Touch IoT Design Challenge Submission

1. Story

In the Utilities industry – especially in the Water domain, the wholesaler (companies managing the assets (pumps, loggers etc.)) is responsible to ensure continuous supply of water, pre-empt outages, reduce leakages, treat wastewater and keep the customer informed. Further, the organization is audited by the regulator and awarded/penalized based on the KPI’s marked across industry standards.

With this background, it is evident that the ‘Operations’ team needs to have real-time (not near real-time) information on water pressure, burst mains, flooding, leakages so that quick action can be taken to minimize the impact on environment and the customer.

Presently, most water companies rely on M2M (machine-to-machine) connections to get data from assets; this if often re-active and historic information and the challenge is to move to pro-active, real-time updates.

The app is designed and targeted to the Outage Management teams that look at the historic, real-time data and predict the possibility of low water pressure, leakages etc.

Segmentation : Industry focus – Utilities (Energy & Resources)
Target : Outage Management Teams
2. Persona

Name: Des Harris

Background: To-the-point, articulate, decisive

Job Title / Role: Operations Mgr

"For me, I would like to..."

: prevent any ‘financial shock’

JOBT RESPONSIBILITIES
Main tasks and frequency:
- Responsible for assets
- Review status of assets
- Monthly Highlight report to Head of Ops
- Quarterly regulatory reporting

NEEDS
- To better manage the information data from assets;

STAKEHOLDERS
Main persons in contact during work:
CFO, Managers, Team Leads

MAIN GOALS
- Predict Outages
- Asset Efficiency
- Asset Health
- Compliance to Regulatory reporting

PAIN POINTS
- Real-time insight missing
- Multiple systems involved
- Manual process
- Regulatory reporting is a nightmare

3. Point of View

User: Des Harris (Operations Manager)

Needs a way to: effectively predict outage (including leakages etc.)

So that: action can be taken to reduce impact to customer/environment

Because: currently the process is manual intensive, laborious often resulting in delay in decision making
4. User Experience Journey

Touch IoT Design Thinking Challenge
User Experience Journey

Mindset
What is on the Person’s mind while taking the actions of their journey? How do they feel each step of the journey?

Where should I check? 
Check systems

Should I ask the team leader? 
Email/Call the TL

Or I remember 
Log On

What codes do I use 
Check user guide

Is this everything that I need? 
Check other systems

Job Done? 
Email/Call the TL/Manager

Actions
What actions and activities does the Person take while going thru the journey to achieve their goal?

Feelings

Touchpoints
What touch points does the Person have? (Tools, channels, devices, conversations, and so on.)

4. User Experience Journey

5. Mock Up

The mock-up is an app to view the pumping station details for the defined KPI’s with a view to predict possible outage.

The user is provided with a dashboard view with the Pumping Station overview details.

When the user clicks on the tile, he is navigated to the detailed view page. Here, he is presented with relevant information.

The user can select the relevant pumping station based on geographical consideration. Also, the assets (pumps) details at the selected pumping station are displayed. In this example, the ‘North East’ area is selected and the KPI for Efficiency, Temperature and Flow rate are displayed over a 10 hour period.

The predictive algorithm provides the probability of outage based on the key parameters of operation.
Overview Page

Dashboard

<table>
<thead>
<tr>
<th>Status</th>
<th>Alerts</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pumping Station Status</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Needs Attention</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coming Soon</td>
<td></td>
<td>FYI</td>
</tr>
</tbody>
</table>
The Efficiency Chart shows that the pump is not operating at the 99.5% efficiency.
The Temperature Chart shows that the pump NW74920-03-WS is operating at a higher temperature than normal.
The Flow Rate chart shows that the pump NE03938-03-WS is not meeting the expected standard.
The threshold of 60% is baselined for predicting an outage. The user would also be able to notify the service provider (Trex Services) at the pumping station to take action by clicking the ‘Notify’ button.

![Notify Button](image)

The user can also see the geographical location of the pumping station as a map

![Map of Pumping Stations](image)

**Mock-up URL:**

https://standard.build.me/prototype-editors/api/public/v1/snapshots/225739c514a83ee10e1911b0/artifacts/latest/index.html#/main_page