Case study

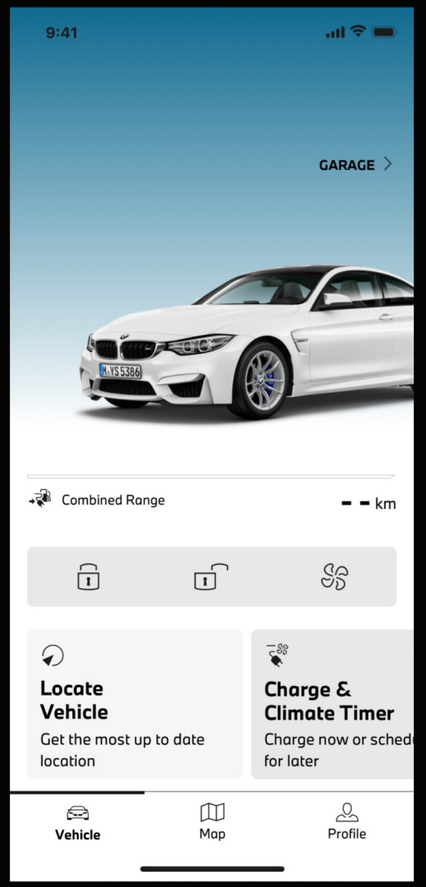
My BMW and MINI

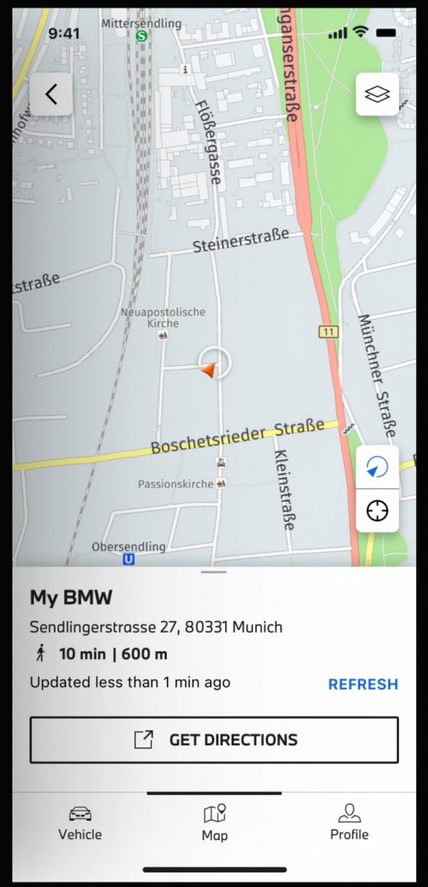
Vehicle Finder in non-LSC BMWs

The Problem

MY BMW app users owned cars that didn’t have the (LSC) Last State Call function in their hardware.

Knowing their exact cars’ location was sometimes slow and unreliable.

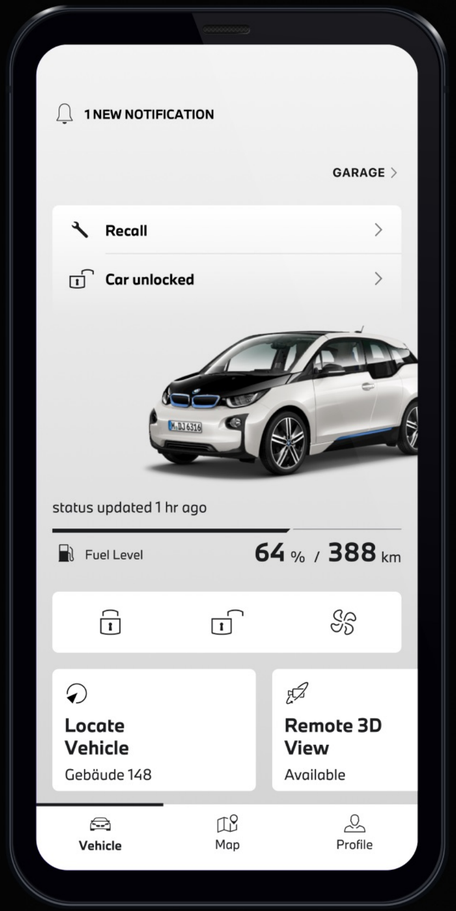




Getting insights

The percentage of users that owned BMW cars **without the Last State Call** was approximately **~20%**.

