Case Study
Blacksmith | Smart Shop

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Blacksmith Technologies | SMART•SHOP

Background

Blacksmith Technologies is in the pilot phase of developing a new product: **Smart Shop**. Its mission: To provide the most comprehensive sensor and business data integration platform to manufacturers and deliver value through a suite of SaaS operational solutions, focused on advanced business visibility, intelligence, and communications.

During much of the development process, the Blacksmith team has been without a product designer with a background in User Experience. Budget constraints to this point have meant that the software interface is being developed using a UI theme toolbox.

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The Challenge

Big Feats was asked to come on board for a 2 month engagement to assess the application from a user perspective and present our findings to the Blacksmith team, and recommend improvements to future iterations of the Smart Shop Application.

The Goals

- To gain an understanding of Smart Shop's pilot users' particular work flows (Now and anticipated) in order to recommend UX / UI standards for future implementation efforts
- To recommend general UX / UI improvements across the Smart Shop application as it is currently implemented within its themed toolbox
- To guide and collaborate with the Blacksmith team on upcoming development
- To present hi fidelity mockups of UX / UI improvements for future iterations of the Smart Shop application

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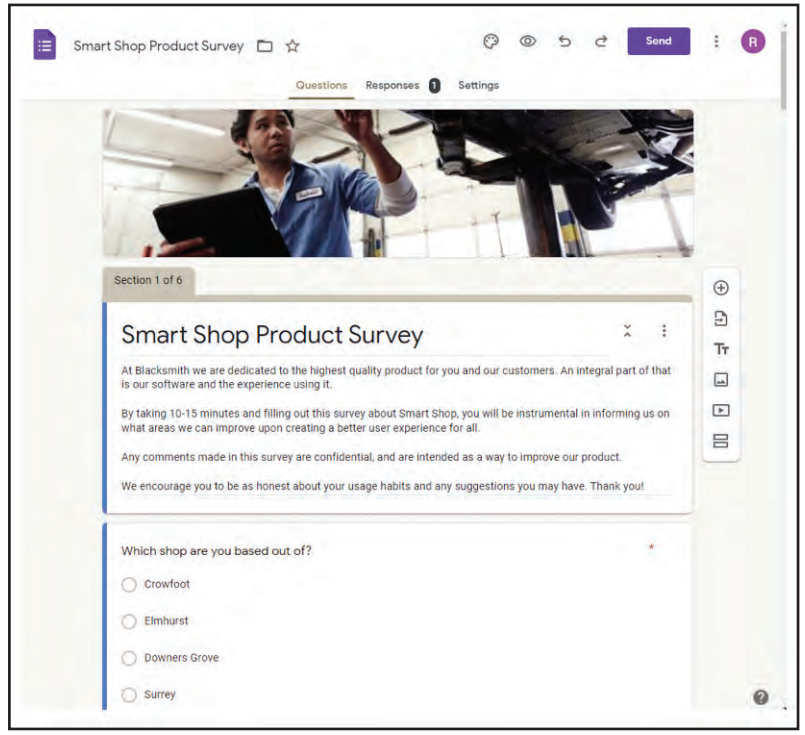
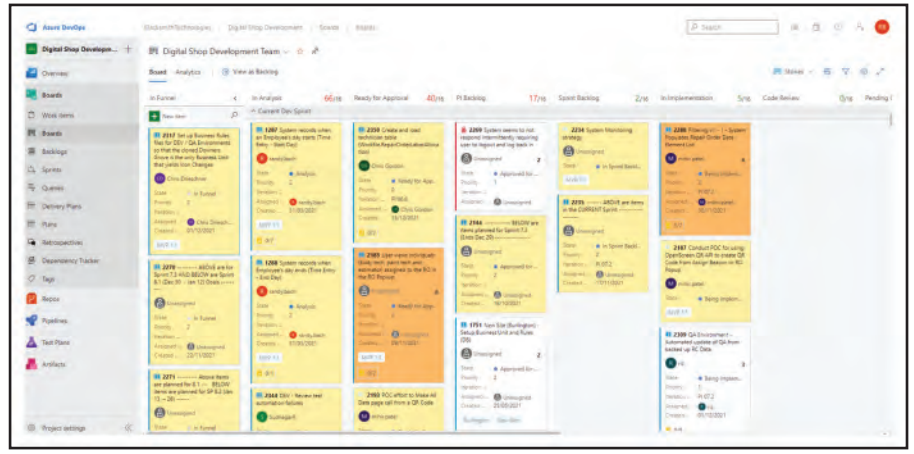
Key User Questions Asked

- How is Smart Shop currently being used?
- What are the key pain points that need to be addressed?
- Where does Smart Shop live within the current industry ecosystem?
- What are areas that the product can focus on to promote sustainability?
- What is the reason to believe?

