Name: Mohammad Umar
Functionality: Car Mechanic Robot
Partner Name: Jason Paek

User Research Summary:

Stakeholders List:

Developer (Myself): One of the primary stakeholders is the developer because they are completely involved in the entire project from start to finish. Moreover, the developer has extensive influence on the product and how the product turns out.

My Partner: My partner (Jason Paek) is another primary stakeholder because as a user he will have hands-on experience with the project. My partner will provide me with the information I need to successfully develop this product. He will also provide me with direct feedback on various aspects of the project.

Potential Users: The user of the product is the primary stakeholders who are going to use this product and directly benefit from the product. Potential users included anyone individual who owns a car or anyone who runs a car service company.

Car Mechanic Shops: They are a secondary stakeholder because they are indirectly affected by this project. The mechanic shops that will adopt and use this product have the potential to increase their business instrumentally. Those mechanic shops who will be reluctant to this change could go out of business.

Insurance Companies: They are a tertiary stakeholder because even though they are indirectly involved they benefit the least from this project and do not have much control over it. Although, it might affect your insurance rate.

Department of Revenue: They are a tertiary stakeholder as they do not have much control over the project. However, you are required to have your vehicle registration renewed every year. But before you can renew your car registration you are required to pass a vehicle emission inspection test and if your vehicle does not pass the test because there is a problem with your car you will not be able to renew your registration.

Data Collection Methods:

The first data collection method that I choose was a semi-structured interview. A semi-structured interview method involves meeting the interviewer and asking open-ended questions which do not follow some strict format. I choose the semi-structured interview method because I believe it will provide me with the most information, I need to complete this project. During the interview, I ask the interviewer a total of sixteen questions. All the questions asked provided me with more information about

the project. I believe I now have a deeper understanding of the project and what is required of me because of this interview.

The second data collection method that I choose was an online survey. An online survey is a popular form of data collection method as it is easier for people to take the survey. I choose an online survey method because I believe it will provide me with quality data from my target users. For this survey, I created a total of nine questions which included four multiple choice questions, one linear scaler question, one checkbox question, and three short answer questions. All the questions are easy to understand and answer by anyone. So far, I have received twelve responses, and as I expect it is providing me with quality data and helping me understand more about the project and what is it that people expect from the project.

Detail Summary:

From my two methods of data collection, I have learned a lot about different aspects of the project. I was able to collect high-quality data from both the semi-structured interview and the online survey. The interview provided me with a deeper understanding of the project and the online survey provided me with an extensive understanding of user opinions and experiences. Thought I feel like the interview was more helpful in helping me understand the project than the online survey. It is still useful to understand the different experiences the user has had with car mechanics.

The interview provided me with insight into my user mind. From what I gather from the interview the user does indeed have a car. He has experienced minor car trouble many times and had to take the car to the mechanic for repair as is true for most people. I have also learned that though the user finds a car mechanic very easily, he encounters the same problem everywhere. All of them take too long to provide any service even minor services which should only take a few minutes. Therefore, the user finds going to a car mechanic frustrating. The user also does not like the fact that some of the car mechanics do not know to possess extensive knowledge of cars and wish to find someone who does.

During the interview, I learn that the user is not opposed to the idea of a robot car mechanic. The user believes that it will be a lot faster so he will not get frustrated every time he goes to a mechanic shop. Concerning the safety of a car service by a robot, the user feels perfectly safe driving a car service by a robot since robots are less prone to make mistakes. The user does not simply want to car his car service. The user showed interest in knowing the process of each service performed on his car and would also like to know the estimated time it would take to perform that service. I have also learned that user is interested in seeing the different options available for each different service the user selects. Moving on to the internal and external cleaning of the car, the user does not clean his car very often. It is time-consuming and most car mechanic shops do not provide that service. Most of the time to get his car clean the user must go to a different place that exclusively proved cleaning services.

Mohammad Umar
Car Mechanic Robot

From the online survey response, I have learned many of the same things that I learn from the interview. The majority of people own their cars. Most people experience the normal amount of car trouble which is to be expected and go to the mechanic shop mostly four times a year. As I previously learn from the interview which is also clear in the survey the majority of the people find it frustrating going to a mechanic. The service that is most performed on a person's car includes oil change, tire maintenance, and break repair. As to what is the biggest problem people encounter at the mechanic is the long wait time. Faster service is one thing that will improve most of the people's experience at the mechanic.

