forms/apps can be built in TransForm without TPL.

TPL is the enabler for even more advanced features and capabilities.

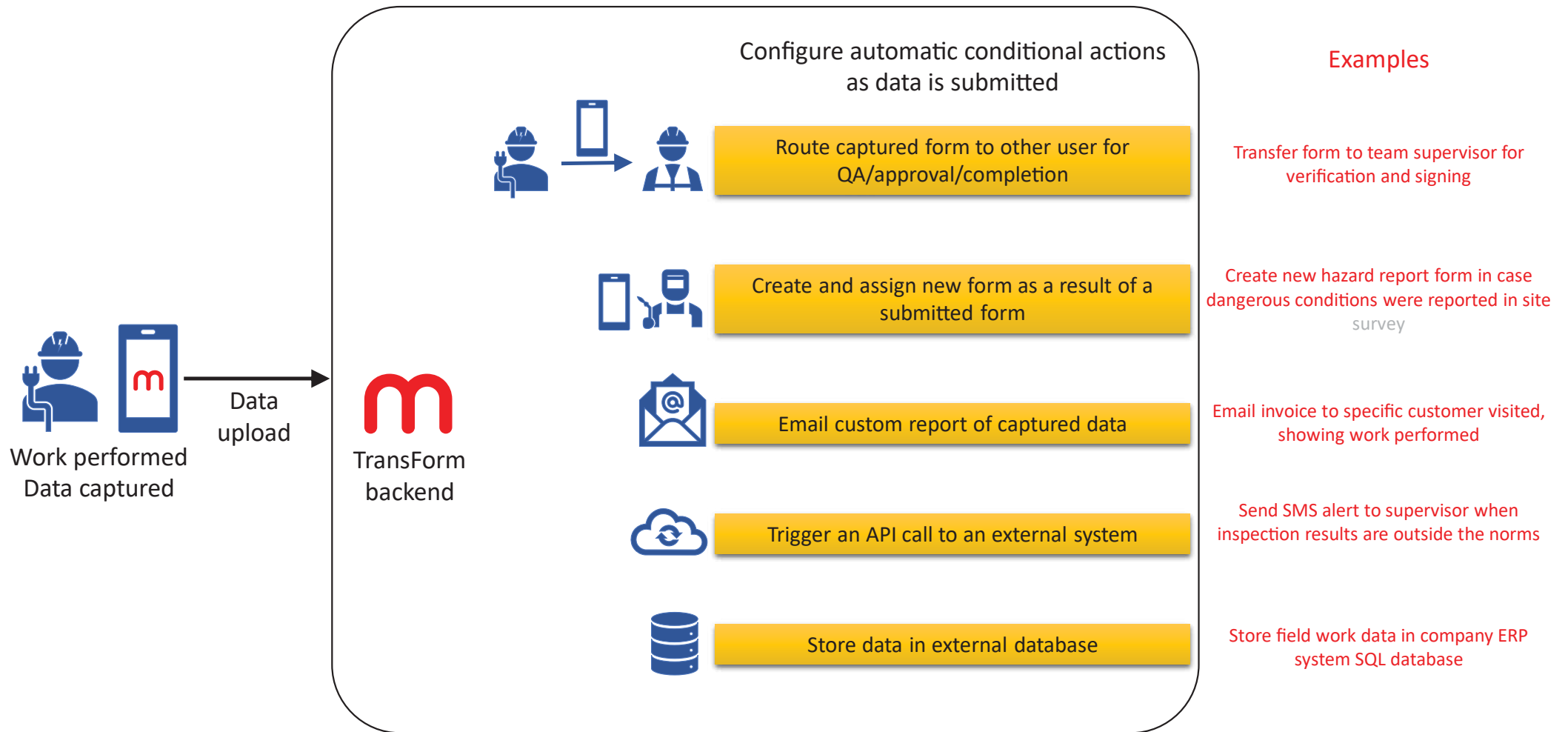
TPL is low code

TPL is not a general-purpose programming language. It is a “low code” implementation that was developed specifically for a data capture app like TransForm.