Our Methods and Approach

During general product onboarding, a series of interviews with the key players of Smart Shop were conducted over several weeks. The team included main stakeholders, product owners, and developers. During this time, a user survey was developed and sent out to pilot users.





Our Most Noteworthy Takeaways

We Were Wrong About...

How often a technician would actually use Smart Shop. Initial assumptions were that floor techs would constantly be using Smart Shop, but in reality, the software would be engaged with only a handful of times throughout a day.

We Were Right About...

The relevance of content and how it pertained to actual individuals. A floor technician wants to know what is theirs in the most efficient way possible. Any information that is displayed that doesn't help them do their job better and faster, is time and money wasted.

We Were Surprised About...

An early assumption was that technicians needed to touch screens as little as possible due to cleanliness concerns (grease on the screen, etc). It turns out that cleaning stations are frequently used, and during downtime technicians will use their mobile devices.

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Key Insight

1. The Initial Homepage Is Overwhelming

The default view for any user coming to Smart Shop is a very busy shop view displaying every tracked item on the floor. This causes technicians to get frustrated and stops them from using the system in any meaningful way.

Why?

Hick's Law states that the more choices you give an individual, the longer it takes for them to make a decision. Flooding the screen with a large amount of information will cause mental fatigue and eventually, the user will check out.

