1. Understanding of the Interface:

* Did you find any symbols, icons, or terms used in the app to be unclear or misleading?
* User 1: The buttons are so clear that they easily guide the user to the next steps.
* User 2: While the selection page is clear with all its buttons, it's not immediately apparent which one to choose.
* User 3: The buttons on the selection page are clear but could be bigger. Additionally, a color other than red might make them even clearer.
* User 4: The processes are straightforward and it's clear what to click next. While the design could be more aesthetically appealing, in terms of functionality, it is crystal clear.
* User 5: The app's symbols and instructions are clear enough for me to troubleshoot successfully. However, the design could be improved. For instance, the AR view isn't necessary before the troubleshooting process starts; it's only useful for troubleshooting and scanning the QR code. Despite that, the buttons and text are clearly displayed and easy to read, and I understand the next steps without needing further instructions.
* User 6: The app's design and instructions are clear and user-friendly, even for a first-time user like me. However, it could be improved by including a German version of the text for those who are not fluent in English.
* User 7: I assumed that I could click on the images to enlarge them during the troubleshooting process, as they aren't large enough. Additionally, a loading screen before the camera successfully detects the object and displays the 3D objects would be beneficial.
* User 8: The process of scanning the QR code isn't very clear; users should be able to scan automatically rather than having to click a button.

1. Layout and Design:

* How would you rate the visual appeal of this design on a scale of 1-10?
* User 1: 8  
  User 2: 7  
  User 3: 7  
  User 4: 6  
  User 5: 8  
  User 6: 6  
  User 7: 6.5  
  User 8: 6
* Do you think the color scheme and fonts used in the design were appropriate and appealing on a scale of 1-10?
* User 1: 9  
  User 2: 7  
  User 3: 6  
  User 4: 8  
  User 5: 8  
  User 6: 6  
  User 7: 7  
  User 8: 6
* How did you feel about the amount of information presented on the screen at once? Was it overwhelming or too minimal?
* User 1: The amount of information is just right. Given the limited screen space, it's easy to comprehend all the information at once.
* User 2: Some of the text is a bit too small; it could be enlarged.
* User 3: The information provided during each troubleshooting step is clear. However, it might be more user-friendly if each minor step had its own dedicated page.
* User 4: The images used during the troubleshooting process could be larger, and the text could be smaller.
* User 5: The design is generally good, but there should be consideration for users with smaller phones, as some elements might be difficult to read.
* User 6: The amount of information provided is just right.
* User 7: A bit overwhelming when 2 tasks are shown at once. Sometimes too minimal, missing information if the app is trying to find the object in the real world, and the big blue arrow to point at the small fuse is not really helpful.
* User 8: The size could be bigger

1. Interaction and Engagement:

* Were there any features you wished were present while navigating through the design?
* User 1: The QR code scanning function should activate automatically.
* User 2: It would be helpful if I could zoom into texts or images when they are too small. Additionally, skipping the user input page when I don't want to answer certain questions would be beneficial.
* User 3: I would like a feature that allows me to halt the troubleshooting processes when needed.
* User 4: It would be great to have options for other languages, such as German.
* User 5: It would be useful if the sizes of the text and images were adjustable.
* User 6: It's good as it is.
* User 7: Zoom on the drawing.

An icon that indicates if the app tries to detect the object or not.

More accurate arrows, a smaller arrow pointing at the fuse, the big one gives direction, but once on the PCB, the app is no use anymore.

Arrow disappears when a screw is removed.

A way to find the arrow (blinking arrow or marker at the border of the screen when the arrow is out of the field of view).

* User 8: Adding a loading page before the object detection and the image and text could be adjust the size.
* How satisfied were you with the effectiveness of the troubleshooting system in the Smart AR app on scale of 1-10?
  + User 1: 10
  + User 2: 8
  + User 3: 8
  + User 4: 9
  + User 5: 10
  + User 6: 10
  + User 7: 8
  + User 8: 8
* How satisfied were you with the effectiveness of the troubleshooting system in the traditional metho on scale of 1-10?
  + User 1: 5
  + User 2: 3
  + User 3: 6
  + User 4: 6
  + User 5: 7
  + User 6: 5
  + User 7: 6
  + User 8: 4

1. Ease of Learning:

* How easy do you think it would be for a new user to learn to navigate this app design on a scale of 1-10?
  + User 1: 8
  + User 2: 8
  + User 3: 9
  + User 4: 7
  + User 5: 9
  + User 6: 7
  + User 7: 9
  + User 8: 8
* Would you have found a tutorial or onboarding process helpful when you first started using this design?
* User 1: No, each process is straightforward.
* User 2: No, there are sufficient instructions provided within the troubleshooting system.
* User 3: Yes, some further explanation regarding the functionality of the buttons on the selection page would be helpful.
* User 4: No, everything in the app is clear and self-explanatory.
* User 5: No, the app already provides adequate explanations.
* User 6: Yes, although the app is already quite clear, a tutorial would expedite the learning process.
* User 7: No, but a help button with this information could be useful.
* User 8: No, it is clear with the design.

1. User Satisfaction:

* How would you describe your overall level of satisfaction with this design on a scale of 1-10?
  + User 1: 9
  + User 2: 7
  + User 3: 7
  + User 4: 8
  + User 5: 9
  + User 6: 6
  + User 7: 8
  + User 8: 8

1. AR-Specific Questions:

* In what ways do you feel this app design would assist you in machine maintenance tasks? And how would you improve the AR experience in the context of machine maintenance tasks?
* User 1: Design isn't a crucial factor for machine maintenance.
* User 2: The main concern is that some text and images could be larger as they may be too small for some users.
* User 3: Design isn't vital as long as the instructions are as clear as they are in this app.
* User 4: For machine maintenance, design isn't of paramount importance.
* User 5: Some 3D objects used during troubleshooting could be smaller, pointing more precisely to the part that needs attention.
* User 6: The AR 3D objects are clear with vivid color rendering.
* User 7: It would help, as there is no need to find the information in the manual, and directly provide me with all related information. Less risk of a wrong manipulation as in the manual, there is some chance that I would skip the warning section.
* User 8: 3D objects are more important to make the difference than the traditional methods

Comparison Question: Which method do you prefer for effective troubleshooting, and why?

* User 1: I prefer the app. Its workflow offers step-by-step clarity on the troubleshooting process. In contrast, with the traditional method, I had to spend time figuring out where to begin.
* User 2: I chose the app because it uses AR indicators to pinpoint the exact troubleshooting locations. The traditional manual might have pictures, but they're not as precise.
* User 3: The app is my choice. The traditional method left me unsure about checking for leakage, not specifying if it was inside or outside. The app, on the other hand, indicates the exact location.
* User 4: The app stands out for me. It gets straight to the issue, saving me the trouble of flipping through manual pages, which makes the process quicker.
* User 5: I'd go with the app. It's intuitive, presenting steps sequentially. Unlike the traditional method that seems to assume prior machine experience, the app is accessible even for novices like me.
* User 6: I'm indifferent; both methods work well for me.
* User 7: The app is my preference. Having all the information on one device is more convenient. Plus, the app's instructions are clearer than those of the traditional method.
* User 8: I lean towards the app. With the traditional approach, I was left uncertain if I'd completed the troubleshooting process. The app not only confirms completion but also shows in real-time if the error has been resolved.
* User 9: From a user-friendly perspective, especially for those new to machinery, the app is a clear winner over the traditional method.
* User 10: I favor the app. The traditional method had me lost right from the start, whereas with the app, I simply followed the prompts and clicked the 'next' button.