

Interaction Design: Part II

April Yu, Juliana Cook, Tara Balakrishnan

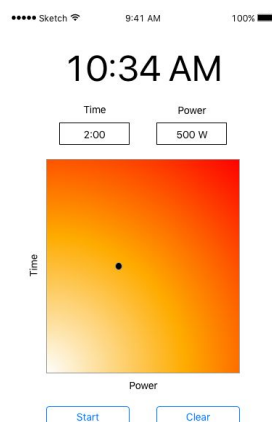
Part I Critical Synthesis and Revision

New User Profile

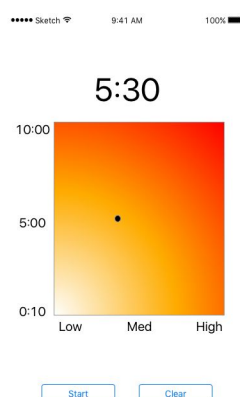
Our user is a busy, technology-savvy person who often uses her microwave to reheat leftovers. She wants the process to be simple and thoughtless; she doesn't want to have to go through ten different screens of settings just to heat up a slice of pizza. She wants her food to be warmed, but she doesn't have precise requirements for time and power and is okay with not having fine-grained control over those settings. She is used to working with modern digital interactions and interfaces, such as swiping and drop down menus.

Critical Synthesis

From P1, the feedback that we received regarding our “best” microwave wireframe (which we created in HTML) was that it incorporated too many elements and didn't carefully think through the 80/20 principle. So, instead we pivoted and decided to iterate on this design:

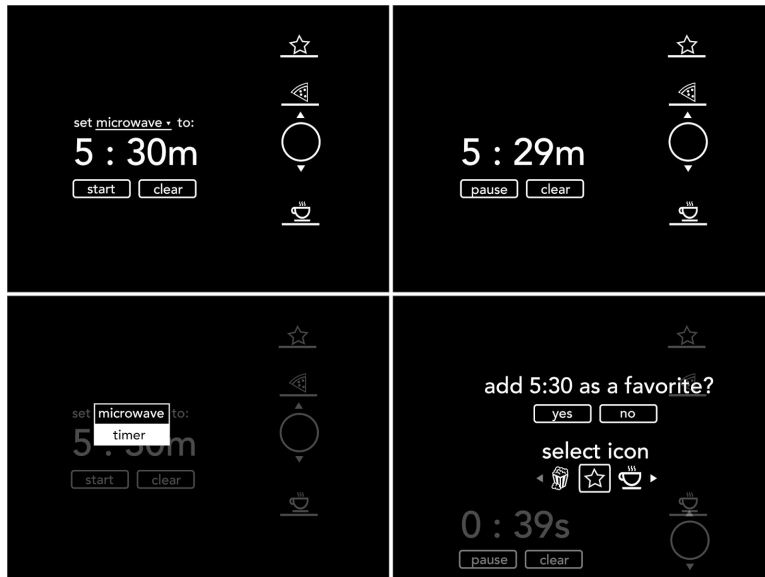


This design operates under the principle that exact cooking times are not as important with microwaves as they are with conventional cooking methods and users often value efficiency in reheating their food over accuracy. Because of this, this mock takes a step back by providing a different visual reference (a type of heat map) for the user to select a time and power setting. The feedback that we received on this design was that our analysis that people don't require a lot of precision was intriguing, however some type of time-based scale would still be useful for reference.



In our next iteration, we realized that time is still generally a useful construct under which users can determine the appropriate action to take with reheating their food. So, we added a scale as a better reference point. Additionally, it's important to note that the time label at the very top is useful in this case for setting and checking the time remaining. After rethinking our user profile and the various functionality that this UI offers, we decided that 80% of users never change the power level. Therefore, we transformed this 2D heat map into a 1D slider, that allows the user to change the time level. We also tried thinking about how the visual location of the slider can help the user understand the concept of time.

Here, we kept the sliding scale from our first mock, stripping away the often unnecessary power component to focus solely on time. To give users a sense of scale, we intelligently allow them to save commonly used times with an icon, detecting when a user has frequently used a time setting and prompting them to add it as a favorite.