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Key Insight

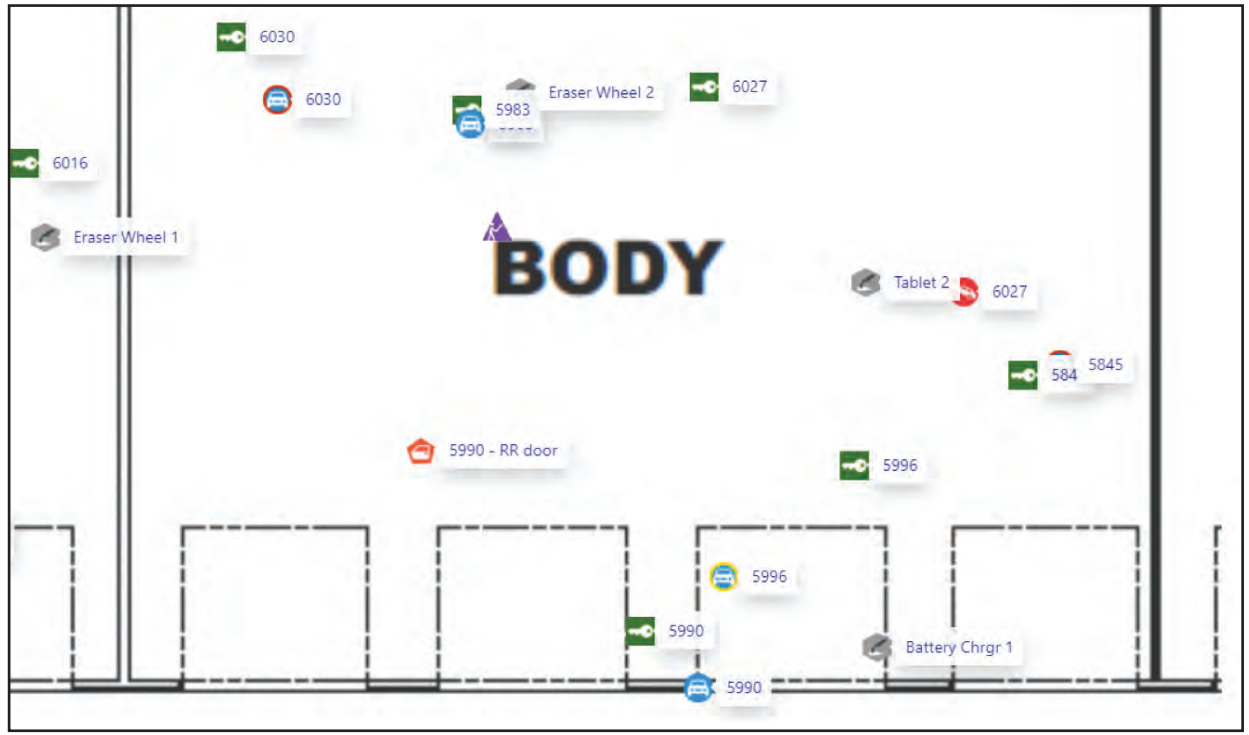
2. User Interface Problems

Shop floor plans are rasterized images causing pixelation when zoomed in. Icons also do not scale. Vehicle “health halos” cause contrast issues, especially yellow on white.

Details on tool tips are also not consistent. Some are better labeled than others.

Trackers are not to scale, most notably with vehicles.

It is not clear what “default” view is for shop view.



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Key Insight

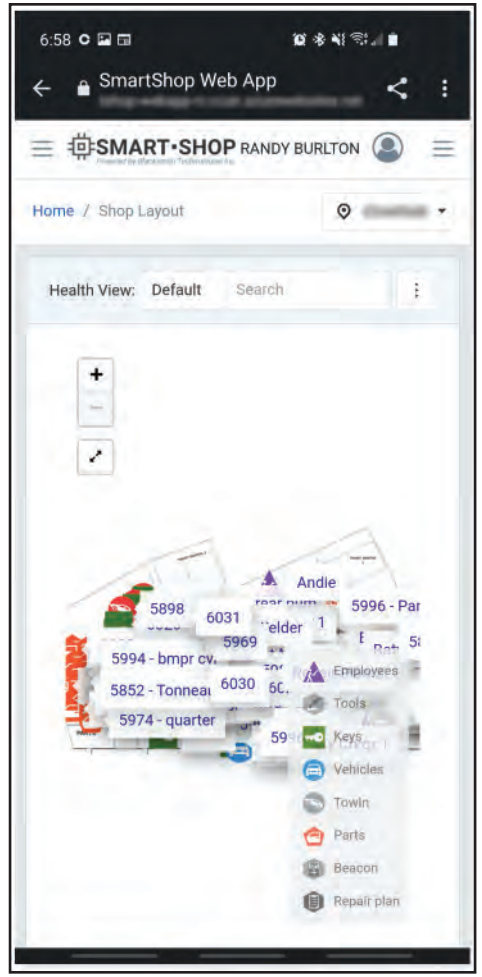
3. Mobile View UI Issues

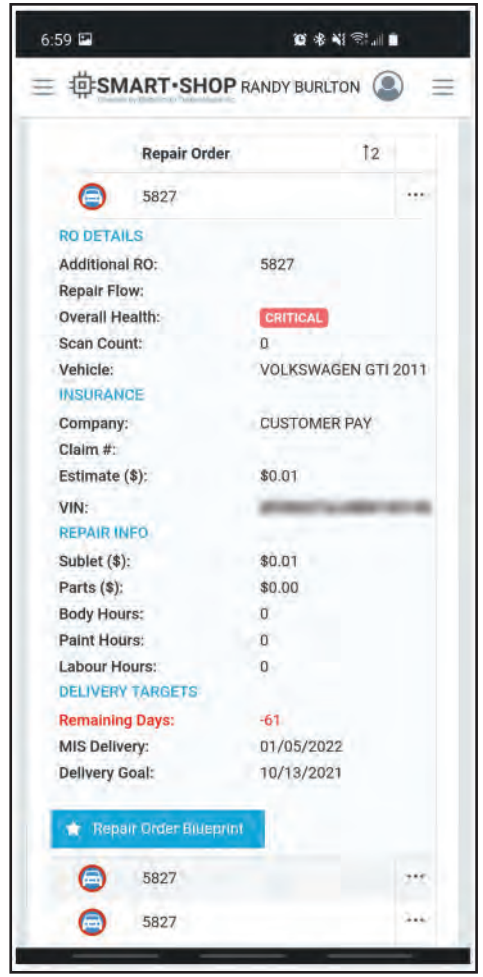
While the dashboard template chosen for the initial stages of Smart Shop does lend itself to some mobile optimization, it is lacking on the shop view side of things.