List of User-Centered Design Functionalities:

Car Mechanic Robot: A robot that maintains and services your car to always ensure that your car function properly.

Design Features:

- Tire Maintenance (Tire Rotation, Tire Replacement, Tire Pressure Check and Fill Tire Air): This design feature will allow the user to select and perform any tire maintenance server that the user required.
- Oil Change: This feature will allow the user to select what type of oil change the user wants and then perform every aspect of the oil change on the user's car. Including changing the old filter.
- Internal Cleaning: This feature will allow the user to either select a complete internal car cleaning service or provide options to select a certain cleaning service.
- External Cleaning: This feature will allow the user to select different types of external cleaning services from the provided options which will contain some cleaning services to every cleaning service possible.

Persona

Kevin Smith
Construction Site Manager
Age: 40
Location: Atlanta, GA

"When I go to a mechanic I just want my car service quick and don't want to spend my whole day waiting"

About

Kevin is a Construction Site Manger who has to travel a lot because of his job. Which is why he has to take his car to an mechanic regularly. He expect the mechanic to provide excellent service in timely manner. He do not like his time being wasted. Most of all, Kevin want all of his service needs taken care of at one place and not have to find different mechanic for different services.

Frustrations

- Think that too many mechanics waste there customers time and take forever to fix even the smallest problem
- Find going to different places for different service tedious and frustrating

Motivations

- Want faster service so he can get back to his life and work
- Want to be able to get all of his car service in one place

Goals

- Wants to know how the efficient the the service process is
- Need to know the different types of service offer
- Expect to get his car service at anytime he choses

Tasks

- Learn about each service process and how it is done
- Learn about the estimated time it will take to complete certain service
- View different types of service provided and choose which of those service you required

Mohammad Umar
Car Mechanic Robot

Additional Materials:

Interview with the user:

Introduction: Hello, my name is Mohammad Umar, and I will be conducting the interview today.

Goals: The goal of this interview is to get as much information about the project I am working on which is a car mechanic robot.

Reassurance: Do not worry, your responses will not be shared with an external third party nor will be used against you in any way.

Consent: Do I have your consent to start this interview?

Interviewer Response (start interview if "Yes"): Yes

1. Do you own a car?
   Respond: Yes, I have a 2018 jeep.
2. Do you experience a lot of car trouble?
   Respond: Yes, minor problems all the time not so much bigger problems.
3. How many times do you service your car in a year?
   Respond: Approximately four times a year for major services and more for minor services.
4. How do you feel about getting your car service?
   Respond: It is frustrating, time-consuming, and expansive.
5. How easy/or difficult do you find it to get your car maintained?
   Respond: Finding a car mechanic is easy however scheduling and the time it takes to get my car fixed is frustrating and it is expensive.
6. What do you look for in a car mechanic?
   Respond: I look for someone who has extensive knowledge of what they are doing and can provide services promptly. That is, I just want my car service on time, especially for minor problems with my car, and do not have to wait long to get my car fixed.
7. How do feel about a robot car mechanic?
   Respond: Robot car mechanic would be a lot faster, so I will not have to wait for a long time to get my car fixed.
8. Would you feel safe driving a car service by a robot car mechanic?
   Respond: I would feel safer driving a car serviced by a robot because unlike humans' robots are less like to make mistakes.
9. What is the most common maintenance part of your car?
   Respond: Tire Maintenance, brake repair, and oil change.
10. Upon selecting a maintenance feature, what would you like to see?

Respond: I would like to see the approximate time it would take to perform that certain services.

11. Upon selecting a service, would you like to see the process that is required to perform that particular service?
    Respond: Yes, I would like to know the process of each maintenance service performed on my car.
12. Would you like to see the different options when getting your oil change?
    Respond: Yes, I would see the different types of oil change options like brands and mileage.
13. How often do you clean your car or get your car clean?
    Respond: Not very often, its time consuming and I do not find that much time in my daily life to regularly clean my car.
14. Do you get your car maintenance service and your car cleaning service in one place?
    Respond: No, I don't because most car mechanics don't provide cleaning services. For that, you have to go to a different place.
15. What type of internal and external cleaning services do you expect to see?
    Respond: For internal cleaning, I would like to see vacuuming, wiping, perfuming, and floor mats cleaning. For external I would like to see soaping, rinsing, Polish, Tire Shine, and wax.
16. Would you get your car cleaned more often if a robot provided the cleaning service?
    Respond: I would get my car cleaned more often if the service was provided by a robot because it will be less time-consuming, and I will get all my car services taken care of in one place.

