



# CHOREOLAB

Creative conversations through dance

## **Revised value proposition:**

Creative conversations through dance.

## **Problem overview:**

The art of choreography is one driven by spontaneous moments of inspiration that are unified into a single performance piece; dancers, however, often encounter challenges maintaining motivation throughout this creative process and unifying disparate sequences of movements. The initial spark of creativity is often not enough to drive a dancer to a finished, performance-ready piece that he or she feels is sufficient in both quality and length. Unable to maintain this creative energy, dancers often abandon ideas without fully exploring the potential for those ideas to be refined into inspiring pieces of movements.

## **Solution Overview**

ChoreoLab facilitates the creative process by providing a novel, fun, and collaborative outlet where the short choreography contributions of individual dancers are eventually unified into a final compilation video. Inspired to dance, individuals may either create their own projects if they are compelled to dance to a particular song or contribute to the compilation sequences of existing projects. Upon creating or contributing to an existing project, individuals may pass on the compilation to a friend or broadcast it to a wider audience. ChoreoLab provides a means of creating a single piece that creates a flow of continuity among a global network of dancers of different styles and backgrounds. Due to the short nature of individual contributions, dancers can provide and draw inspiration from other collaborators in a short amount of time and with little effort - ultimately contributing a piece of self-expression to a larger project.

## **Tasks**

1. Complex Task: Creating a collaborative choreography project
2. Moderate Task: Contributing choreography “shorts” to others’ existing projects
3. Simple Task: Discovering projects and watching compilation videos

## **Major design changes:**

1. A significant point of friction during our low-fi prototype testing involved users incorrectly understanding the music selection process during the project creation flow. In the low-fi prototype, a user was required to use range sliders to first select the portion of a song that he or she wanted to use for the entire project (which would include his or her individual contribution as well as those of subsequent contributors). Next, the user would be presented with an analogous interface to select the subset of the entire project range that he or she wanted to specifically choreograph to. In particular, users had trouble interpreting the purpose of our improvised range sliders. We also wanted to include a dynamic counter that indicated the length of the specific song snippet demarcated by the

range sliders. In the low-fi prototype, we placed this counter in a large circle centrally located within the screen. This choice proved confusing for users who interpreted this component as a button. While these issues could be attributed to the limitations inherent to paper prototyping, we felt that this subtask flow could be improved. The following changes were incorporated:

Since the range sliders confused users, we decided to separate the selection of start and end points into two separate screens, using swipe-based scrubbing to navigate the song. On the previous prototype, we did not signpost this subtask well; in this version, we decided to add a short text description to explain the necessary interaction. Also, in the previous iteration, users would select the overall project length followed by their snippet segment. Users were confused by the terminology of project length vs. snippet length. We decided to remove the choice of snippet length since the creator would always start at the beginning. To choose the length of their contribution, a user would clip his snippet on the post-recording edit pages to the desired length.

2. A second subtask that required reconsideration was project sharing. From the standpoint of functionality, users expressed concerns over the granularity of sharing settings. From the UI and usability perspectives, users misinterpreted the “broadcast” button as a Wi-Fi icon and wondered how Wi-Fi would relate to project sharing. We addressed both these issues in our redesign, which now includes:
  - A sharing dialogue as opposed to the previous icon buttons with text labels for broadcast vs. direct sharing with a friend. Broadcasting is not necessarily a commonplace action and there is no well-recognized iconography for it.
  - Granularity control for sharing settings that allow the creator to set the potential network of collaborators. These settings will apply for the duration of the project.
3. Our third major redesign involved rethinking the contribute workflow via direct request. We switched from an inbox to a notification page with direct requests and general activity from other users that you follow. Including this activity came out of users’ wondering how they could track more personalized content within the application rather than only being provided with the broader, more general content on the discover page. We also unified the project page reached from accessing a direct contribution request and that from content accessed through the discover page, in order to make the experience more consistent throughout.

We also incorporated a series of more minor design changes intended to unify the overall experience within ChoreoLab and provide users with clearer signposting throughout. These changes included:

- a. Making the organization and content of the discover page more concrete by adding explicit labeling: project cards are labeled with the song title

and the section under the featured project banner will consist of nearby projects in order to promote local dancers and allow users to potentially expand their immediate dance community.

- b. Updated tabs and iconography – we have moved to a discover tab, feed tab for more personalized content, create tab, notifications tab, and profile tab.

## **Implementation**

To build our medium-fi prototypes, we incorporated Sketch to create the static screen mockups and Marvel to implement the dynamic flows and interactions.

The primary advantage of using these tools was the ability to more realistically represent our conceptions of the various views and task flows. Importantly, these tools helped us visualize to a better degree the structure and visual hierarchy, which we found difficult to do at times during the paper prototyping phase. We also were able to attain a more consistent look and feel across our views, which is more tedious to enforce with hand drawings.

In particular, Sketch provides art boards that have the dimensions of the most common mobile devices. Further, these art boards could be customized with “symbols,” which allows one to establish a base UI template that can be applied across all views. This functionality simplifies the process of making high-level changes to the UI such as modifications to the tab bar iconography, eliminating the redundancy of making the same change to identical elements across many views. Lastly, the layout tools within Sketch were particularly helpful from the visual design standpoint; grids, rulers, and alignment features allow for easy manipulation of spacing. In addition, Sketch supported the following:

- Mirroring of art boards to mobile devices while editing allowing for ease of visualizing different font/element sizes on the device’s smaller form factor.
- Grouping functionality for creating hierarchy within each art board.
- Masking allows users to create shapes and place them on top of images to mask out parts that exist outside the desired boundary.

To incorporate interactions and wire together our various views, we used Marvel. From a usability perspective, Marvel also allowed us to copy hotspots across multiple screens, which expedited the process of implementing common actions (such as tab clicks) across the prototype.

Although these tools do afford the ability to more accurately present various UI components and eliminate some of the confusions encountered in the paper prototypes, they did not necessarily afford the best support for the audio/video content that is required for our application. In particular, many of the dynamic manipulation of audio and video was not possible using these prototyping tools. These sorts of interactions are arguably the most important elements of our

application as they are essential to the quality and satisfaction derived from the final compilation video. In addition, we found that Marvel's lack of conditional flows limited the ability to make certain views more dynamic. For example, on the project-sharing page, some content would be editable if you reached the page as a creator, whereas it would be fixed if you reached the page as a contributor (project title or sharing settings, for example). In Marvel, however, this sort of context could not be incorporated. Once you reach a certain view, you have to follow the same button click flow. Lastly, the integrated Marvel plugin for Sketch was not as robust as we had hoped for and presented some difficulties during the exportation process.

As discussed previously, the major limitations of the prototype in its current form involves the lack of truly dynamic multimedia interactions. For example, many important actions could only be incorporated with Wizard of Oz techniques. When you create a project, you have to select a sample of music for your project. The prototyping tools, however, do not allow one to modify a music sample based on a certain hot spot action. Thus, instead of a user receiving the experience of selecting start and end points of a song and then being able to listen to the sample of music, we would have to use Wizard of Oz to simulate this (i.e. the user would choose the start and end song, and with a separate device, we would manually play that time range within the song). Next, these prototyping tools do not support dynamic inputs, thus preventing the realization of recording oneself dancing with the application. The Wizard of Oz technique used to simulate this was an embedded video that would display a short countdown to indicate time passing as you recorded. Lastly, on the video-editing page, we could not simulate the clipping of video segments or application of filters using Marvel. Even with Wizard of Oz techniques, this sort of interaction would be difficult to achieve. In practice, we would probably have to manually use a separate device and apply very rudimentary editing that aligned with the users' actions.

Another limitation to the prototype is the lack of support for gesture-based interactions. For music selection, we allow users to swipe to scrub through the music to the desired point in time. Marvel only supports click interactions, however.

A final limitation with the prototypes is the limited amount of content currently viewable. One important aspect of ChoreoLab is that it serves as a platform for discovering different dance styles, new dancers, or content with entertainment value. It is difficult to present this sort of breadth using hard-coded static content (i.e. for videos, project cards, users, collaboration requests, etc.), given the overhead necessary to generate compilation videos. Thus, although we feel that the intent of the platform as a discovery tool is made clear by the prototype, its potential has not been fully recognized using these prototyping tools.



DISCOVER



CREATE



CONTRIBUTE

# Design Changes

- + music configuration
- + sharing settings
- + notifications

# MUSIC CONFIGURATION

## INSTRUCTIONS

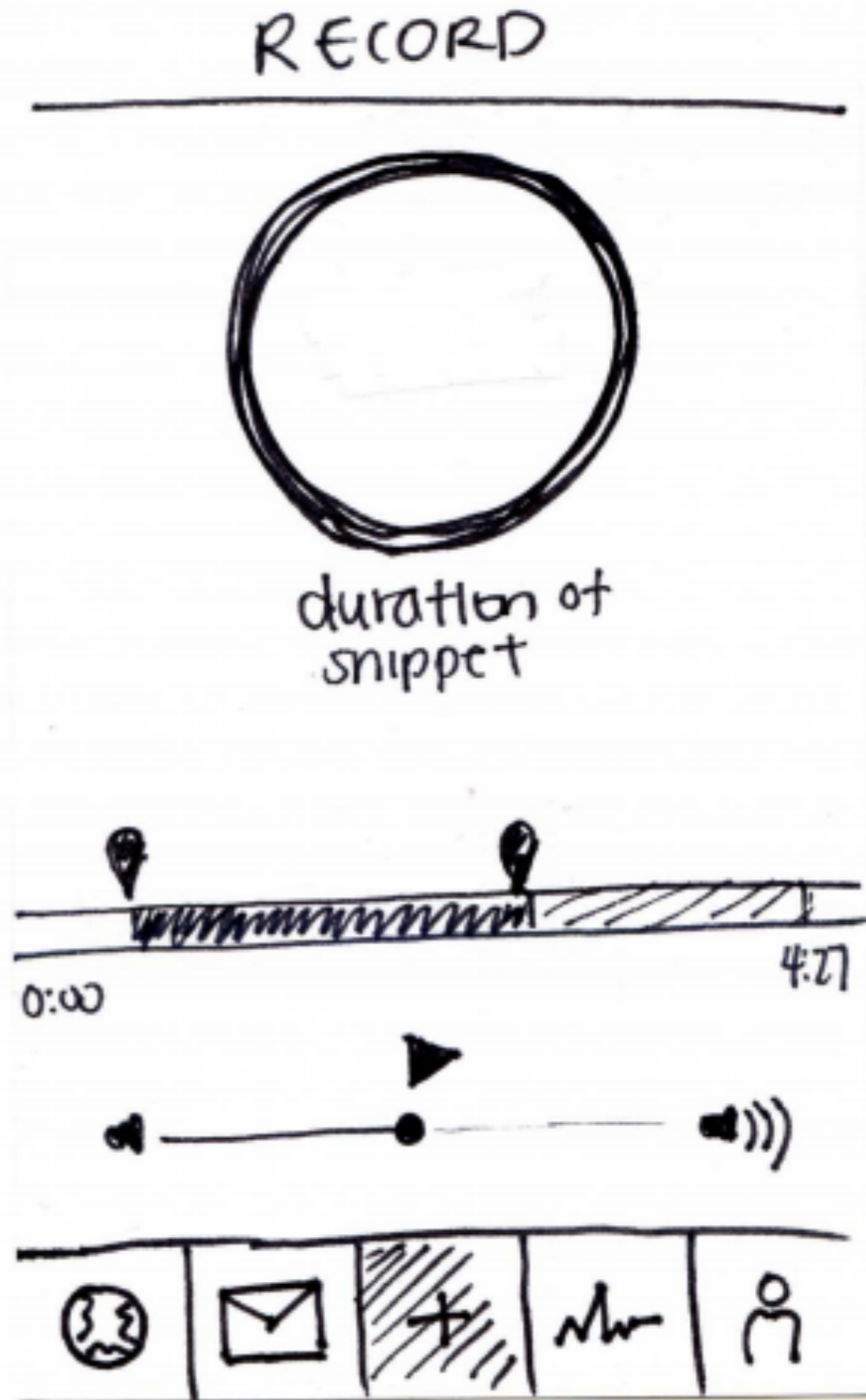
On boarding step by step  
instructions

## MUSIC SOURCE

Clarity in types of sources

## EDITING INTERFACE

Sliding mechanisms





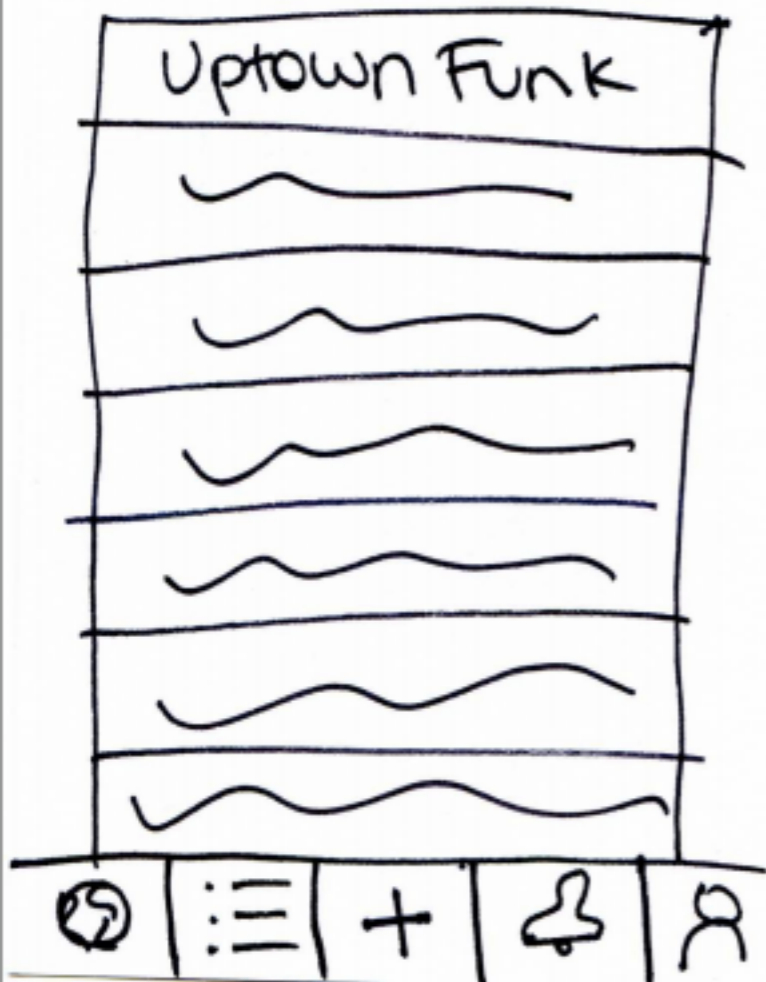
# MUSIC CONFIGURATION

## music source

### Create

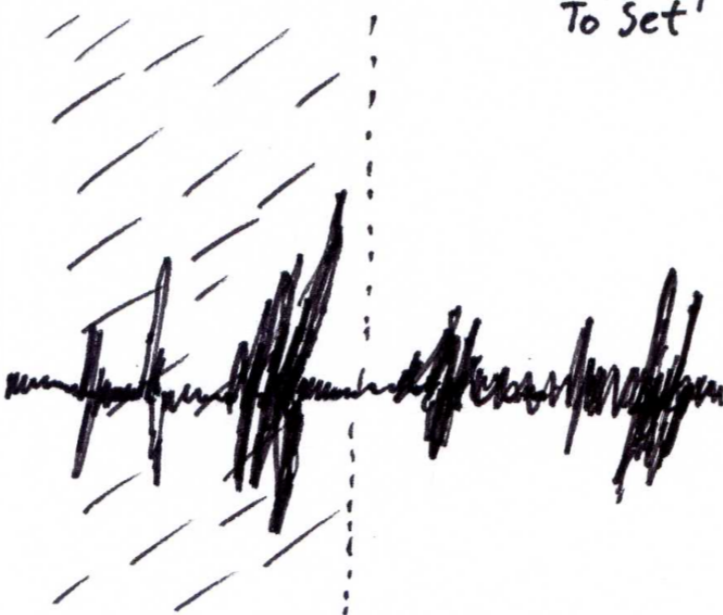
Choose from top songs  
or Import from  
device

Uptown Funk

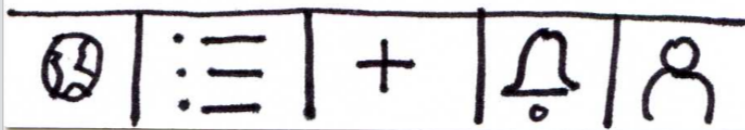


### < Set Start

Double Tap  
To Set



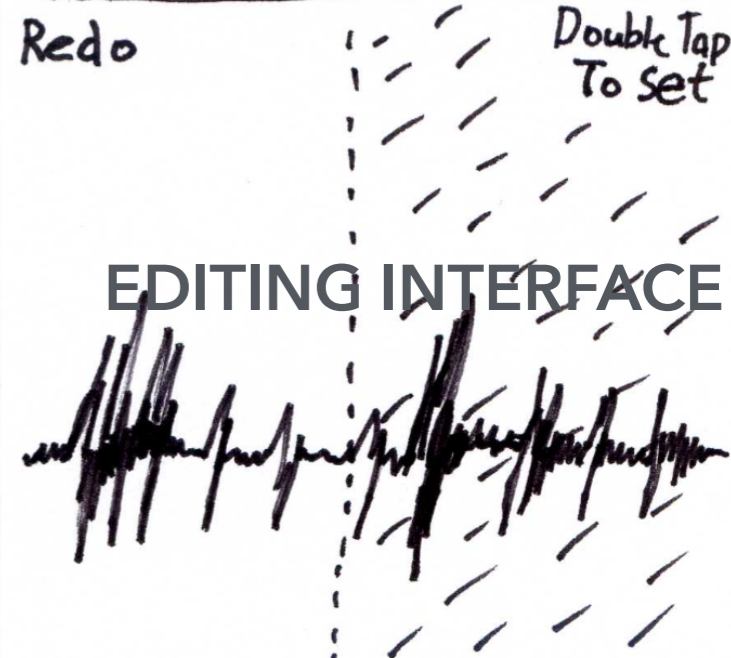
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### < Set End

Redo

Double Tap  
To Set



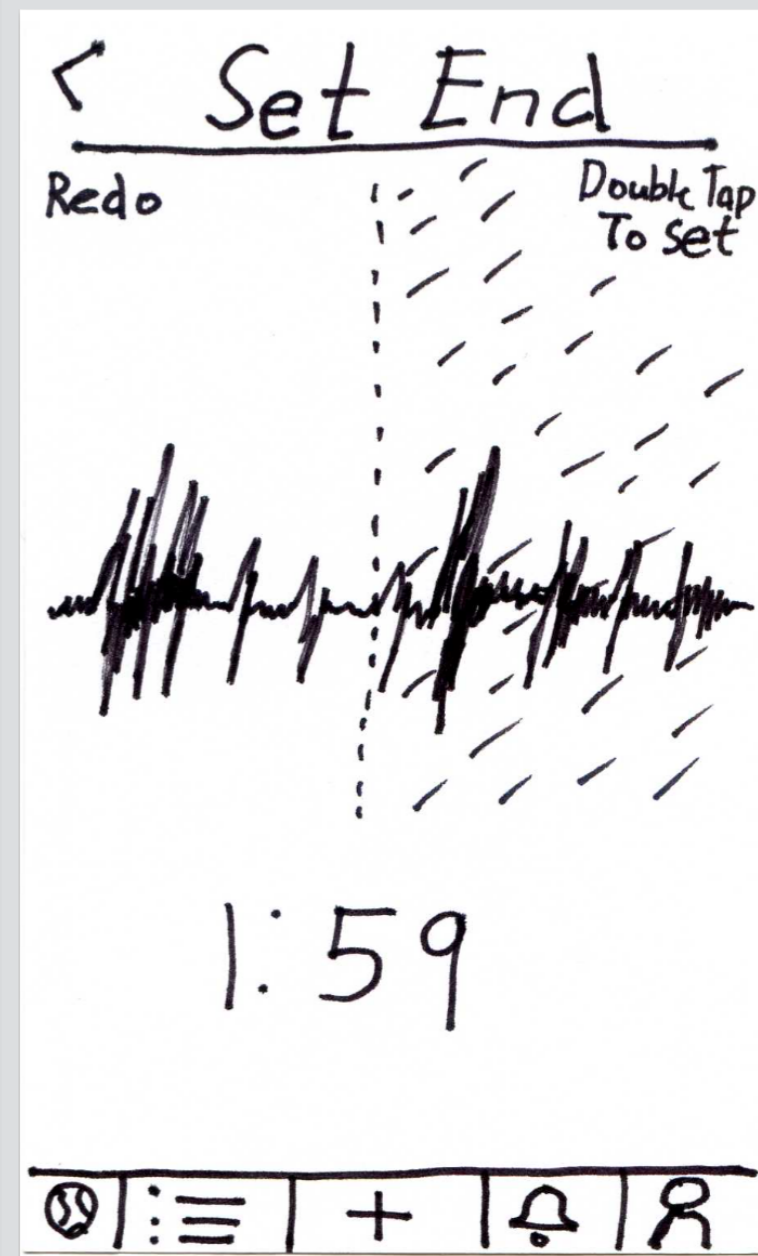
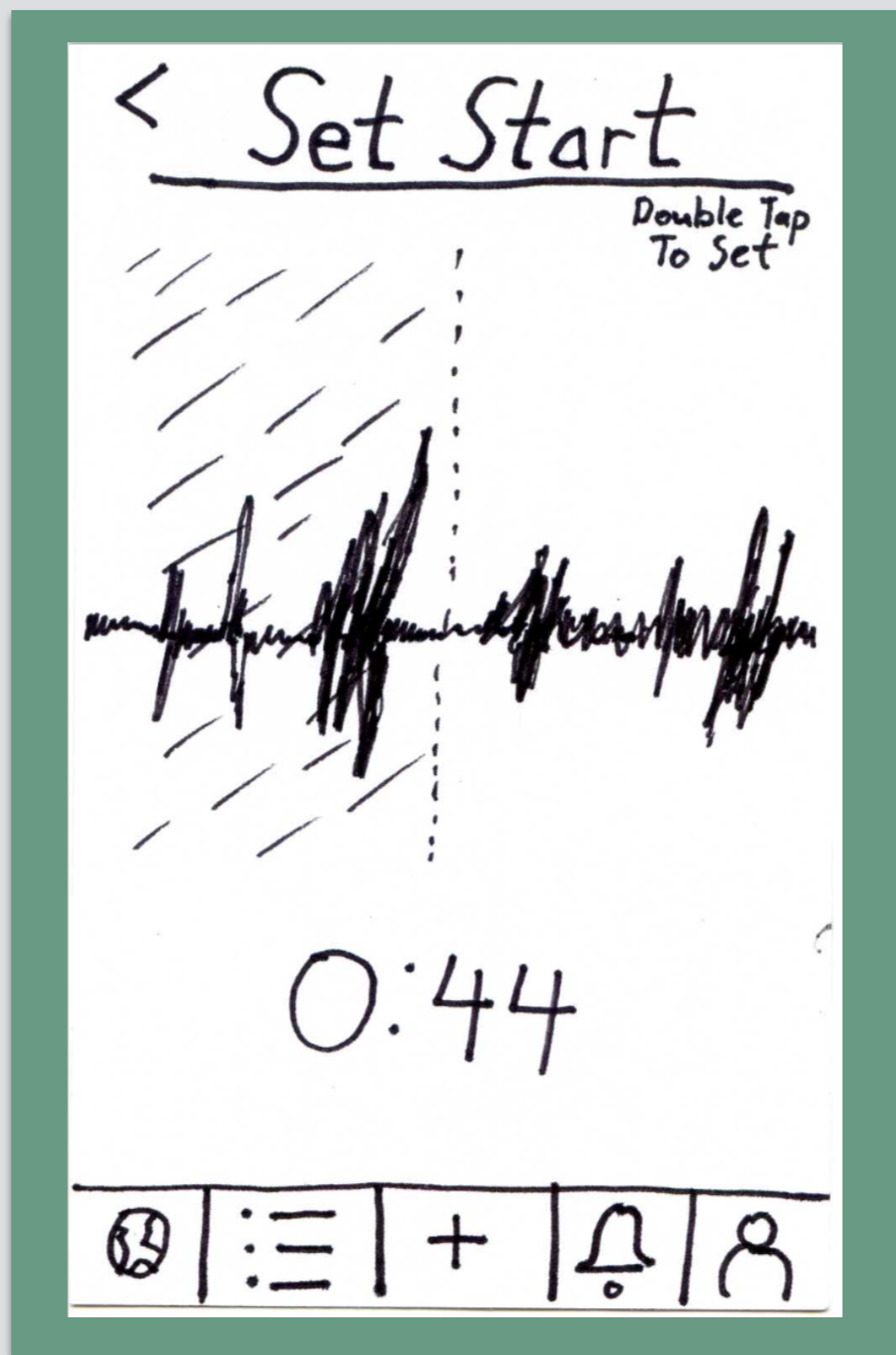
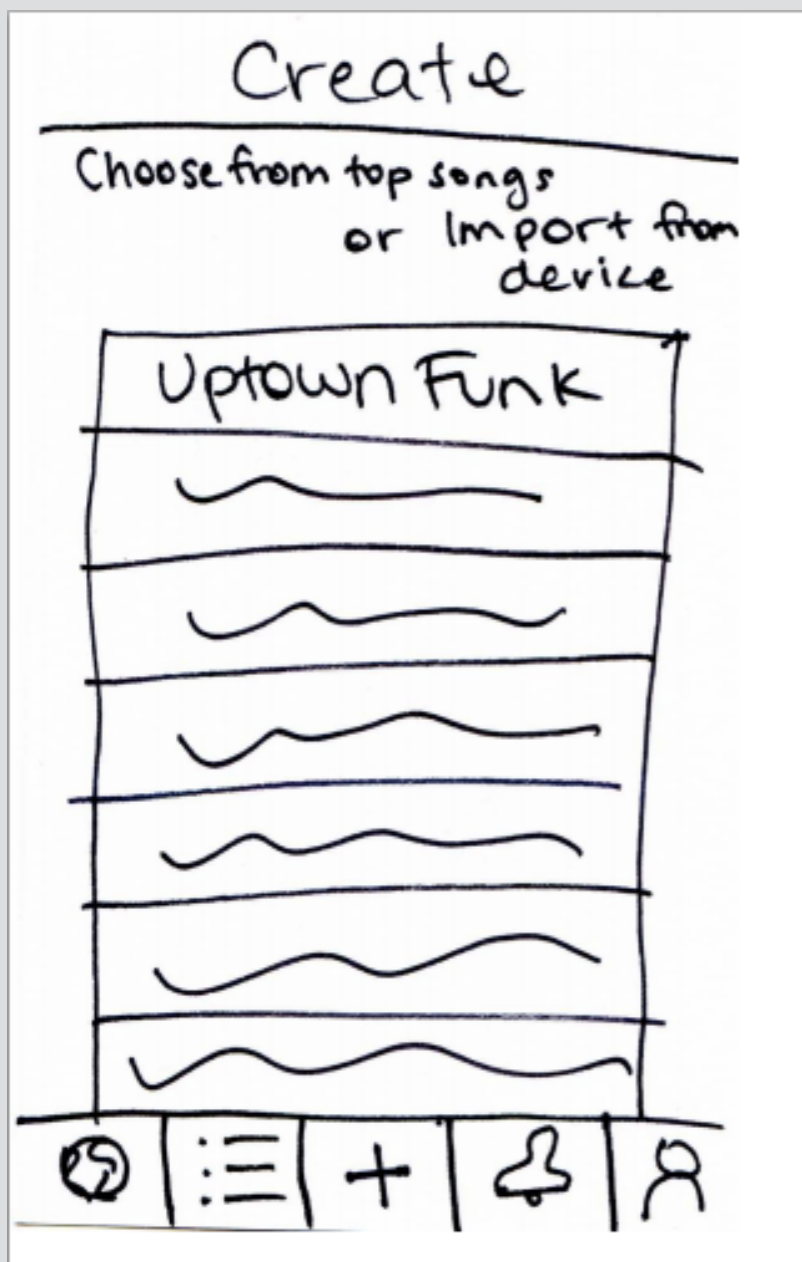
EDITING INTERFACE

