Screen reading script

Basic app flow:

(1) The user starts by scanning the room they want to model with their device. From a starting point, users will be asked to turn 360 degrees until they have scanned the full room.
(2) The app generates a list of blocks needed and a list of instructions for placement to represent furniture and objects in their room.
(3) Users collect the blocks they need, and will be able to set each block to represent an object. (ex. Block 2A as “desk”)
(4) Users can listen to audio instructions to guide their placement of blocks on the board. While users build, they can re-scan their model to receive real-time feedback on what blocks still need to be placed or shifted.

Basic interaction method:

- Standard interaction is single tap for whatever the directions at the current step are, and hold to rehear interactions.
- After 15 seconds of no input from the user, automatically repeat directions every 15 seconds until there is user input.
    - At steps where rehearing directions is likely needed, explicitly state *“Hold the screen to repeat directions.”*

0.0) “Welcome to Braille Barrs. Let’s begin! Tap now to begin.”

1) Upon opening app:

1.1) “Let’s start by taking a 360 degree scan of your space. Tap now to enable the camera.”

- Repeat until camera enabled

Camera opened:

1.2) “Camera has been enabled. Spin around slowly until you hear the sound [‘Scan complete.’] You can begin spinning now.”

A) Too slow -> this is fine, so no script needed here
B) Too fast -> *“Slow down.”*

Scan completed:

1.3) “Scan complete.”
1.4) “Please wait while we generate a custom layout for your space.”

- Repeat 1.4 until map generation is complete

2) Once map and blocks list is generated:

2.1) “To recreate your space, you will need: [count] [block/blocks] of type [block type number] : the [color] [texture] pattern [block/blocks]. You can grab any block of the correct block type.”

Ex. *“One block of type 1: the red crosshatch pattern block. Two blocks of type 2: the blue wood pattern blocks. One block of type 5: the yellow stripe pattern block.”*
2.2) “Press and hold the screen to repeat directions.”

3) Ask to set blocks:
3.1) “Would you like to label your blocks as specific objects?”

1. No - move onto 4.1
2. Yes - below

3.2) “To set blocks as objects, scan each one individually.”
3.3) “Grab a block and place it in camera view, with the braille ID facing the camera. Tap now to enable the camera.”
“Camera has been enabled.”

1. (Block out of camera view, unable to identify block)
   3.4) “Make sure the block is placed in camera view, with the braille ID facing the camera.”
   - Repeat until camera is able to identify block
2. (Block placed in camera view, camera identifies block) - move onto 3.5

Block identified
3.5) “This is block __(ex. 2A)____. What would you like to label this block? Tap now to enable the microphone.”

1. Wait 15 seconds, if microphone not enabled - repeat above instruction 3.5
2. Microphone enabled - below

3.6) “Microphone has been enabled.”
3.7) “You will now speak into your microphone what this block will represent. Press and hold now to start recording. Lift your finger from the screen to end recording.”
(User presses and holds, user speaks into microphone, lifts finger to end voice recording)
3.8) “Block __2A__ has been set as [voice recording]. Tap to confirm. Press and hold the screen to re-record.”

1. User holds the screen -> begin recording again:
2. User taps to confirm -> move onto next block - 3.9

3.9) “Great! Let’s label the next block.”

- Repeat process starting from instruction 3.3:
  “Grab a block and place it in camera view, with the braille ID facing the camera. Tap now to enable the camera.”

4) All blocks labeled, starting building
4.1) “Great! Let’s begin building our model.”
4.2) “Place [block name / label name] on squares [grid square numbers] on the grid.”
Ex. “Place ‘desk’ on squares 12 and 13 on the grid.”
Ex. “Place block 3B on the ‘desk’.”

1. If the block is in the correct location, play a ding! sound

2. If the block is not in the correct spot, play a low beep sound

After the block is correctly placed, the system should auto-move to the next block instruction.

Rescanning the model to get feedback again

4.3) (Play this after the first block has been placed correctly.)

"Great job! You can scan your model at any time to get feedback about your progress. Tap now to open the camera. Press and hold the screen to hear placement instructions again."

4.4) (User triple taps, opens camera)

"Camera has been enabled. Place the full grid in camera view. The app will automatically take the picture."

(For repositioning, use similar instructions to the setting blocks step)

4.5) (Grid placed in camera view)

"Capturing….analyzing…."

Below are template phrases to use:

1. *"Ok, you currently have __'desk'__ and __'bed'__ in the correct spot."*
2. *"You need to reposition __'closet'__. It should cover square 14 on the grid."*
3. *"You still need to place __'block 3B'__ on the grid. It should cover squares 5 and 11 on the grid."*

"Press and hold the screen to hear directions again."

4.6) *"Tap now to close the camera and go back to your current placement step."*

- Return to step 4.2

5) Model completed

5.1) "Great job! You have completed your model. Would you like to save it? Tap now if you want to save your model. Otherwise, ??? "

1. No - move to 5.4
2. Yes - move to 5.2

5.2) "What would you like to name this model? Tap now to enable microphone."

- Microphone steps here similar to setting block

5.3) "This model has been saved as __'bedroom'.__"

5.4) "Great job! You will now be redirected to the home screen."

Returned to home screen

0.1) "Welcome to Braille Barrs. Let's begin! Tap to begin. Press and hold screen to access previously built models."