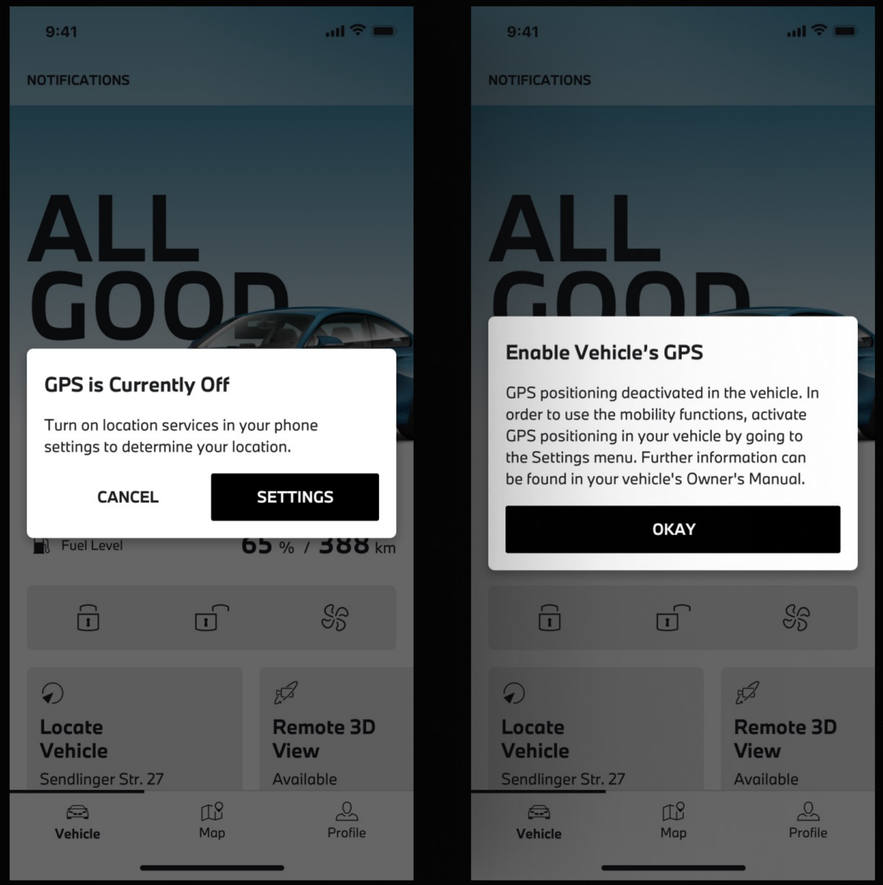
Also, there were **some use cases** could lead to being completely **impossible to get the vehicle's position** on the map when users tried to locate it.



Error states

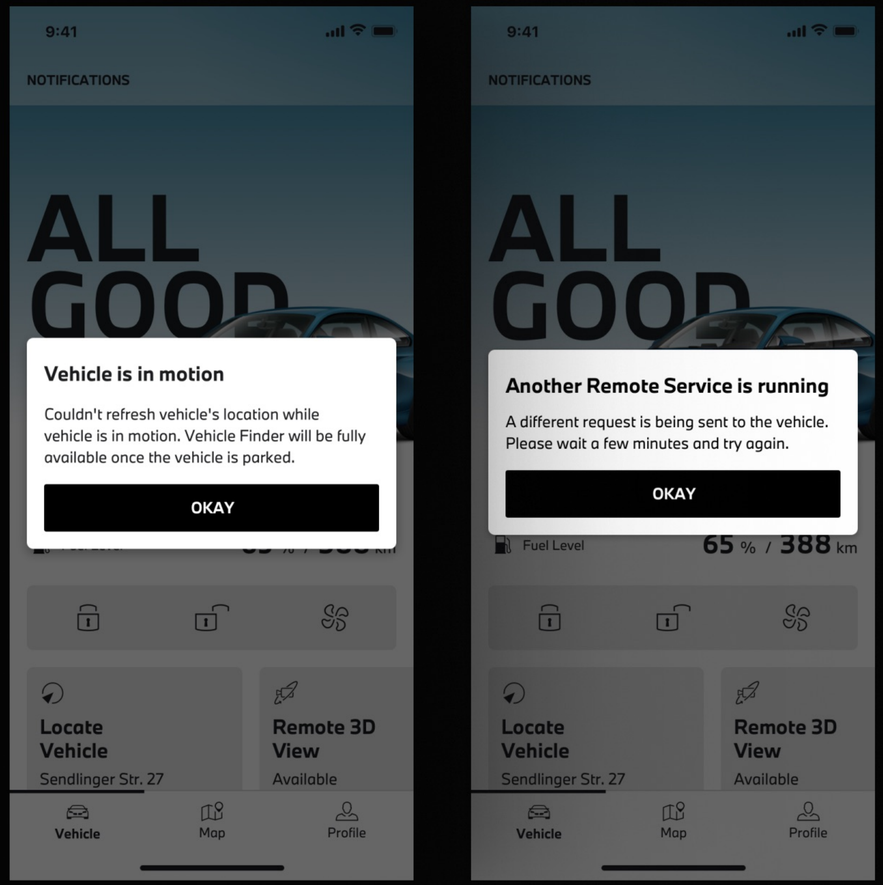
Started defining all possible error use cases.