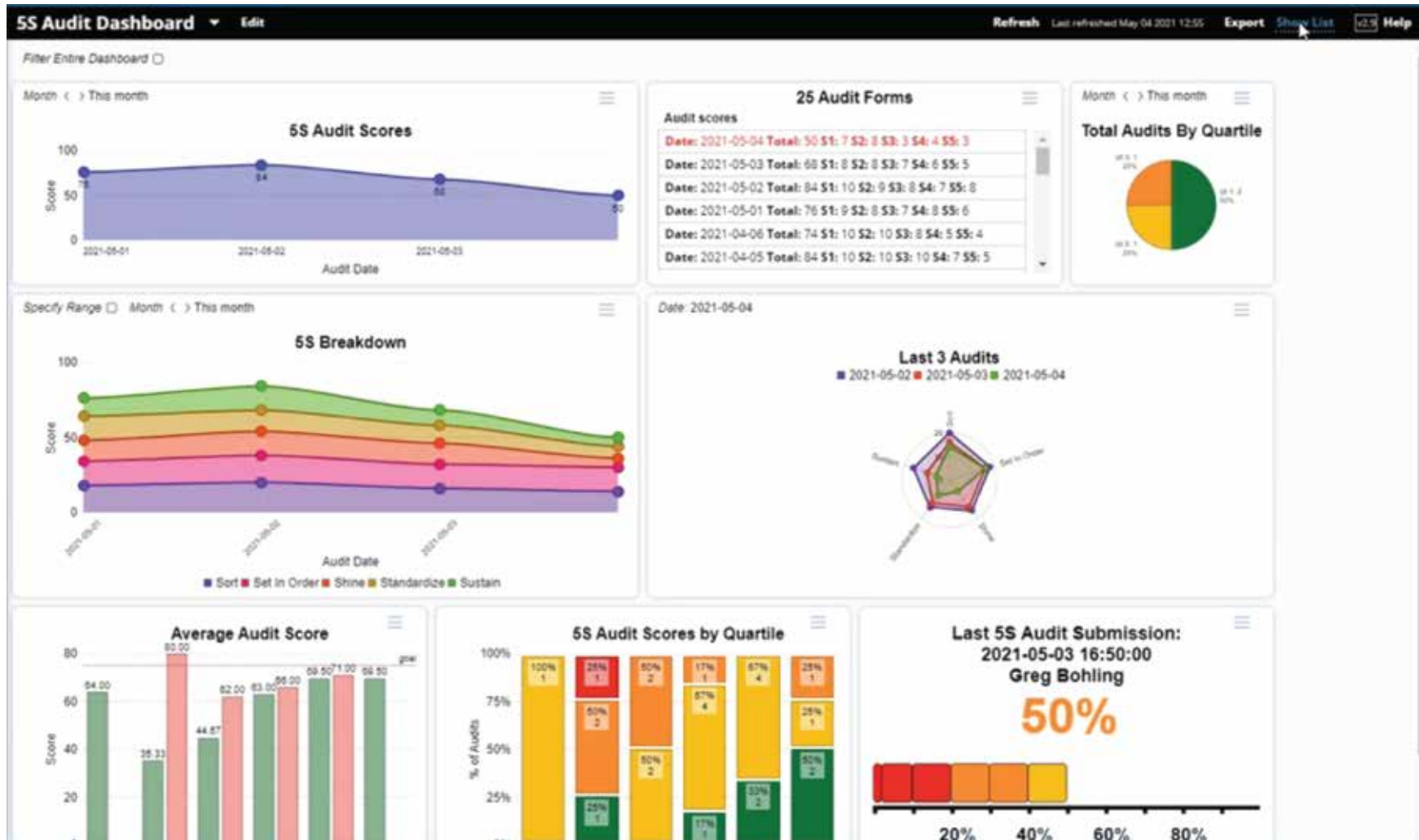
Learning to use TPL is much simpler compared to a general-purpose computer language – existing developers can work proficiently and produce powerful results in a matter of hours/days.



