Veho Streamline concept

Description and the way forward

TEAM CONNECTIFY

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1. Recognized problems

15% of a mechanic's time is spent in walking, queuing and waiting for the foreman or spare parts person. This is unnecessary and takes away valuable time spent from actual servicing.

The customer retention rate after Veho's service warrantee period expires is low. Most customers prefer cheaper options, since they do not perceive any additional value in continuing servicing at Veho.

2.Proposed solution

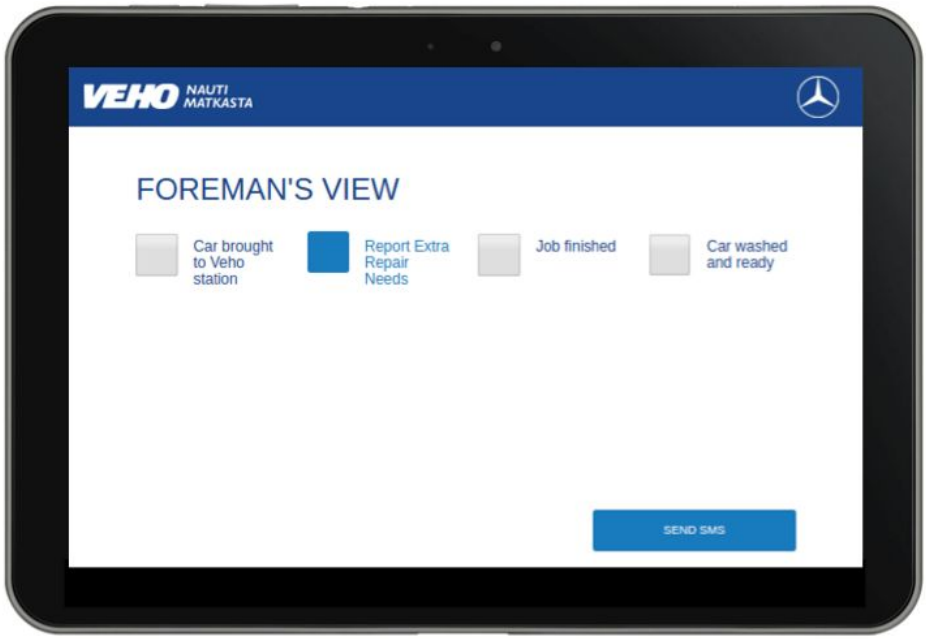
Our proposal is a SMS + web page based application to streamline communication between the customer, foreman and mechanic.

The application consists of separate interfaces for the customer, foreman and mechanic.

Once the customer has ordered a service from the foreman, the foreman initiates the application and the customer receives an SMS with a URL to a web application where the status of the service can be followed. Simultaneously the assigned mechanic's application gets updated with this new job.

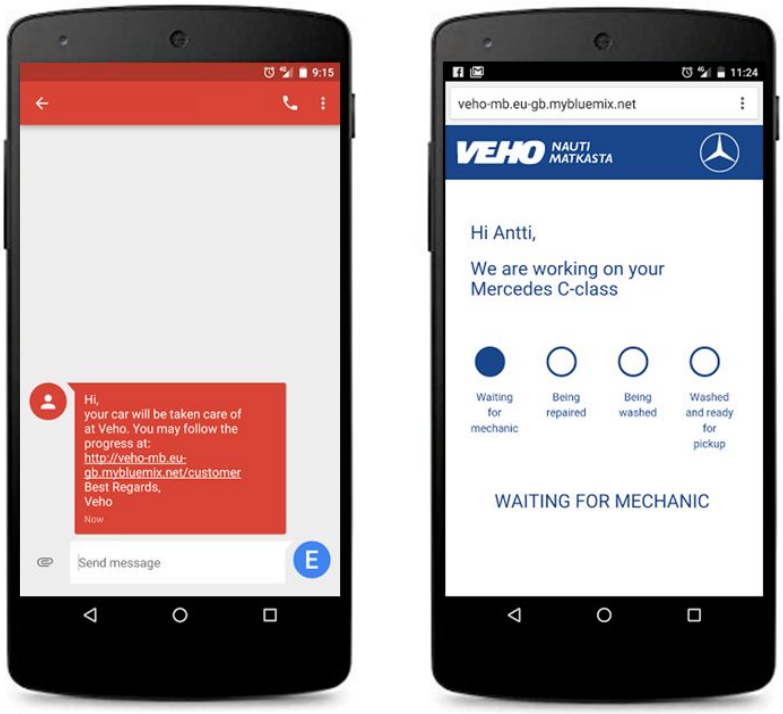
From now onwards, each participant is able to communicate with the others as needed, via the application. Questions regarding service updates, costs and other queries are taken care of via the application.