The first two were when GPS was turned Off,
either on the mobile phone or on the vehicle itself.



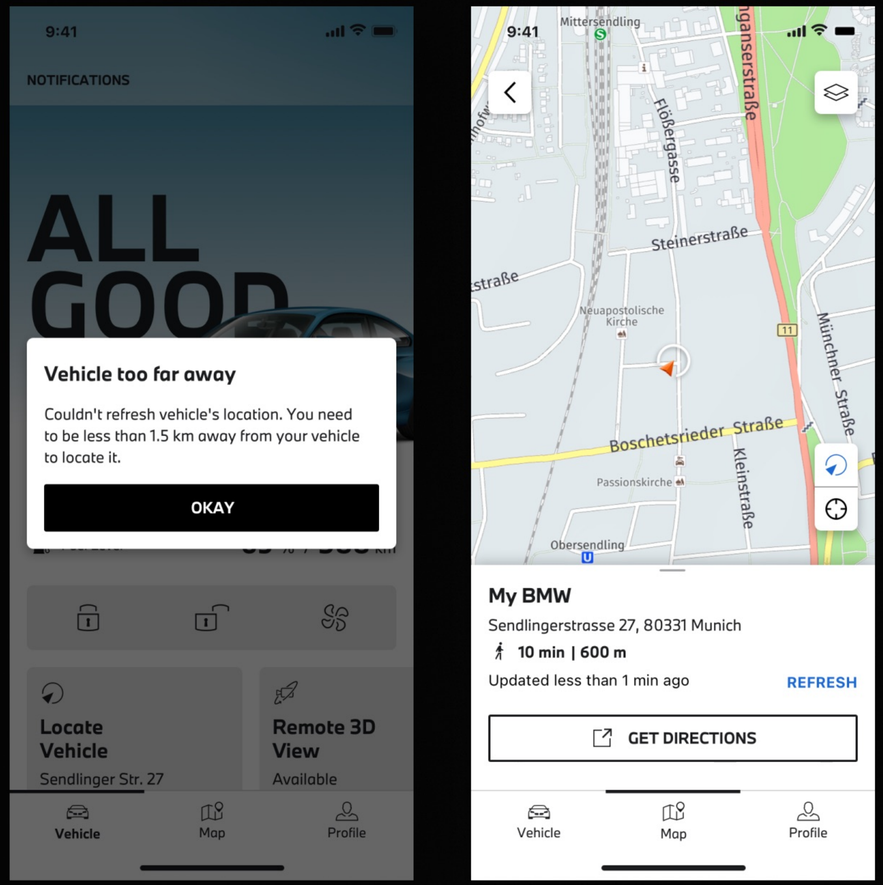
Error states

When the **vehicle was in motion, or** when another **remote service was running** - such as starting climate control or getting a Remote 3D View - it was also impossible to retrieve the vehicle’s location.



Error states

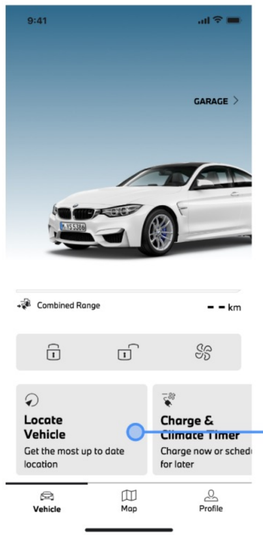
When the **user was more than 1.5 kms away** from the vehicle, the app wouldn't be able to get the car's location too.

