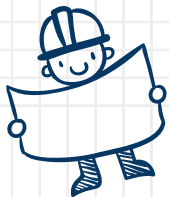


SCREW IT



Home Improvement

Hi-Fi Figma Prototype



CMPSC 185 || Annika Damstedt, Hannah Zhang, Krystelle Baluyot



Meet the Team



Annika Damstedt

'27

Computer Science



Hannah Zhang

'27

Computer Science

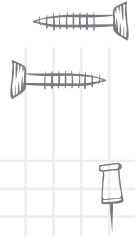


Krystelle Baluyot

'27

Computer Science

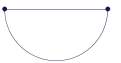
SCREW IT



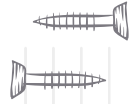
The Problem



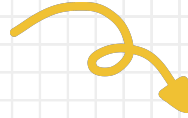
Renters and homeowners who are new to home maintenance often lack clear guidance on identifying household issues. This guidance is necessary to determining whether they can handle repairs themselves or whether they should hire a professional, as well as how to complete DIY repairs safely and find a reliable expert.



SCREW IT



Our Solution



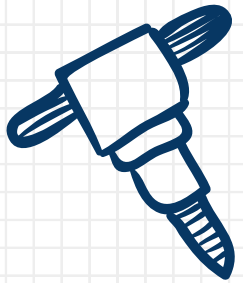
Use AI to identify home maintenance issues, compare DIY versus professional options based on cost, risk, and feasibility, and provide step-by-step guidance for completing the repair independently or choosing the right professional.