The map in its current state is almost unusable in any meaningful way.

Why?

Scalability has not been taken into consideration, nor how a user interacts with the UI.





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Key Insight

4. Shop Technician Organization

Some floor technicians would use Smart Shop to help plan our their day using a combination of health views and blueprints.

Why?

Alongside a daily 8am printout of a technician's proposed vehicle intake, any information that can help improve their process is welcome.

Key Insight

5. Lack of Tablet Use

Many floor technicians that are part of the Smart Shop pilot project are not using their assigned tablets as part of the test.

Why?

Tablets around a shop are fragile, and if dropped could be permanently broken. There is also an aversion to using new technology. “Why use something new when the old style is working?”

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Key Insight

6. Building a Repair Order

Repair orders in some shops are done completely manually where the repair planner, and parts person is taking or receiving manual notes.

Parts requested may not be the exact name requested by technicians causing general inconsistencies.

A technician is not able to complete a job unless they have the correct parts available to them. Unexpected delays or missing parts can disrupt the flow of a day.

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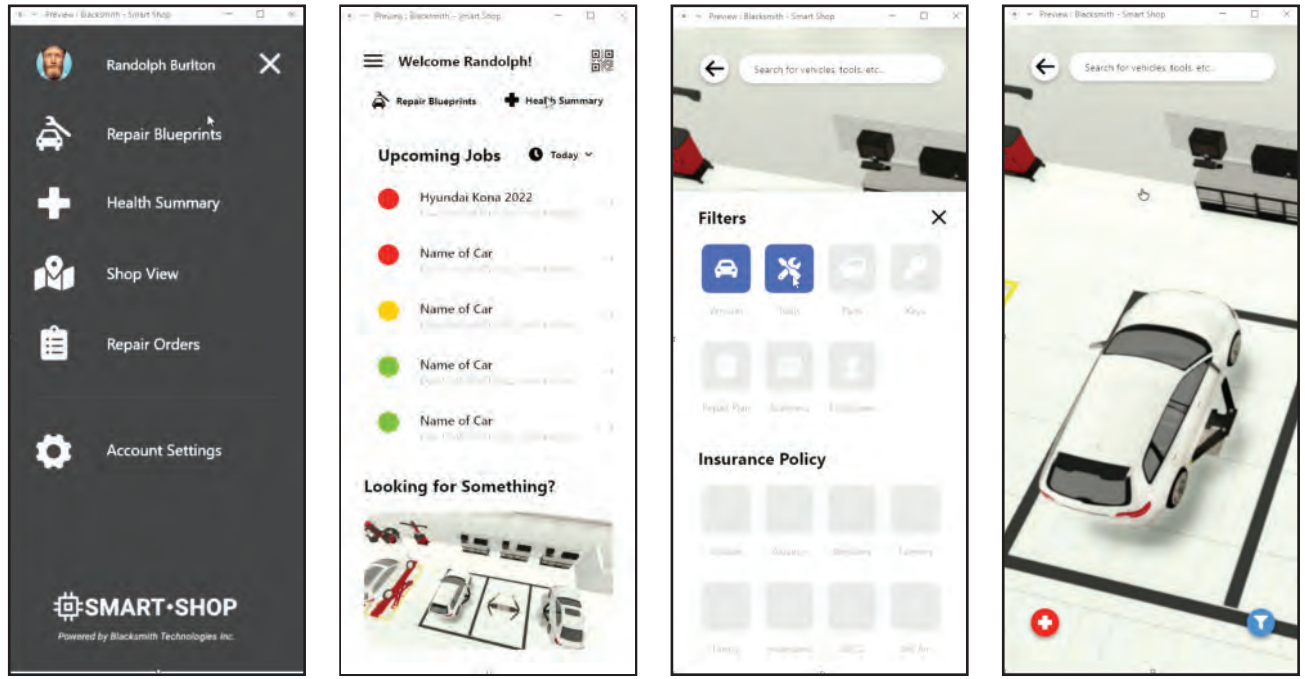
We Recommended

1. A Technician-First Approach

Providing shop technicians with a piece of technology they are not comfortable with using is not necessary. Using mobile-first design thinking, we can take advantage of a technician's current tools and comfortability.