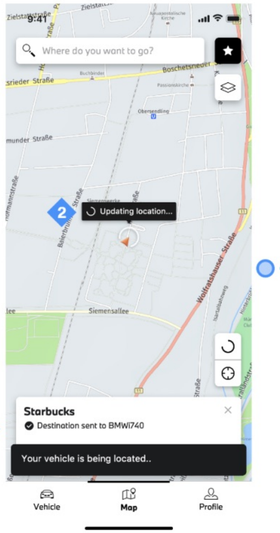


Initial flows

Started with the vehicle tab.

Non-LSC takes too long to locate





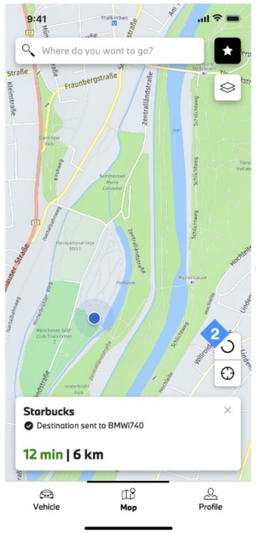
2. CCP: Upating location...
Shows CCP from cache centered on the map while also getting the most up to date position with a persistent callout message.

Tray doesn't show up. Only when we get a new updated location.

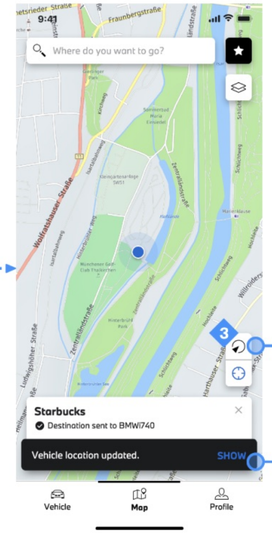
If user breaks the flow...

If the user interacts with the map while CCP is being located...

... by dragging to a different position / locating himself instead, etc...



2. CCP still upating
While loading and a new location is being asked for, this button could be tappable and direct the user to the current cached CCP position centered on the map [0.3.3 screen].

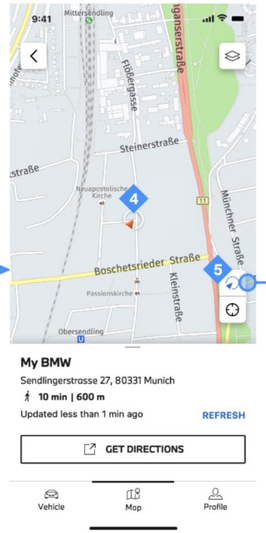


3. Try a 20/10 min cache logic
Within that time, tapping this button will auto pan to the last CCP position (latest one from cache).

After that, it triggers another RS.
-> [0.3.2 screen]

*Keep timestamp logic within the CCP tray

No First Mile



4. Minimizes tray
With the CCP tray open, tapping the CCP will minimize the tray.

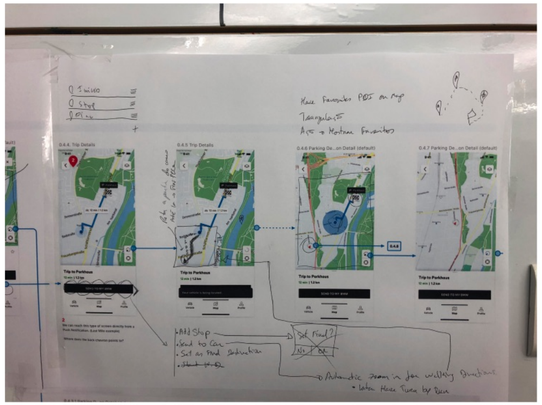
5. Locate Vehicle
Without 10 min cache, tapping here triggers the RS again, showing the CCP centered with loading callout [same as 0.3.2 screen].