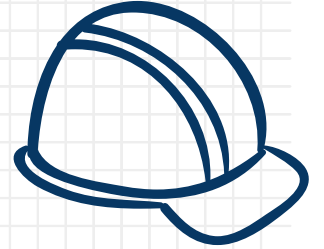
PROJECT OUTLINE



1. Heuristic Evaluation Results
2. UI Revisions
3. Prototype Implementation
4. Prototype Demo

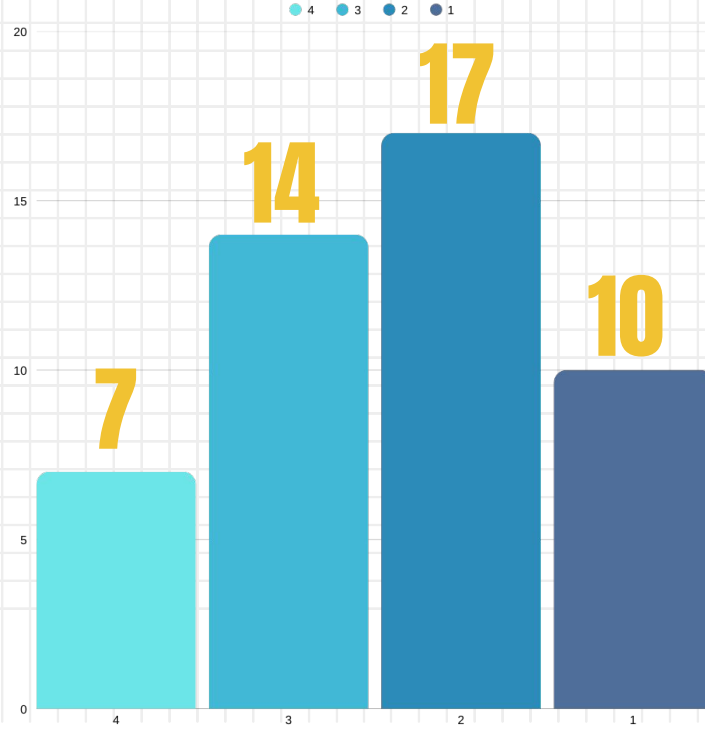


01



Heuristic Evaluation Results

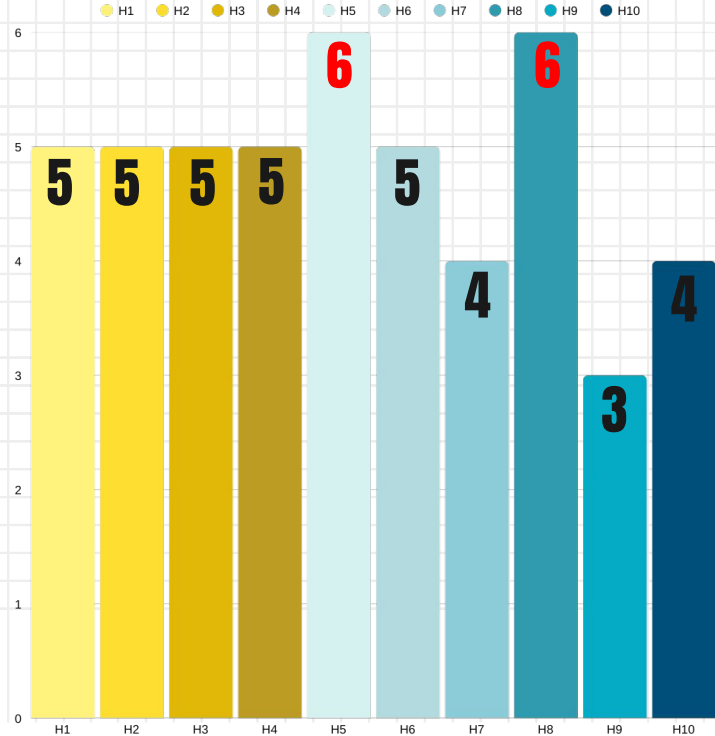
Violations by Severity



Violations by Heuristic

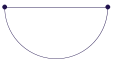
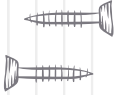
Most Common:

- H5: Error Prevention
- H8: Aesthetic & Minimalist Design



Summary of Violations

- Little to no AI feedback and conversation (*H1, H9*)
- The use of technical words without explanation and mixed labeling (*H2, H4*)
- User constraints with following tutorials and comparisons (*H3, H7*)
- No confirmation messages to verify user and AI decisions (*H5, H9*)
- Lots of user recalling information (*H6*)
- UI is too dense and information-heavy (*H8*)
- No help documentation (*H10*)



Changes for our Values and Goals

- **User Freedom**

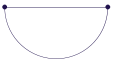
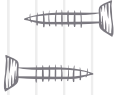
- Users have the ability to control and go at their own speed when deciding on comparison and following tutorial steps.

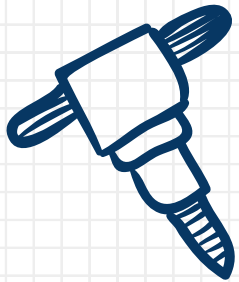
- **Increase Learnability + Clarity**

- Users will have the ability to verify their decisions with the help of their AI assistant. The AI assistant will also be more clear with their decision making and how to aid the user in a reliable and accurate manner.

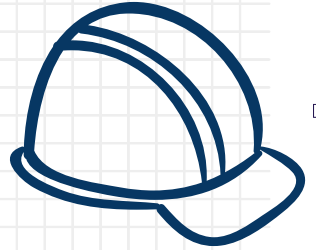
- **Intuitive Navigation**

- The UI will be less dense which will require less mental effort when navigating through the app. This ensures that users won't be confused and clearly know what choices their making.



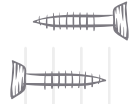


02

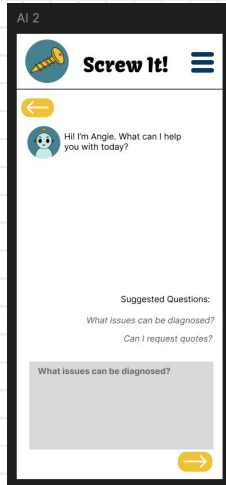


UI Revisions

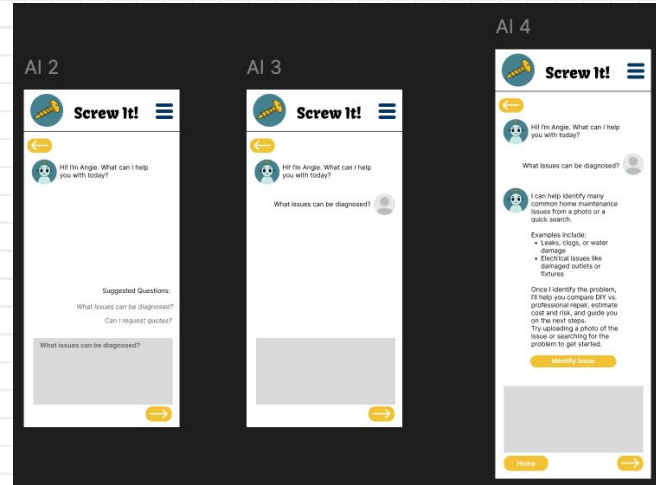
AI Feedback



Before:

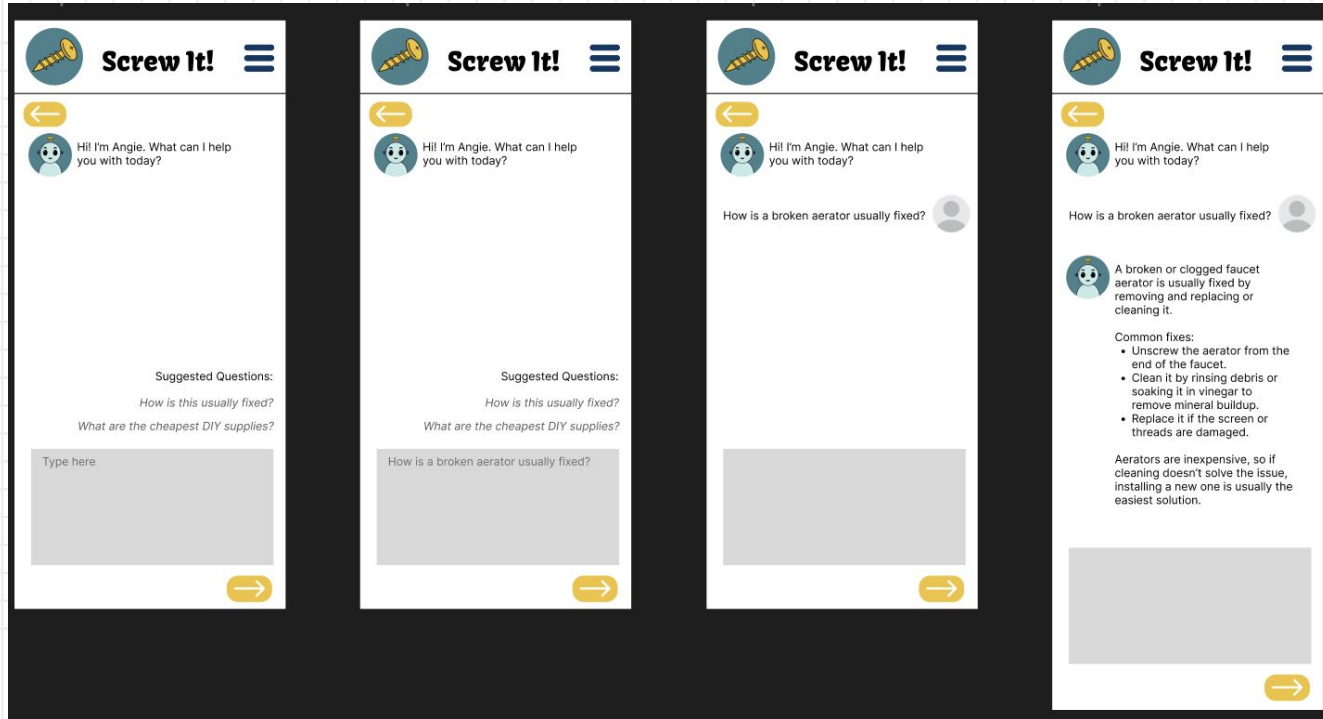


After:

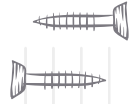


Reason for change: AI is a key feature of our app, so the prototype should have simulated conversations

AI Feedback (After)



AI Feedback (After)



Screw It!

←

Hi! I'm Angie. What can I help you with today?

Suggested Questions:

Where is the aerator on my sink model?

What size pliers do I need for step 2?

Type here

→

Screw It!

←

Hi! I'm Angie. What can I help you with today?

Suggested Questions:

Where is the aerator on my sink model?

What size pliers do I need for step 2?

Where is the aerator on my sink model?

→

Screw It!

←

Hi! I'm Angie. What can I help you with today?