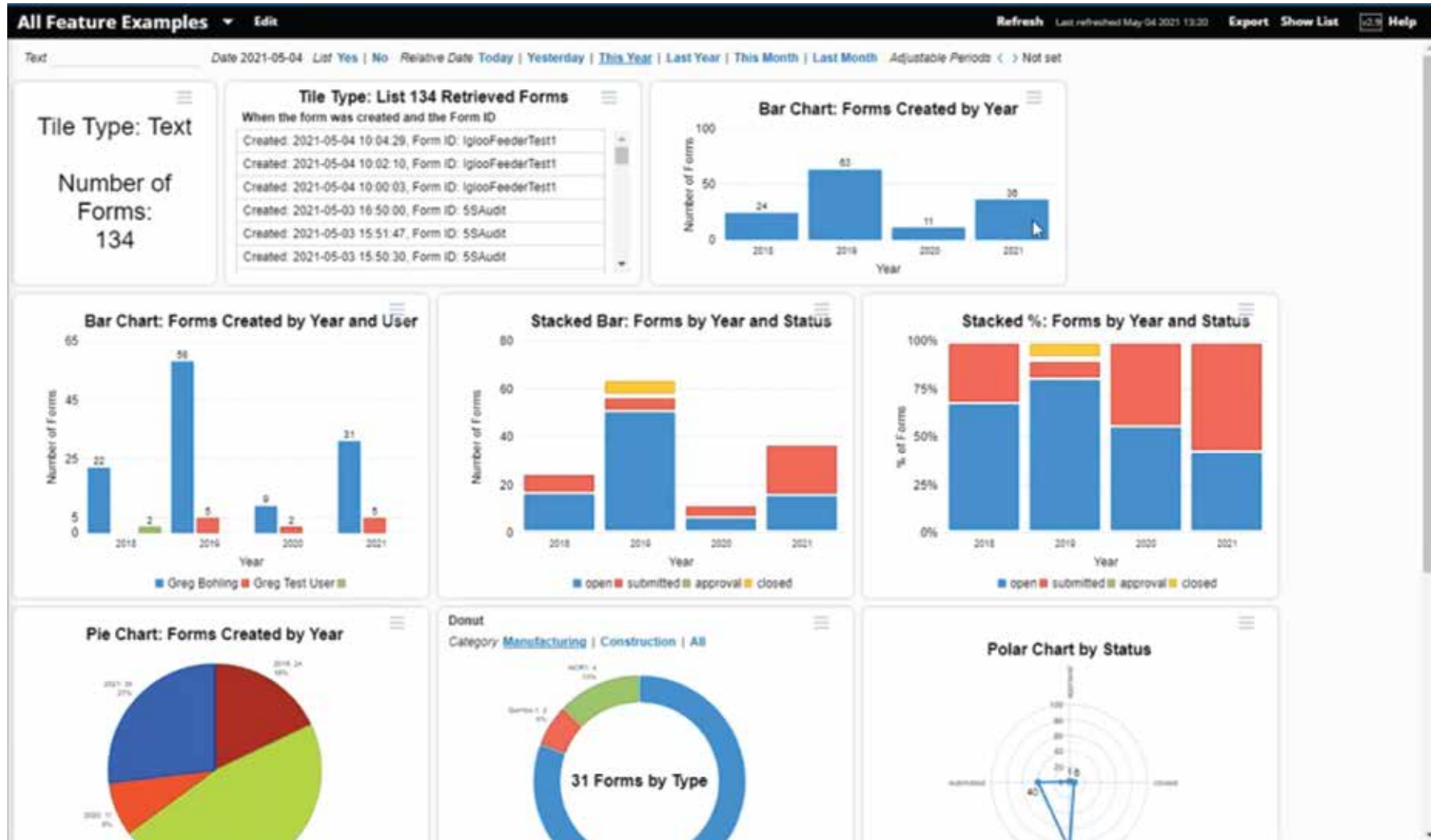
TRANSFORM: ENABLING ADVANCED DIGITAL WORKFLOWS



DASHBOARDS



DASHBOARDS



DASHBOARDS

5S Audit Dashboard Edit Refresh Last refreshed May 04 2021 13:17 Export Show List Help

Customize Dashboard Tile #2 Import/Export Save Cancel

Properties Filtering Sort Order User Inputs Tile Type: Chart List Text

Tile Size
Width: Medium; Height: Small

Template Text (TPL template)
*`{@audit...`

Chart Title
*`{@dash.rows} Audit Forms`

List Title
*Audit scores

Titles
Chart: *`{@dash.rows} Audit Forms`. No legend

TPL Functions (advanced)
*`function (@auditSummary, @ data=@grid) { return ...`

Auto-Preview

TPL Functions

```
return &" <b>Total</b>" & data.totalScore  
return &" <b>S1</b>" & data.sortScore &" <b>S2</b>" &  
data.setInOrderScore  
return &" <b>S3</b>" & data.shineScore &" <b>S4</b>" &  
data.standardizeScore  
return &" <b>S5</b>" & data.sustainScore  
return &" </span>"  
return rtn
```

Month: < This month

Total Audits By Quartile







Audit Submission:
1-05-03 16:50:00
Greg Bohling
50%

DASHBOARDS

Dashboard

Last refreshed 1 minute ago Refresh

Check All Clear All

	Status	Created	User Name	Details	# Photos	Place Born
<input type="checkbox"/>	Open	October 23, 2017	Dan Bricklin		 7	PA
<input type="checkbox"/>	★ Open	December 4, 2017	Dan Bricklin		 1	
<input type="checkbox"/>	★ Open	June 25, 2018	Dan Bricklin		 1	PA
<input type="checkbox"/>	★ Open	August 22, 2018	Dan Bricklin		 3	PA
<input type="checkbox"/>	★ Open	August 22, 2018	Dan Bricklin		 1	
<input type="checkbox"/>	★ Open	August 22, 2018	Dan Bricklin		 1	

Form Contents

Form View Editable Fields

😊 General Sample
Oct 23, 2017 3:28pm

The purpose of this form is to serve as a general test for usability and training.

Please fill out the entire form.

There is no need to provide truthful answers. This is not a test for collecting real data but rather a test of using this app.

Overall Information

Is this the first time you are filling out this form? *

Yes

In which state or province were you born? *

Pennsylvania

Your birth date *

1951-07-16

Do you wish to include refrigerator inventory?

Actions

[Export Selected Form](#)

[View Comments](#)

[Delete Selected Form](#)

User Name or Queue
Dan Bricklin

User ID Queue

danbricklin@bricklin.com

[Revert](#) [Save changes](#)