1:59



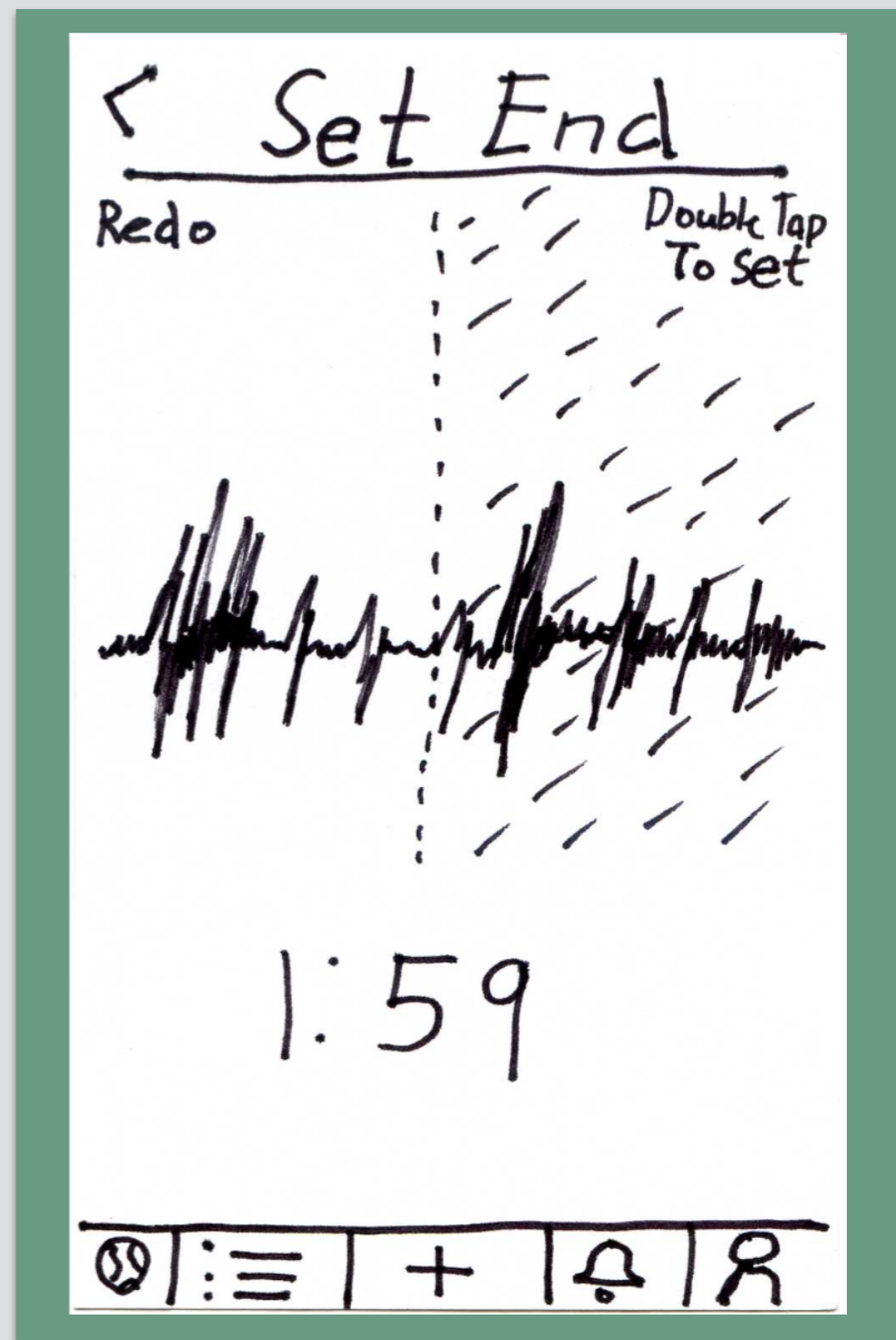
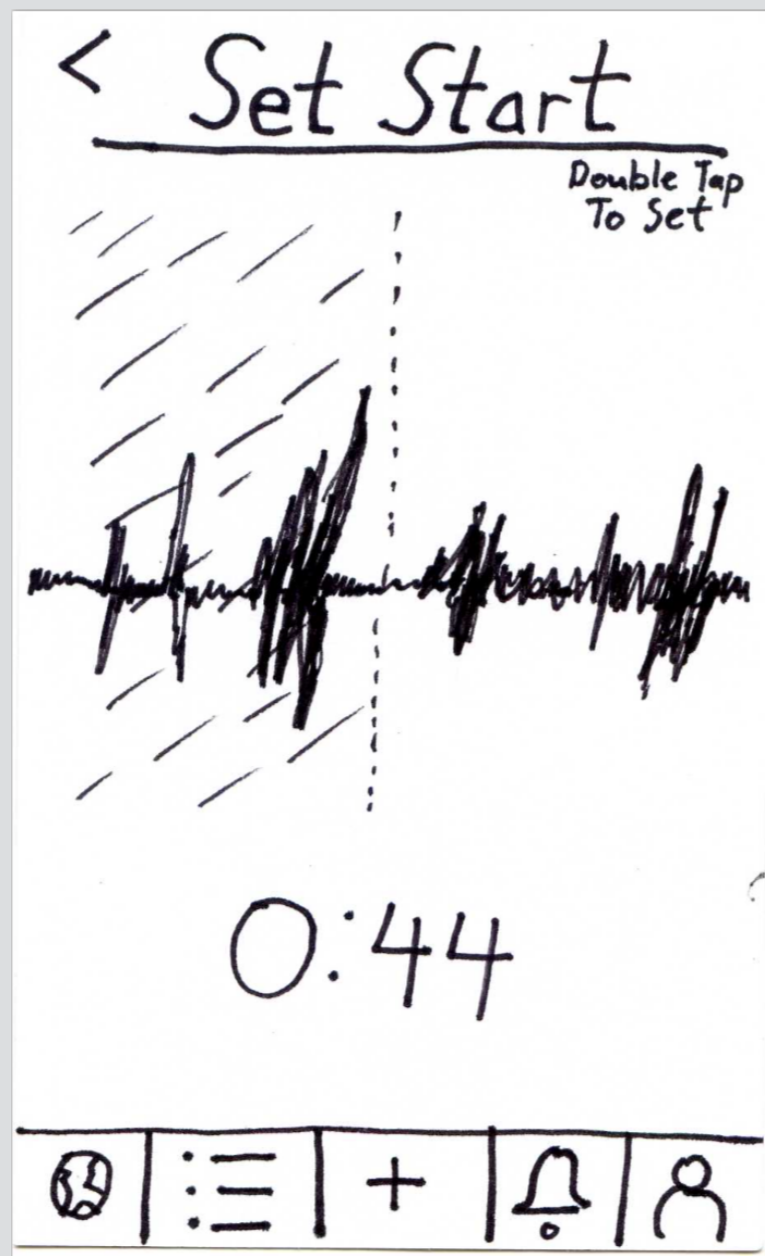
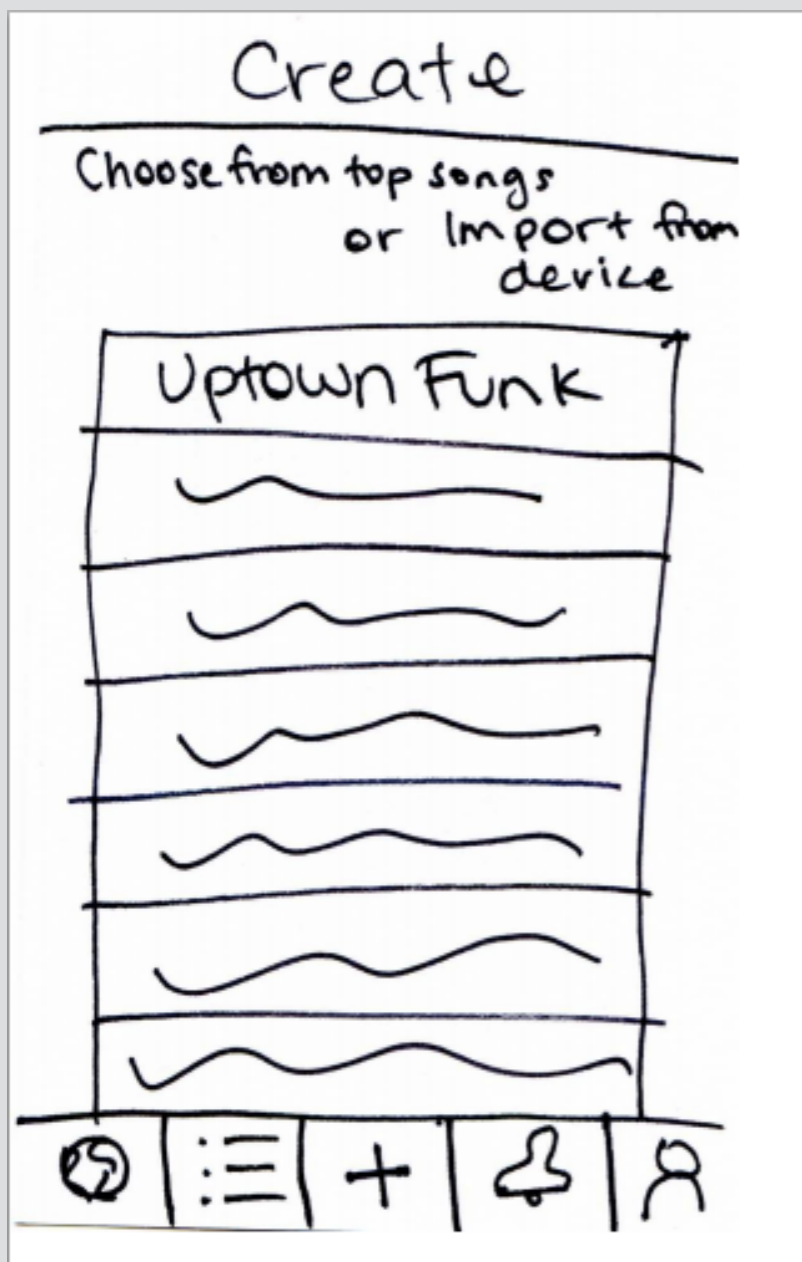
# MUSIC CONFIGURATION

## instructions



# MUSIC CONFIGURATION

## editing interface



# SHARING SETTINGS

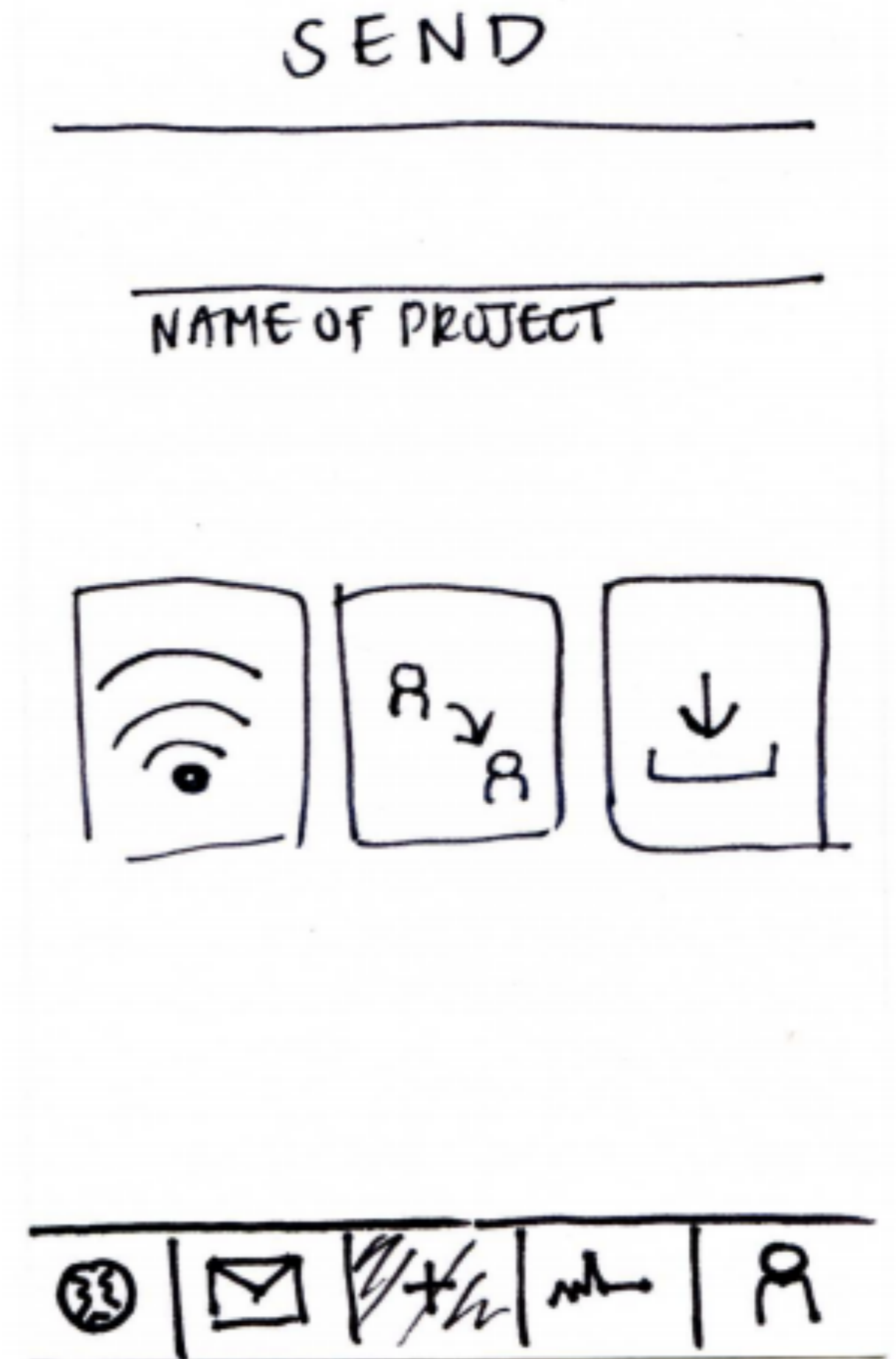
## TEXT LABELS

Labels to accompany icons

## GRANULARITY

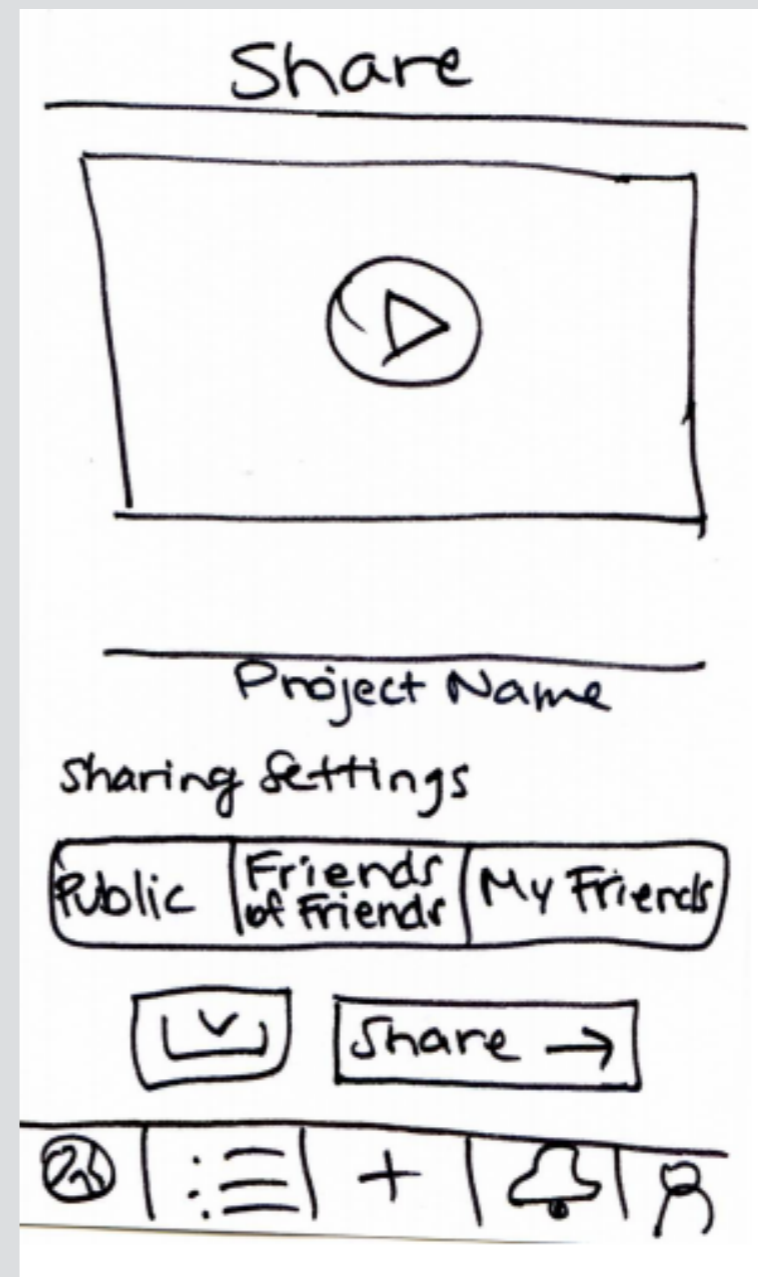
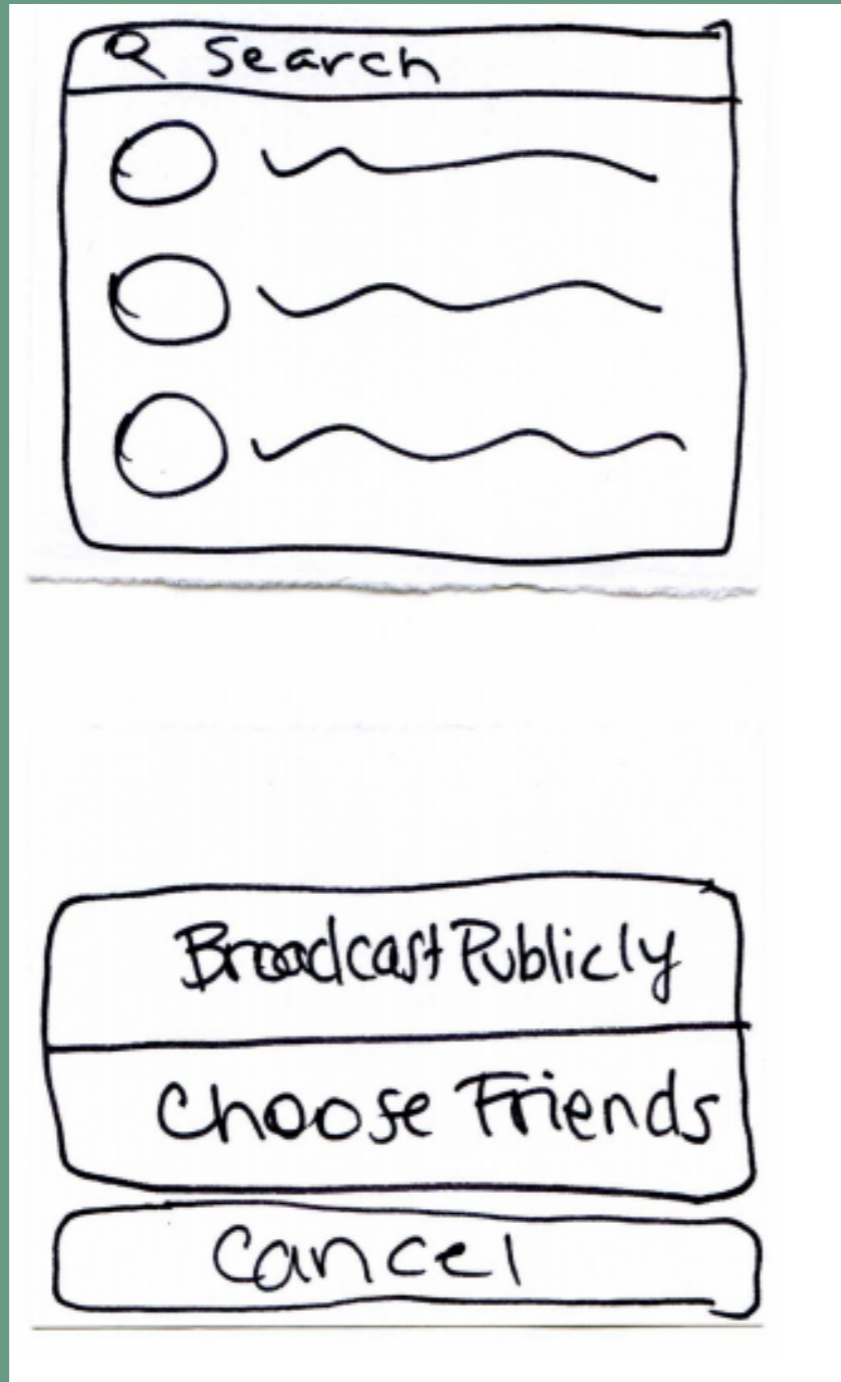
Specifying multiple people  
to send direct requests