3.Detailed solution with user interfaces



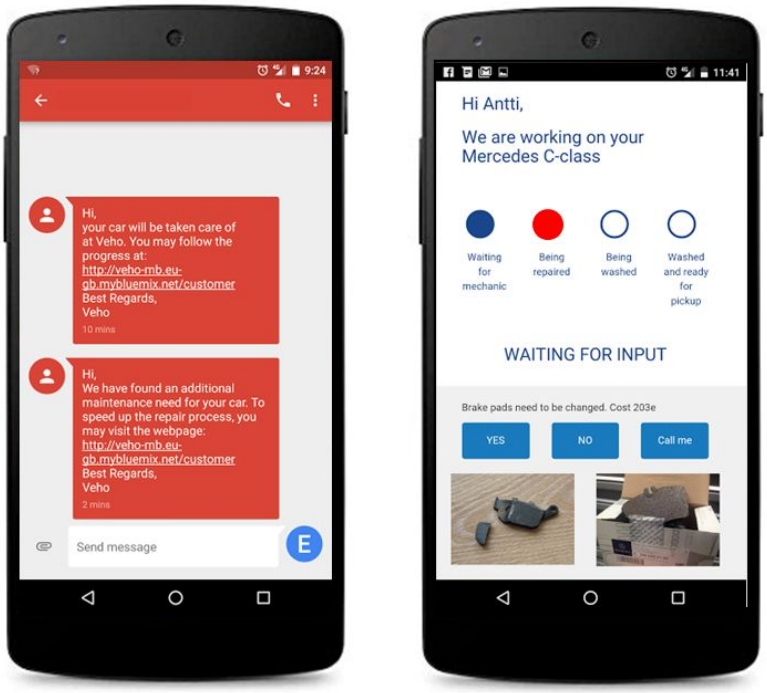
Foreman's view

Once the foreman and customer have agreed on the service and created a work-order, the foreman initiates the application. Immediately an SMS with a URL is sent to the customer. On opening the web link, the customer is directed to a unique webpage where he can follow the status of the service. This web link remains constant throughout the service.



Customer's view after leaving the car to maintenance

In case unpredicted maintenance needs are found the customer gets another SMS and has the possibility to approve the extra work in the web-page view. The customer sees the additional price of the work and optional images related to it.



Customer's view in case extra maintenance needs are found

The mechanic has a simple interface to communicate in which phase the maintenance process is. The input will be visible to foreman and to the customer. There are few (in this demo three) basic phases in the process.