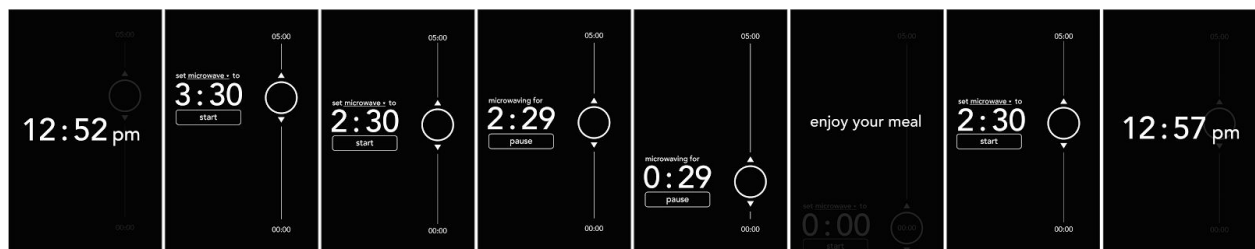
We define commonly used times as time settings within a reasonable margin (perhaps +/- 30 seconds) that have been used frequently in recent history. The user can also toggle between the microwave and timer settings by clicking on the word microwave, since we felt that option was commonly used. Once a timer runs out, the setting defaults back to microwave until the user wants to run another timer.

After receiving feedback on this design, we continued to iterate

until we arrived at our final Sketch Wireframe. We first made it more obvious that it was a slider, by adding a thin vertical line. We also realized that we may have been too hasty in removing time as a scale and subsequently added reference points at the top and bottom of the slider. We decided on 5 minutes for the top reference point, since after some user research we realized that 80% of users do not microwave items for more than 5 minutes at least 80% of the time. In contrast, the scale of the timer goes up till 30 minutes. Additionally, we removed the clear button, since it will never make sense for the user to zero out the slider. In order for the user to see how much time is left, the time on the left moves down the screen along with the slider. These next three sequences of sketches depict storyboards illustrating different uses of the microwave:

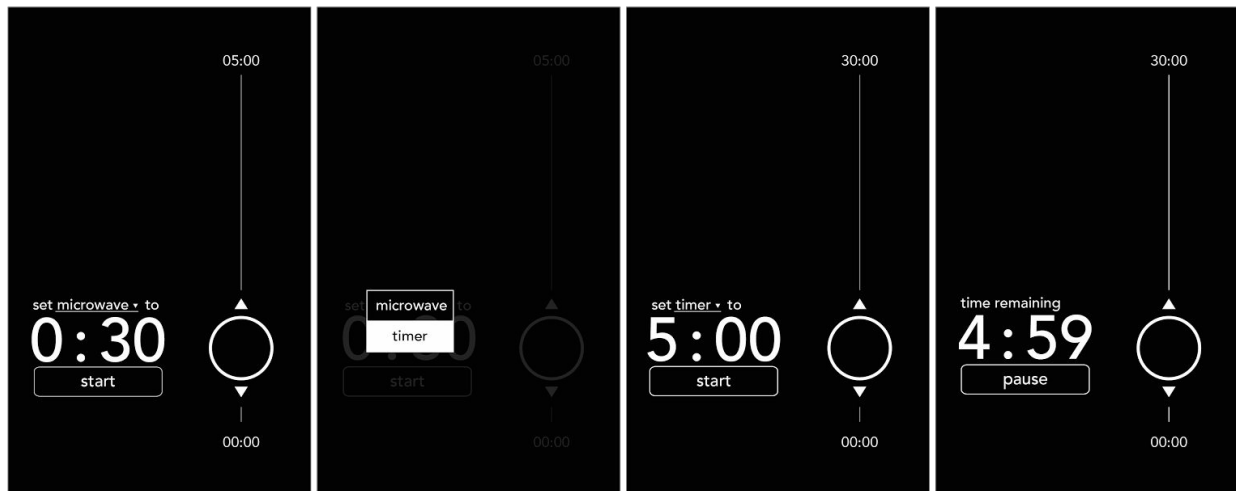
A. This storyboard illustrates the basic flow of the microwave UI:

1: sleep mode, 2: tap the screen to wake, 3: sliding the timer down, 4: hitting start, 5: the time moves down with the slider, 6: your food is done screen, 7: the timer jumps back to where you last hit start, 8: if unused for a minute, the screen slips back into sleep mode



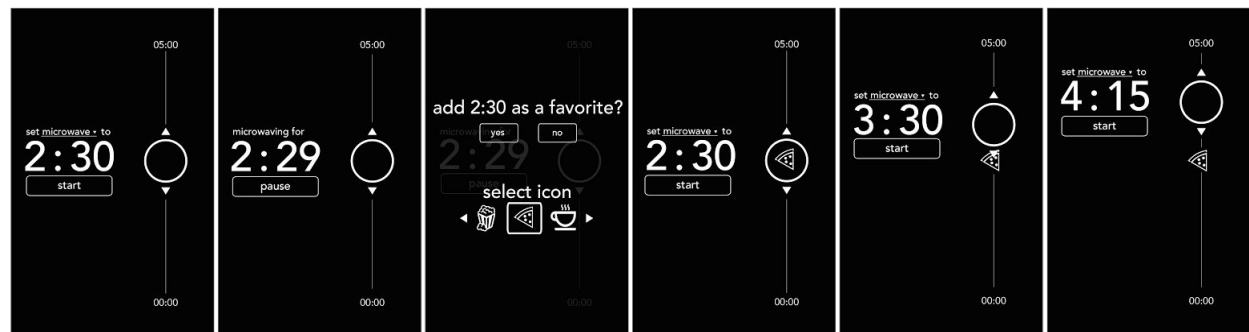
B. This illustrates how the user can flip between the microwave and timer options