Where is the aerator on my sink model?

→

Screw It!

←

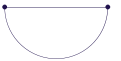
Hi! I'm Angie. What can I help you with today?

Where is the aerator on my sink model?

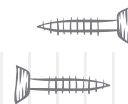
On your sink model, it's a small circular piece that screws into the end of the faucet and may have a visible metal ring or small notches for removal. If your faucet has a hidden aerator, it sits inside the spout and requires a small aerator key to remove.

Parts of a sink faucet

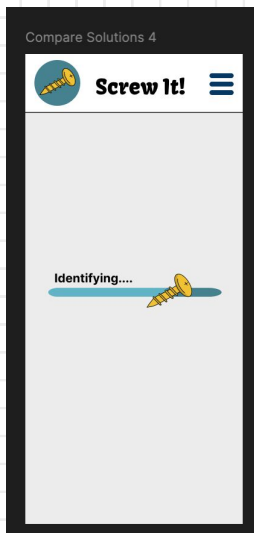
→



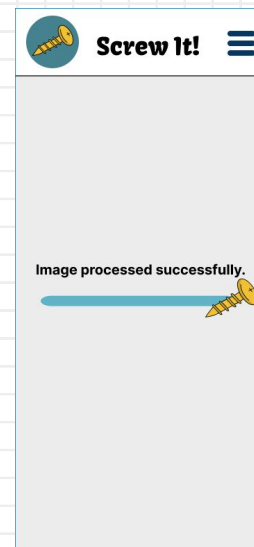
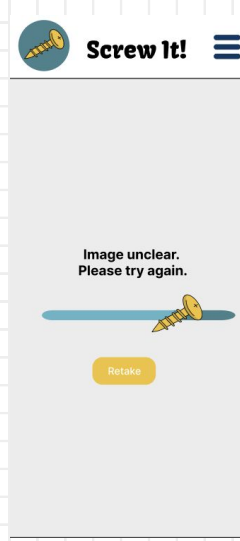
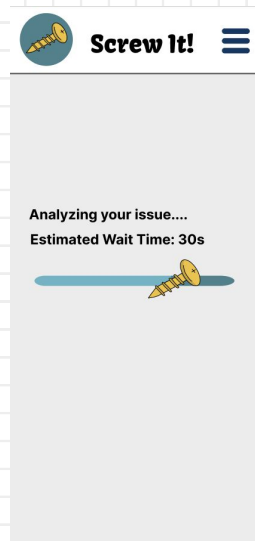
Accommodate Photo Errors



Before:

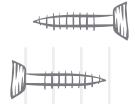


After:



Reason for change: Some photos may be unable to identify the issue, or could have errors uploading. These changes help the user understand what's happening in the app.

More Details in DIY and Professional



Before:

Compare Solution 5

Screw It!

Broken Aerator

Complexity: Easy

DIY (Do It Yourself)
Estimated cost: \$15-30
Estimate time: 5-30 min

Unscrew the old aerator, clean or replace it, and screw it back on.

Professional
Estimated cost: \$75-150
Estimate time: 15-45 min

Plumber removes the old aerator, fixes or replaces it properly, tests water flow.

Can't decide? Ask Angle for more advice! →

Find Professional 6

Screw It!

← **Professionals Near You**
Santa Barbara, CA

FlowMaster Plumbing
Santa Barbara, CA (15 miles)
Specializes in faucet and aerator repairs, as well as leak prevention. Known for fast, reliable service.
RATING: ★★★★★

BluePipe Solutions
Santa Barbara, CA (10 miles)
Offers professional faucet fixes, pipe maintenance, and routine home plumbing checks.
RATING: ★★★★★

Precision Plumbing Co.
Santa Barbara, CA (12 miles)
Family-owned team focused on quick, affordable repairs for sinks, aerators, and bathroom fixtures.
RATING: ★★★★★

Feeling stuck? Ask Angle for guidance! →

After:

Screw It!

← **Broken Aerator**
Complexity: Easy

DIY (Do It Yourself)
Estimated cost: \$15-30
Estimate time: 5-30 min
Safety Risk Level: Low

Unscrew the old aerator, clean or replace it, and screw it back on.

Professional
Estimated cost: \$75-150
Estimate time: 15-45 min

Plumber removes the old aerator, fixes or replaces it properly, tests water flow.