A1) Car brought to Veho station,

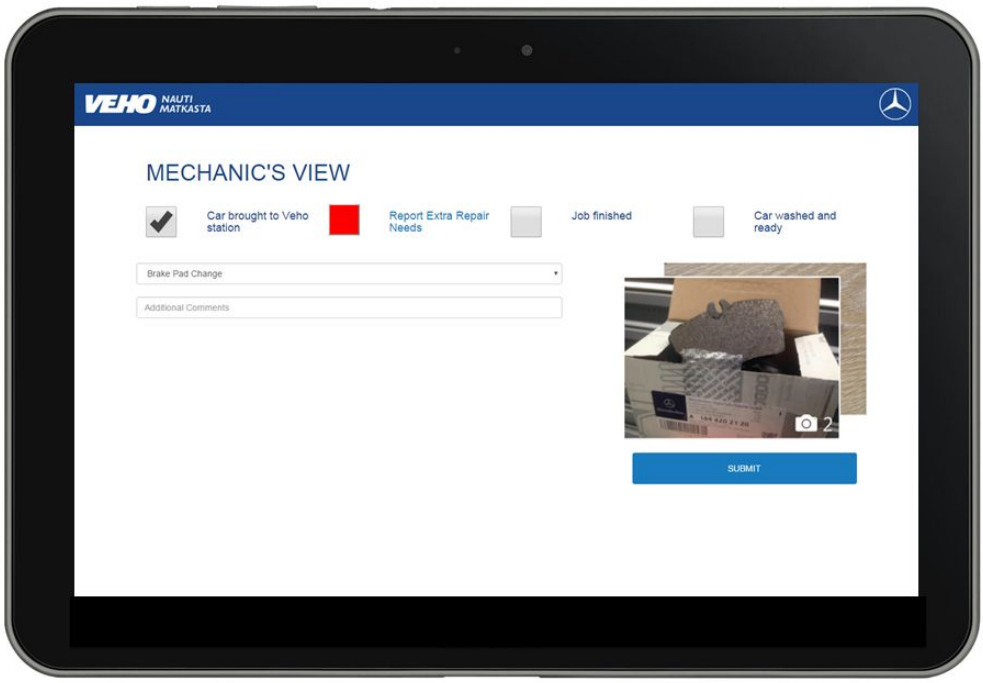
B) Job finished,

C) Car washed and ready.

In case of unpredicted maintenance needs there is an extra phase in the process

A2) Report extra repair need.

The mechanic can communicate this to the fore man using selection field and adding additional text as well as optional images (e.g. of the maintenance need, spare parts etc.)



Mechanic’s view

The foreman has a view similar to the mechanic’s to follow the maintenance process. In case extra maintenance need is found foreman gets a notification. In the interface he sees a description of the additional work, prices and availability of the spare parts needed, and the images if the mechanic has attached any. Foreman has an opportunity to add the price the needed extra work after which he can forward the message to the customer.

4.Demo

The current solution is running on IBM Bluemix and can be viewed from anywhere in the world (SMS has been disabled)

Mechanic’s view (optimized for tablets)

http://veho-mb.eu-gb.mybluemix.net/

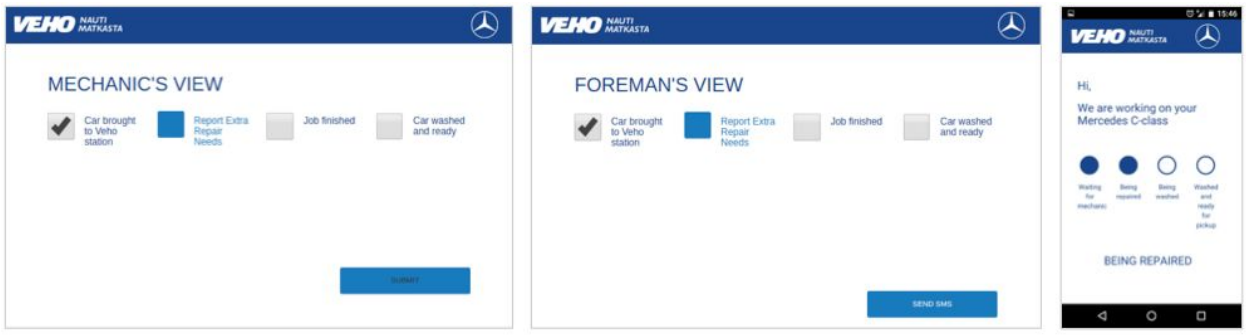
Foreman’s View (optimized for tablets)

http://veho-mb.eu-gb.mybluemix.net/foreman

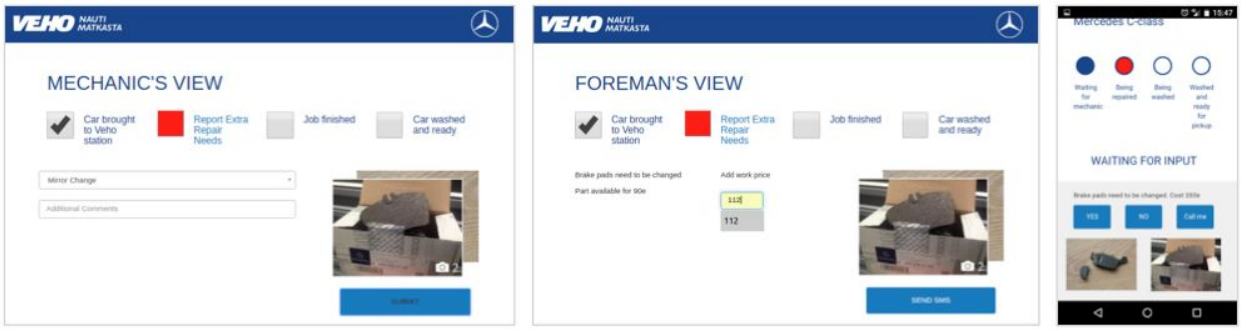
Customer View (optimized for smartphones)