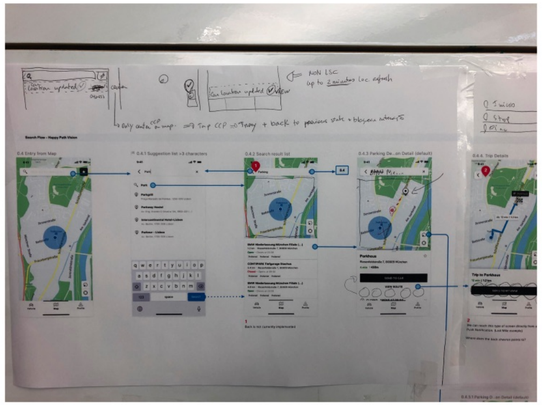
Still cached → **CCP centered**

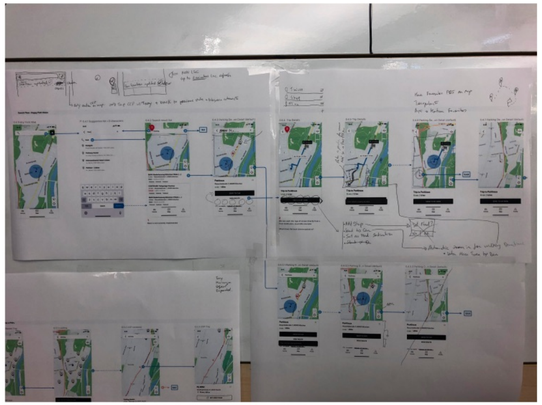
Not cached → **0.3.2**

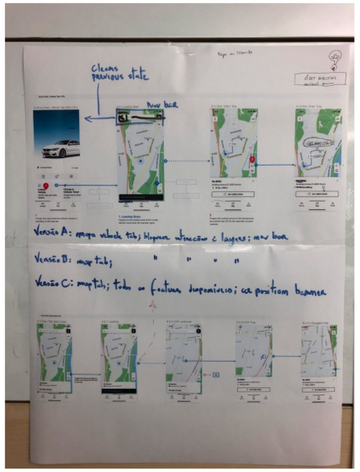
Brainstorming

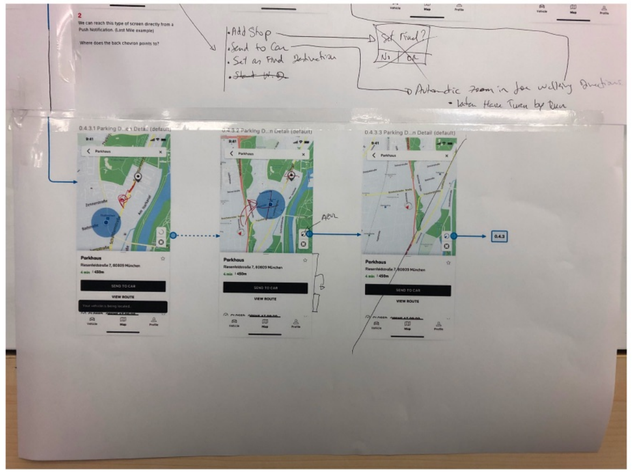
Collaborated with colleagues working on other app areas.