Closing Remark: I want to think you for coming and taking part in this interview. Have a good rest of your day.

Online Survey Questions and Responses:

Car Mechanic Robot

12 responses

Publish analytics

What is Your Name?

12 responses

- Stephanie
- Joe
- Joseph (Josh)
- Sarah
- Tray
- Giorno
- Tyler
- Maddy
- Freddie
- Umari
- Chen
- Alex

Do you own a car?

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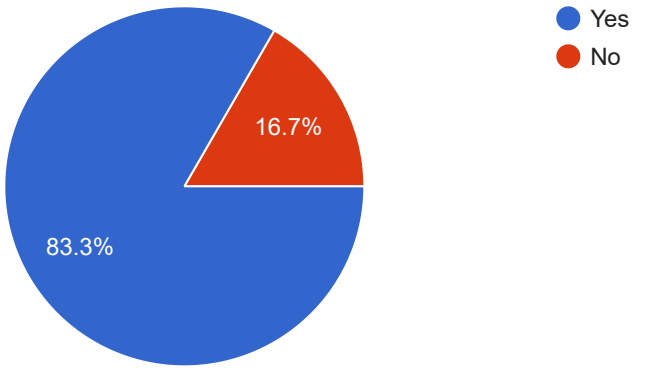
12 responses



On a scale from 1 to 5, where 1 is not often and 5 is all the time, how often do your experience car trouble?

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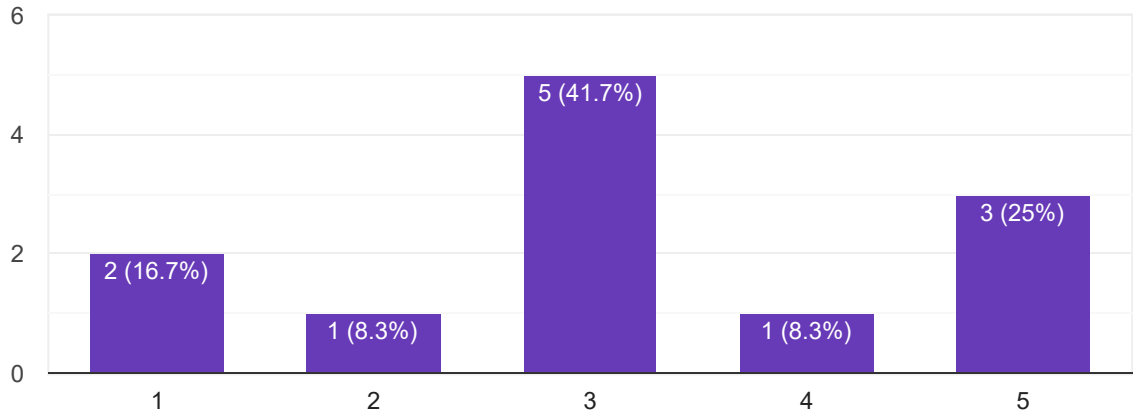
12 responses



How many times in a year do you get your car service?

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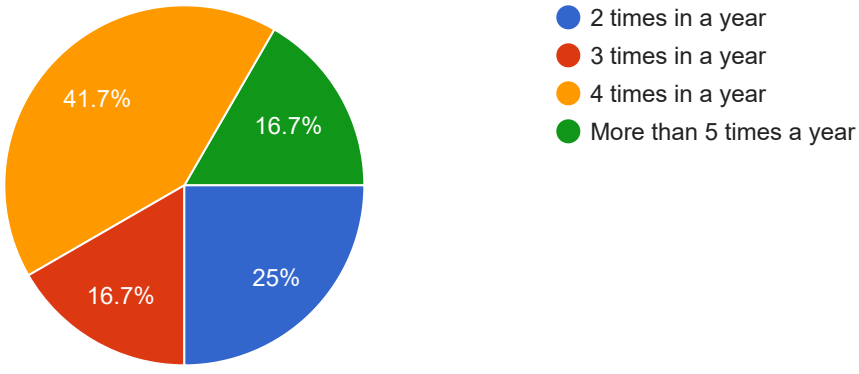
12 responses



How do you feel about getting your car service?