Limiting types of potential  
collaborators



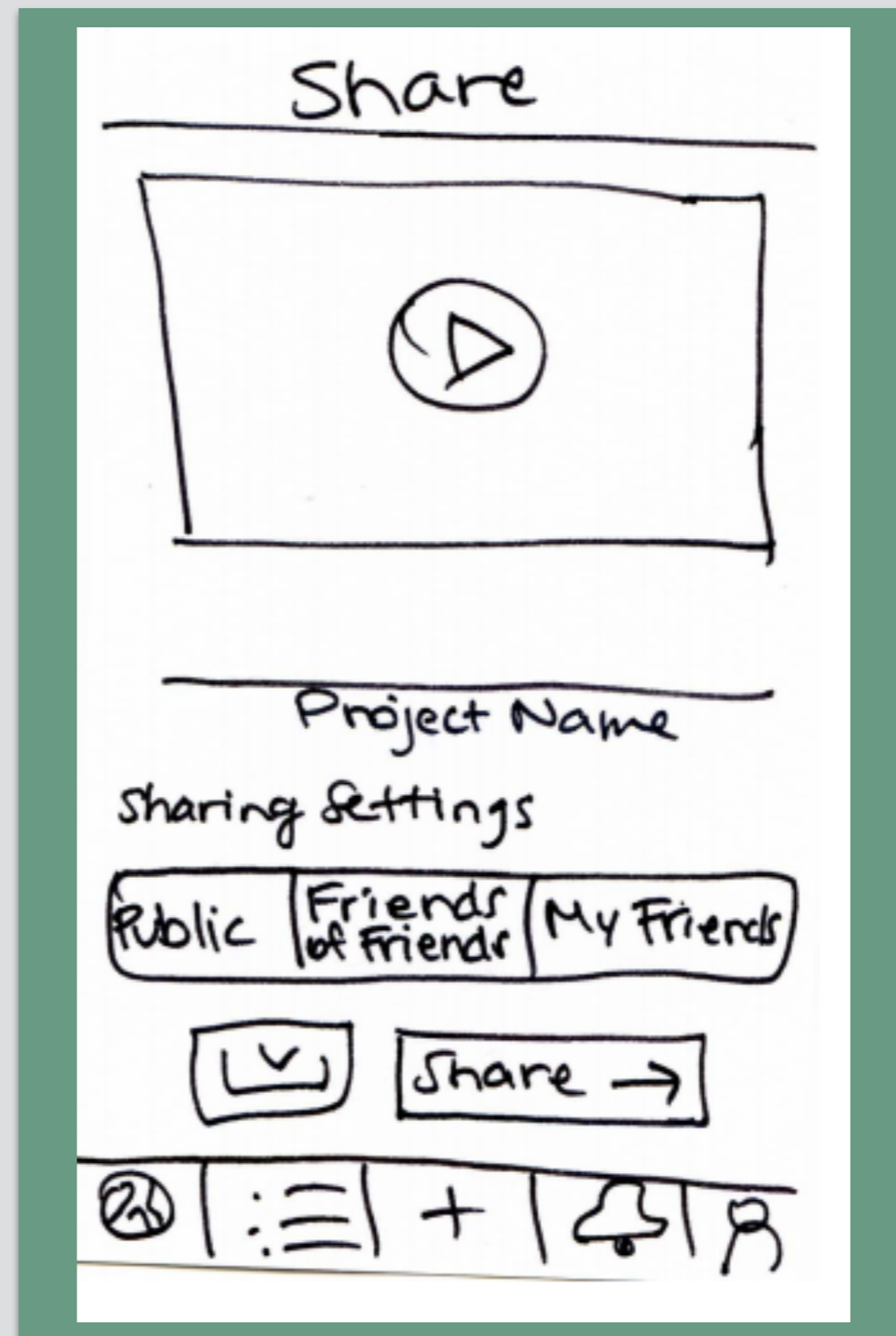
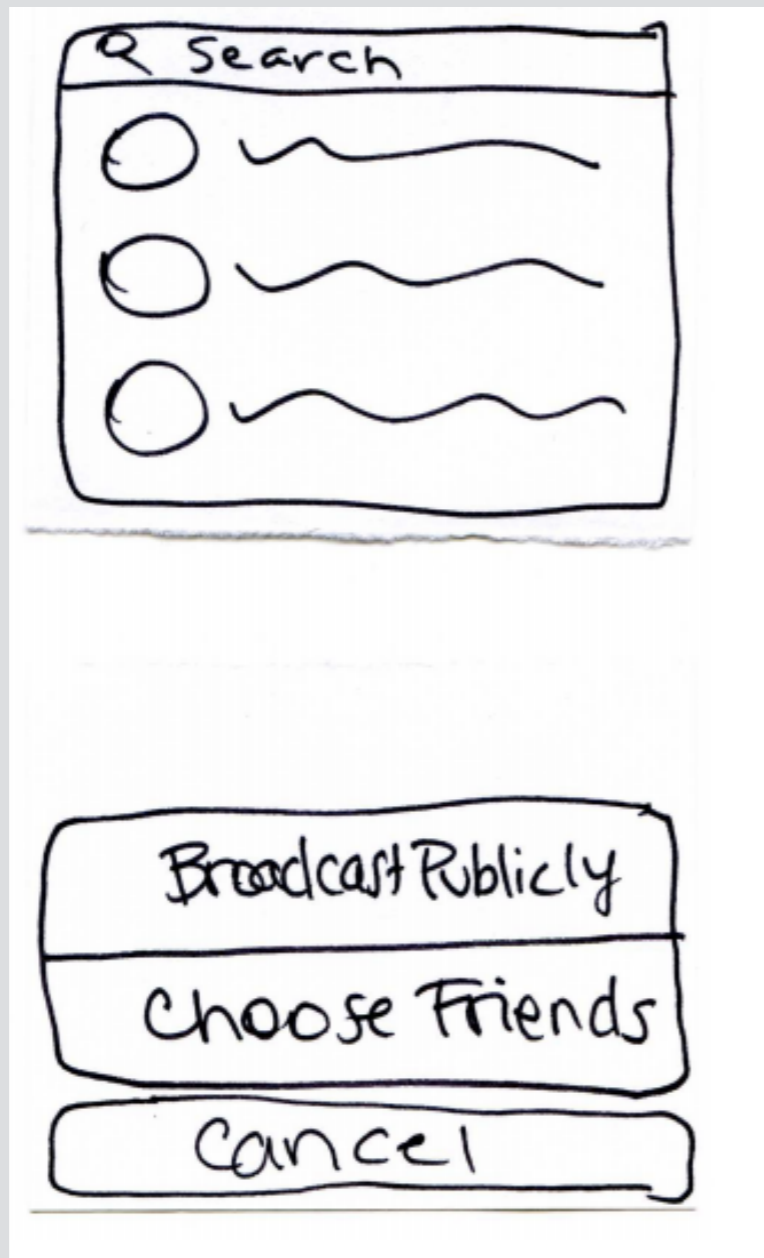
# SHARING SETTINGS

## text labels

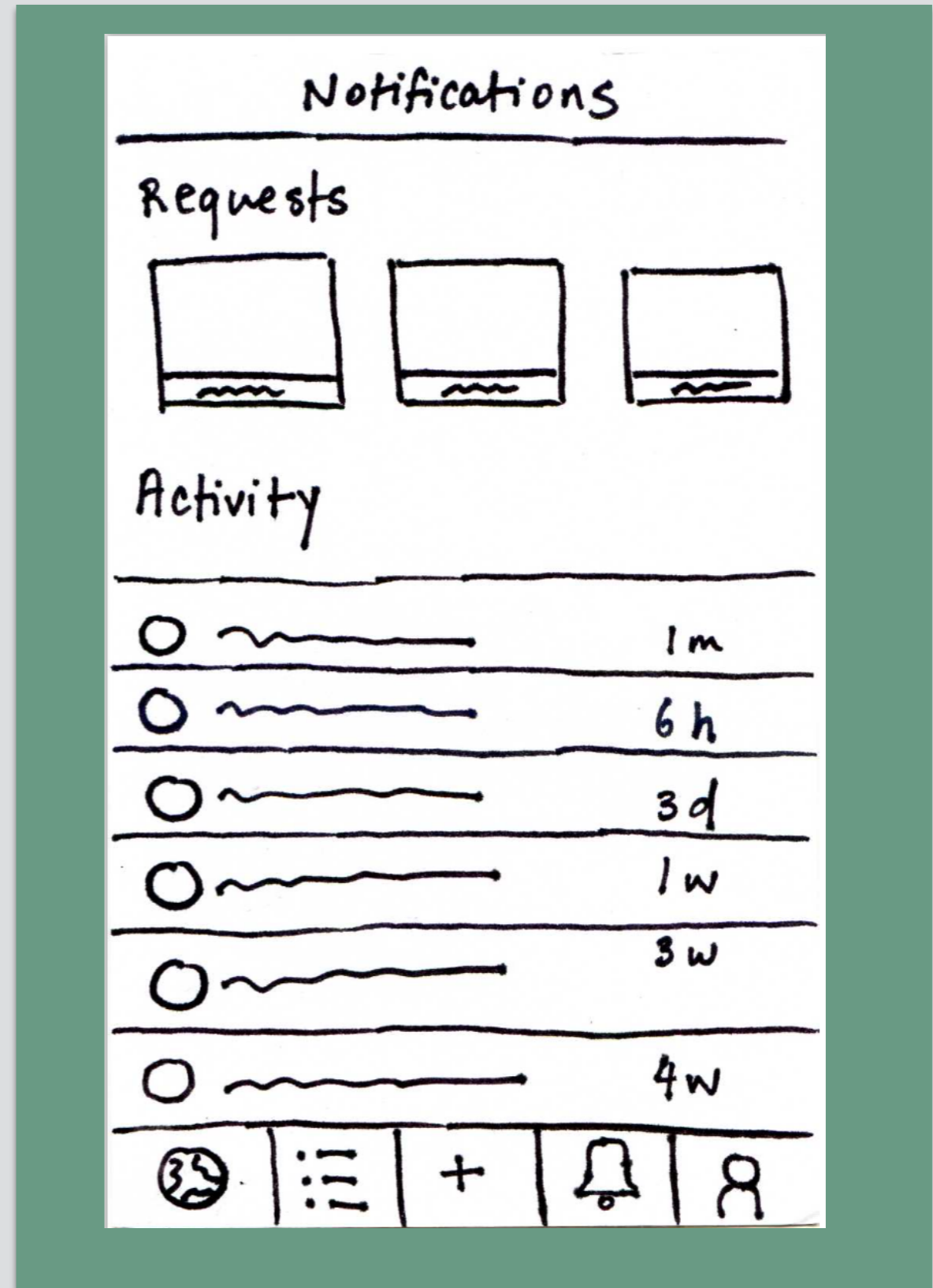


# SHARING SETTINGS

granularity



# NOTIFICATIONS



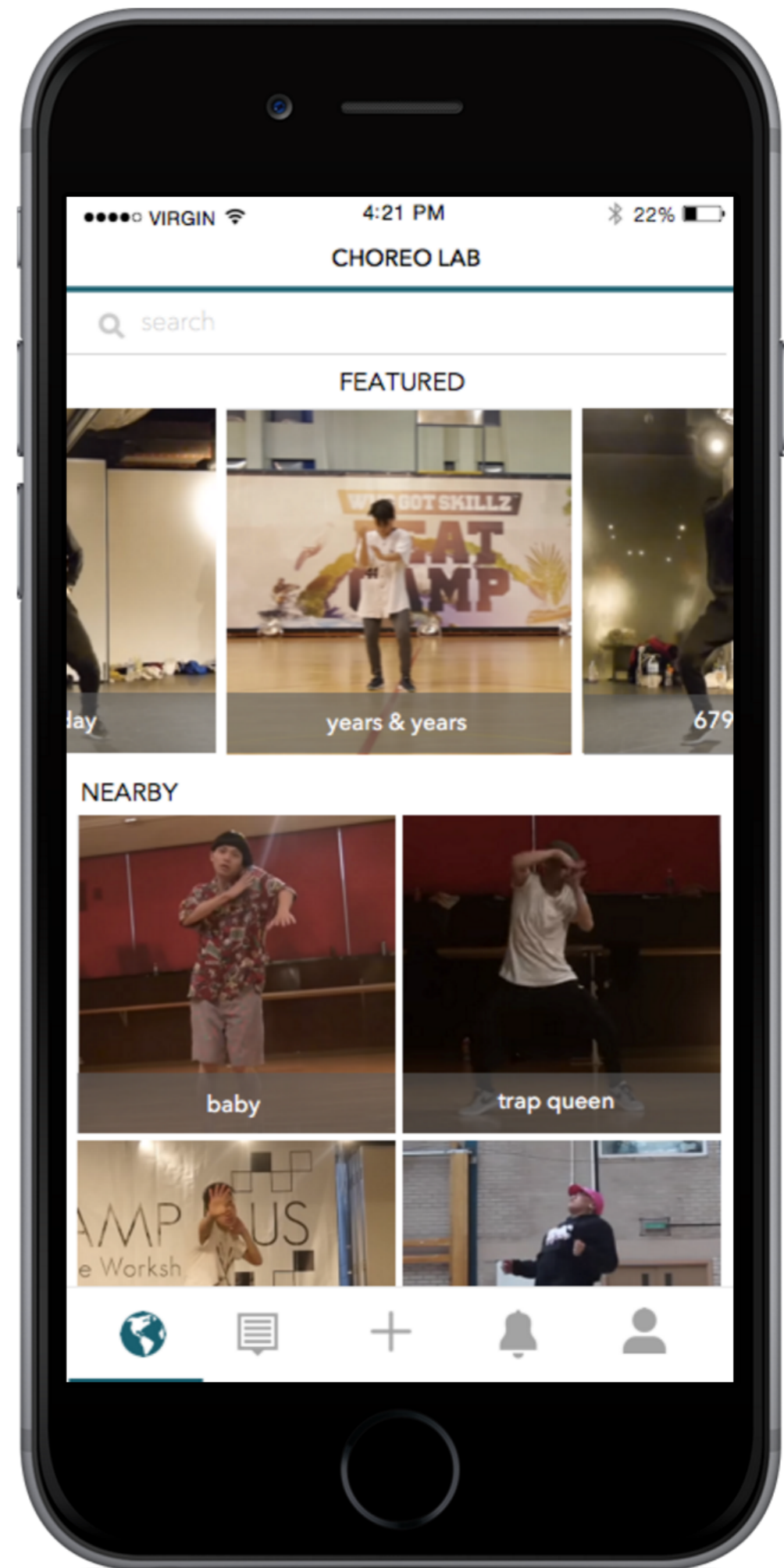


Discover and watch an interesting video



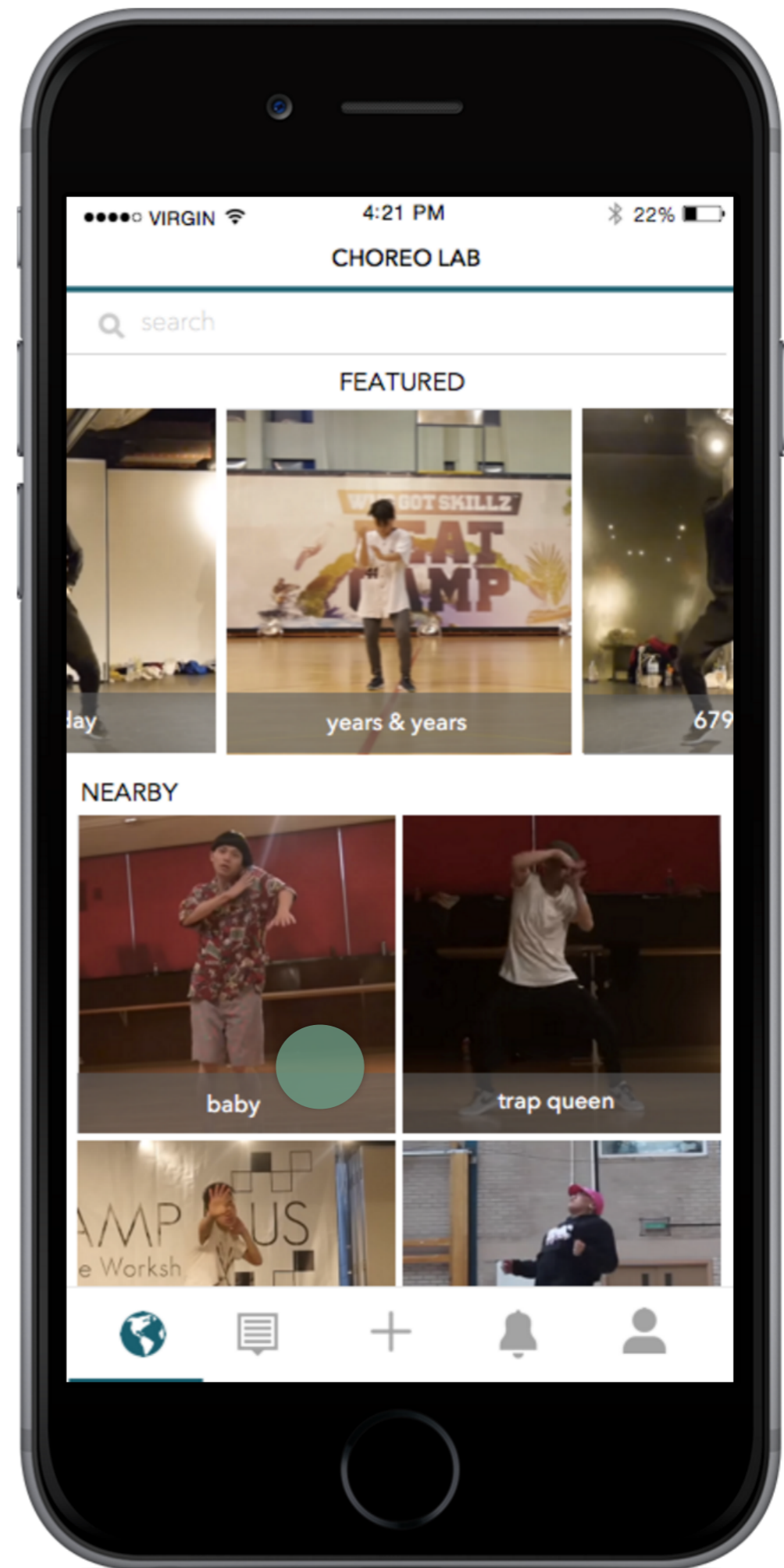


Discover



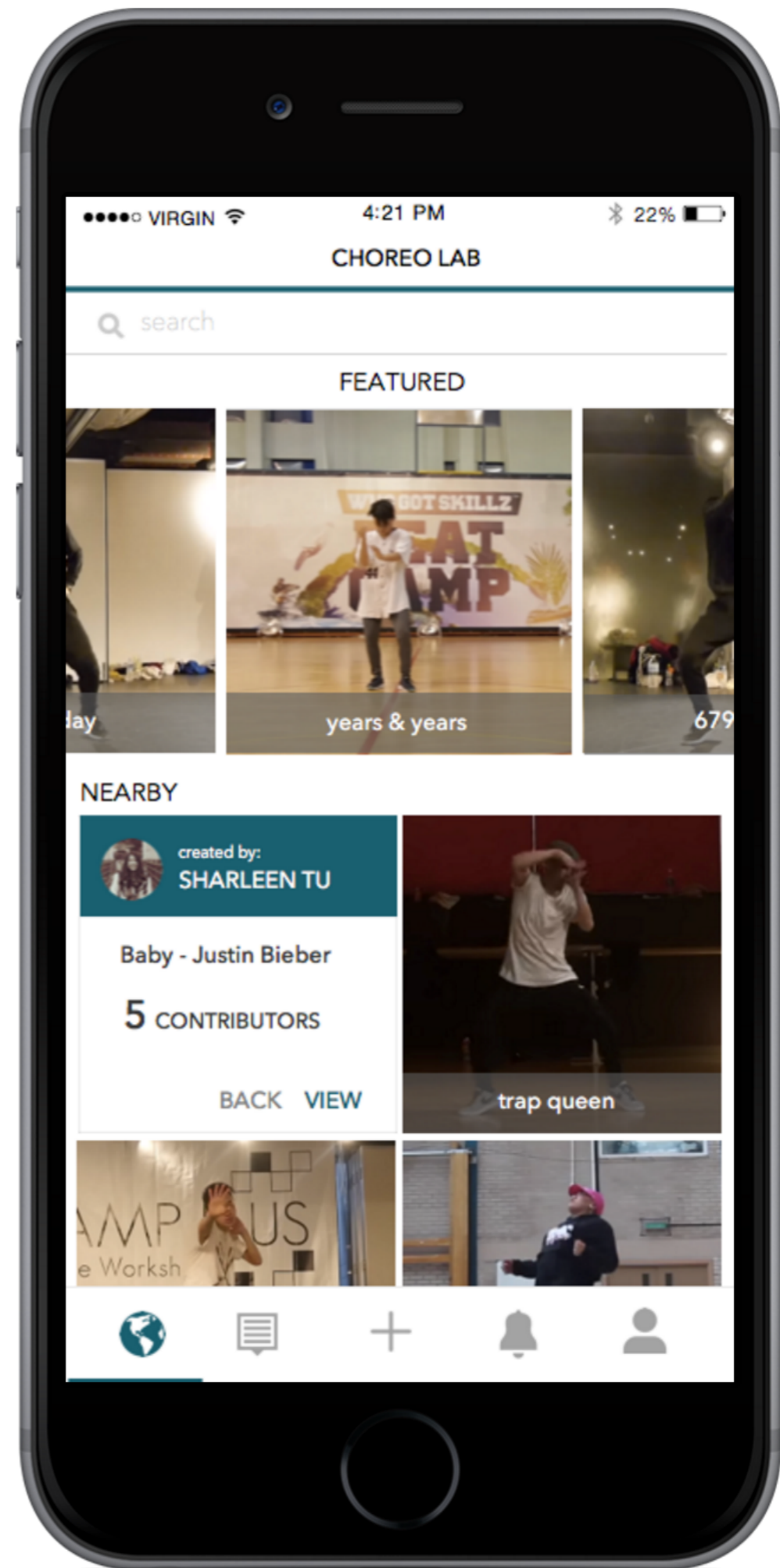


Discover



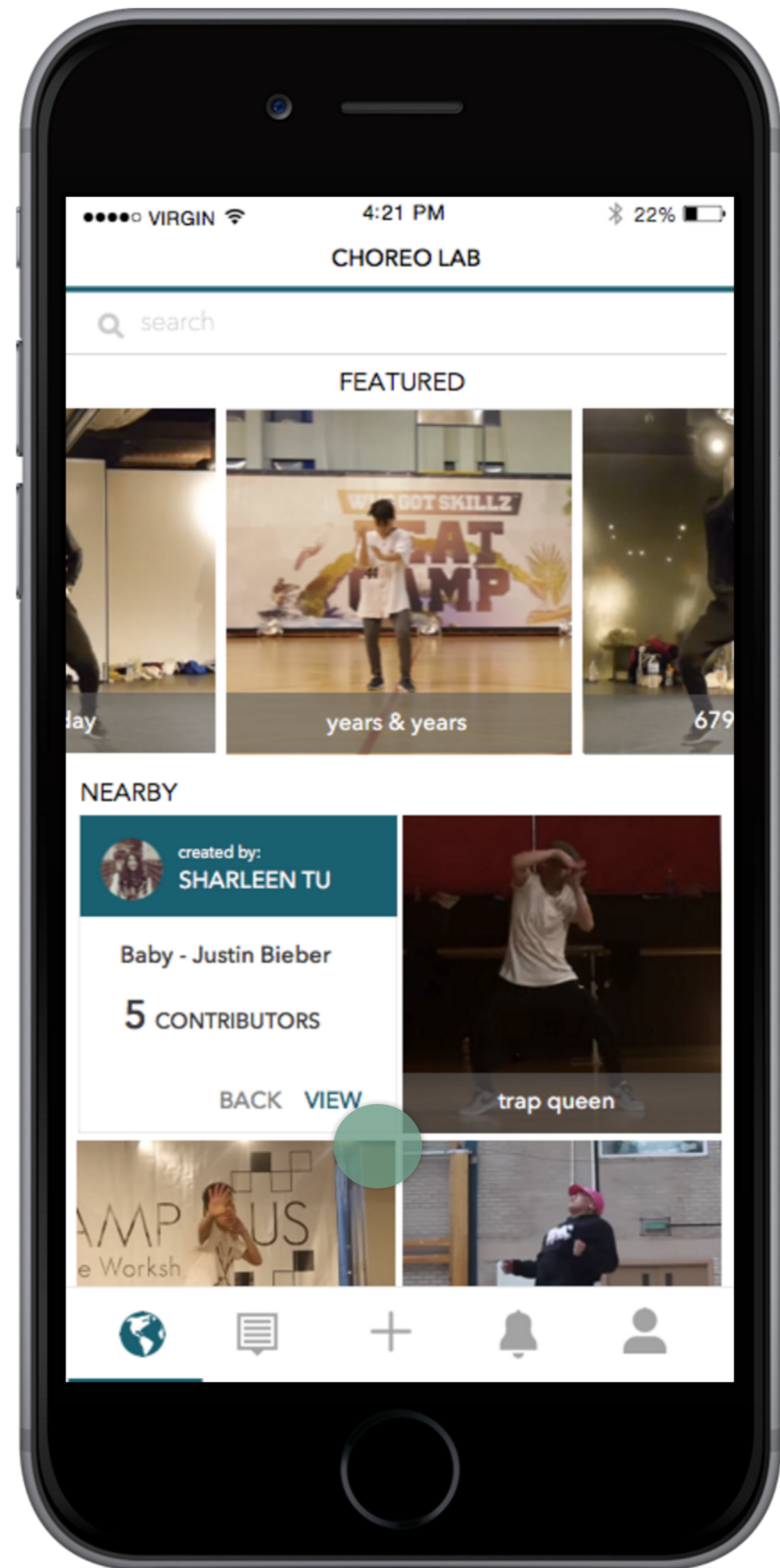


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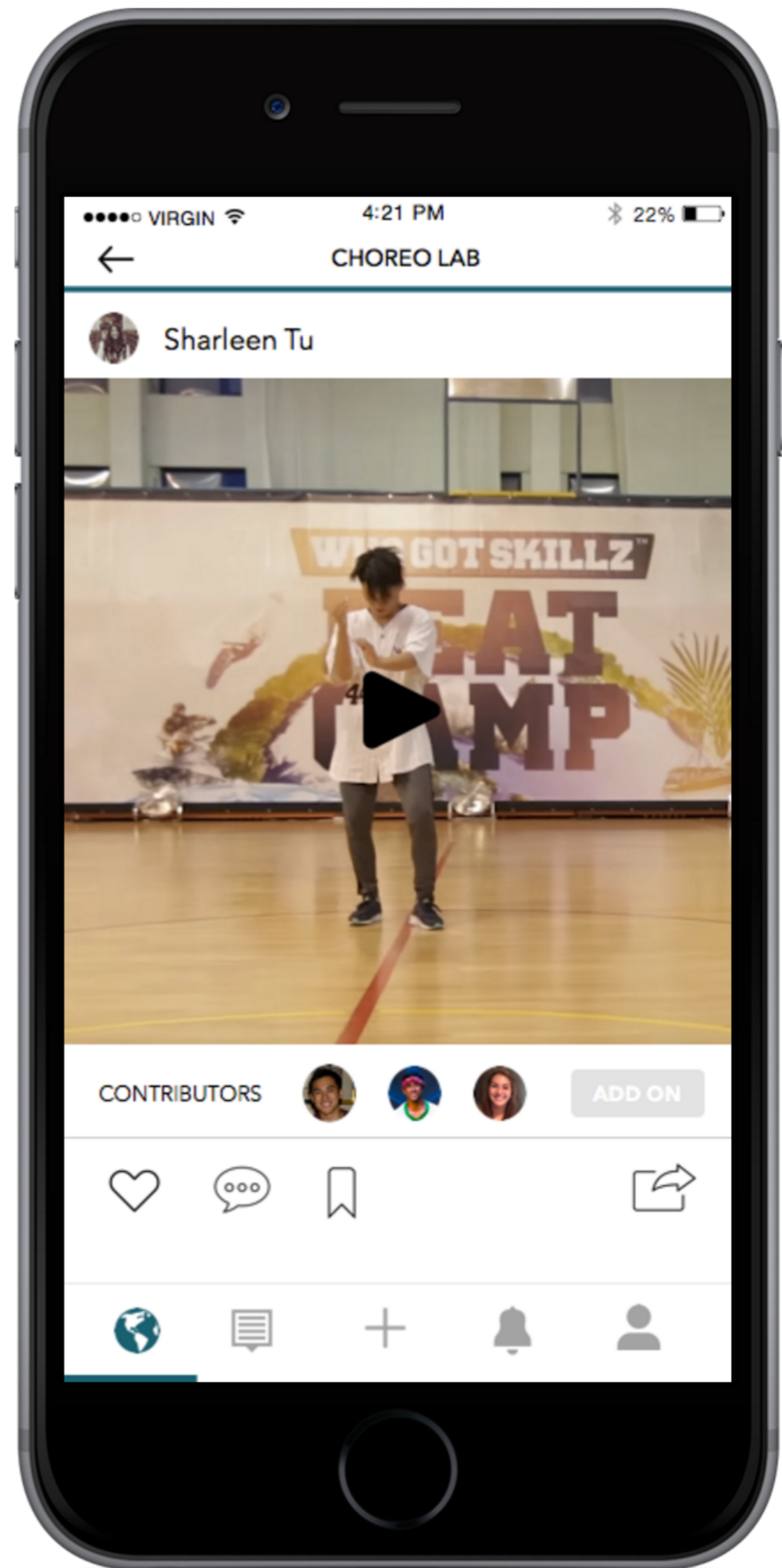