By providing a usable and functional mobile experience, we can keep the user engaged on their level.



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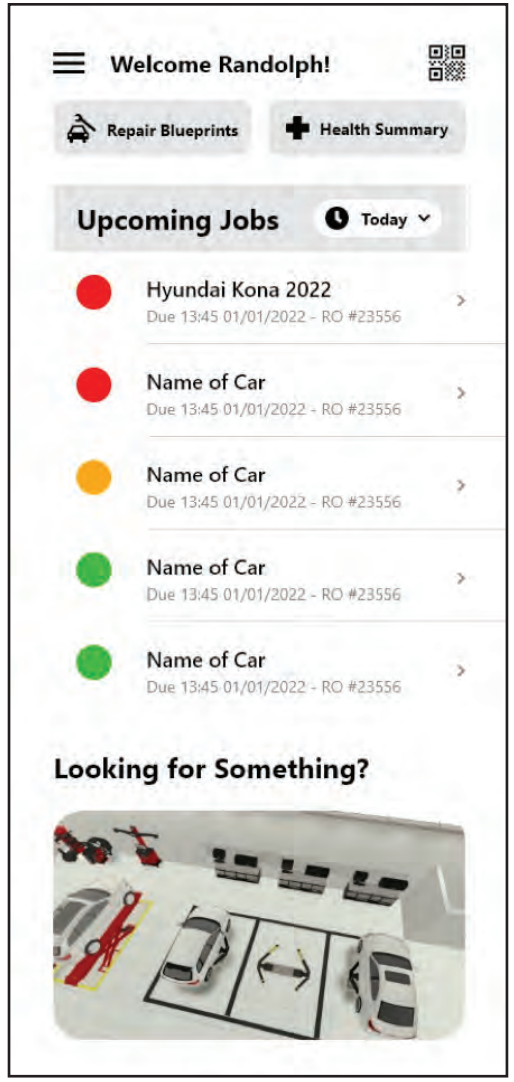
We Recommended

2. Technician Home Page

A personal home page that provides a technician the up-to-date and relevant information they can use:

- Key links to blueprints or health summaries
- Quick Map to find an item
- Upcoming jobs – daily planning for a technician to get a quick visual of their priorities for that day



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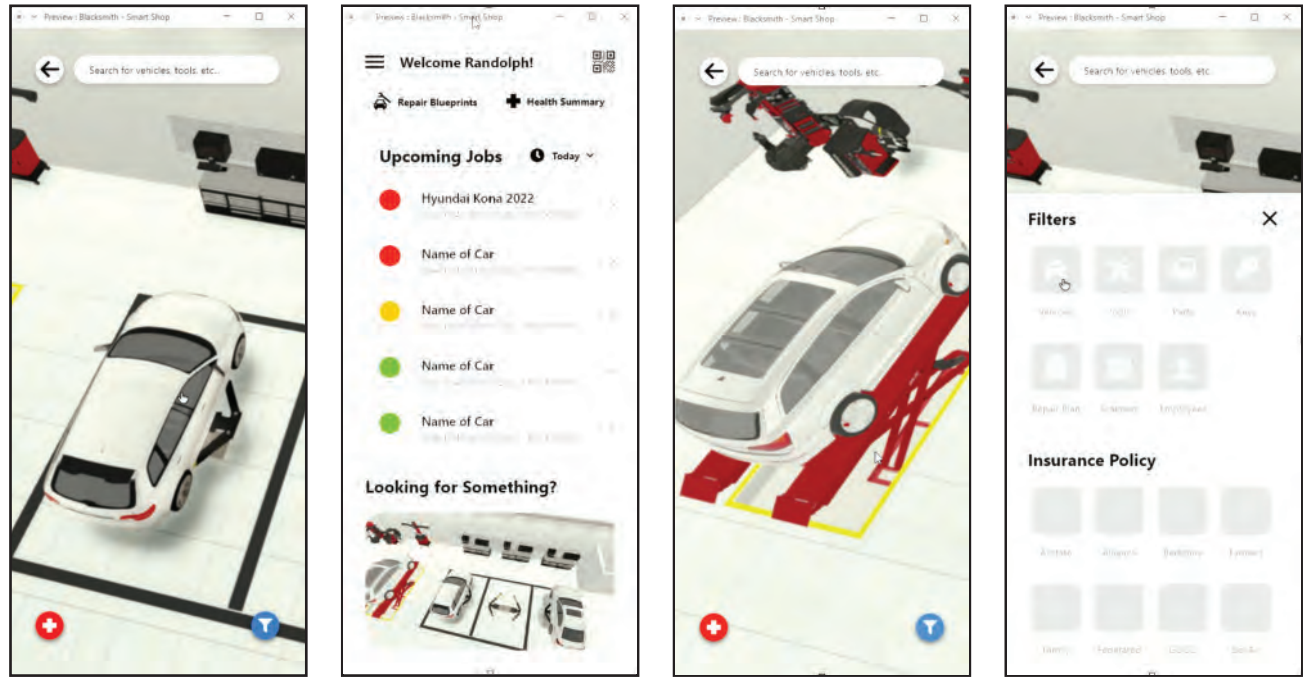
We Recommended