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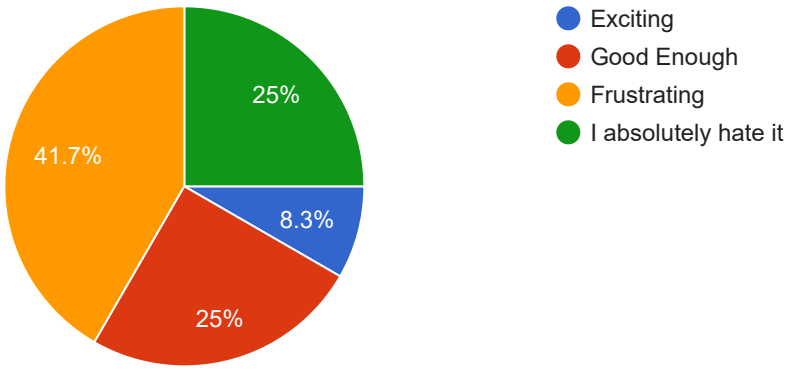
12 responses



How often do you clean your car or get your car clean?

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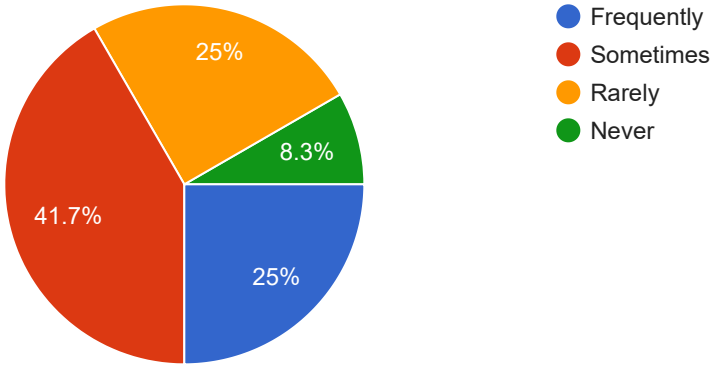
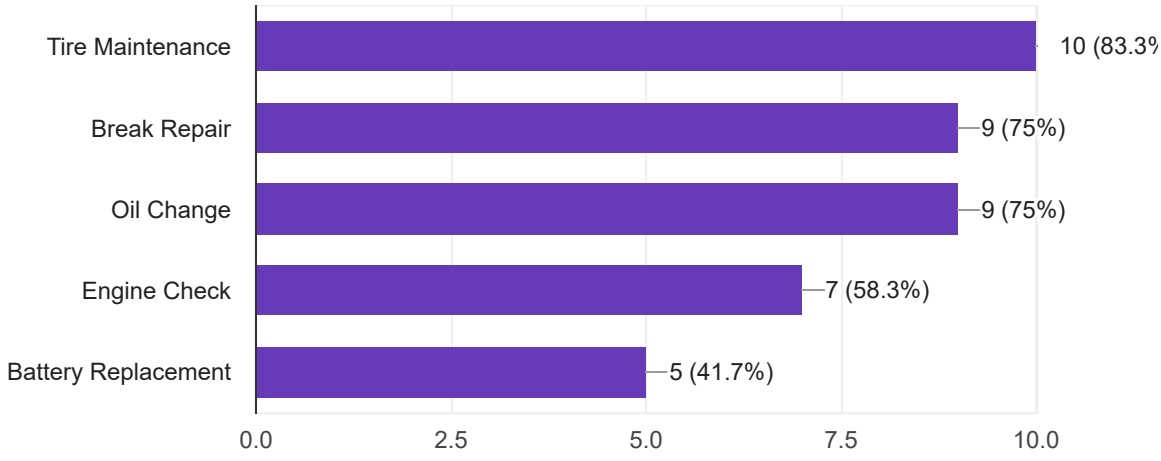
12 responses



Which of the following maintenance you get done for your car the most? (Please select all that apply.)

Copy

12 responses



What is one of the biggest problem you encounter at the car mechanic shop?

12 responses

Overcharging

The amount of time to wait

No car

Annoyingly time consuming, especially when I just want a oil change

I dont have that much trouble

Overcharging for simple services

n/a

inconvenient, long wait times

Mechanic Error

Confusing upcharging, dont know what I need fixed everytime i come in

wait times

Long wait time

What is one thing that you think will improve your experience when getting your car service?

12 responses

Better scheduling

fast and easy service

no car

faster service

The price should be lower

Not going at all, Would rather fix things myself

n/a

shorter wait time, cheaper price, more accessible

More efficient car work

efficient car work, get exactly what i need fixed

need faster service

If i dont have to wait all day