1: user taps the word microwave, 2: user clicks on the word timer in the dropdown, 3: the scale switches to 30min at the max, since that more accurately reflects the use of the timer, 4: the user hits start



C. This illustrates the adding favorites experience

1: user starts microwave, 2: microwave runs, 3: microwave intelligently realizes that 2:30 was used frequently, and asks user if they would like to add it as a favorite and select an icon (as a note - the number of favorites is capped to 3 to reduce clutter, if the user wants more they will have to delete an old favorite), 4: the favorite is added at the time last used 5: the slider, slides up, 6: the slider continues upward and the favorite remains on the line.



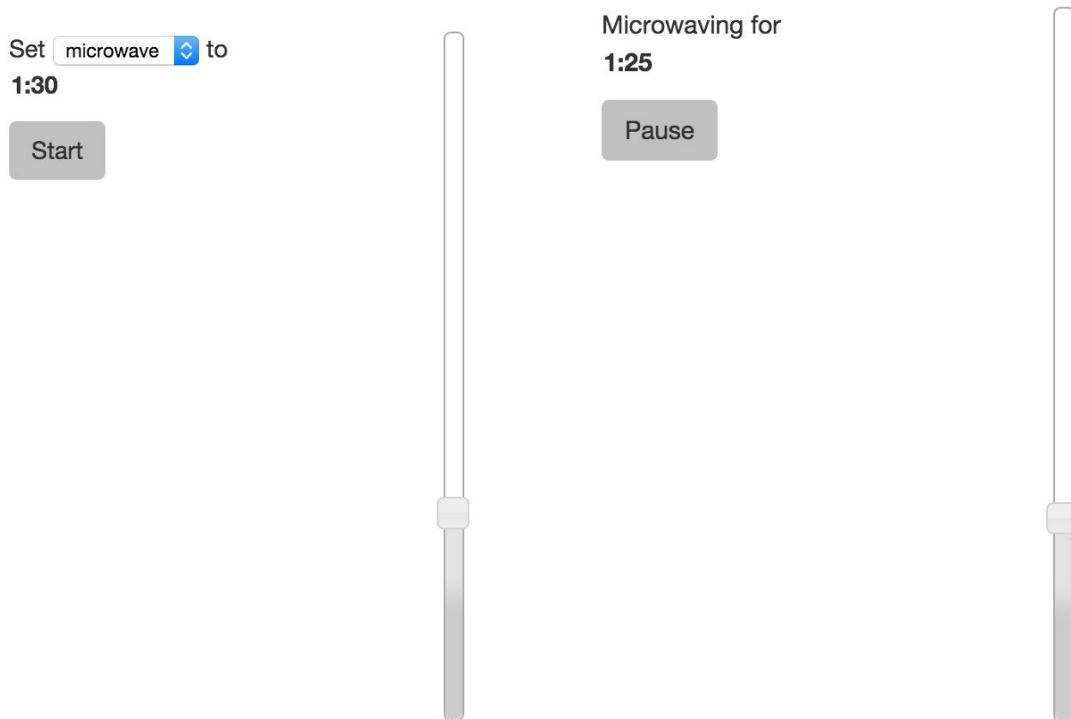
HTML Mock

Since we decided to explore a different direction, we created a new interactive mock based on our updated design focus. The mock prototypes the slider interaction with a slider changes the time as the user slides up and down. We found from experimenting with an interactive prototype that allowing users to select *any* time within the given range made it difficult for users to see what time they were currently on. We moved to a stepped scale that allows users to select times on 15 or 30 second intervals, making it easier for users to read the selected time mid swipe.

The mock models the favorites interaction by popping up an “Add a favorite” prompt after the mock user after the second time the user microwaves something; this doesn’t match our design of intelligently detecting repeated times, but allows testers to easily see the favorites experience. If the user doesn’t interact with the “Add a favorite” prompt, it disappears once the microwaving session is finished.

Once a microwaving session is finished, the slider jumps back to the last selected time position.

You can find our HTML mock at stanford.io/1ntqZ7m.



Microwaving for
0:00

Enjoy your meal!