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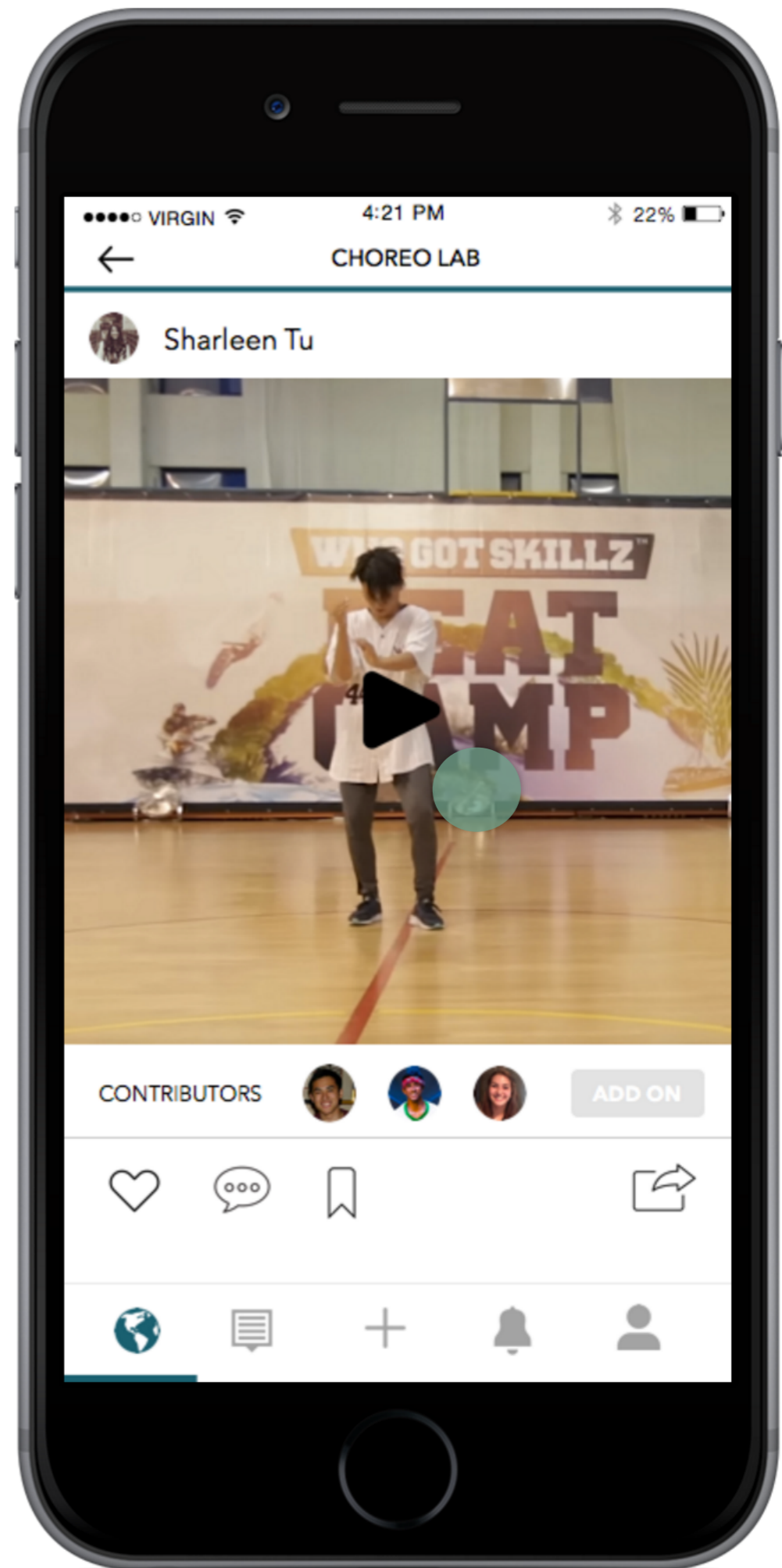


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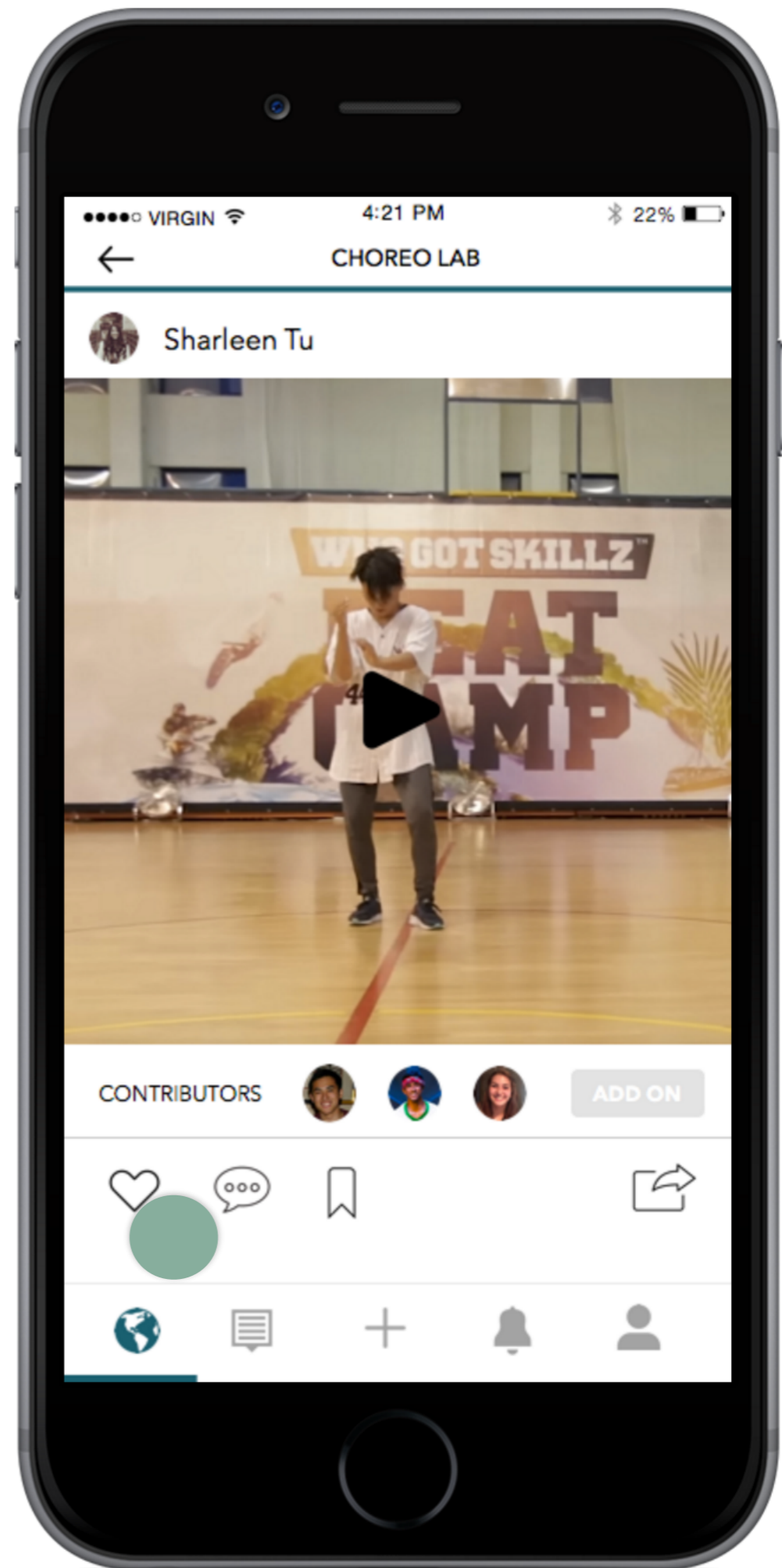


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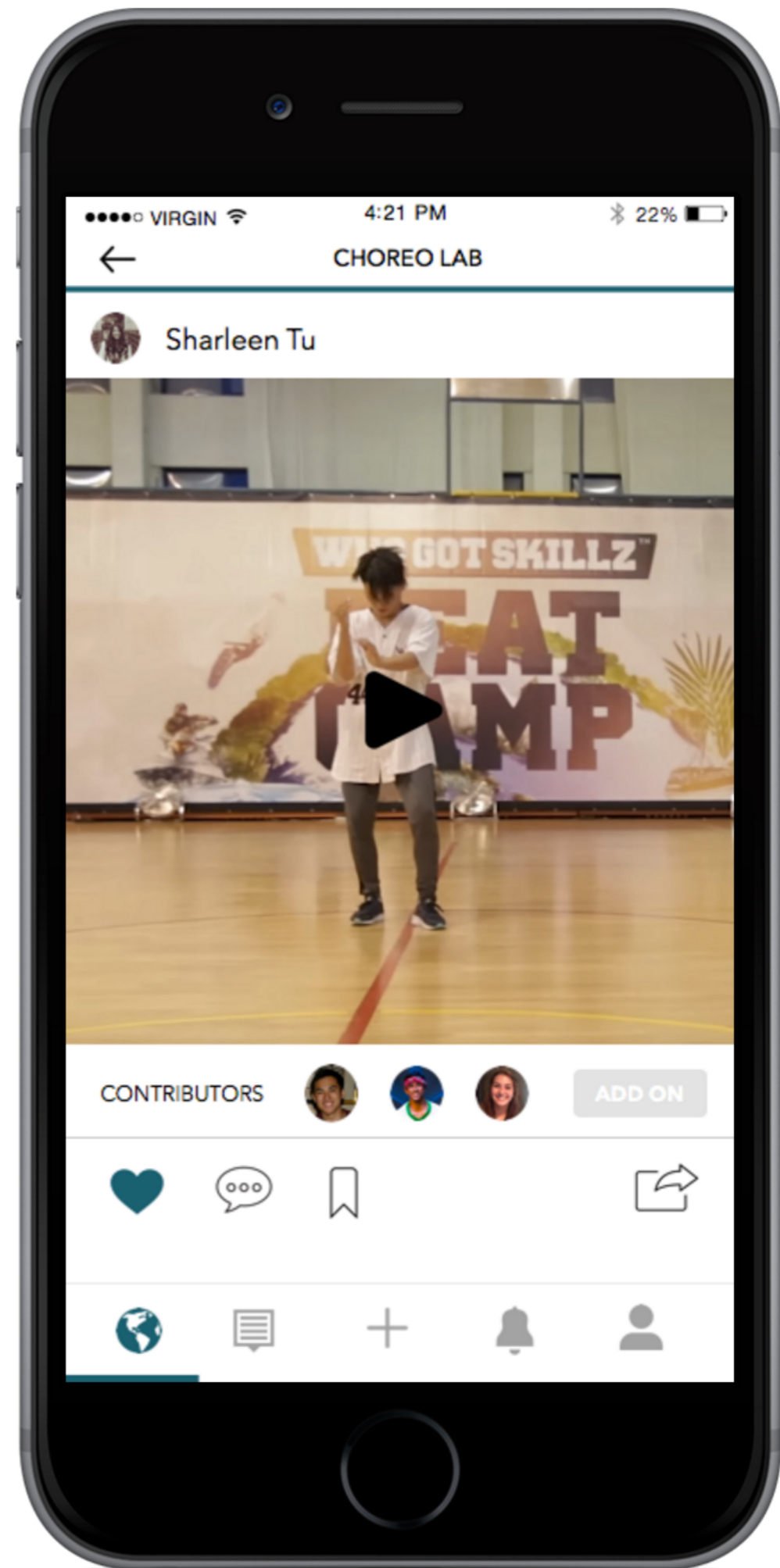