Cost Breakdown

Can't decide? Ask Angle for more advice! →

Screw It!

← **Professionals Near You**
Santa Barbara, CA

DIY Summary for "Broken Aerator"
Estimated cost: \$15-30
Estimated time: 5-30 min
Safety Risk Level: Low

Filter by: Cost Location

FlowMaster Plumbing
Santa Barbara, CA (15 miles)
Specializes in faucet and aerator repairs, and leak prevention. Known for fast, reliable service.
Estimated cost: \$45-50 | Estimated time: 30-40 min
RATING: ★★★★★

BluePipe Solutions
Santa Barbara, CA (10 miles)
Offers professional faucet fixes and routine home plumbing checks.
Estimated cost: \$60-70 | Estimated time: 25-35 min
RATING: ★★★★★

Feeling stuck? Ask Angle for guidance! →

Screw It!

← **Cost Breakdown**

DIY
Fixing a broken aerator yourself can be very affordable and quick:

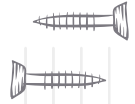
- Aerator cost: \$2-\$15
- Tools: Usually none to minimal if you have basic pliers or a wrench
- Time: 5-30 minutes
- Skill level: Basic
- Pros:
 - Low cost
 - Fast and satisfying to do yourself
- Cons:
 - Risk of damaging faucet threads if stuck or corroded
 - Doesn't fix deeper plumbing issues
 - First attempts might take longer or cause minor leaks if not careful

Professional
Hiring a plumber is more expensive but offers convenience and peace of mind:

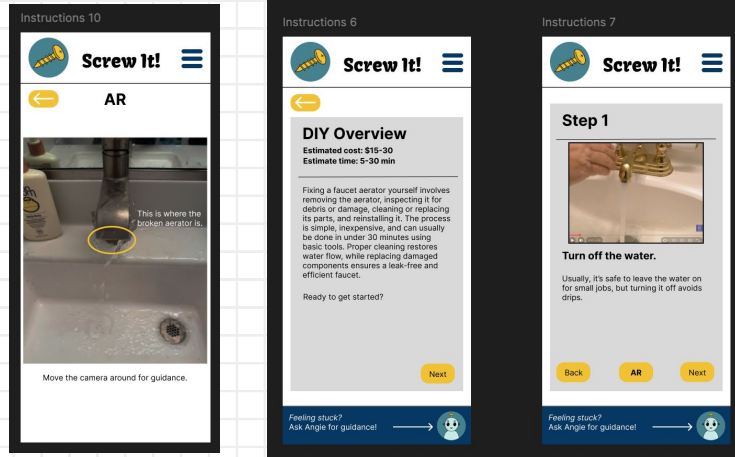
- Service cost: \$75-\$150+ (Includes labor and fees)
- Time: 15-45 minutes (plus scheduling wait)
- Skill level: Expert
- Pros:
 - Handles stuck or damaged aerators safely
 - Labor warranty usually included
 - Can detect hidden problems like leaks or pressure issues
- Cons:
 - Higher price
 - Reliance on a professional instead of DIY learning

Reason for change: The DIY and Professional screens were missing some key information that would help with comparison, such as risk.

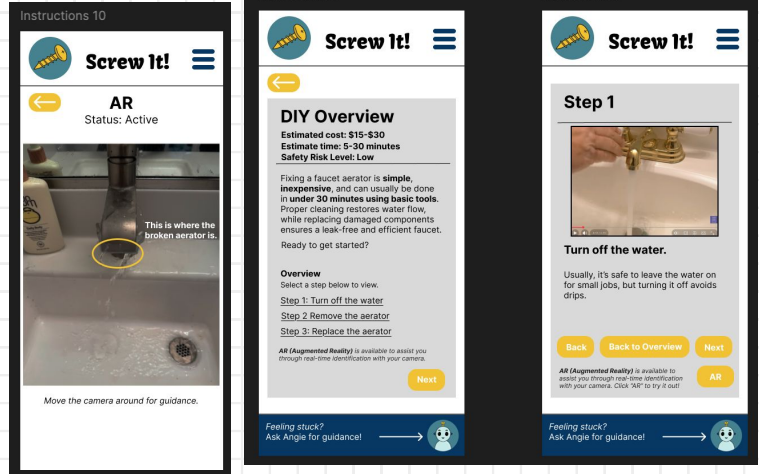
Additional Changes



Before:

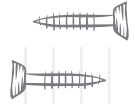


After:

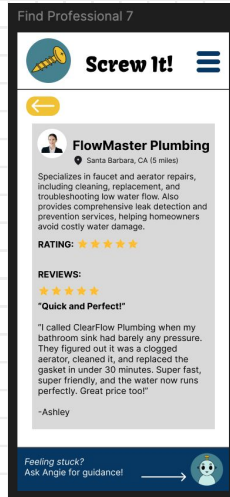


Reason for change: Adding AR status helps users understand the status of the app. Also, being able to view all steps at once would be helpful for some users. There were also some generic linking issues that disrupted the flow of our prototype.

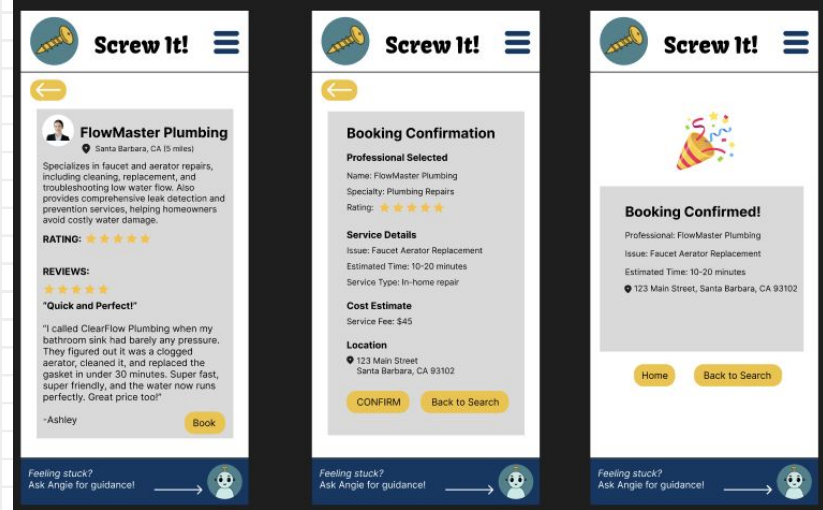
Additional Changes



Before:

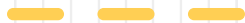
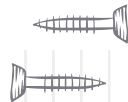


After:



Reason for change: Adding a booking feature makes it easier for users to understand the solution and maintain information, since they don't have to go off app to actually book

Problems We Ignored



Severity 4	H5	The user can accidentally click the top of the screen, which redirects the app back to the home page	Allow the user to access the most recent page from the home page if they were in the middle of a DIY
------------	----	--	--

While some users may misclick the top of the screen, the current homepage doesn't make it too challenging to navigate back to where users were. As such adding a most recent page is not a priority, since it would be complicated to do inside Figma.

Severity 3	H4	After uploading the image to Angie, the three buttons given are "Compare Solutions", "Step by Step Instructions," and "Find a Professional."	Remove the "Find a Professional" button
------------	----	--	---

It's unclear why this is an issue, as one of the task flows we added to better simulate our app was "Find a Professional"

Progress Toward Goal



Intuitive Navigation

The changes made to update status help the user more clearly understand what the app is doing, so they don't think they are lost if an error occurs.


Perceived Helpfulness

The changes to AI help demonstrate the customized helpfulness of the app, allowing users to ask any questions they might have.

~~Would it help you learn?~~ Understandability

We want the app to help you learn, but more importantly, we want the solutions to be easy to understand (updated from advice).

The changes in AI and DIY/Professional add a lot of clarity to the learning process within our app, making it easier to understand the differences between solutions and learn how to solve the issues on your own.





06

Prototype Demo / Figma Link

<https://www.figma.com/proto/Q0fpYCVhidJOwwuZolMYUw/Screw-It-Hi-Fi-Prototype?node-id=131-814&t=UfP8P41L3e61hBRU-1>

<https://www.figma.com/design/Q0fpYCVhidJOwwuZolMYUw/Screw-It-Hi-Fi-Prototype?node-id=0-1&t=UfP8P41L3e61hBRU-1>