Summary:

The Bus Depot Manager for a State Transport Authority needs a solution to monitor the condition of all buses in his depot in Sydney, New South Wales, Australia.

Storyline:

The Bus Depot Manager is interested to know in what conditions the buses of his fleet are. That means he is particularly interested in monitoring the status of the engine, brakes, wheels and lights. In addition he would also be keen to have an overview of the average fuel consumption per bus and what are possible reasons for deviations. If he is alerted about a usual status of the bus components he could do corrective actions prior to a possible bus breaking down.
John
Depot Manager

“\textit{I like when things are moving as this brings people forward and closer to the things they want to achieve or get done.}”

- 42 years old, married and 2 kids
- 12 years of experience in Fleet and Maintenance Management.
- I work closely with the bus drivers, bus dispatcher and (field) technicians.
- Mostly working in my office but also outside to support the field technicians in case of emergencies.

**Responsibilities**

- I’m responsible for managing the bus fleet of the Sydney South Depot and to ensure a non-disruptive service to our customers.
- I manage the maintenance plan for our buses depending on their condition and mileage.
- I advise the field technicians in case of a bus breakdown with the problem and location of the impacted bus.

**Main Goals**

- Reduction of bus break downs incidents
- Optimizing the necessary maintenance work on the bus fleet so that buses with a good condition are less inspected than the ones which are in a worse condition.
- Monitor the condition of the whole fleet and report that to the corporate operations department. That can be used to make a decision whether to retire a bus and acquire a new one.

**Needs**

- I need to know the condition on the critical bus components e.g. engine, brakes in real time so I can call in a bus to the depot before a possible breakdown.
- I want to understand what the average fuel consumption of the bus fleet is as it is an indicator of possible issues such as driver behavior or technical.
- I want to know at any given time the availability of replacement buses and their condition.

**Pain Points**

- Service and Replacement Lead Time – length of interruption while a bus is being serviced after a breakdown, and the time it takes to replace the bus at the location
- Not knowing which bus needs maintenance service because of a critical condition of at least one of its components.
Point of View

As a Depot Manager I need a way to monitor the condition and availability of the buses so that I can predict and address a potential breakdown and minimize service interruption.
## User Experience Journey – Fleet Management Monitor System

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>MINDSET</th>
<th>FEELING</th>
<th>TOUCH POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coming to the office in the morning</td>
<td>“That weekend was too short.” “Let’s see what my buses are doing.” “Oh no that bus is about to breakdown” “I need to warn the driver Chris that he needs to be careful.” “Ok, Bus # 5671 is unallocated, in the depot and is in good condition to use” “Great! Max is also available to drive the bus out”</td>
<td>😊</td>
<td>Fleet Management Monitor System, Bus Driver via Digital Radio System</td>
</tr>
<tr>
<td>Realizing that the engine of bus # 3456 is too hot and in the critical zone</td>
<td>“Ok, the replacement bus is sent out and Chris is informed.” “Yes, the buses are exchanged and the impacted bus is on its way to the depot.”</td>
<td>😞</td>
<td>Fleet Management Monitor System, Bus Drivers via Digital Radio System</td>
</tr>
<tr>
<td>Organize a replacement bus</td>
<td>“Ok, I can allocate Michael and Stefan to take care of that bus”</td>
<td>😊</td>
<td>Technician Roster System, Technicians</td>
</tr>
<tr>
<td>Inform Chris of Bus # 3456 to wait on the final stop to change his bus</td>
<td>“Send the replacement bus out”</td>
<td>☹️</td>
<td></td>
</tr>
</tbody>
</table>
Please see below mock up screens for my prototype. You can go to the following Build screens to click through the sequence. Please follow the below mentioned steps there:

**BUILD Link:**
https://standard.build.me/api/projects/66180cf2541d2a1e0cd36b8c/prototype/snapshot/latest/index.html#/14774828258375745_S0

**Build Study Link:**
https://standard.build.me/home/projects/66180cf2541d2a1e0cd36b8c/research/participant/d6eb8bba4e9f36840cd377a0

1. Click on South Sydney Depot on the first screen
2. Click on Bus # 6811 as this bus has a critical status.
3. Check the details of the bus. The bus needs to be replaced with another available bus. Click on back.
4. Select Bus # 3874 as this bus is in the depot and available.
5. Check the details of the available bus. Now go back and inform your bus driver about the bus change.
<table>
<thead>
<tr>
<th>Bus#</th>
<th>Type</th>
<th>Location</th>
<th>Route</th>
<th>Driver</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>6734</td>
<td>MBT40</td>
<td>on duty</td>
<td>37A</td>
<td>SAM</td>
<td></td>
</tr>
<tr>
<td>3784</td>
<td>MBT60</td>
<td>Depot</td>
<td></td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>6811</td>
<td>MBT60</td>
<td>on duty</td>
<td>90</td>
<td>CHRIS</td>
<td></td>
</tr>
</tbody>
</table>

**MBT60 SYD-S14-6811**

- **Engine Temp:** 110°C
- **Status:** Critical
- **Brakes Temp:** 60°C
- **Status:** okay
- **Fuel Level:**
- **Location:** 53°51'55.07"S, 151°42'55.87"E
- **Driver:** CHRIS