Discover





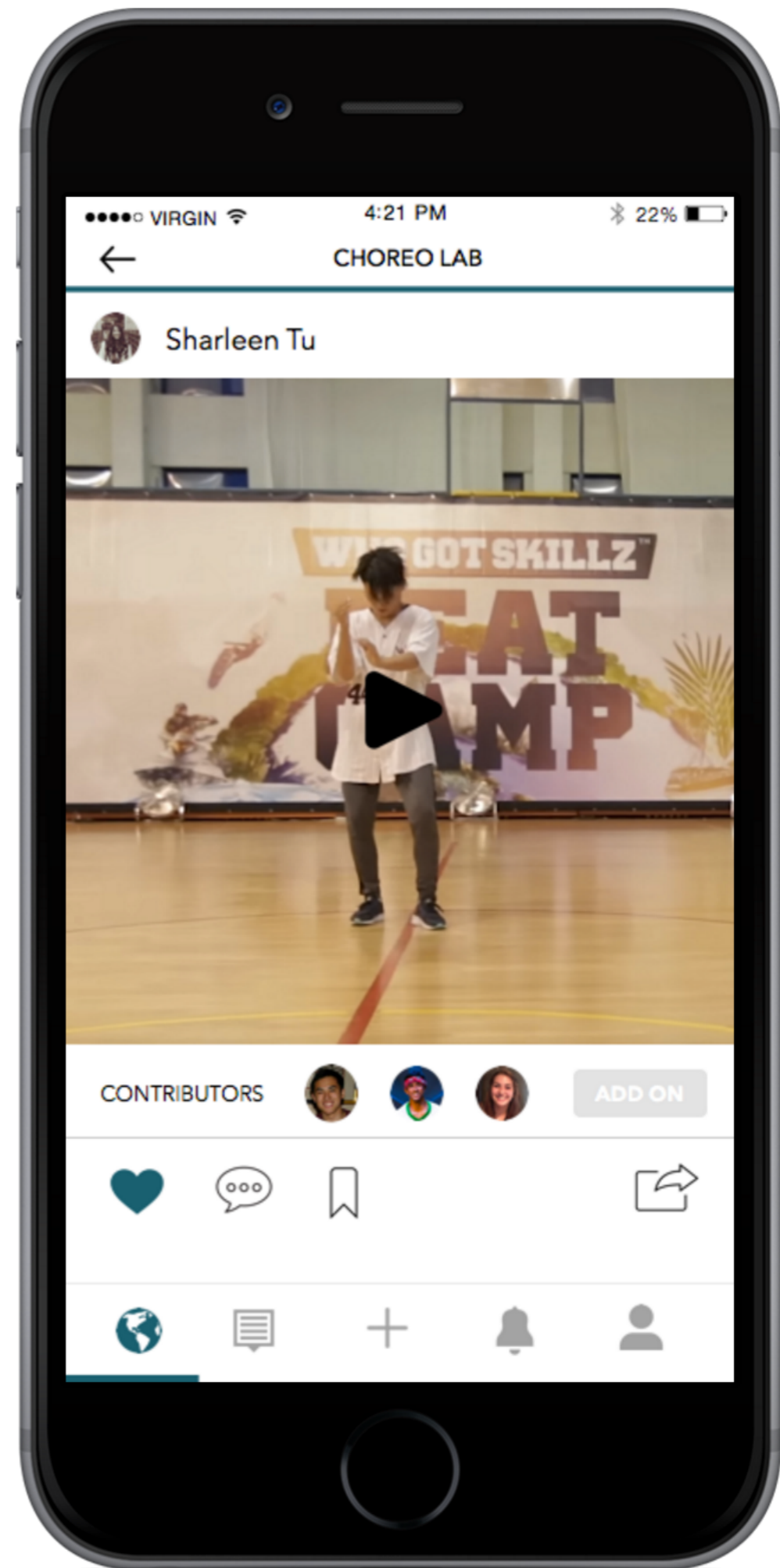
Discover





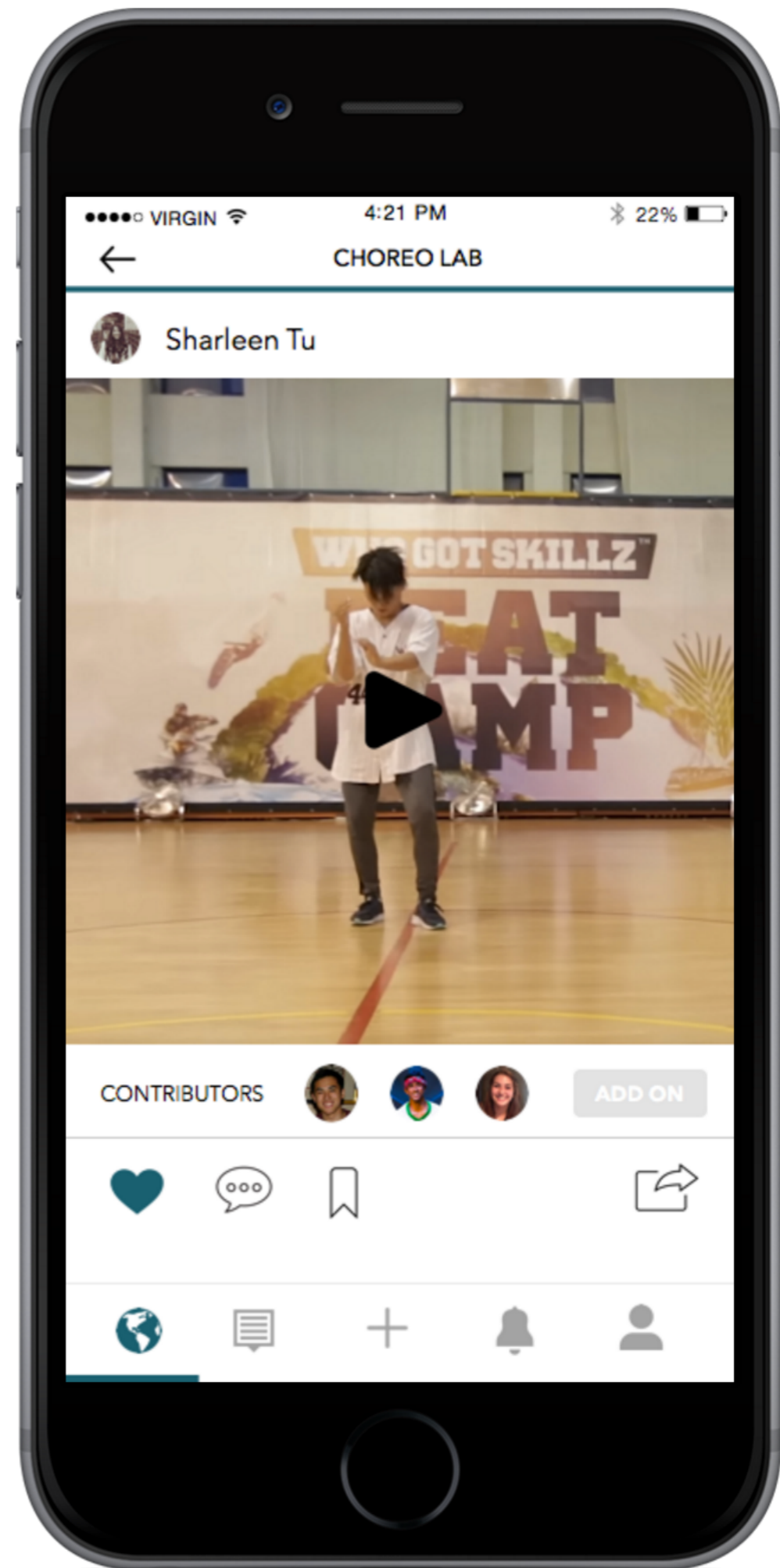


Discover





Discover

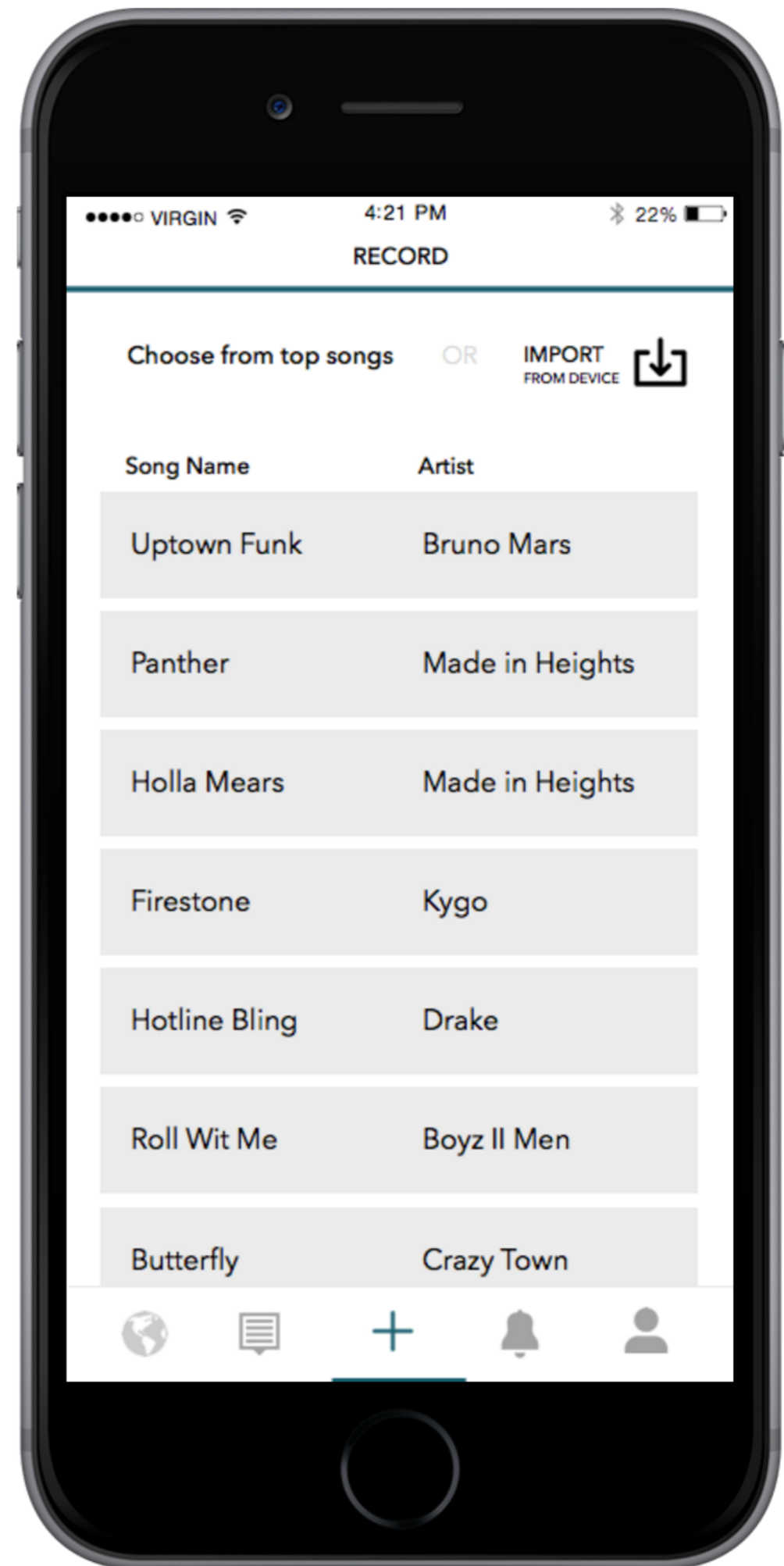




Create a new choreography project

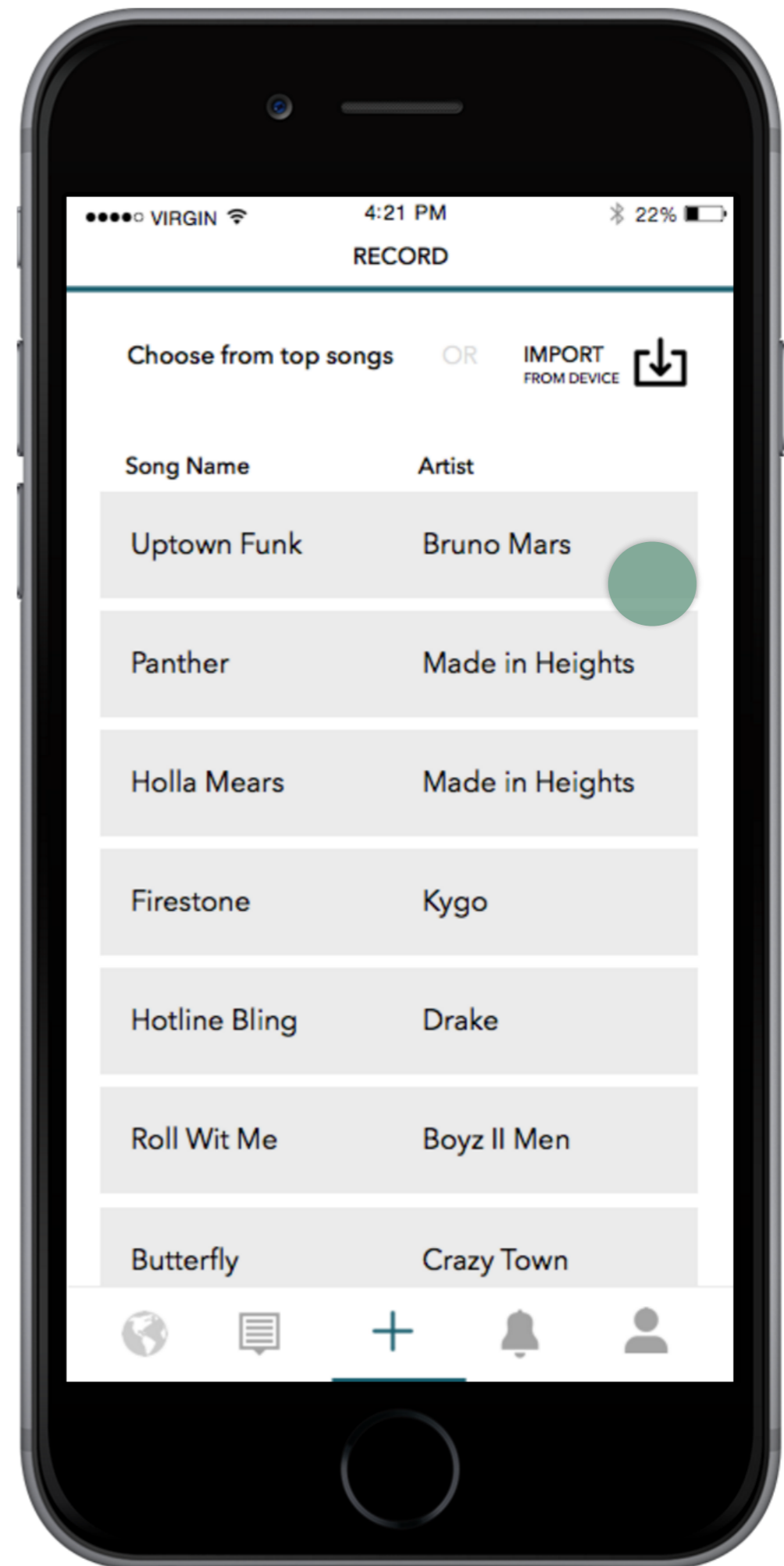


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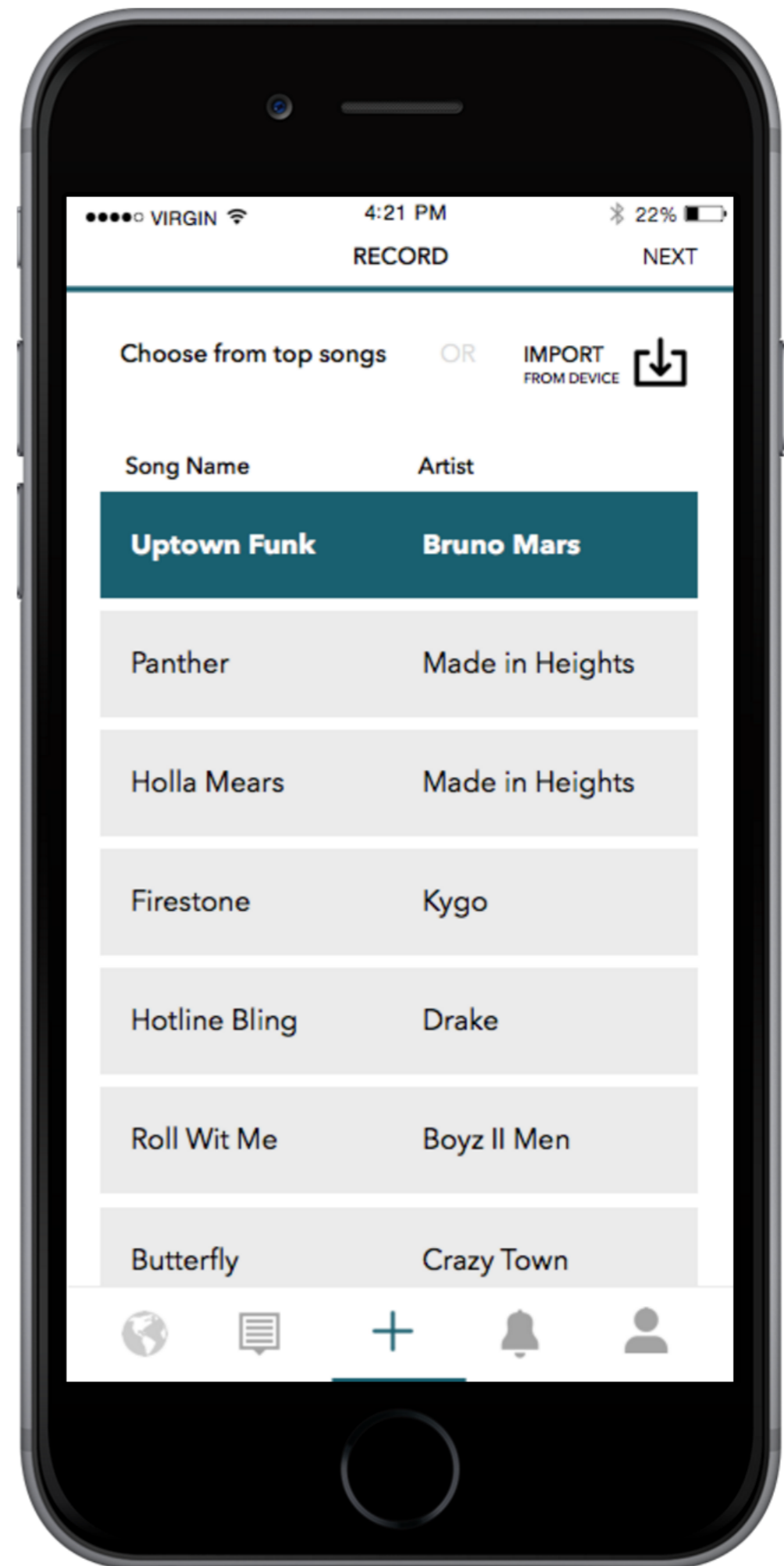


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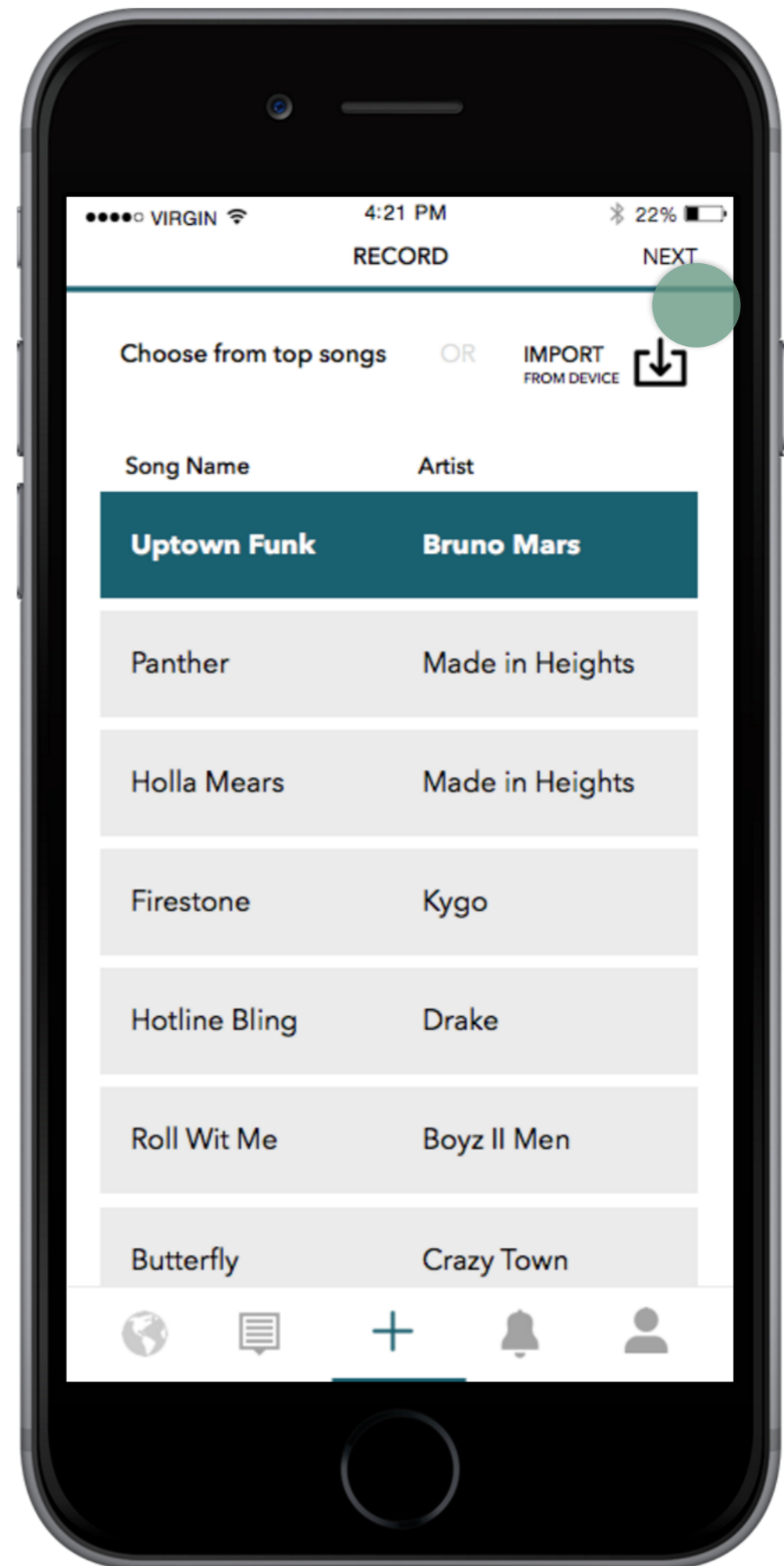


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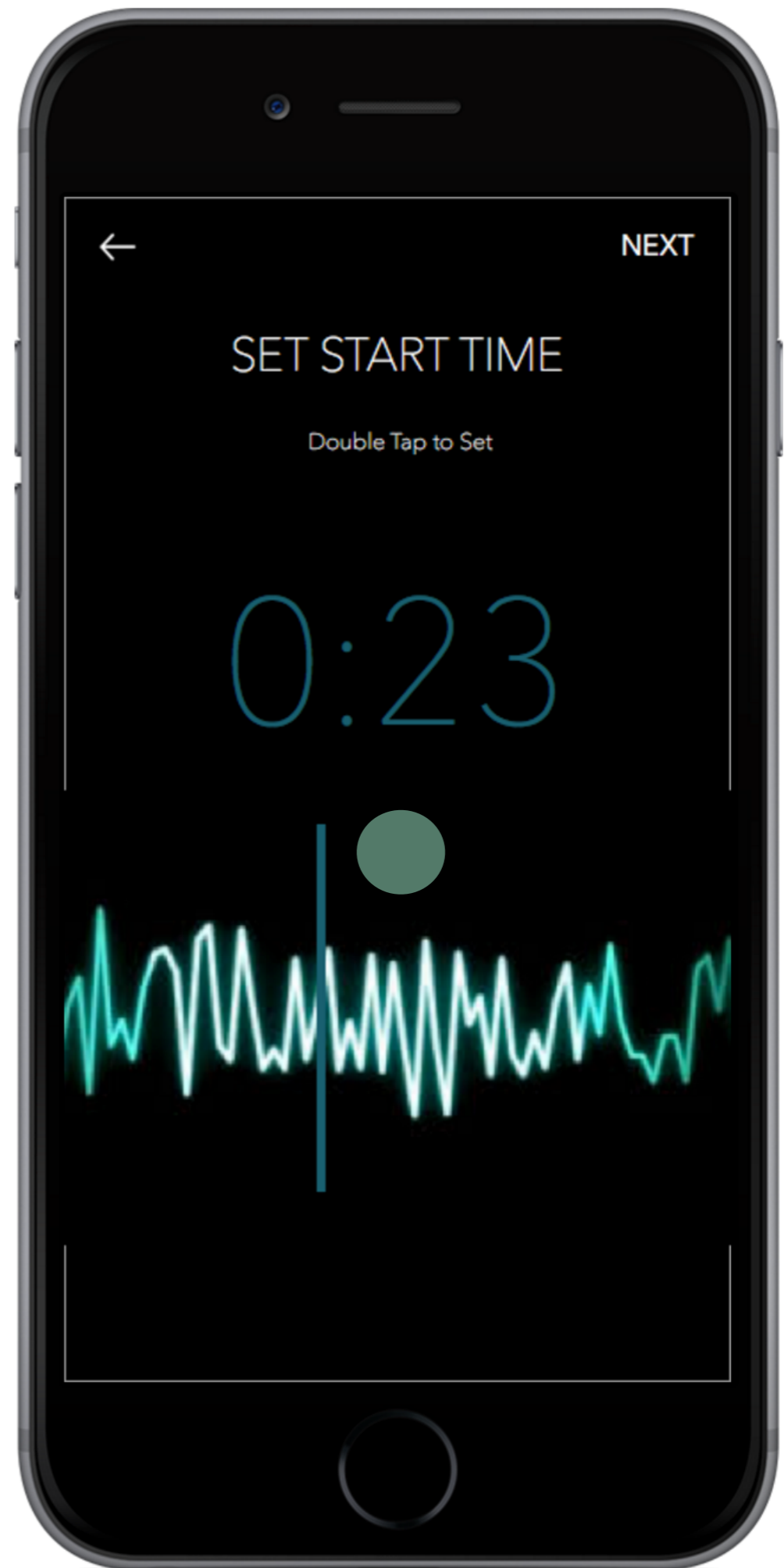
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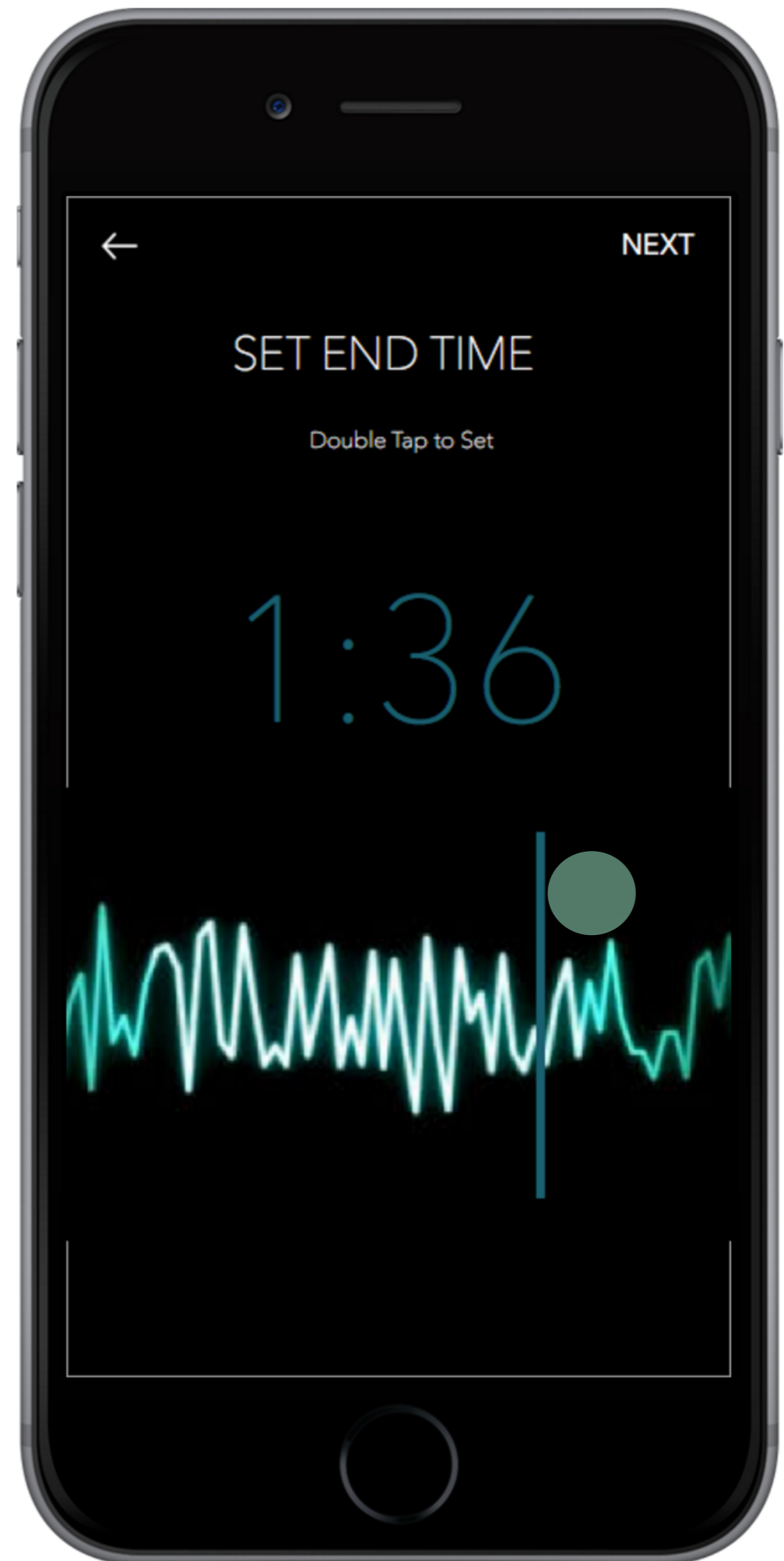


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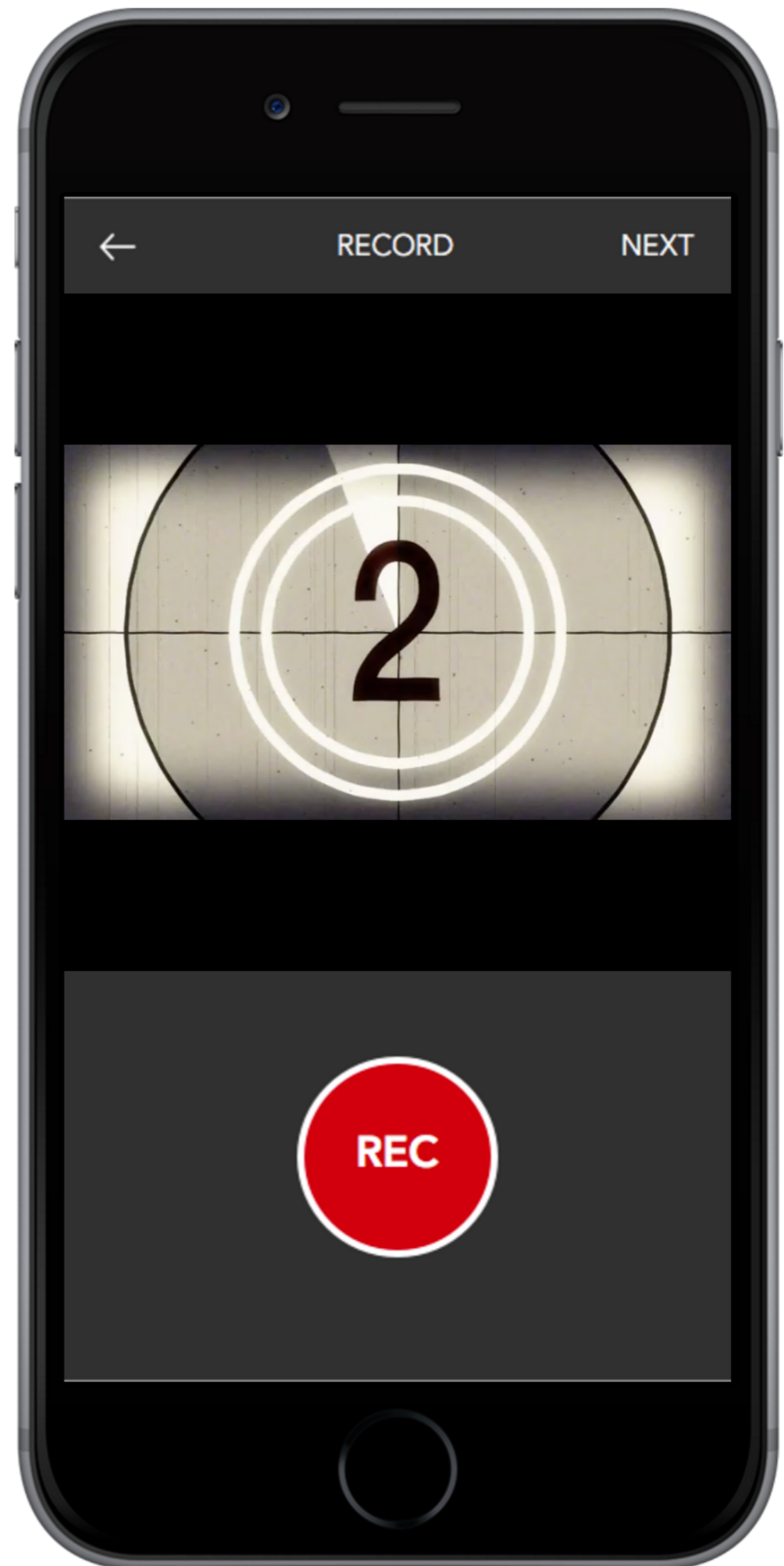


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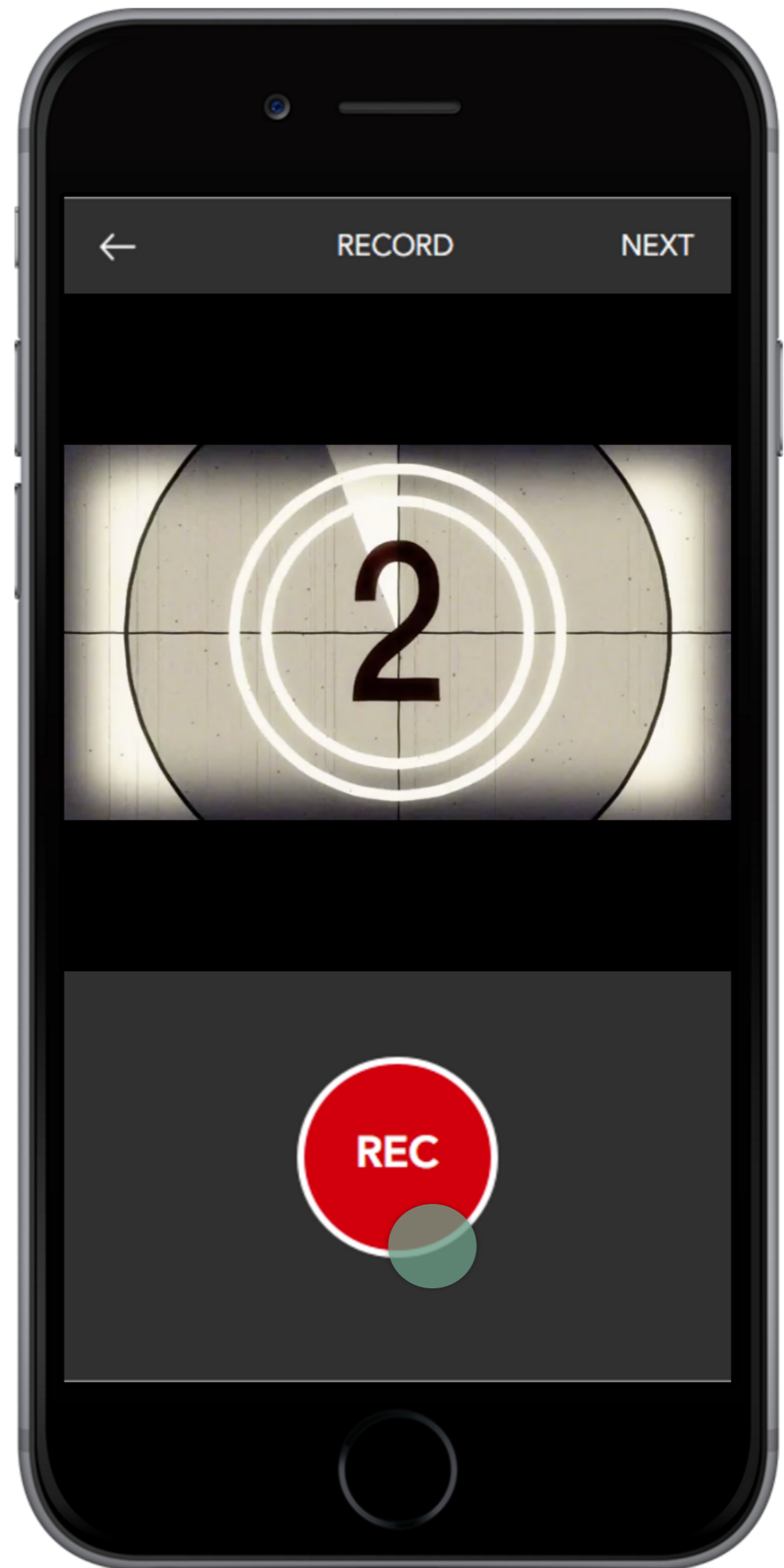