Ok

Microwaving for
1:25

Pause

Would you like to add this as a
favorite?

select icon



Yes

No

Microwaving for
0:08

Pause

Would you like to add this as a
favorite?

select icon



Yes

No



Microwaving for
0:04

Pause



Set ☒ microwave timer to
1:

Start



Set to
1:30

Start



Time remaining
1:27

Pause

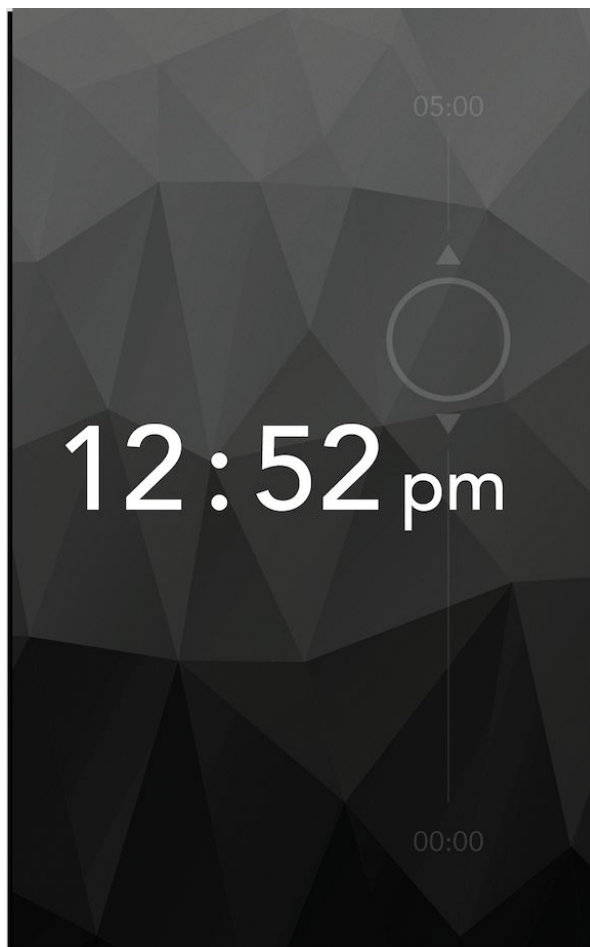


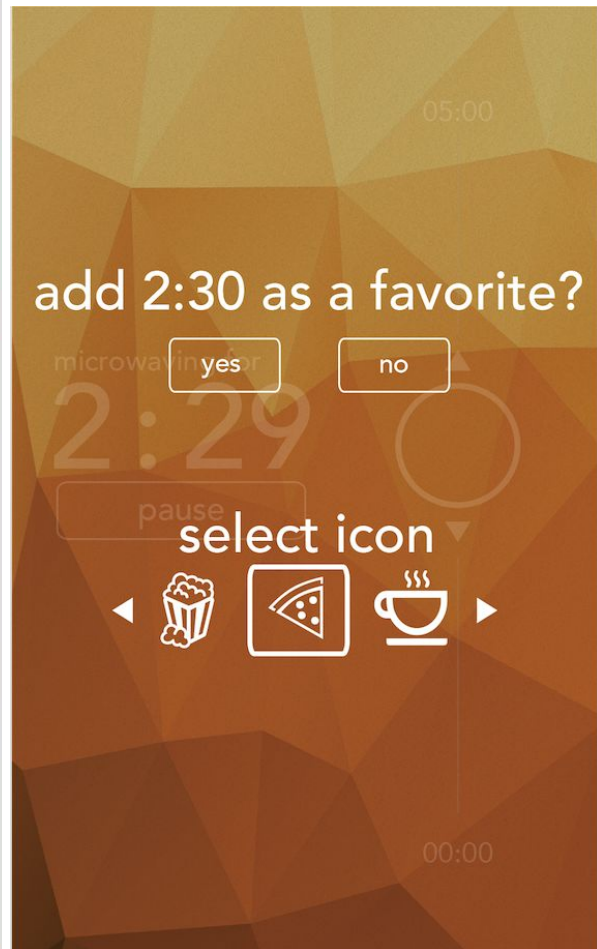
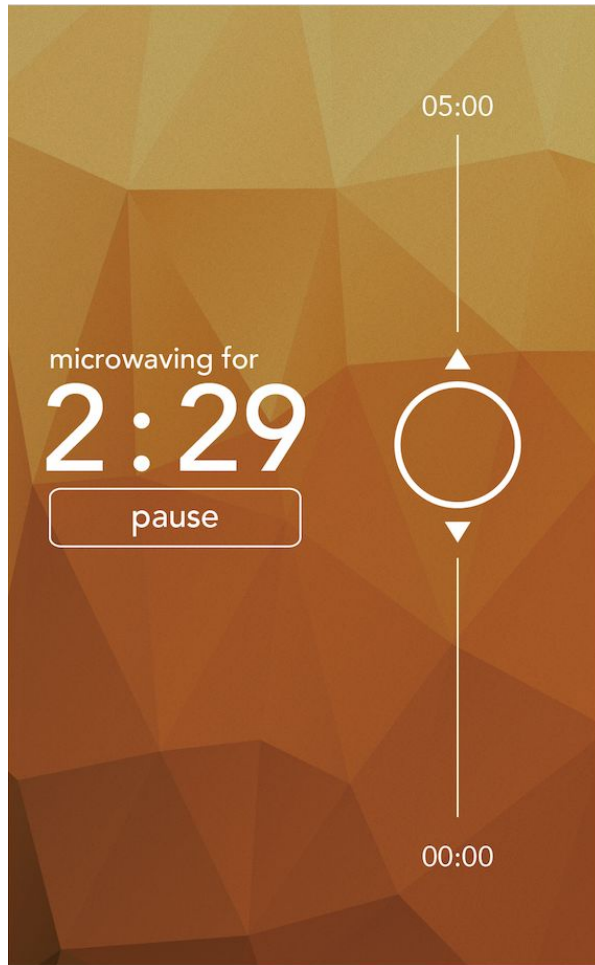
Mood Board