3. Map View

Using the map to our advantage to have a connection to what the user is viewing.

- Rather than using a blueprint, create a more visual experience
- Display what is relevant to the user
- Showing tracked items to scale. If the user is searching for a vehicle, show a visual in the bay.
- Minimal look, but keep controls close by, like filters, and health views

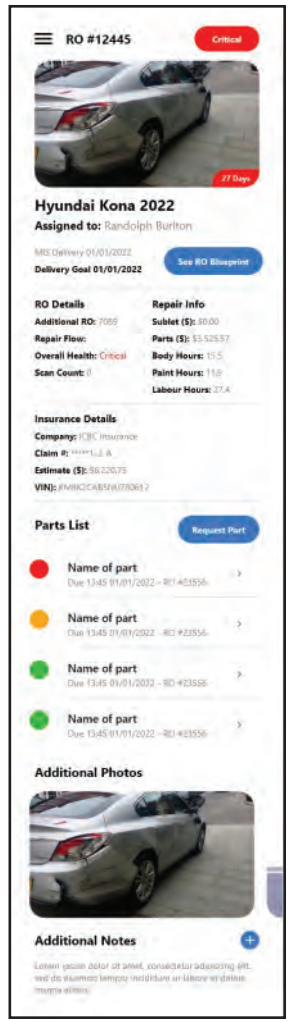


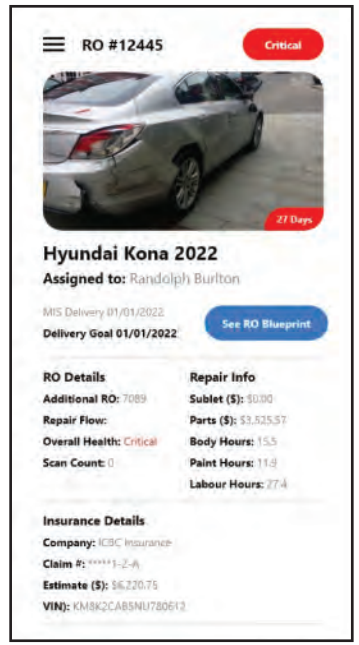
We Recommended

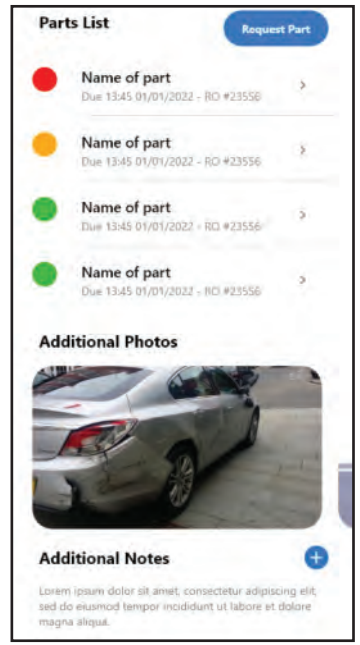
4. Repair Order (R.O.)