Prevent Filler from downloading

Yes No

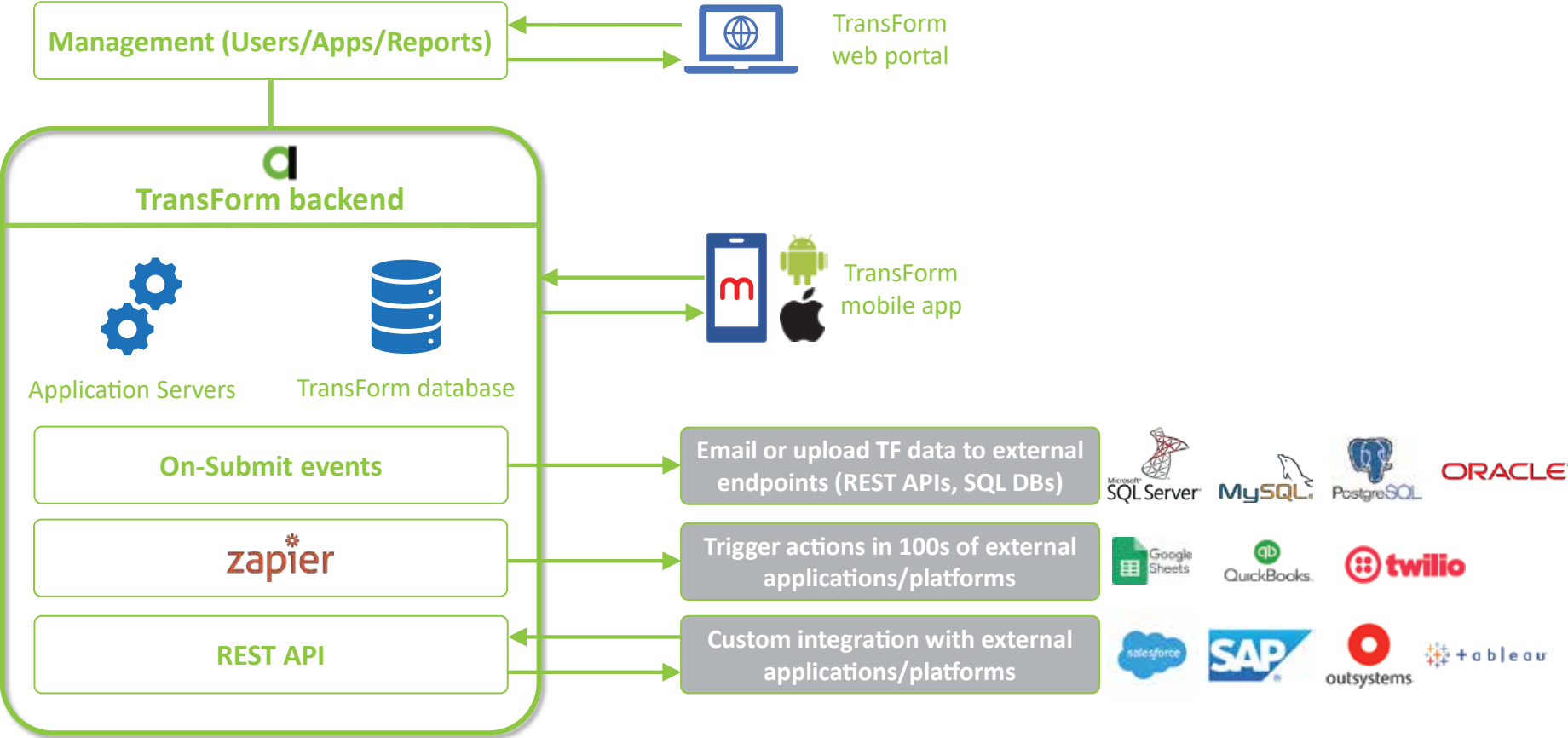
Change Status
Currently: Open

Submitted

Closed

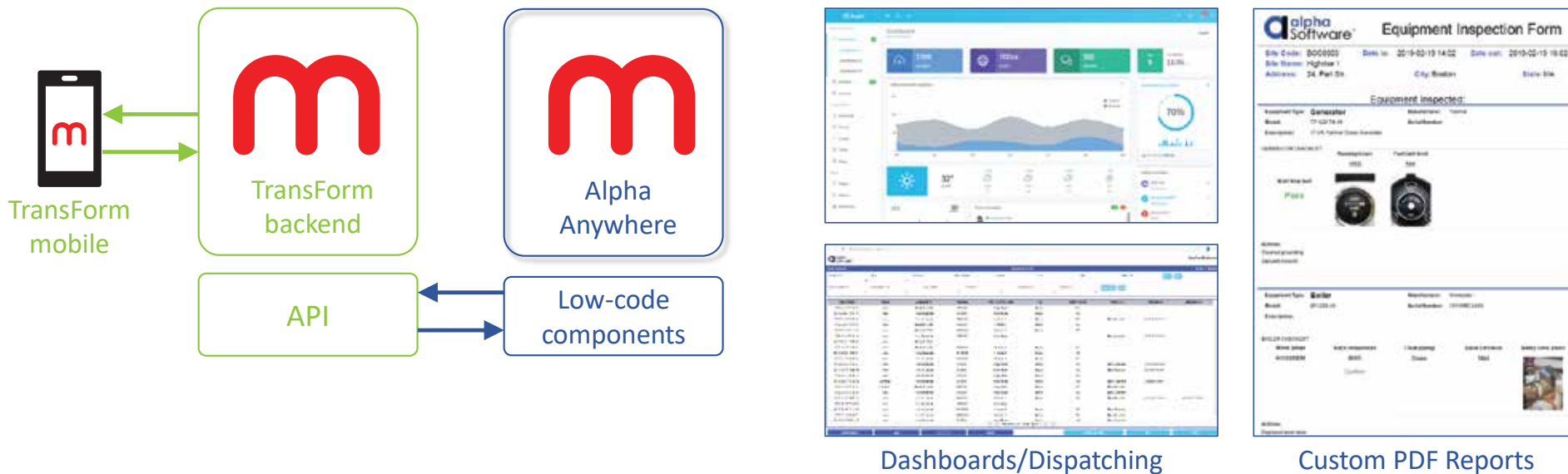


MOBILE AS PART OF A COMPLETE SYSTEM

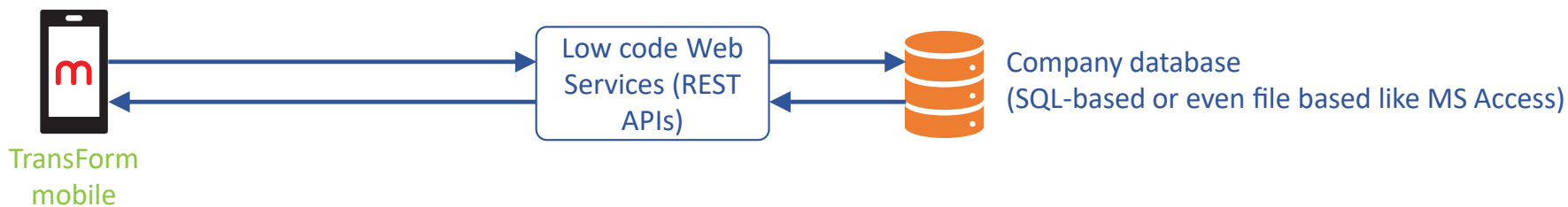


TRANSFORM + ALPHA ANYWHERE - INTEGRATED SOLUTION PLATFORM