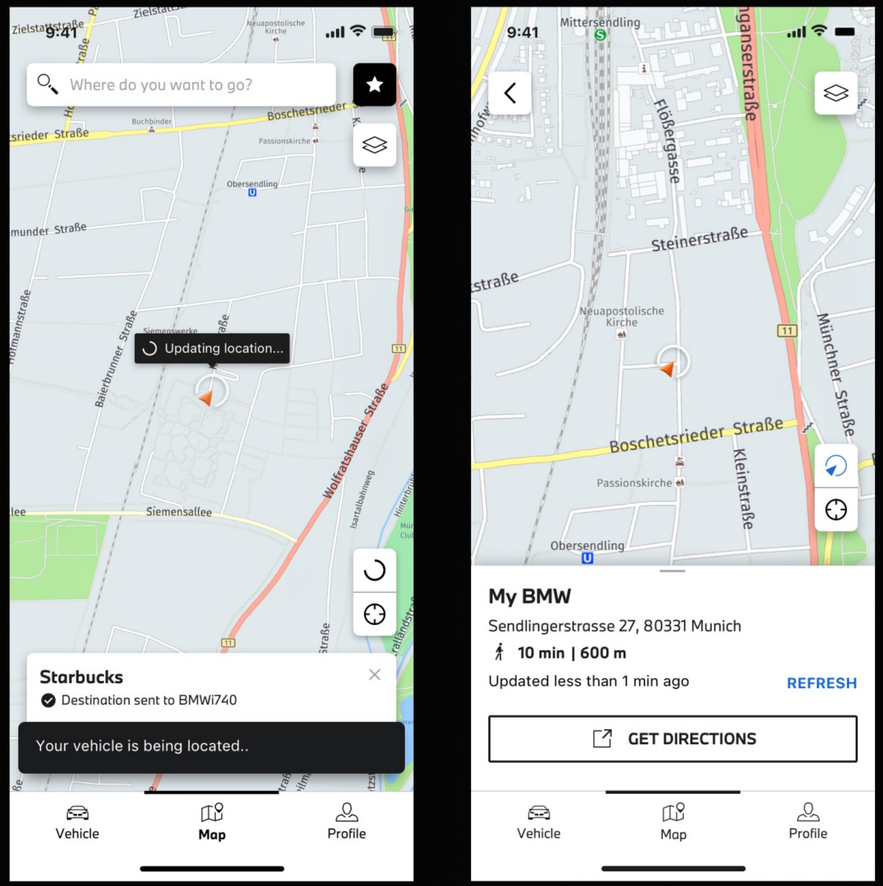


Special note

Locating vehicle within 1.5 kms

To **not overload the system** - or minimize unnecessary data usage or battery drain - by allowing the user to frequently trigger a locate vehicle service, we thought about **adding a cache logic**.

But **for how much time?**



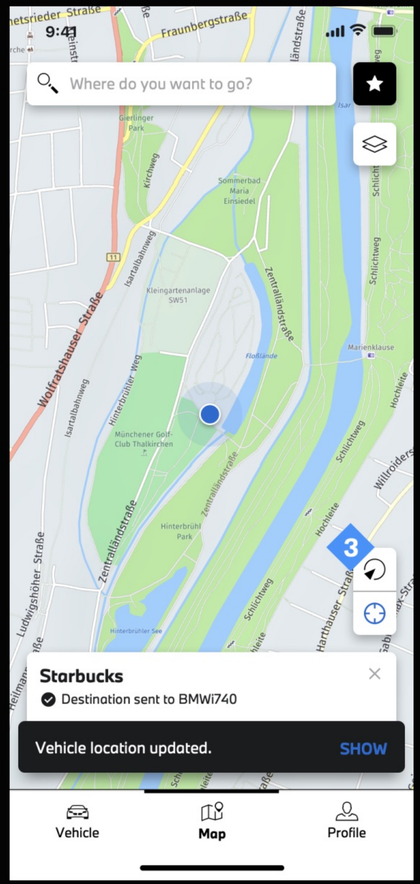
Special note

Locating vehicle within 1.5 kms

Based on the **average walking speed for adults**, which **is around ~5 kms/h**, it would take approximately **~18 minutes to walk 1.5 kms**.

20 mins. cache could provide a buffer in case the user encounters delays or takes a longer route.

10 mins. cache aligns closer with the expectations of timely updates, reducing the risk of having outdated information. It also creates a perception of a more responsive and reliable app, contributing to overall satisfaction and loyalty.



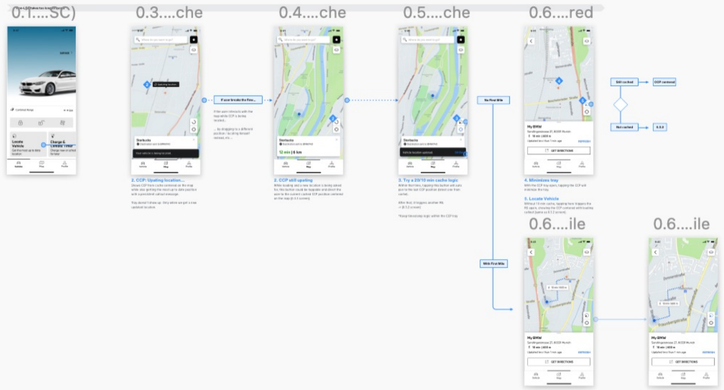
3. Try a 20 or 10 minutes cache logic?