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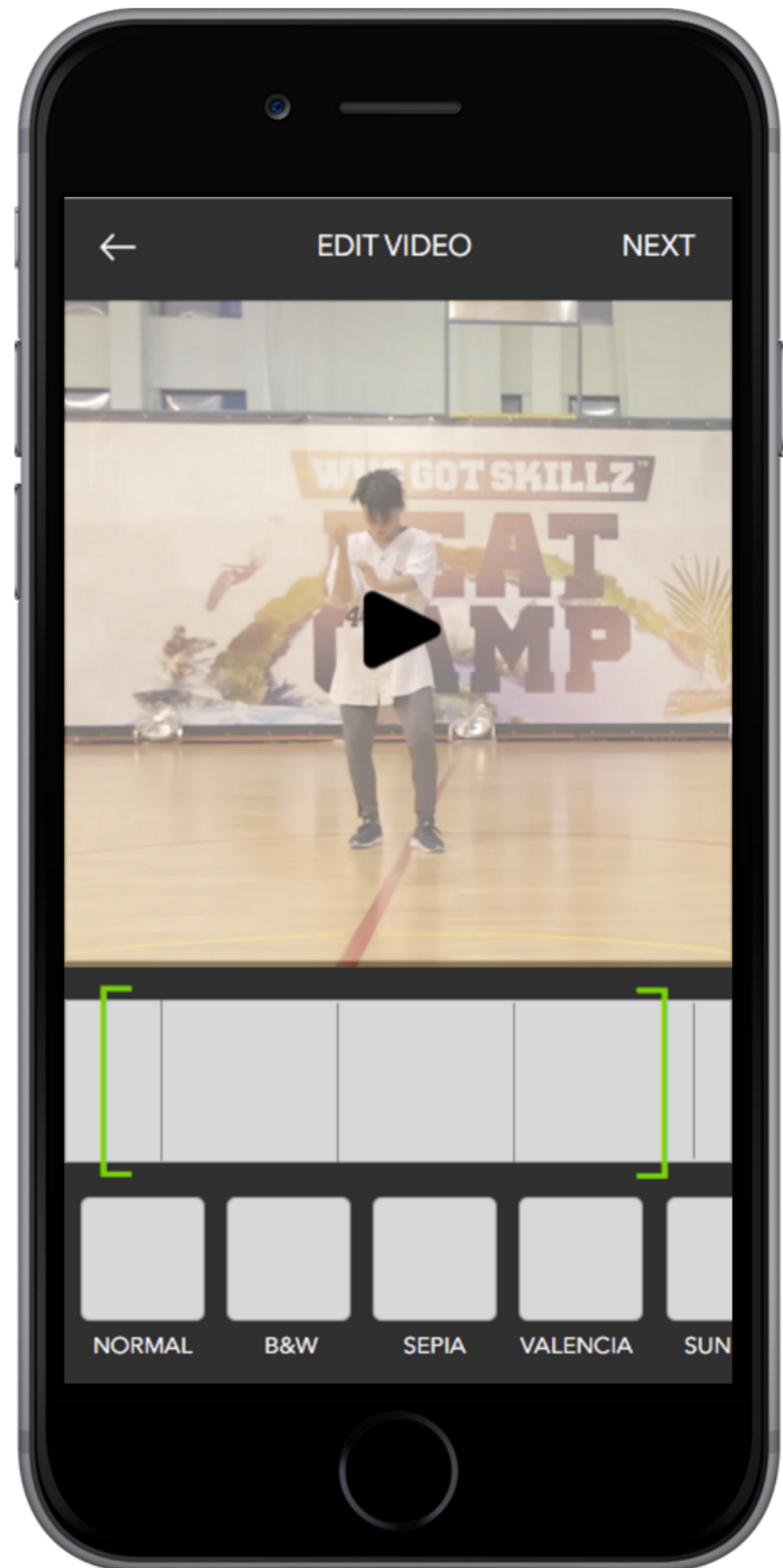


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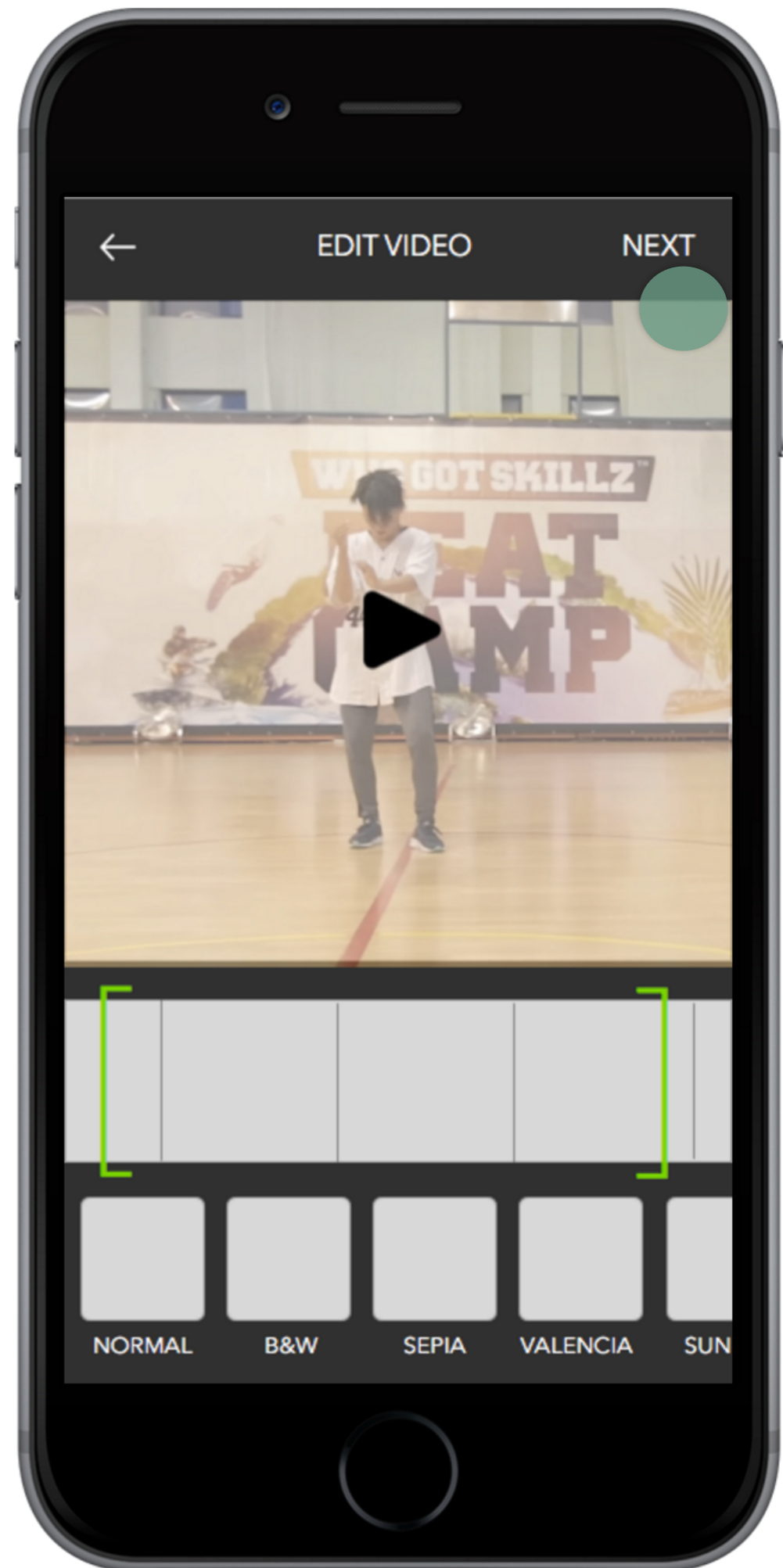


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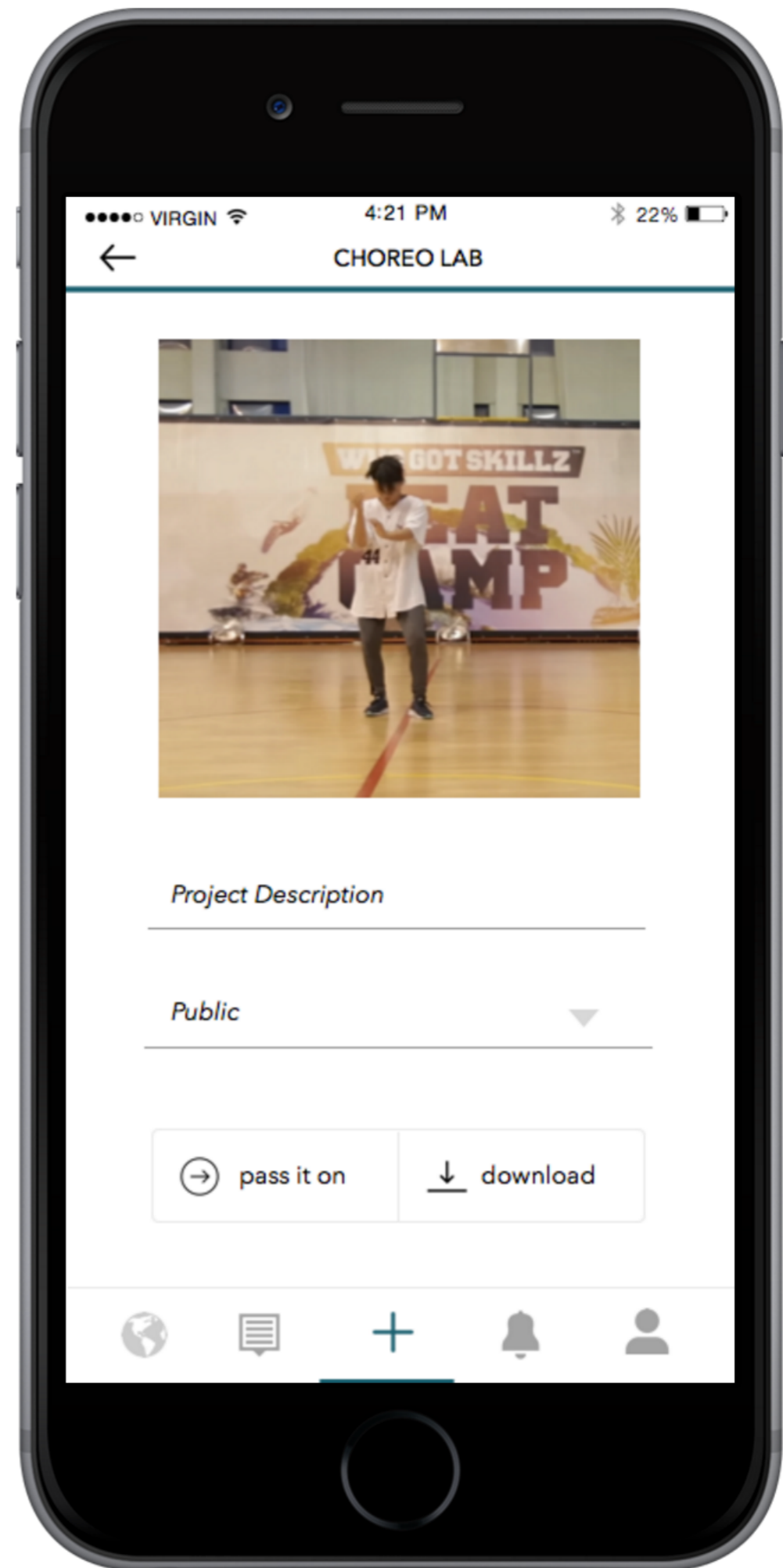


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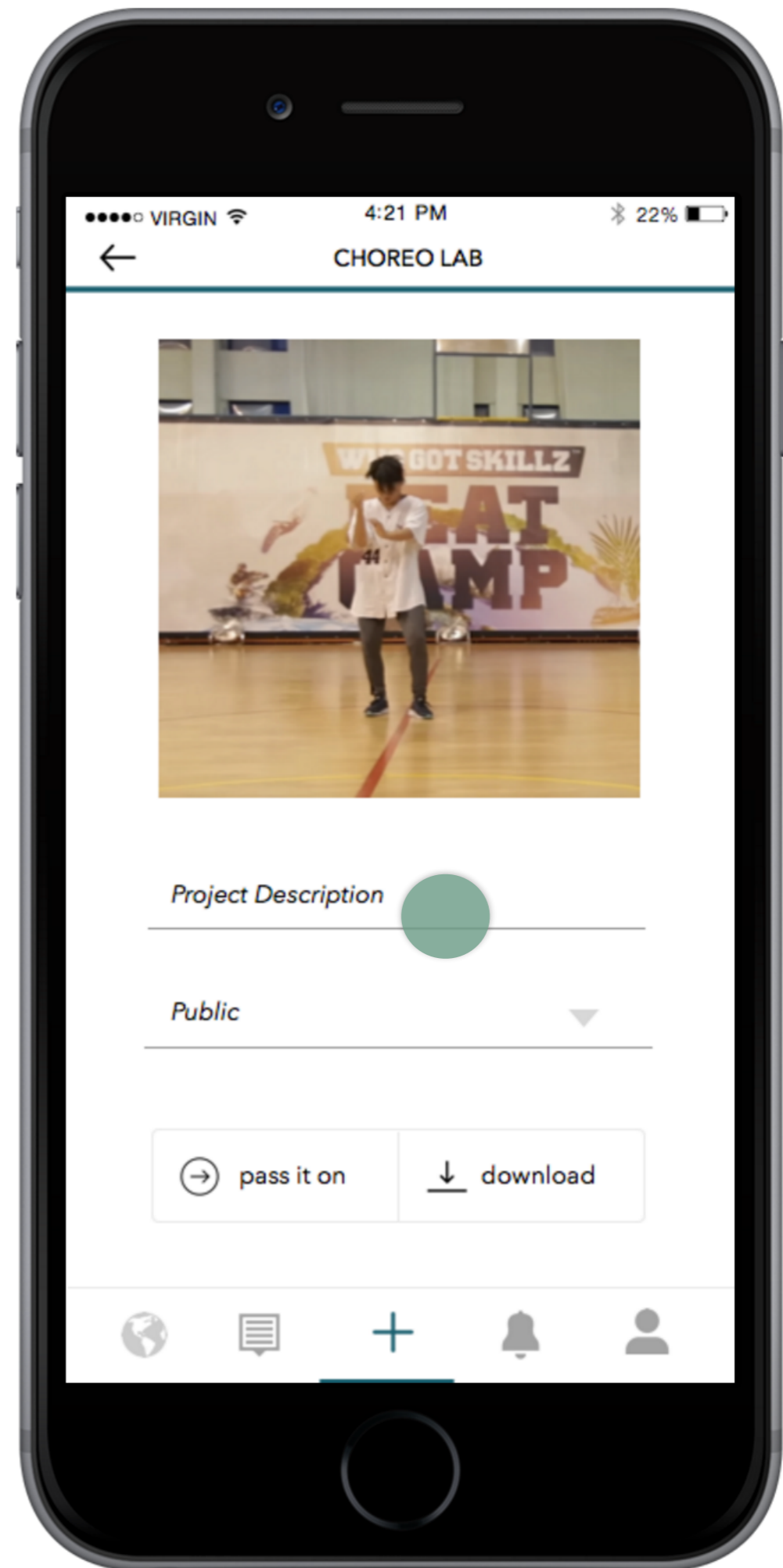
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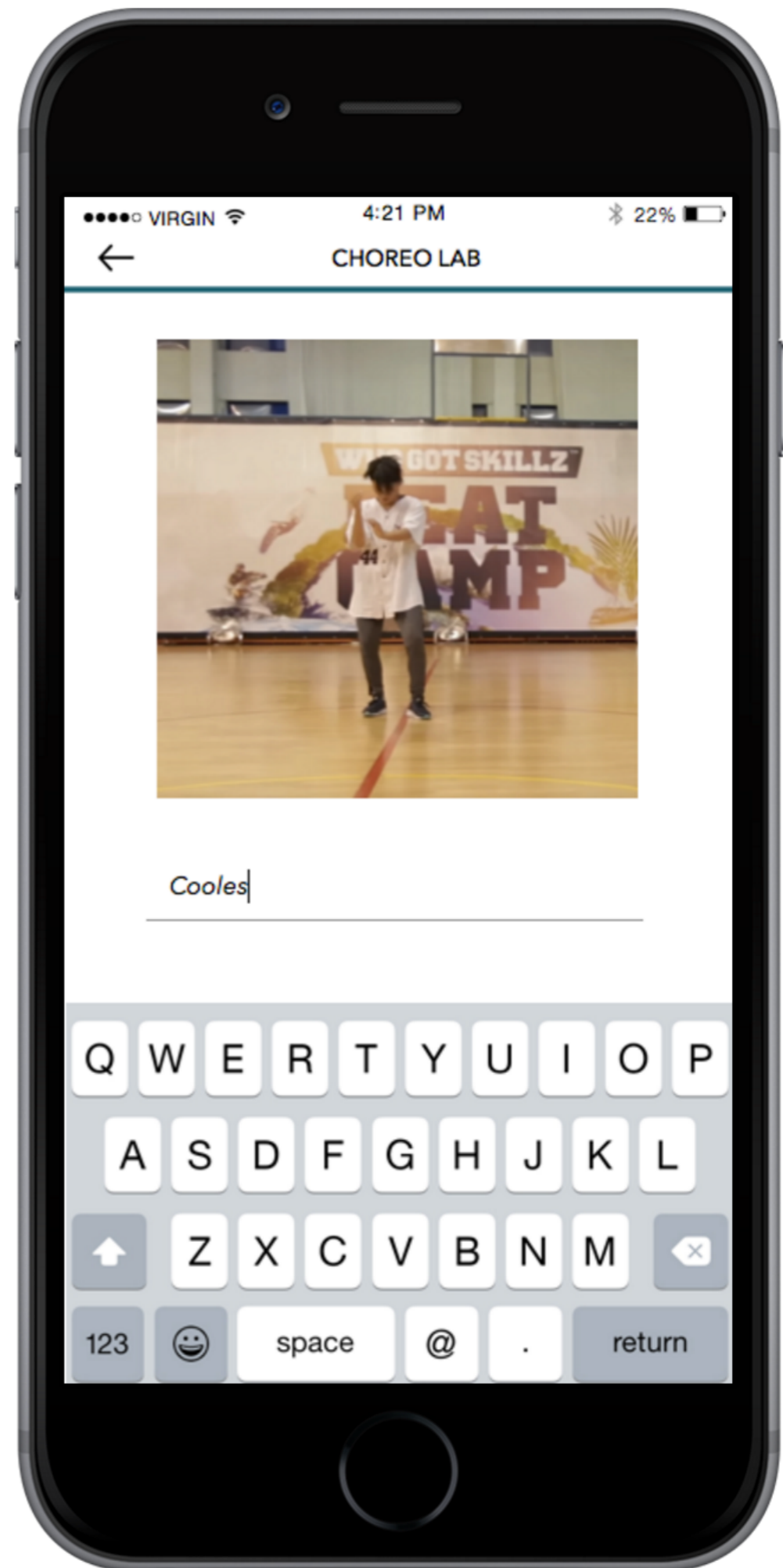


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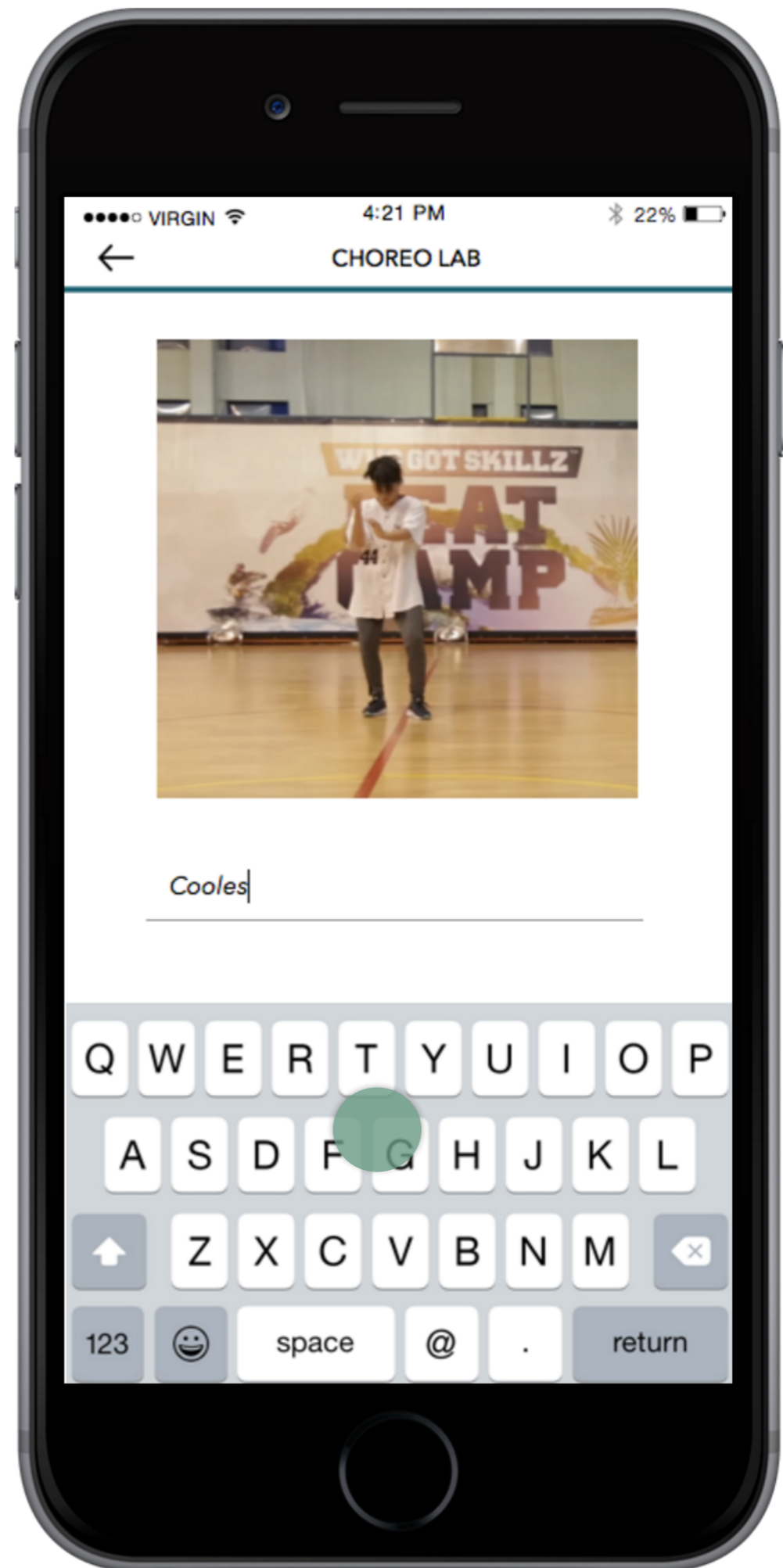


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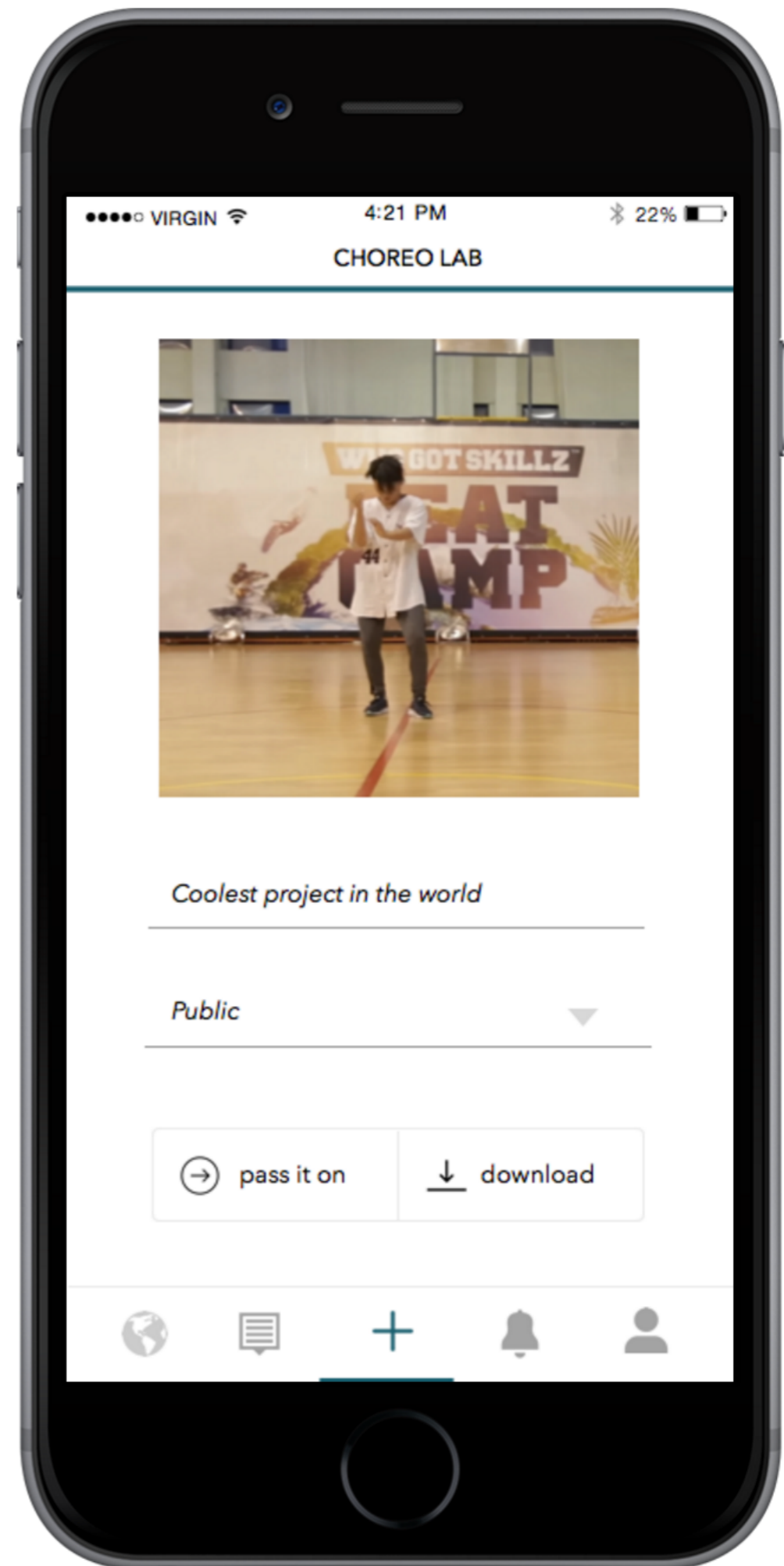