Use Alpha Anywhere to build customized backoffice applications to display/analyze/report-on the captured data

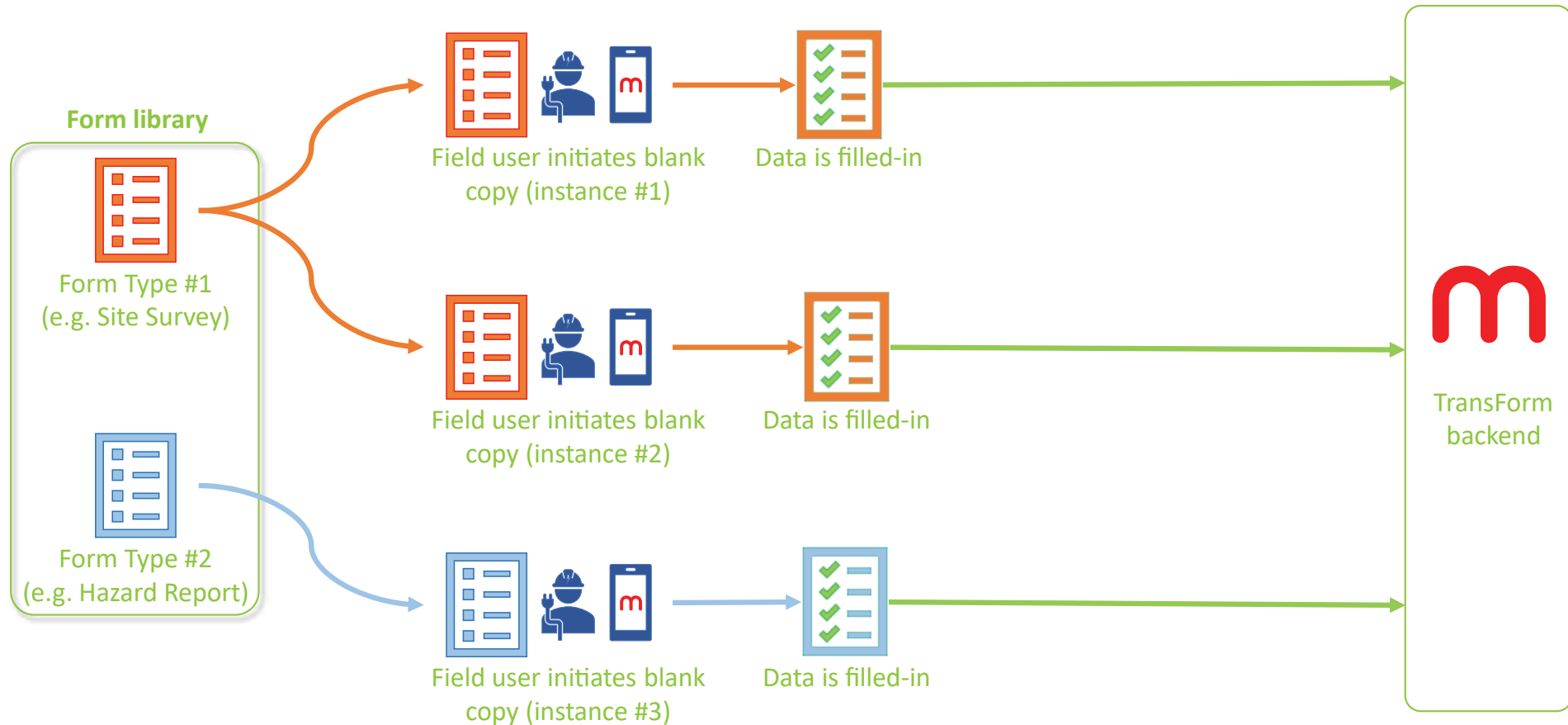


Use Alpha Anywhere to build Web Services on top of company databases to access them directly from Transform mobile