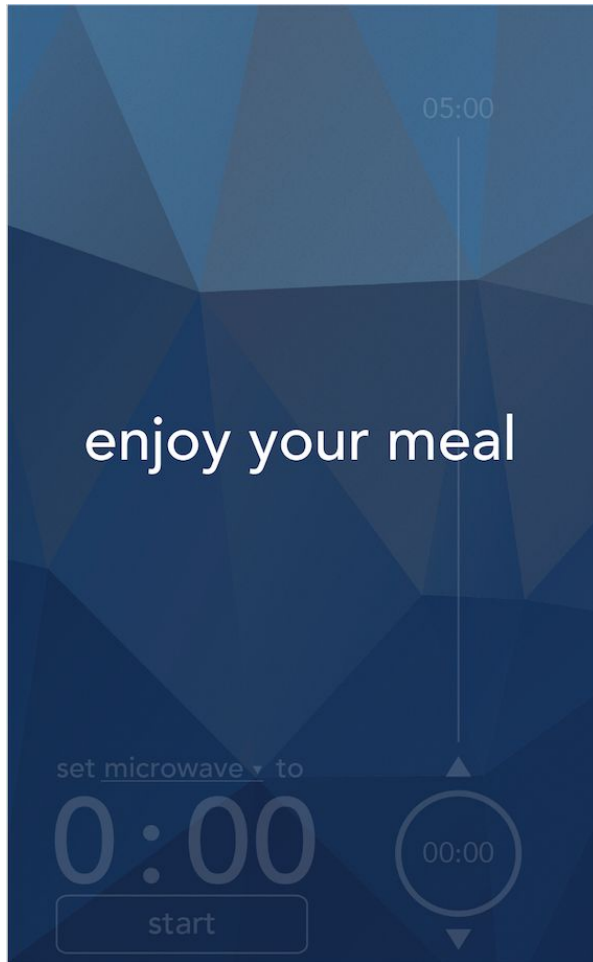


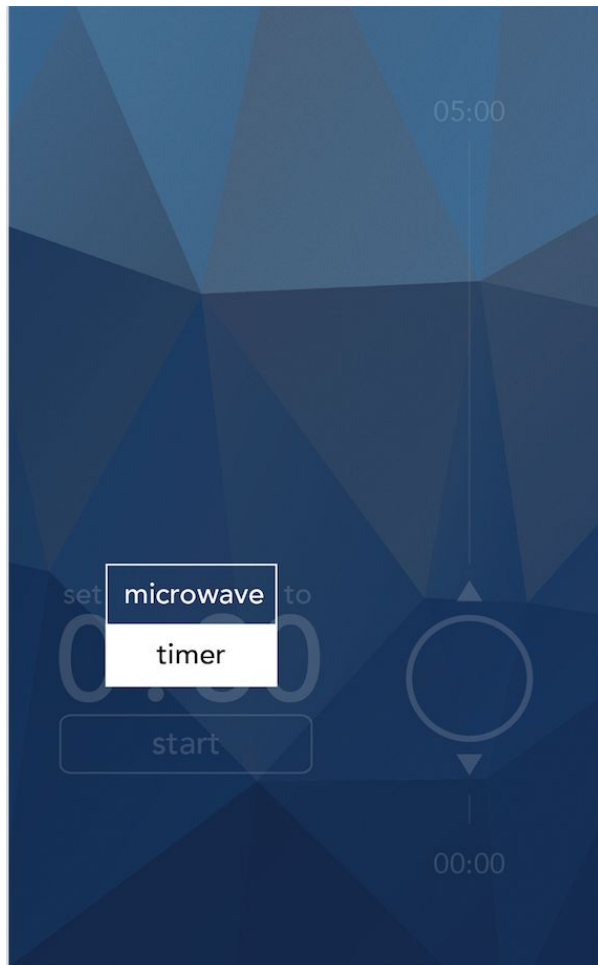
3 Pixel-Perfect Mocks