http://veho-mb.eu-gb.mybluemix.net/customer

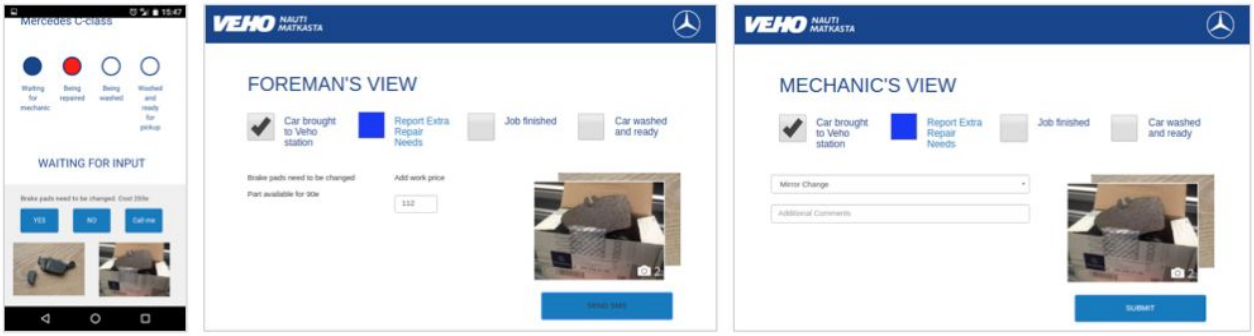
Demo flow



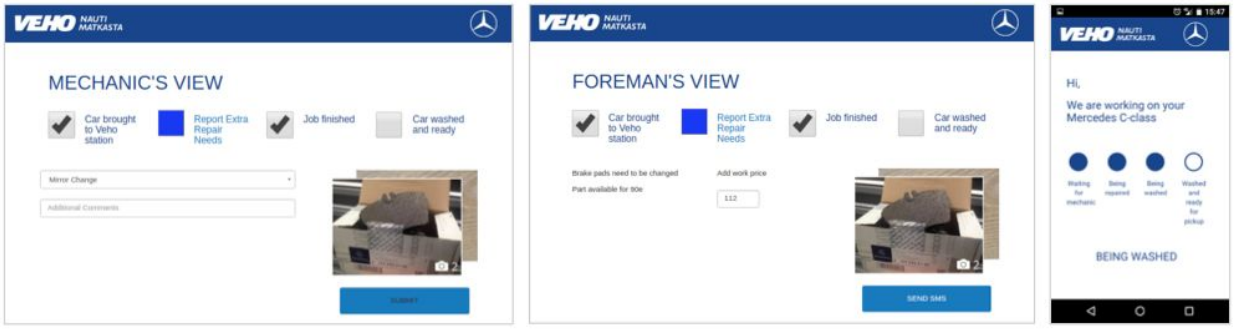
Mechanic checks “Car brought to Veho station ” in his/her view and submits. This makes the selection visible to foreman and activates the ”Being repaired” status on the customer view.



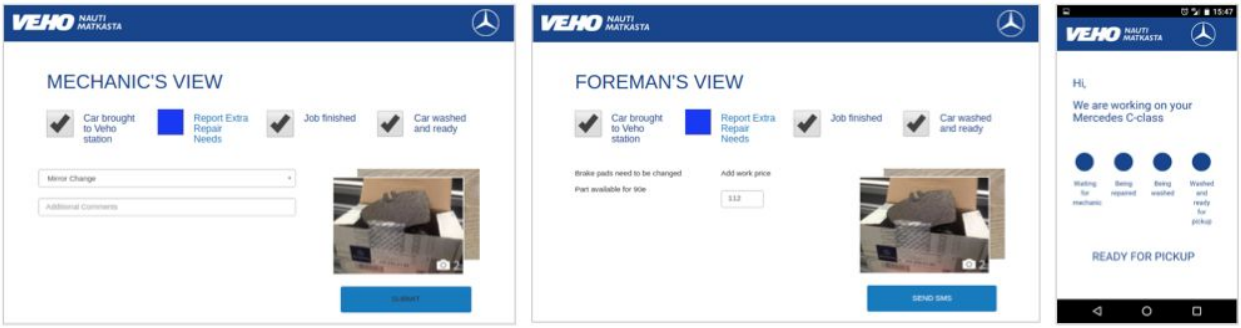
When mechanics needs to communicate an additional maintenance needs he/she can select “Report extra repair needs” from his/her view. This will give the mechanic options to define the found maintenance need, communicate the price of needed parts and take images of the work target. By submitting the extra work request becomes visible at foreman’s screen. The foreman can now add the price of the work and send the information forward to customer. Customer will receive a new text message with link to the status view where he/she is able to see the price of the addition maintenance need and quickly respond to it by choosing YES/NO/CALL ME in the web page.