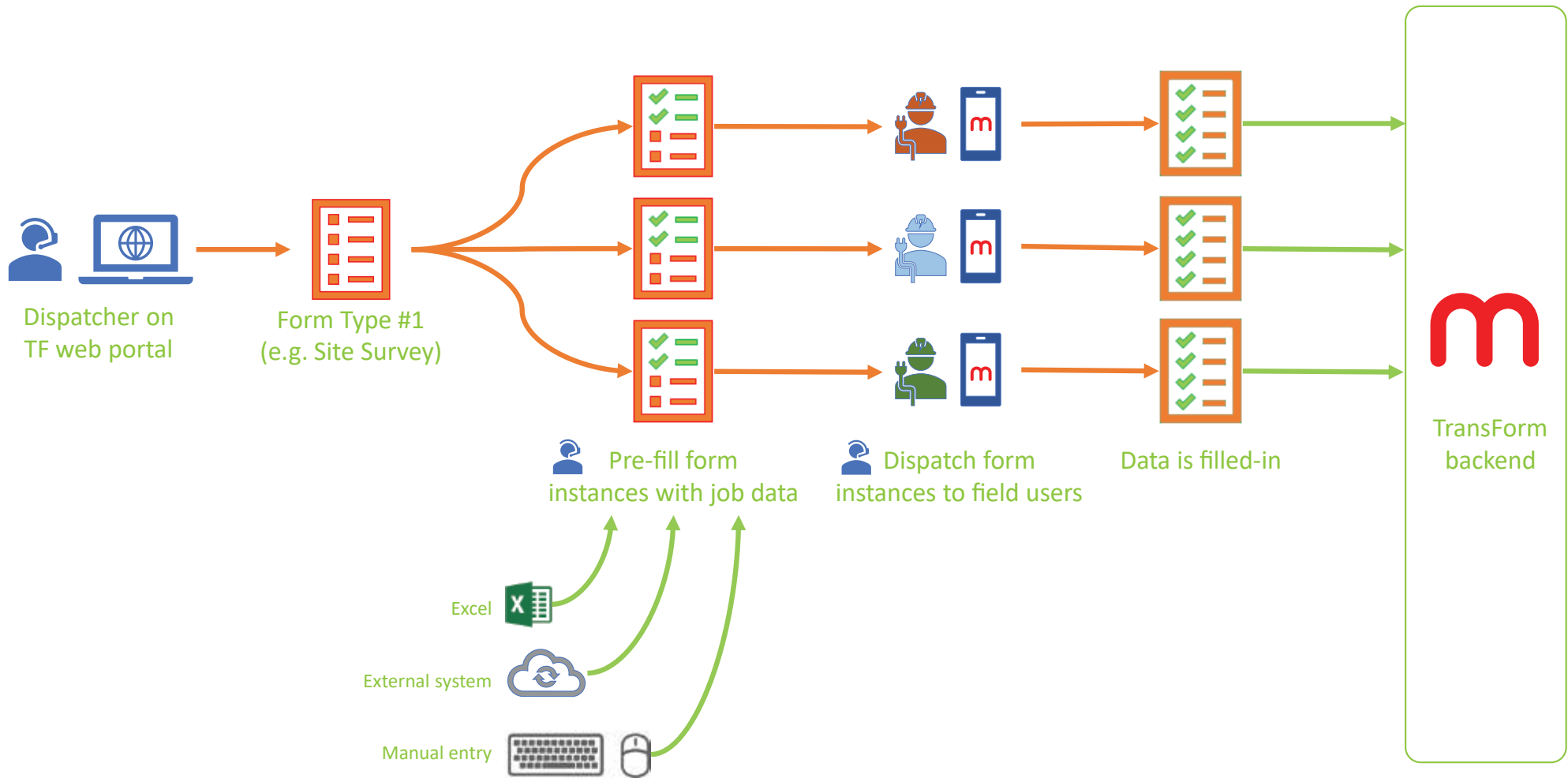


TRANSFORM WORKFLOW: FIELD-INITIATED DATA CAPTURE (AD-HOC)