Mock 1

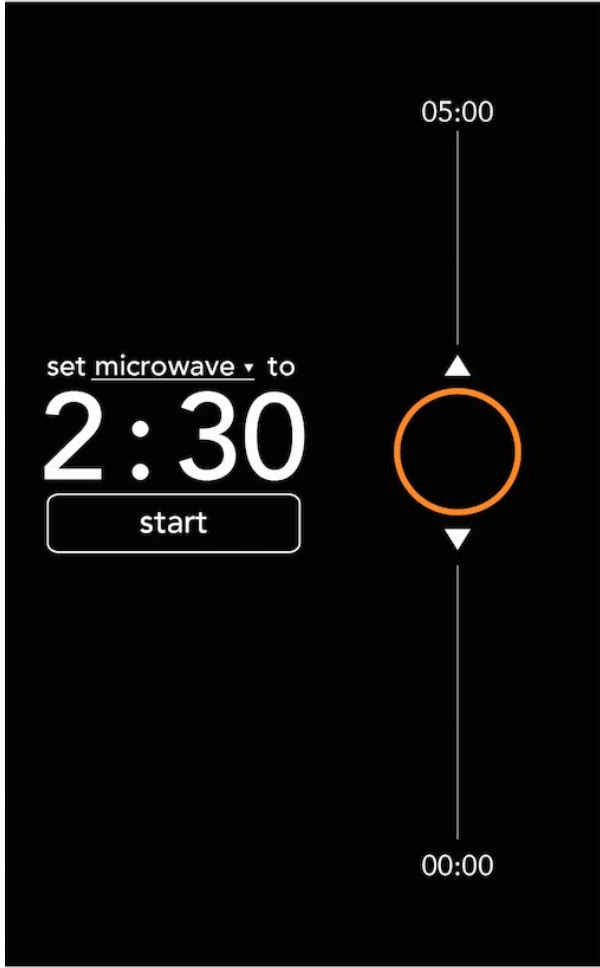
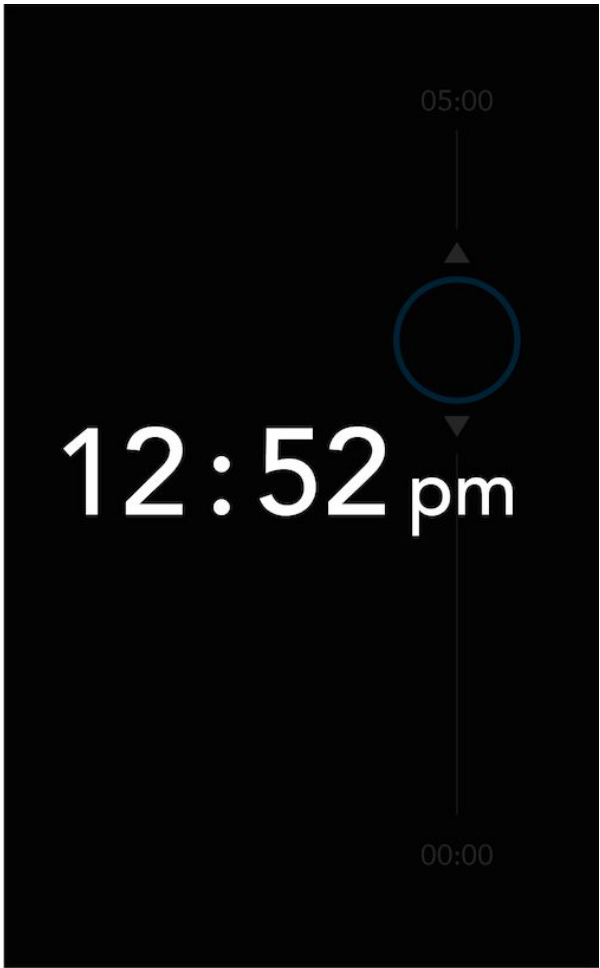