When “YES” is selected in the customer’s view foreman and mechanic will instantly get an confirmation to continue with the work.



When “Job finished” is selected in mechanic’s view and submitted the same becomes visible at foreman’s view and “Being washed” status appears to customer's view. (This does not cause a new text message to the customer).



When “Car washed and ready is selected in the mechanic’s view and submitted the same becomes visible at foreman’s view and “Washed and ready for pickup” appears to customer's view.

5.Technical Details

The key technological elements in the existing solution are node.js, expressjs, socket.io and nexmo

- The web-application is built atop the Node.js runtime (https://nodejs.org/en/).
- Atop node.js we use express as the web application framework. (http://expressjs.com/)
- The real-time communication between views is enabled by socket.io (http://socket.io/)

All of the above are open-sourced and free to use

To send SMS, we use the Nexmo SMS API (https://www.nexmo.com/products/sms/) Each SMS costs 0.06euros. We have contacts within this company and this price can be negotiated.

6.Benefits of the solution

There are two main benefits in the concept. The service concept enables transparency towards customer that can be perceived as increased quality of service. Additionally the mechanics time can be better utilized when he can easily communicate the phases of the maintenance process to foreman and customer.

The benefits can be roughly estimated to lead up to following savings and gains in service sales.

In 2015, the service sales (excluding body shop) was 170 M€. With that figure as a reference and assuming that this service increases mechanics' efficiency by 5% and customer retention by 5%, an estimate of 8.5M€ increase in revenue and 3M€ increase in annual profit can be made.

7.Way forward

We propose a pilot with 10-20 customers as the first step to move forward.

Time estimate for Pilot

The pilot would require:

- A 1-day event in Veho, where we talk to and collect feedback from customers and Veho's personnel regarding the existing solution + 1 day to prepare.
- Redesigning the application based on that feedback (1.5 weeks)
- The actual pilot with customers + 1 day to prepare

* During the pilot, we could already start discussing integration of our cloud based software system with the existing Veho's and Daimler's systems. However, we would like to put more focus on customers' and personnel's needs.

Proposed cost for the Pilot

The basic running costs for the application are

- apprx. 25 euros/month charged by IBM Bluemix application

- 0.06 euros/SMS charged by Nexmo *

*We have contacts in Nexmo and this cost is negotiable for the future.

We propose a charge of 90 euros/hour/person (negotiable) during the pilot. As described in the previous section, we estimate apprx. 2 weeks of full-time work for 3 persons during the pilot.

Working for the Pilot

We foresee to work with Veho preferably one day a week, as all three of us has a full time work commitments with our current employer Ericsson. We need to inform Ericsson once we hear more about our proposal from Veho and get the permission to work with Veho for one day a week. We prefer to work on one of the weekdays, in the worst case scenario, we may also consider working on one of the weekends for the pilot.

@Parth: During the pilot, let's not talk of once a week or more. We then sound worse than other teams who can work on this full-time

All of us have a full-time work commitment with our current employer, Ericsson. We shall inform Ericsson once we get a reply about our proposal from Veho and get the requisite permission to work on this application.

Launch date estimates for the beta software version

Once the pilot is done and feedback gathered, we would like to discuss with Veho how to take this forward. Unless there are unforeseen circumstances, we could realistically launch a beta version 1.5 to 2 months after the pilot.

Launch date estimates for the final product

Launching the product based on the continuous customer feedback

8.Intellectual property

Intellectual property of our cloud software stays with us and we will give Veho fair access to the technology with the negotiable licensing terms. (Parth to do look into the Industry hack agreement that we signed)

9.Team Connectify Skillset

Ella Kaila

Ella has worked in concept development and new business development teams in ICT companies since 2008. Her core skills to be utilized in this project ...Service design, Usability, Graphics

Arjun P. Kamath:

Arjun works as a Software Developer at Ericsson. He is interested in telecom, IoT (Internet of Things), web and cloud technologies. He has participated in several hackathons both at work and in his free time and won a few. This was his fourth IndustryHack and the second time his team came in the top three.

This is his website: http://arjunkamath.com/

Parth