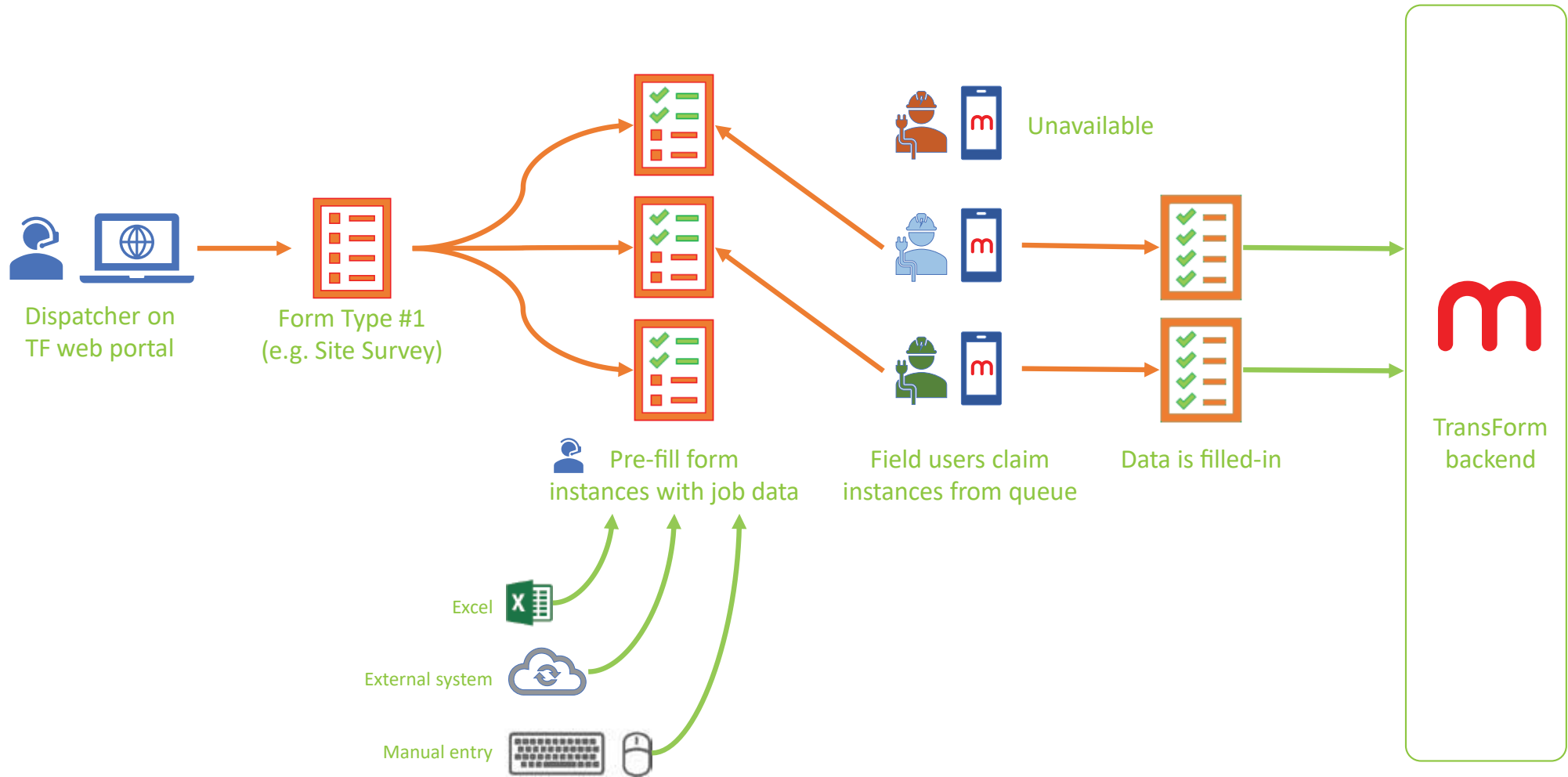
TransForm workflow: field-initiated data capture (ad-hoc)