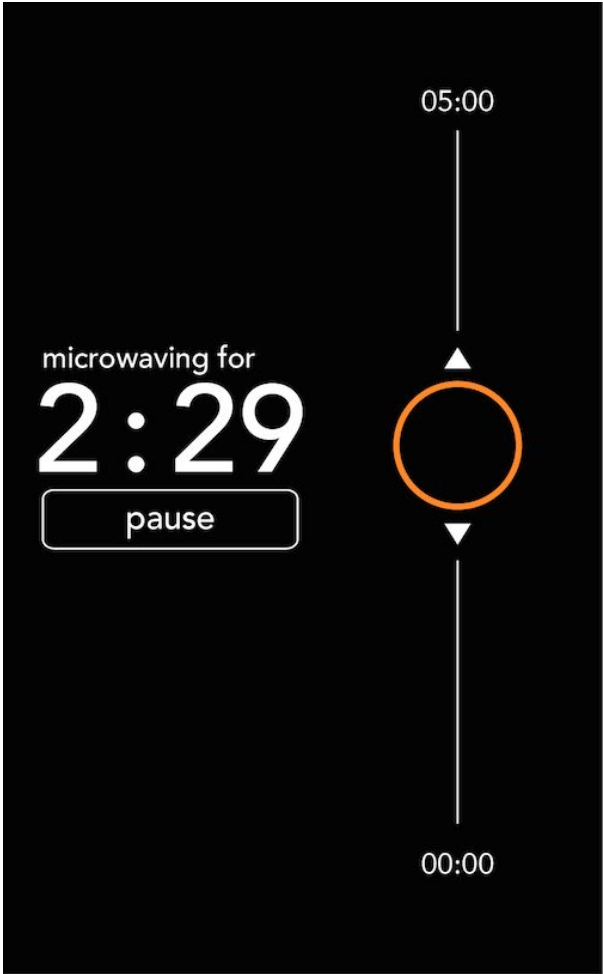


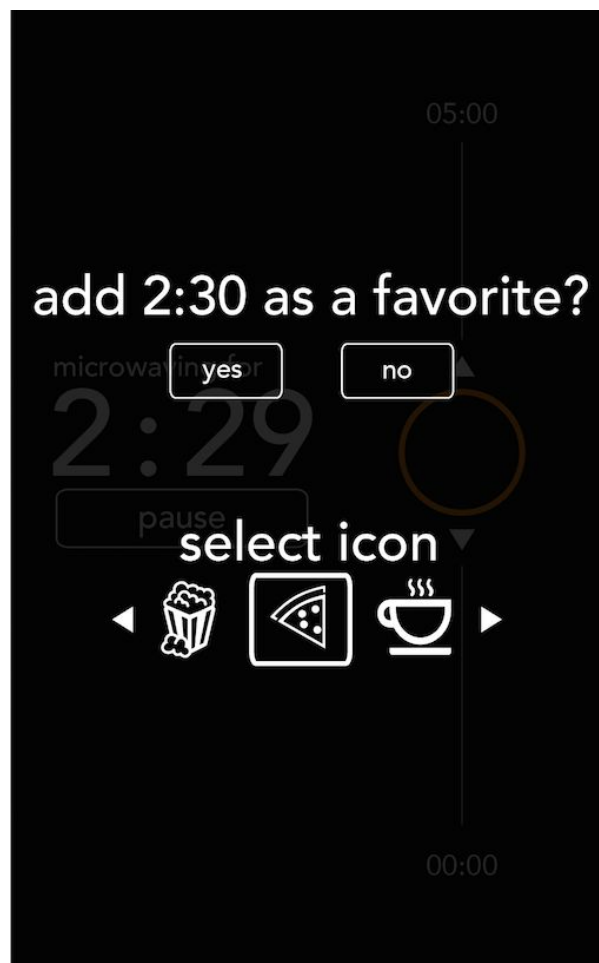


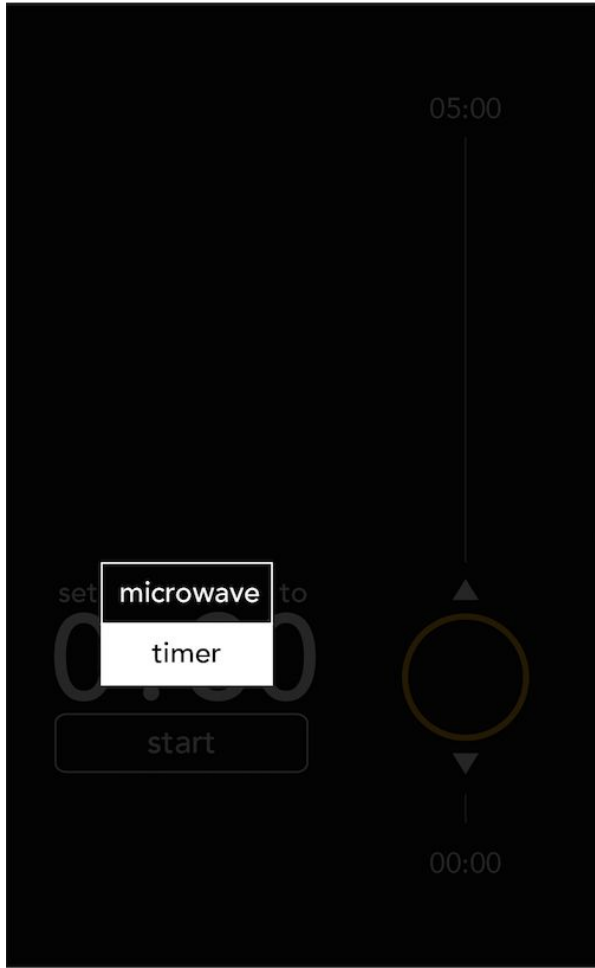


Mock 2









Mock 3

Microwave 🍕 for

1:30

0:00



5:00

Microwave  for