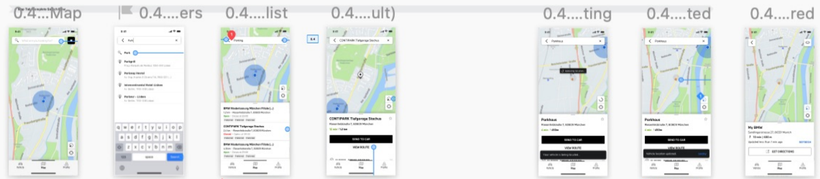
Within those 20 or 10 minutes, tapping the button will auto pan to the latest CCP position (from cache).

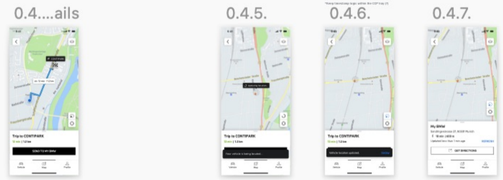
After that tapping it it triggers another RS.

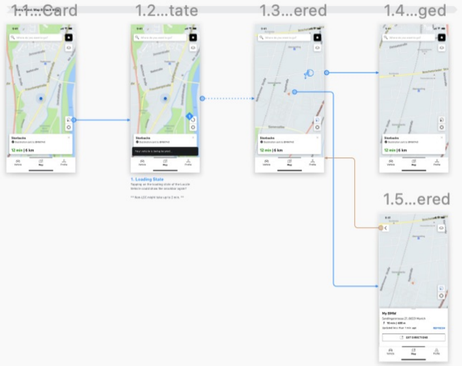
Final flows

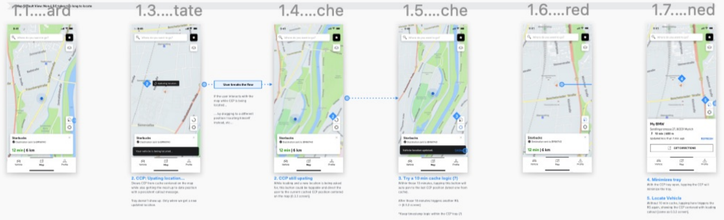
Final flows for different touch-points of the app











Measure

Define which metrics could be measured

Technical Performance

Assess technical metrics such as app responsiveness, uptime, and error rates. Improvements in these areas underscore the reliability and effectiveness of the enhancements.

User Satisfaction

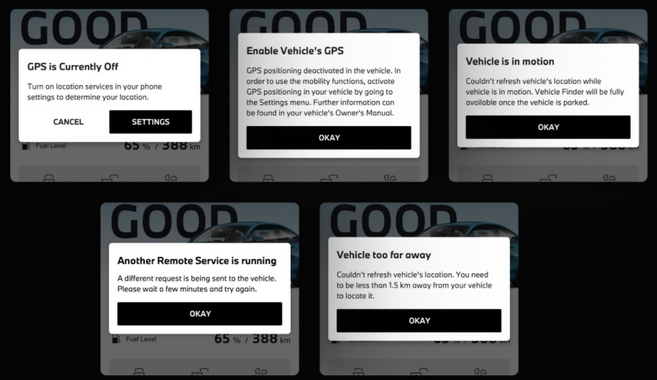
Measure Net Promoter Score and positive customer feedback ratings before and after implementing the Vehicle Finder feature. Higher ratings indicate the effectiveness of the improvements.

Impact

Expected impact on the users and the system

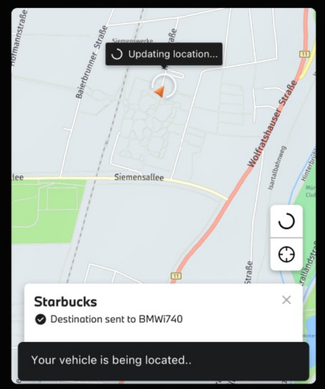
Better error prevention

By presenting users with an explanation before something bad occurs we manage expectations and



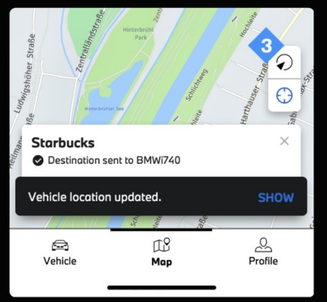
Increased visibility of system status

By adding small design elements - labels and toasts - at the right time, we give appropriate feedback users and keep users informed about what's happening.



Increased systems efficiency

The cache logic strikes a balance between providing updates and not overloading the system with unnecessary requests that can compromise the user's device performance.



Thank you

Vehicle Finder in non-LSC BMWs

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