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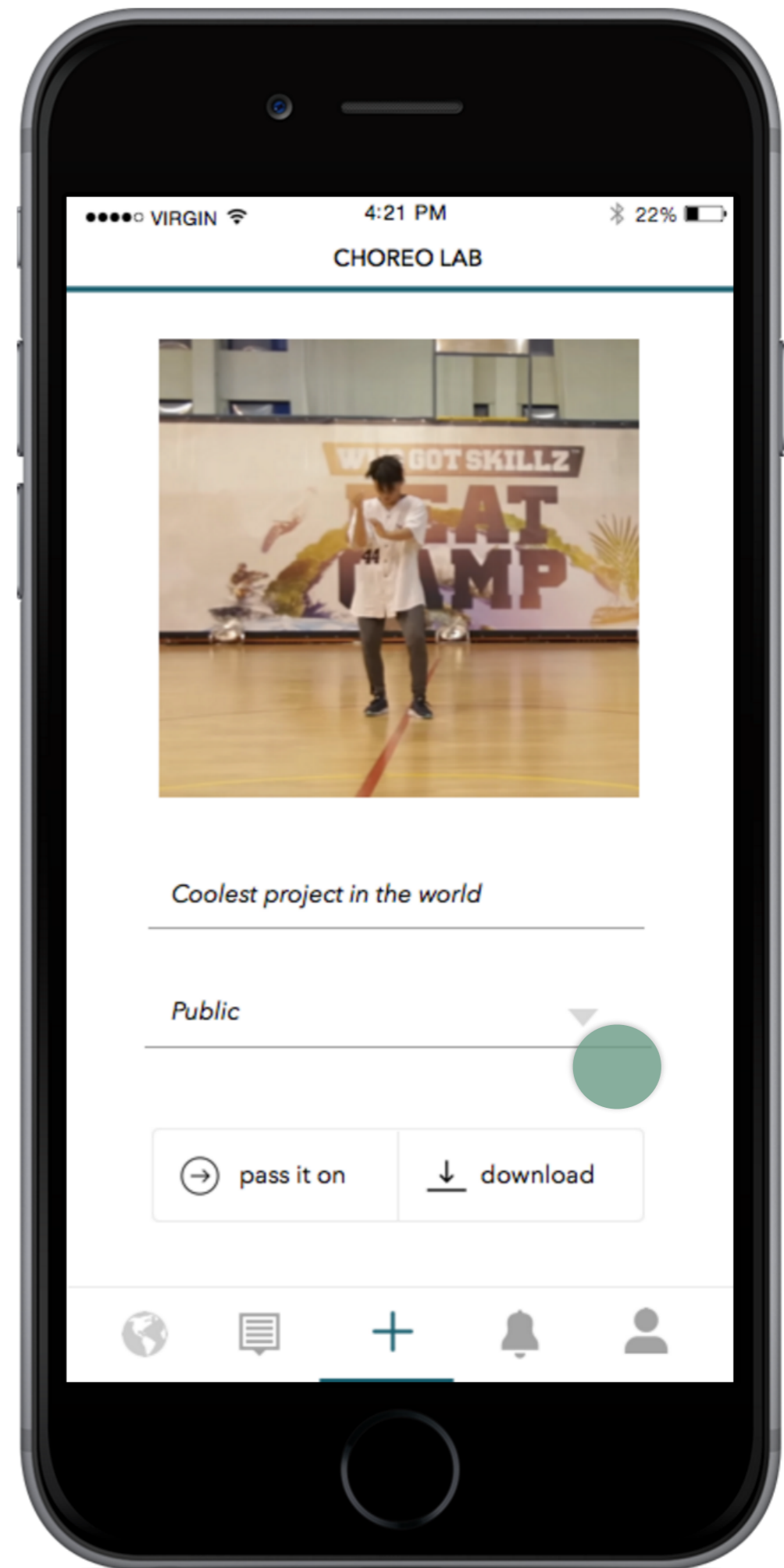


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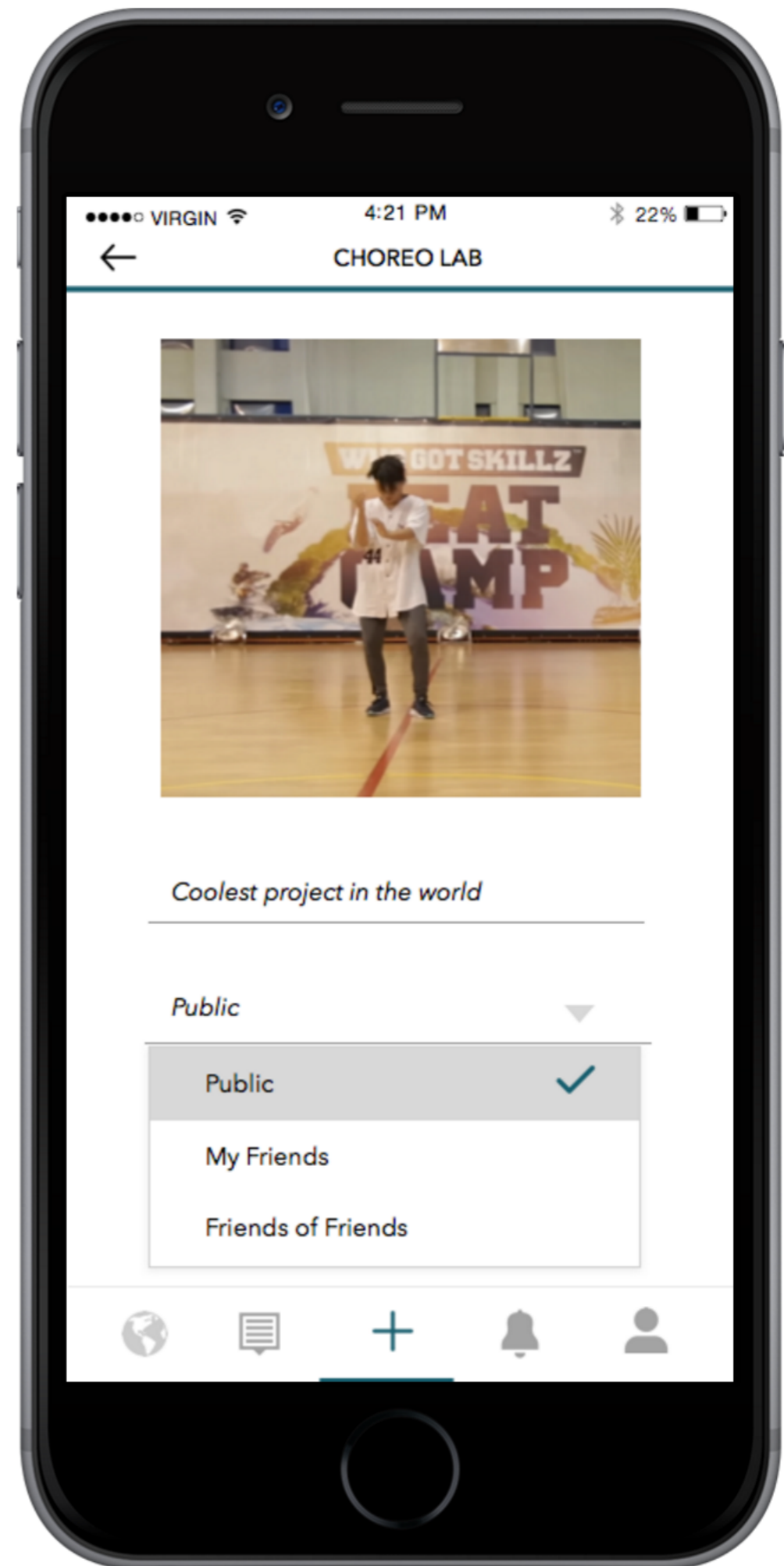


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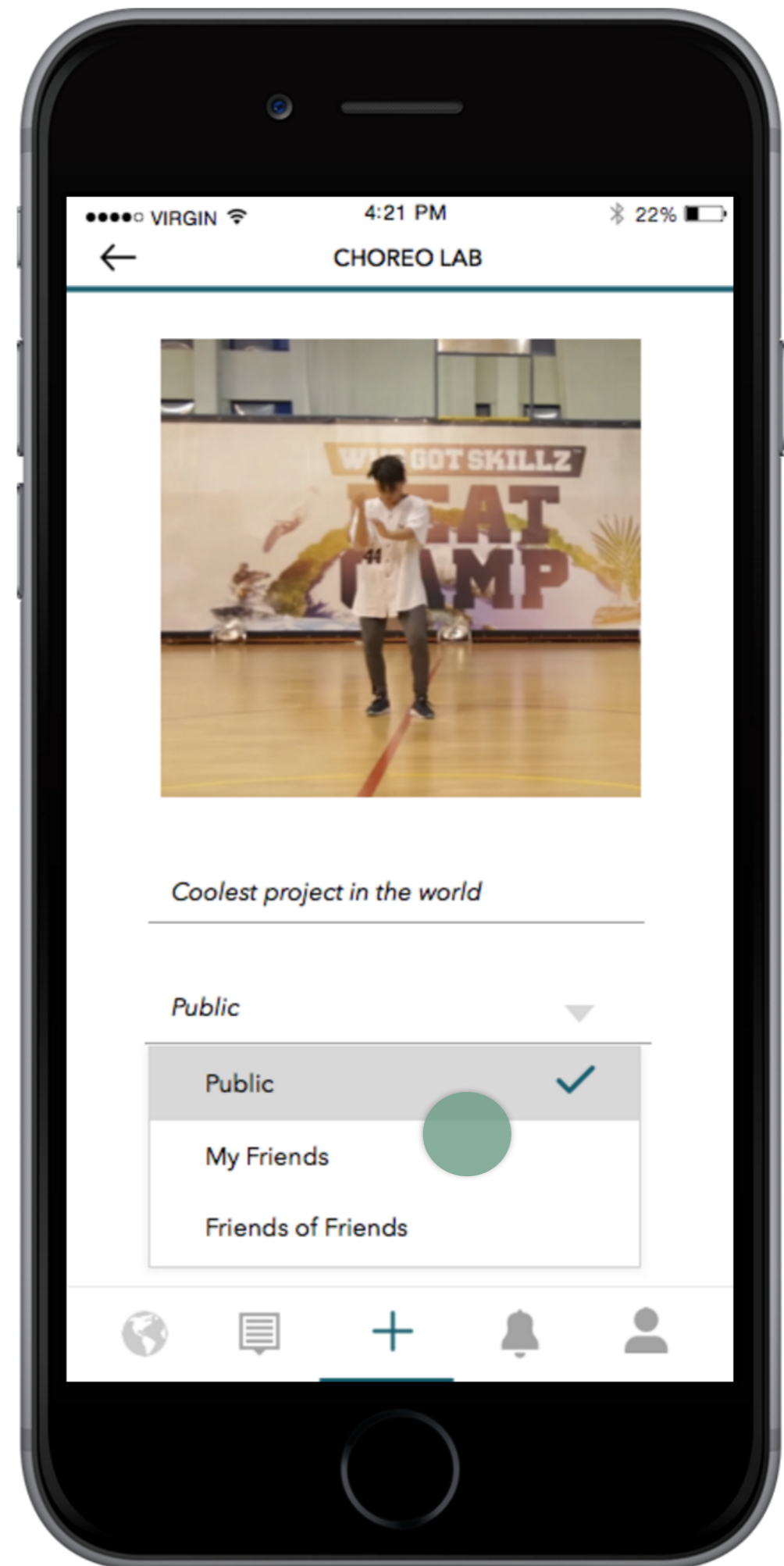


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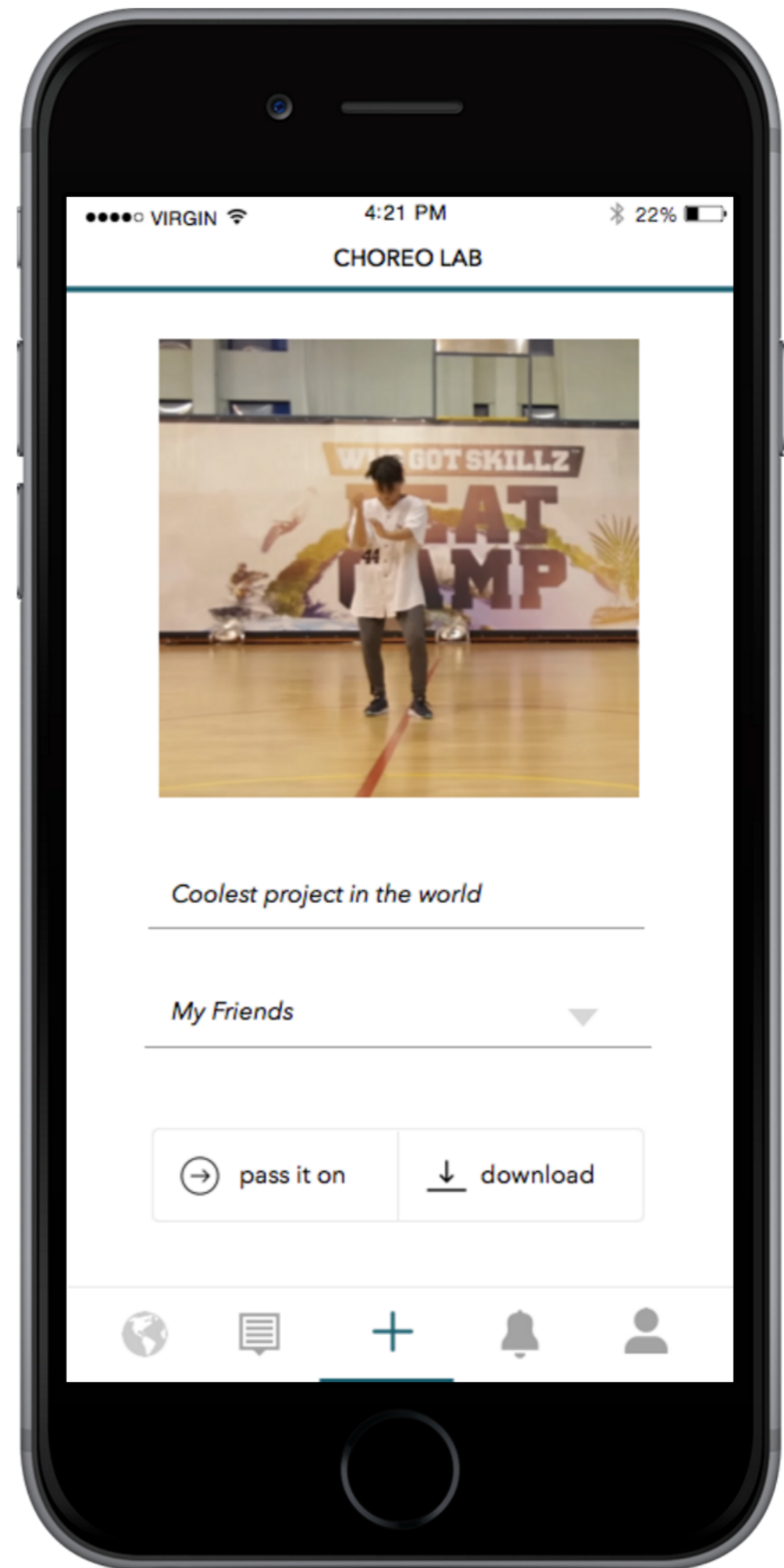


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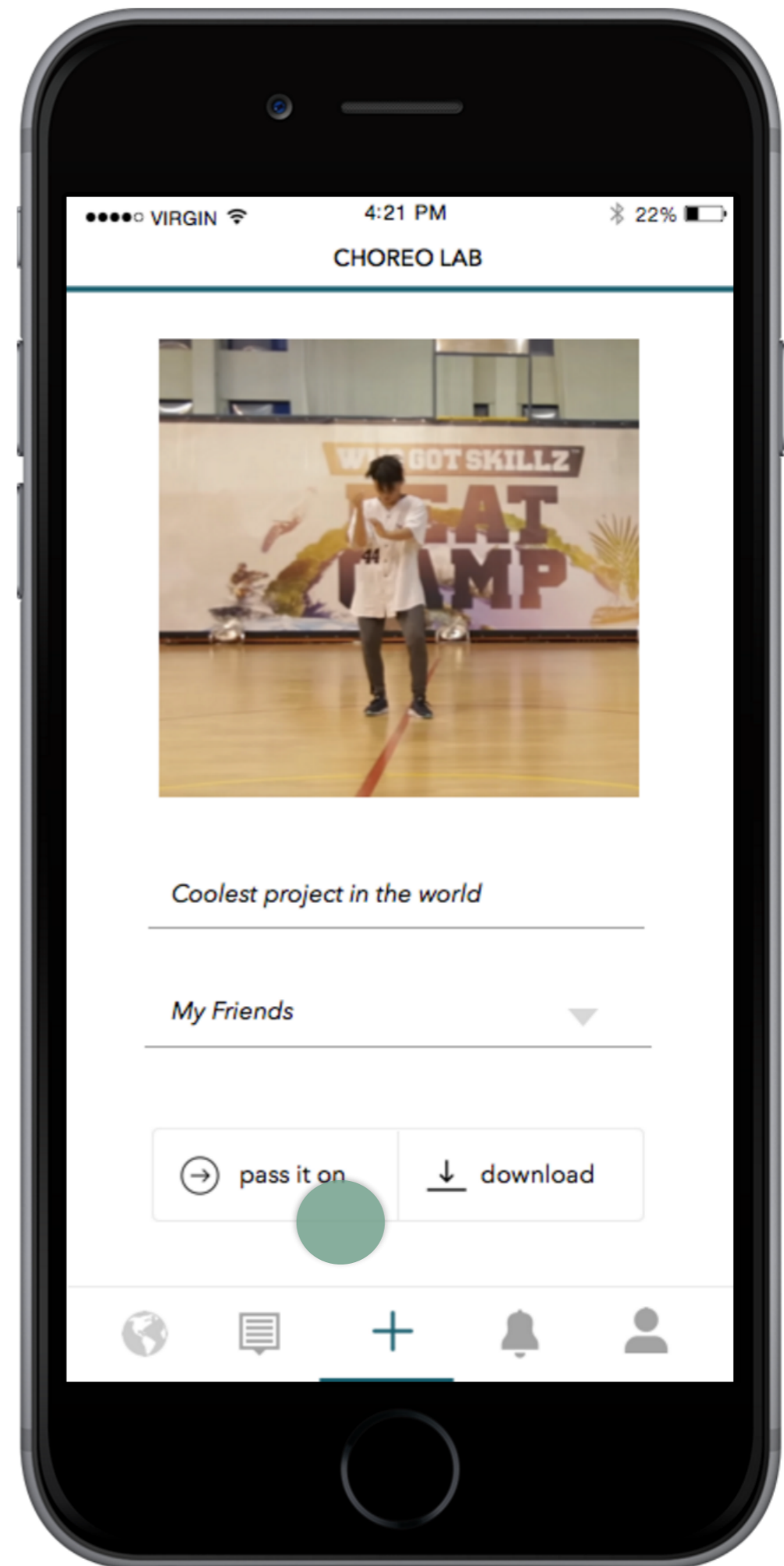
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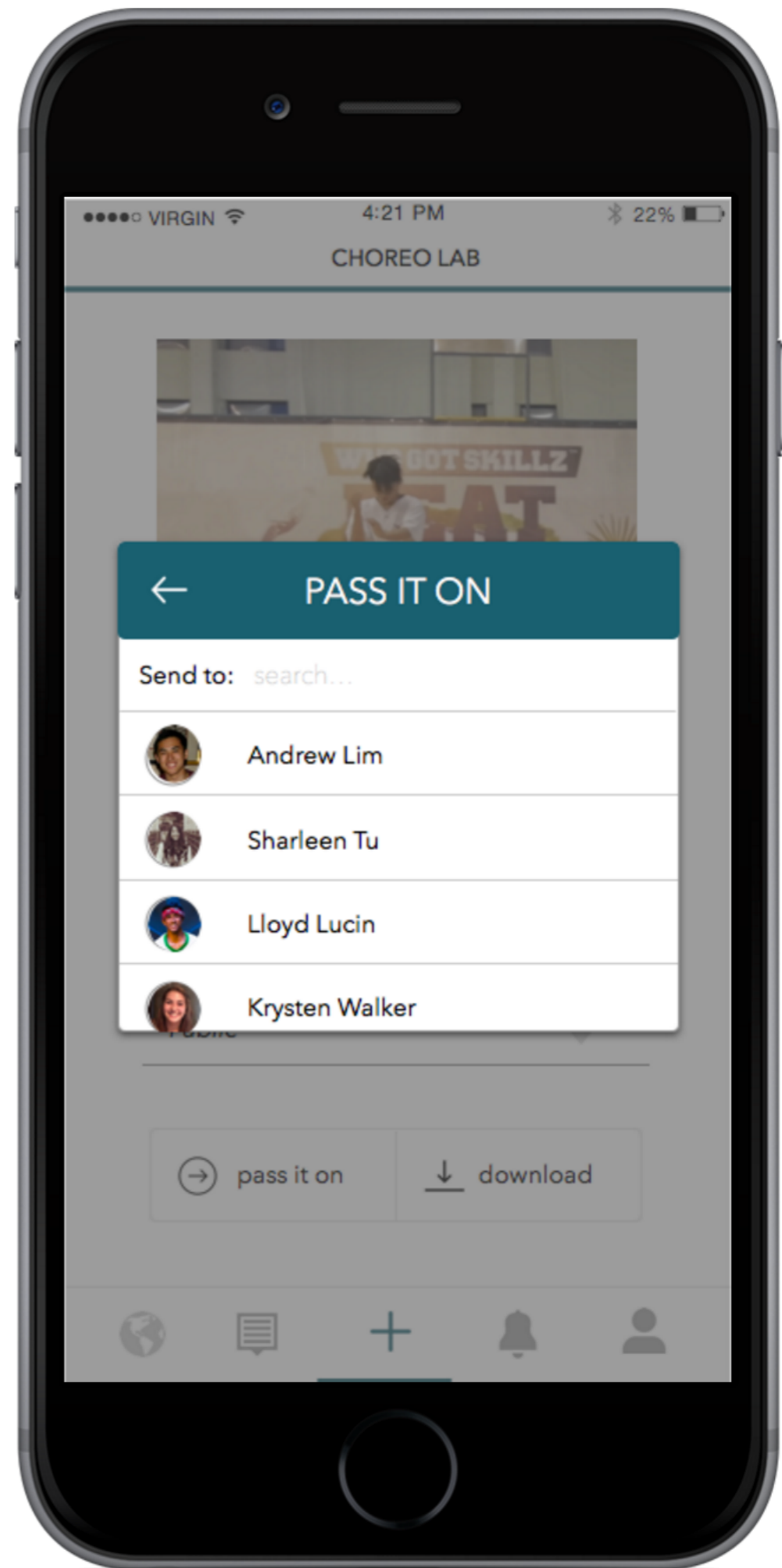