1:30

0:00



5:00

Microwaving for

1:30

0:00



5:00

Microwave  for

Add 1:30 as a favorite?

Yes

No

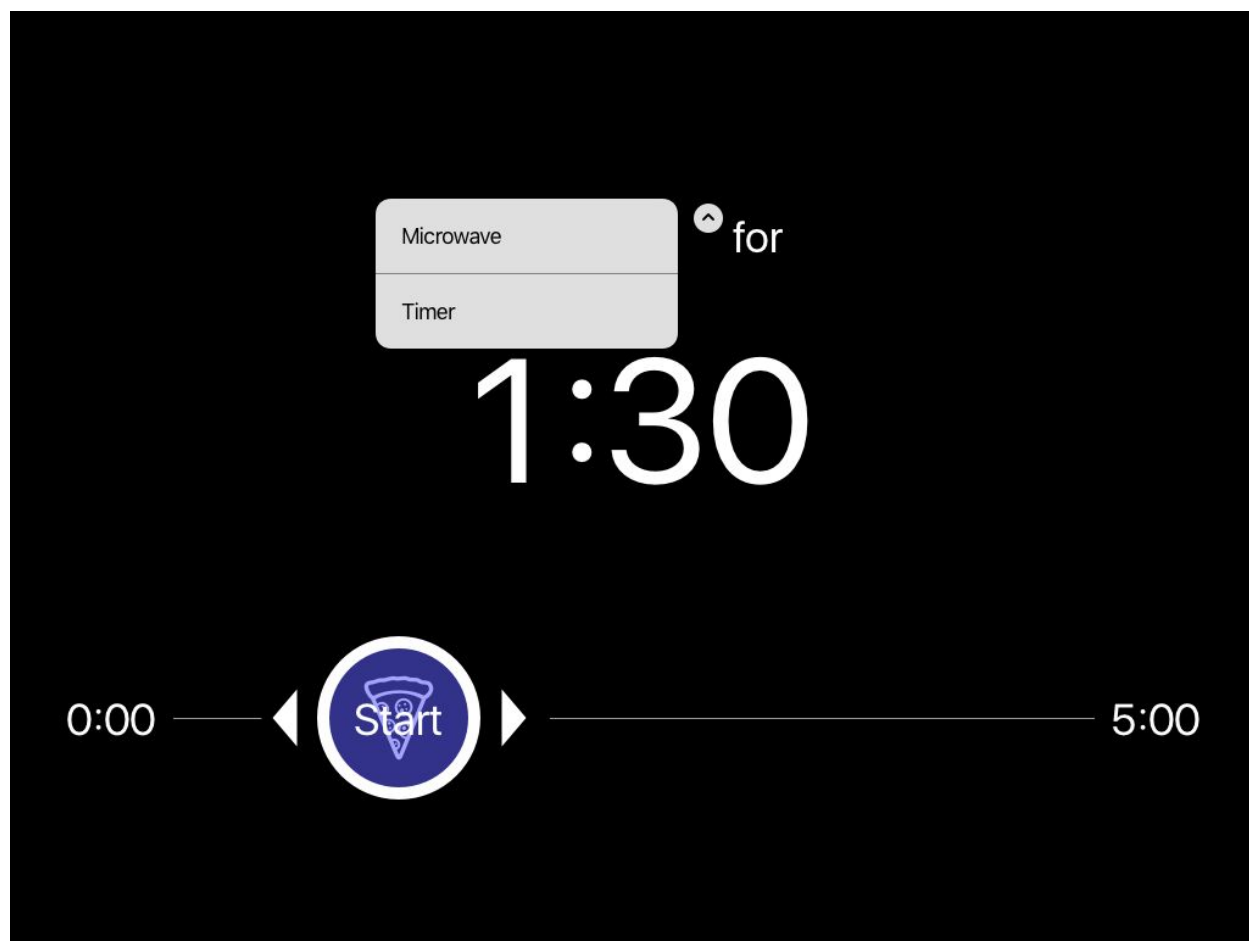
Select an icon



0:00



5:00



Final Pixel-Perfect Mock