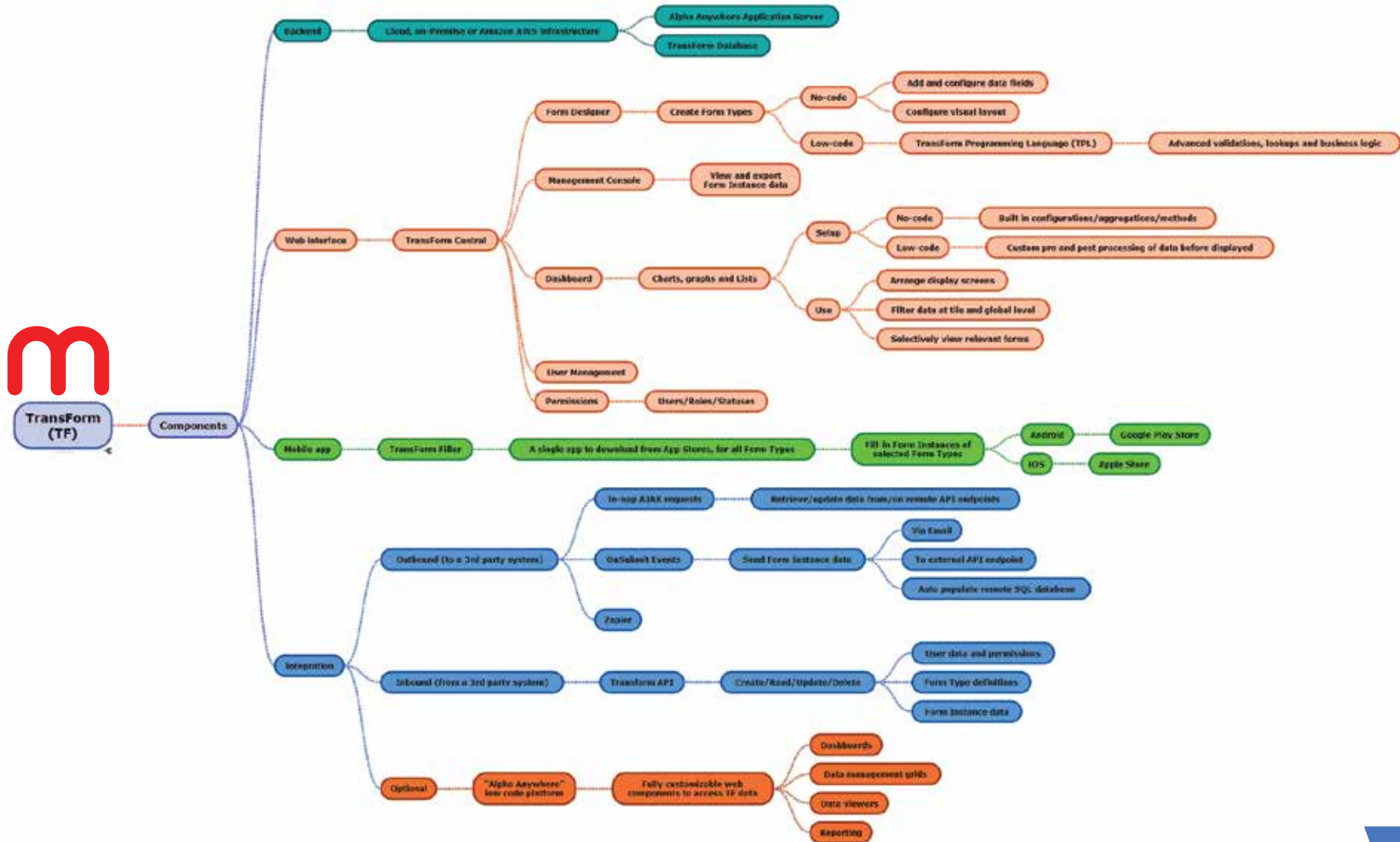
TRANSFORM WORKFLOW: DISPATCH



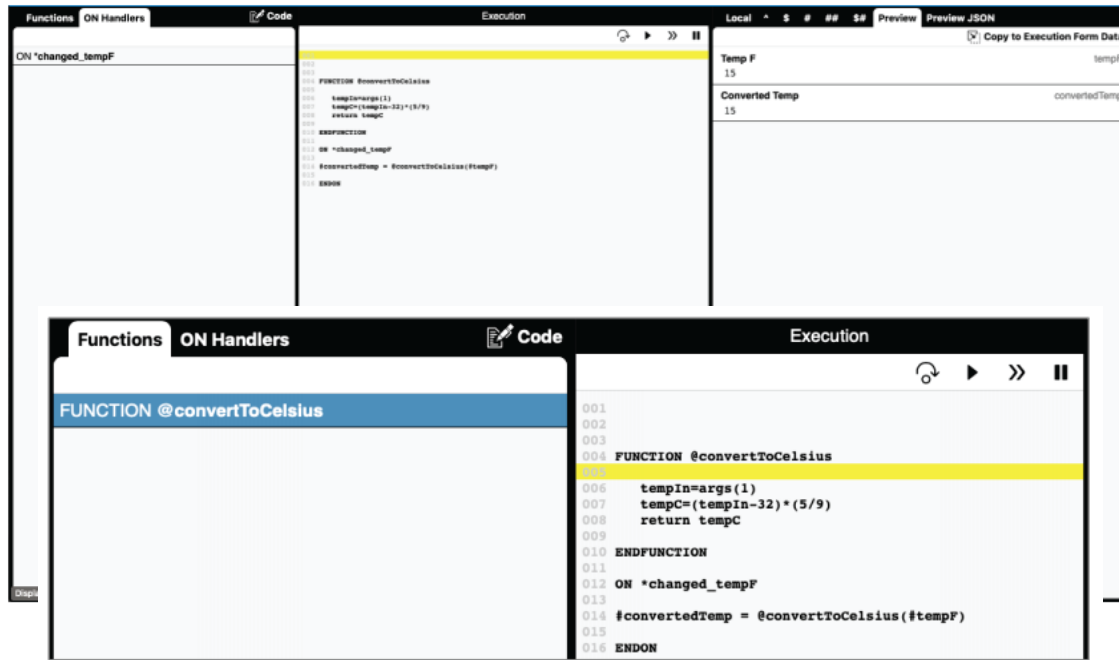
TRANSFORM WORKFLOW: QUEUING



TRANSFORM PLATFORM



TPL DEBUGGING



Built-in TPL debugger inside the form designer



Mobile TPL debugger

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