A visual profile of each vehicle in the system utilizing existing information.

- R.O. details and delivery date quickly made available
- Parts List, including the status of each part
- Additional photos, either taken by the estimator or technician.
- Additional notes about the R.O.





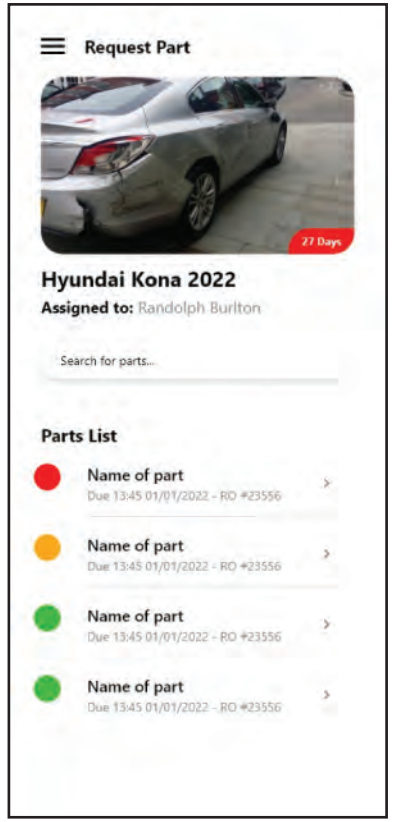


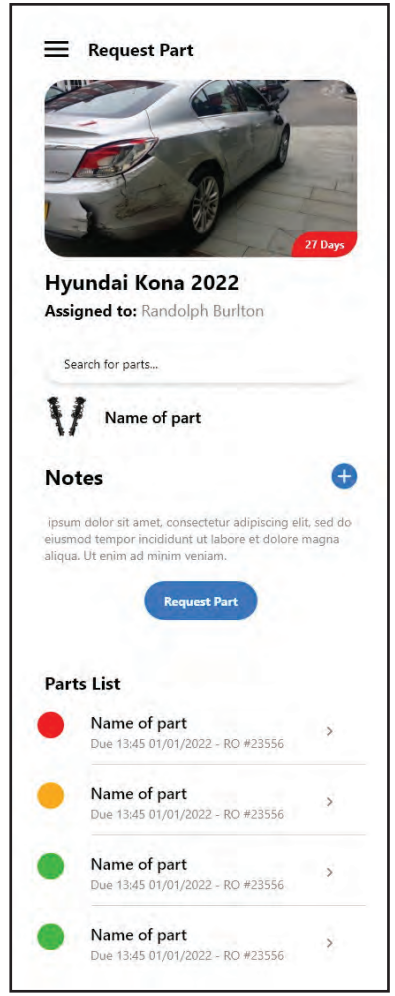
We Recommended

5. A Parts Request Feature

There are times when a technician sees the parts list being shipped for their R.O. and a part may be missing. In addition, this can be used to assist with an R.O. build.

- Quickly search for parts and find them by accurate names
- Provide additional notes related to the part





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6. Gamification

As the global business community grows, many business organizations are discovering and embracing the use of the concepts of gamification to market their products. Basically, gamification is the use of strategic game designs and mechanics to motivate the interested parties to achieve their objectives.

For Example:

- Achievement badges unlocked based on job performance
- Statistics so technicians can measure how they’re doing based on overall averages
- Progress tracking, either by day, or over a period of time

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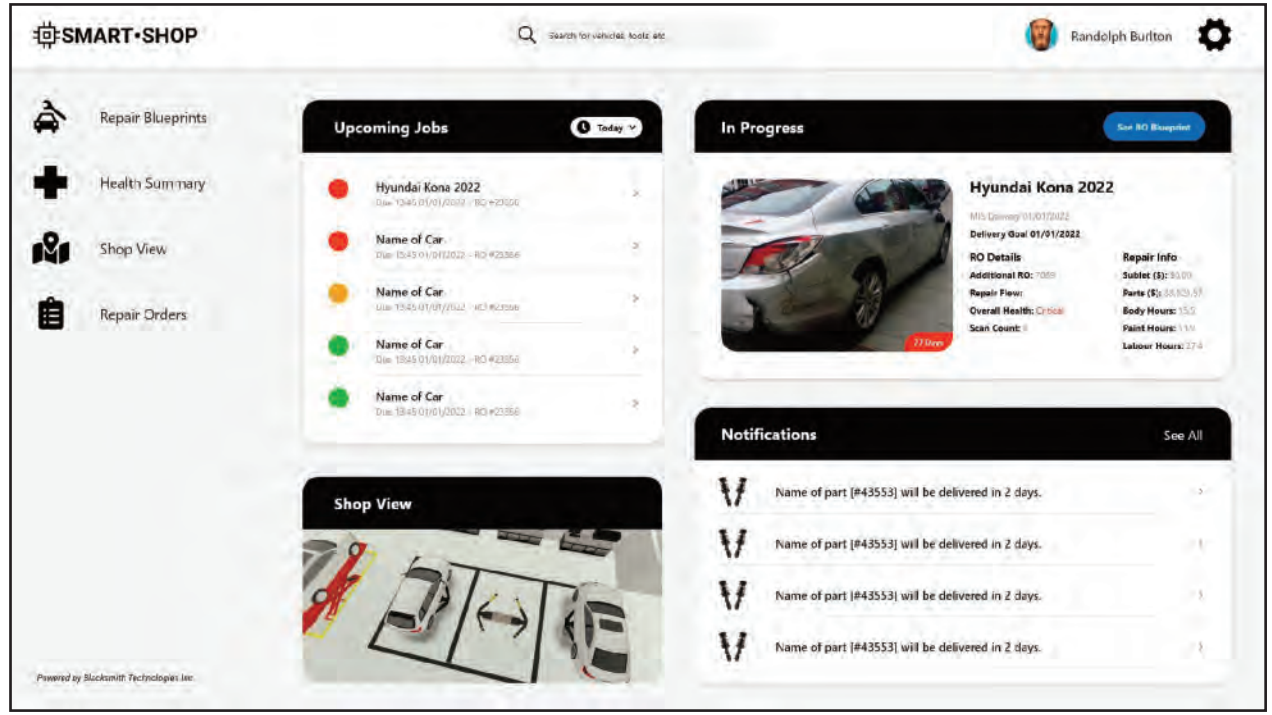
7. Desktop View

A comprehensive desktop view that provides management (and the technician) with a “Big Picture” snapshot of everything they could need in the moment, or the week, and beyond.

- Upcoming Jobs
- In Progress: their current R.O.
- Notifications & messages related to their upcoming or current R.O.s



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Achievements

- Conducted research and gathered practical user data
- Presented a summary of our research findings
- Guided and collaborated with the Blacksmith team on upcoming UI development
- Created hi fidelity mockups of recommended UX / UI improvements

Big Feats were the "Hired Guns" we brought in to assess a browser-based application at its pre-MVP stage. They conducted user experience interviews, and presented their findings along with UI improvements. Their feedback and recommendations were very insightful and helpful – I wish we could have brought them in sooner!

Tim Wilder
CEO, Blacksmith Technologies

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Study Resources

Mobile Prototype:
https://xd.adobe.com/view/18d7505c-984f-4ce4-abdd-e34c459659fb-4d84/

Desktop View:
https://xd.adobe.com/view/cb8afaa7-ad06-49db-bae9-2890684c512e-9ed9/

Interview with Steven Wilder:
https://drive.google.com/drive/folders/1QV1a4qUi56cd5ghdiu-gURgqgnrzrTEz?usp=sharing

Interview with Nick Peradotti:
https://drive.google.com/drive/folders/11DvPSFr6epqUSnY8C-0-No0VmZIaJpuC?usp=sharing

Survey & Feedback:
https://forms.gle/SLUgWVRRHuNKWoeZA

Link to Drive with Videos:
https://drive.google.com/drive/folders/1XFK48OZgX2bk8LOGFRKI0D1_s9th3oGN?usp=sharing

Auto Shop Layout Software:
https://www.ecdesign.se/repair-shop-planner.html

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