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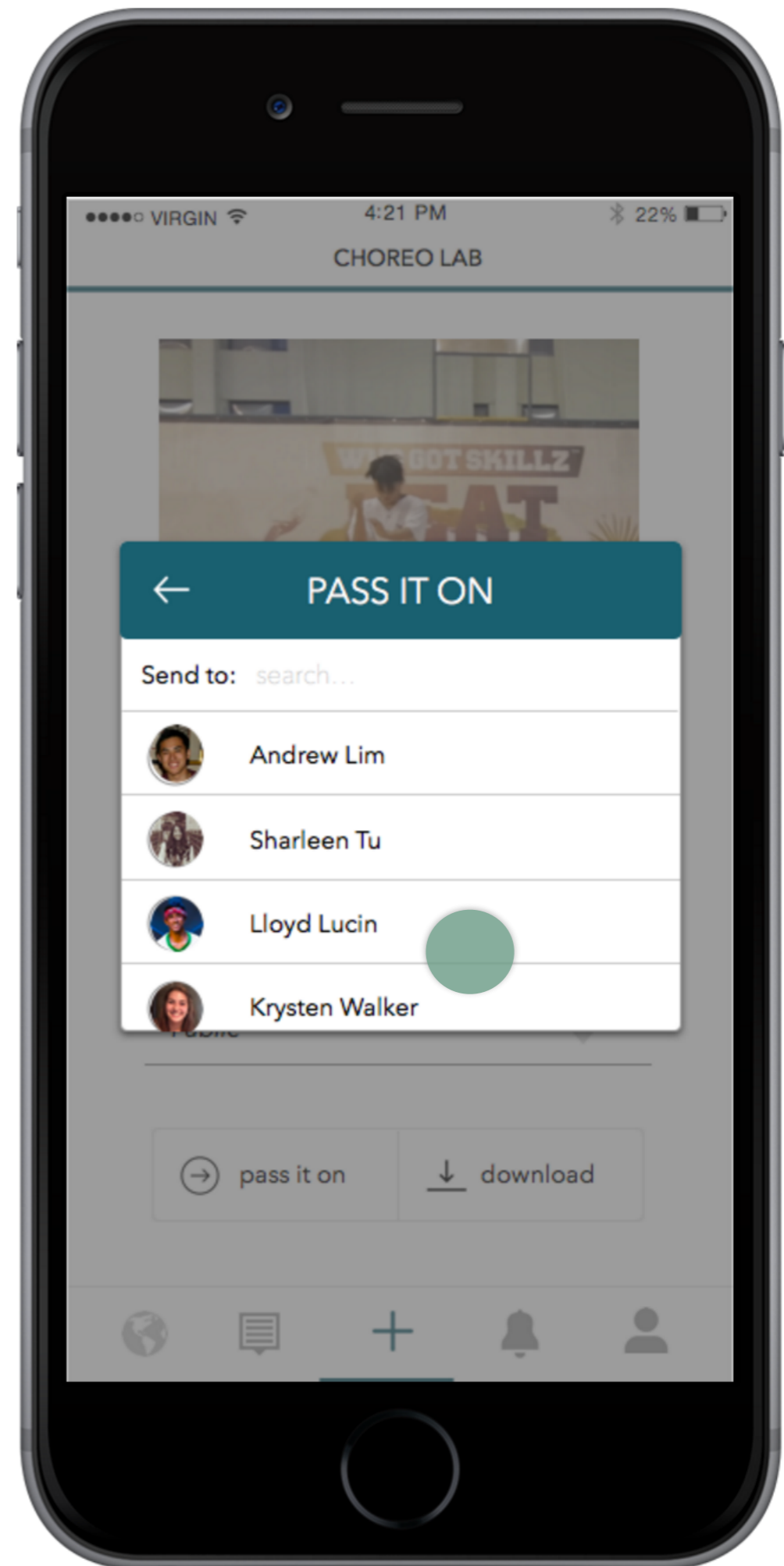


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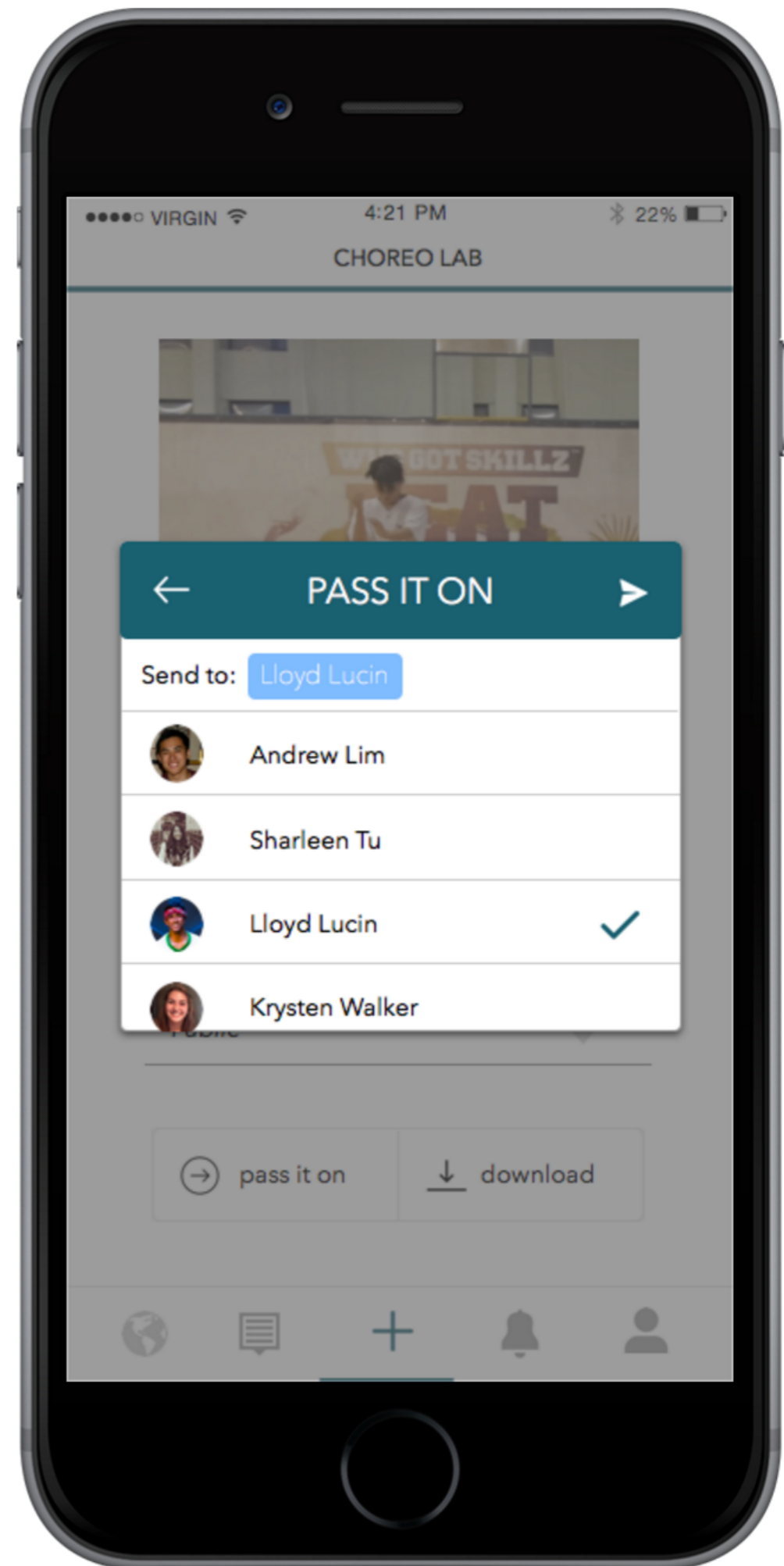


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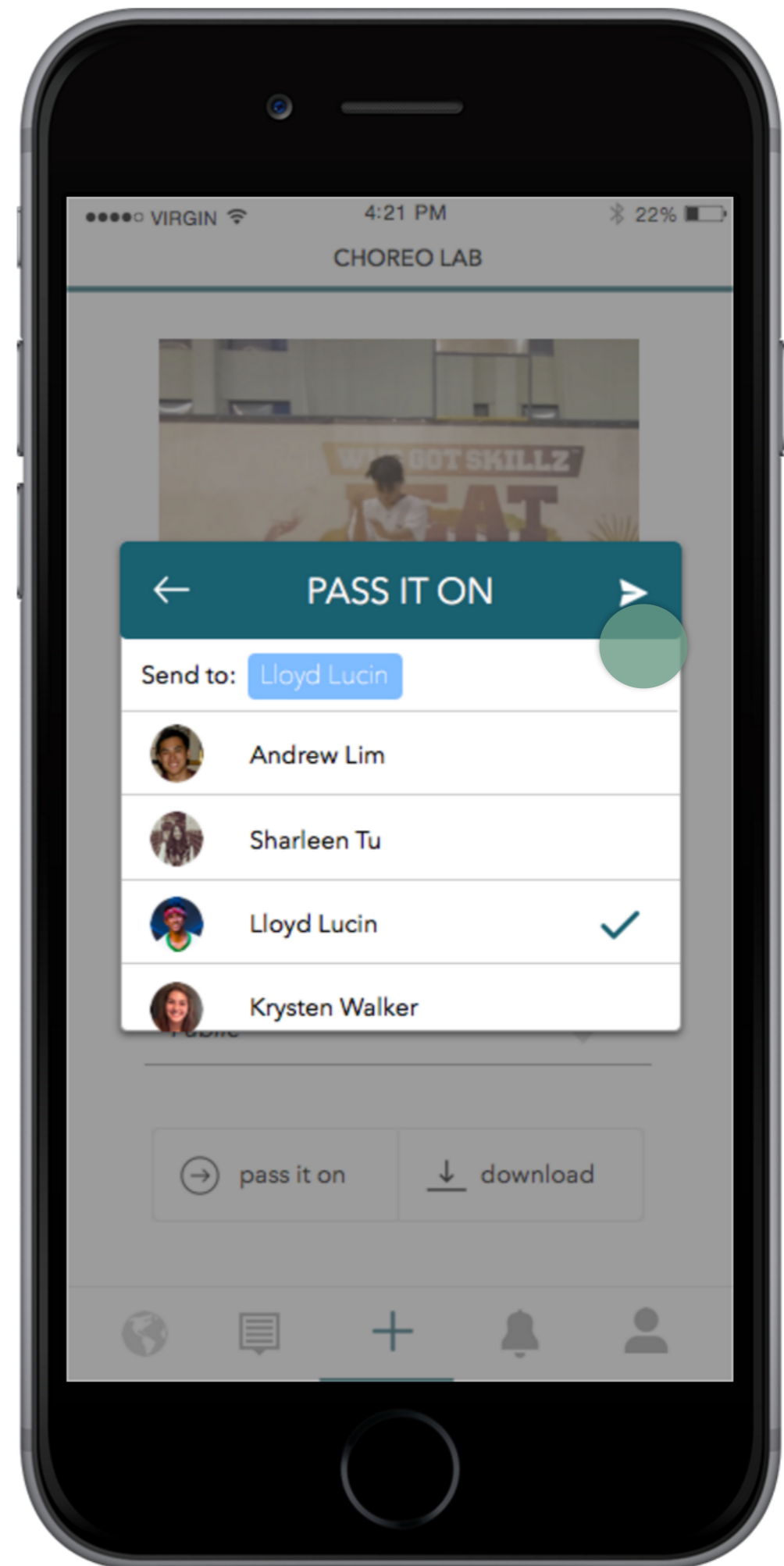


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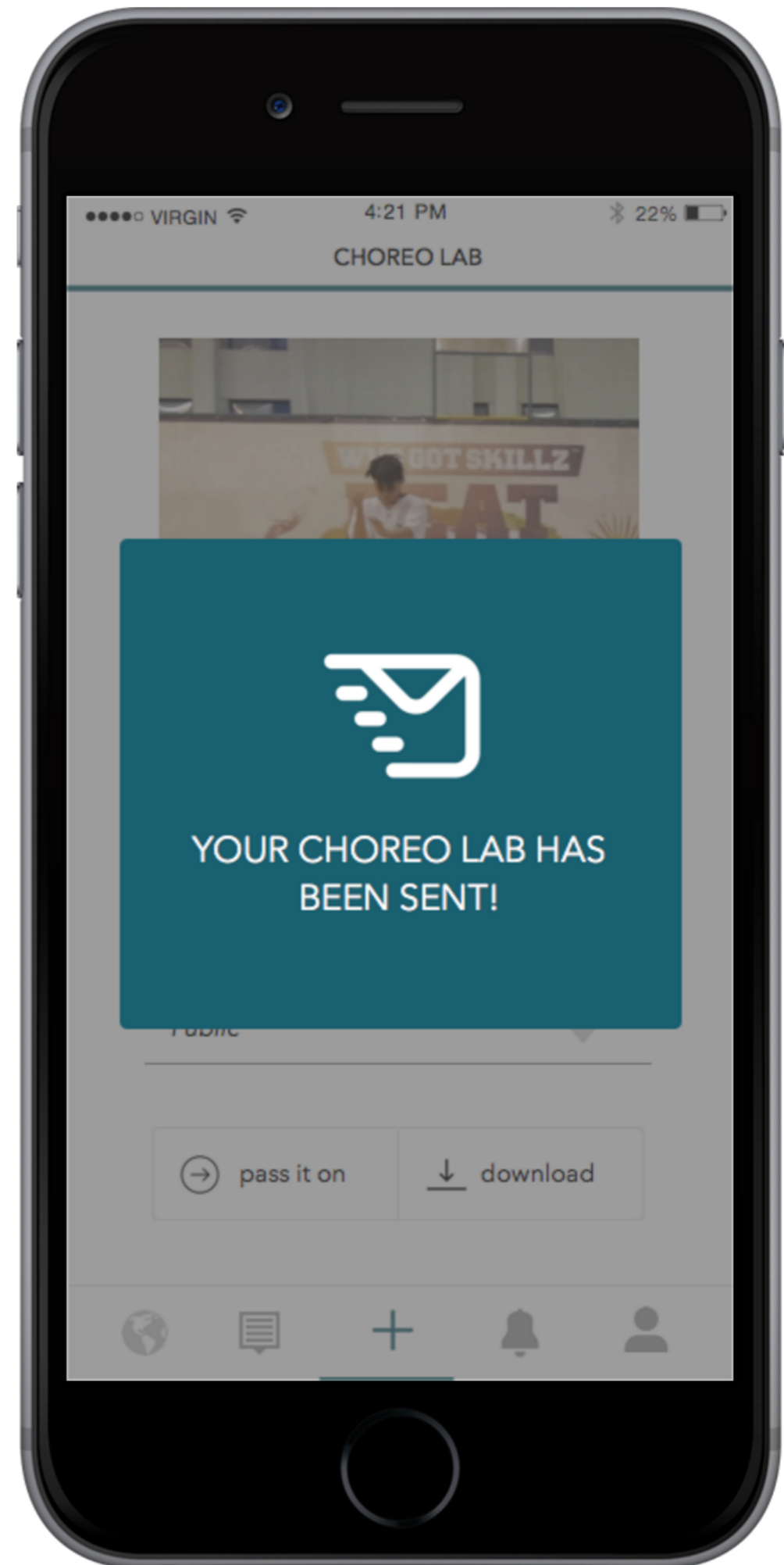


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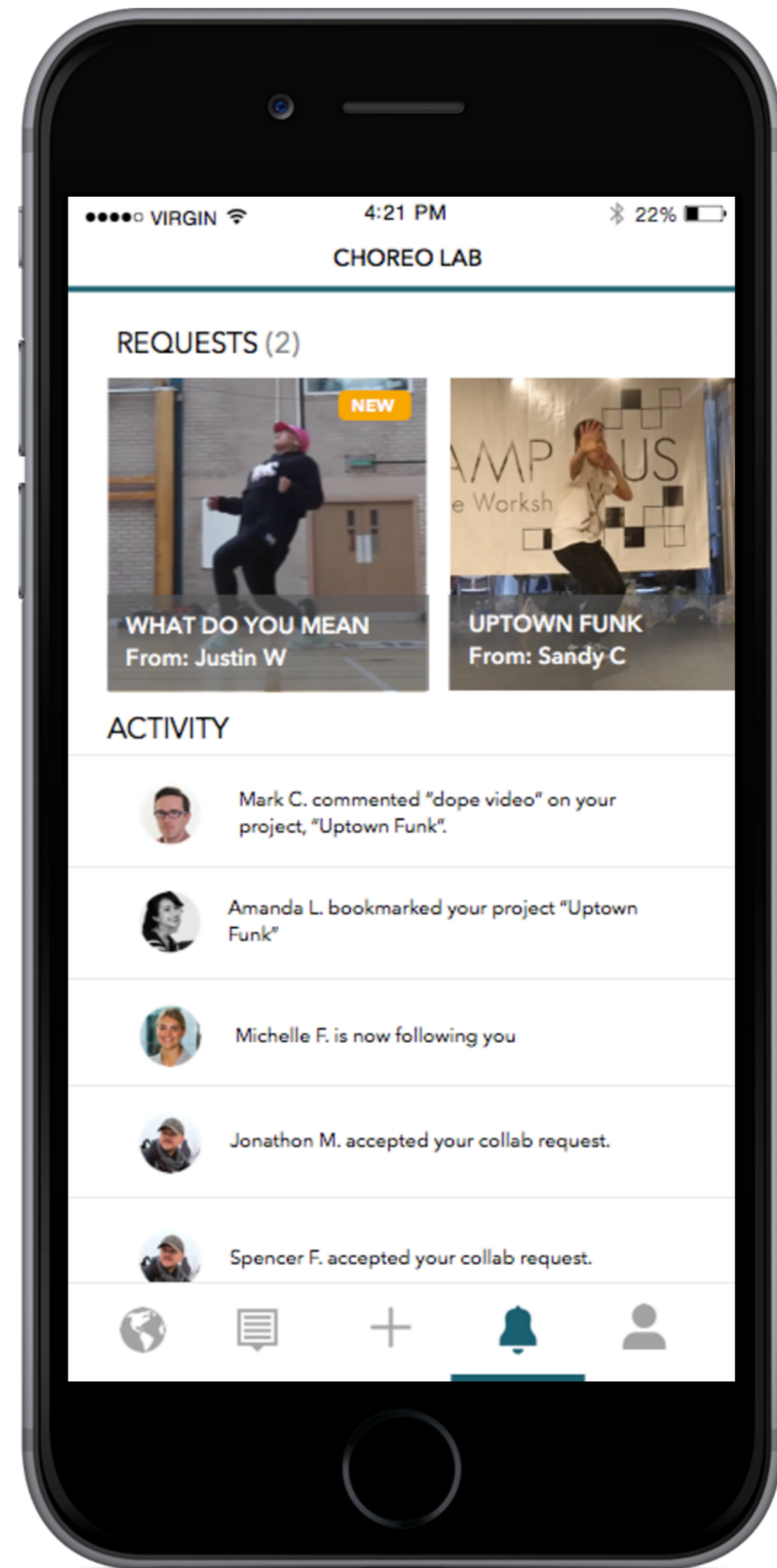


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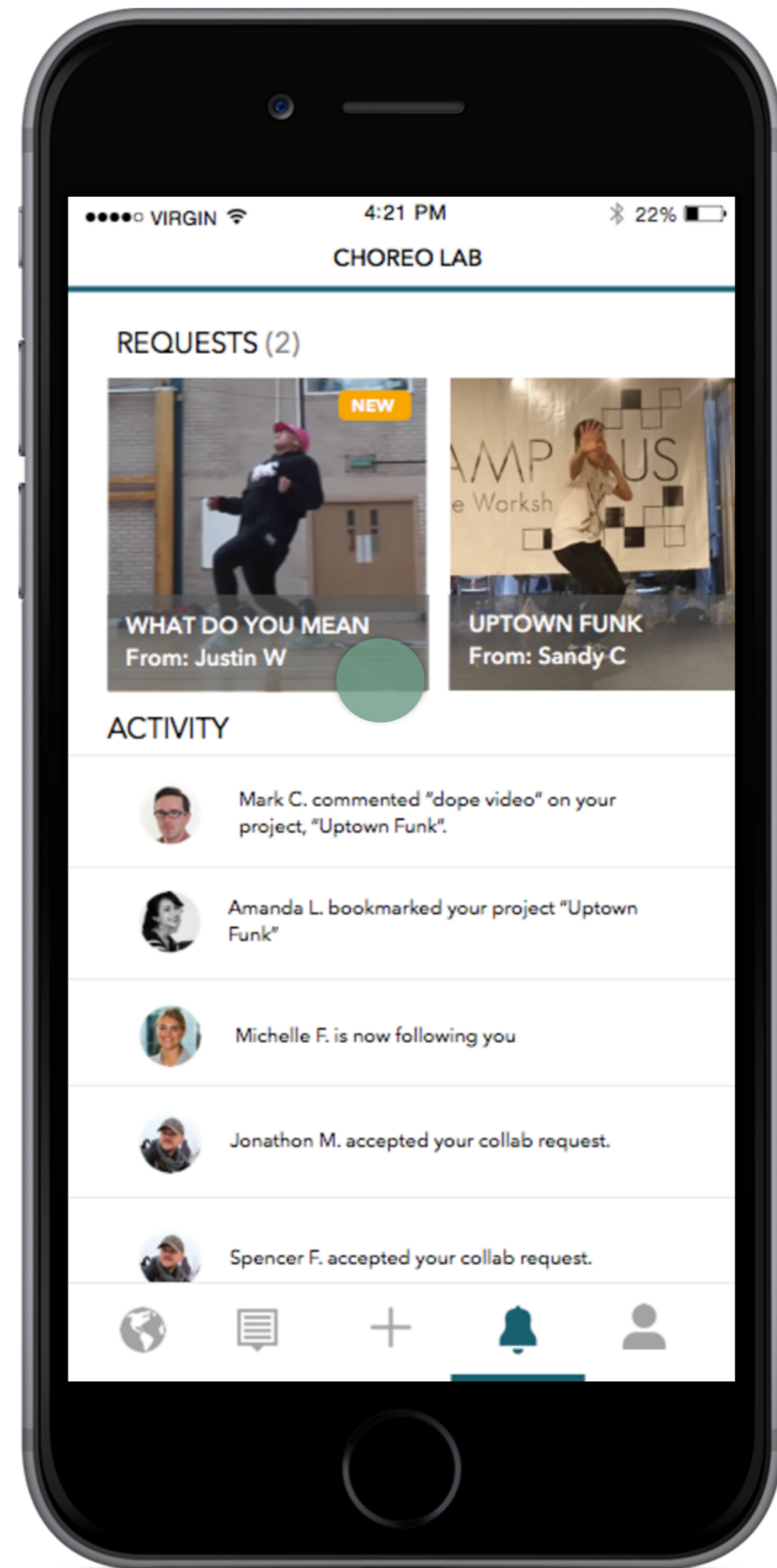




Contribute choreography to an  
existing project

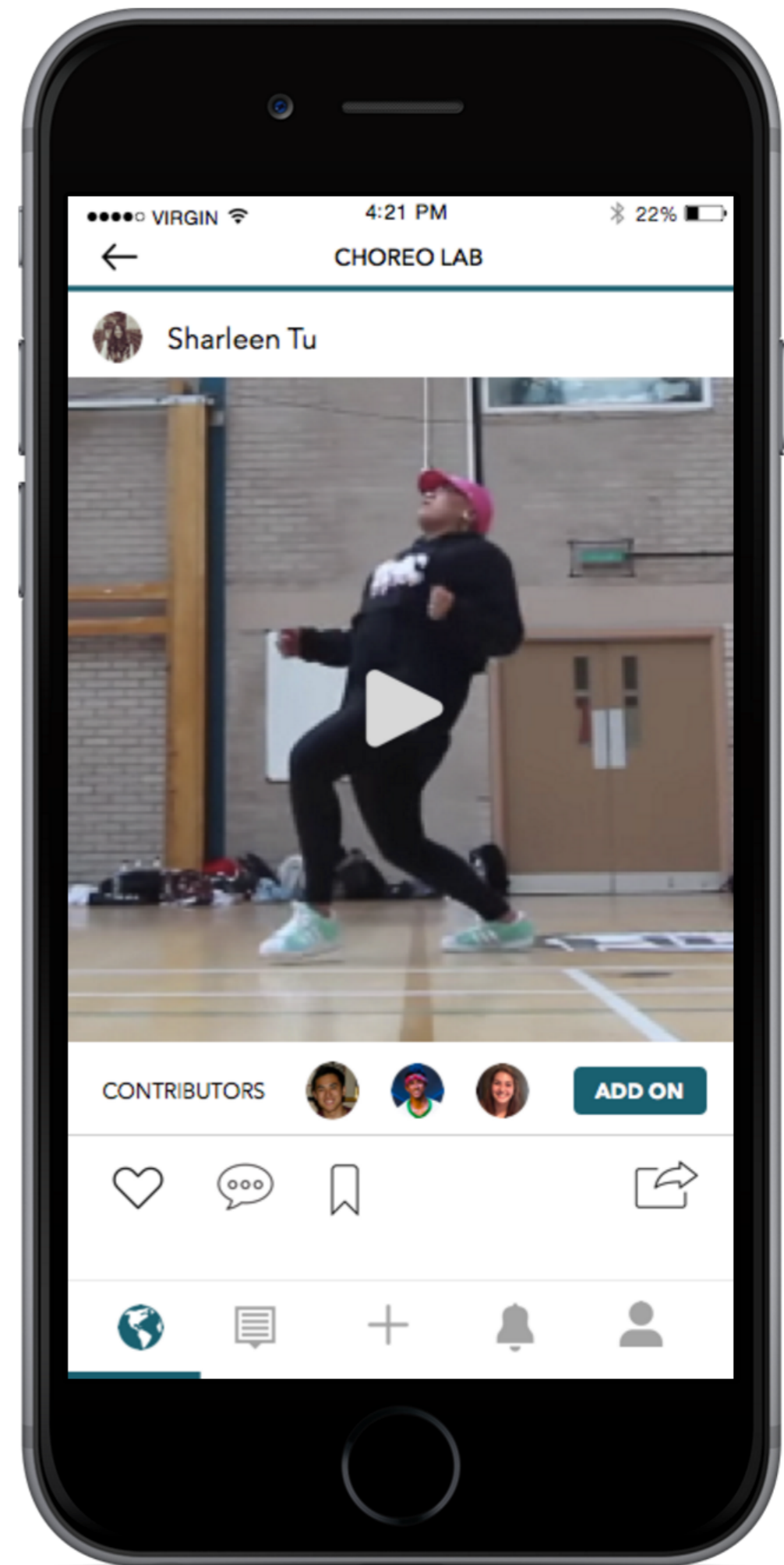






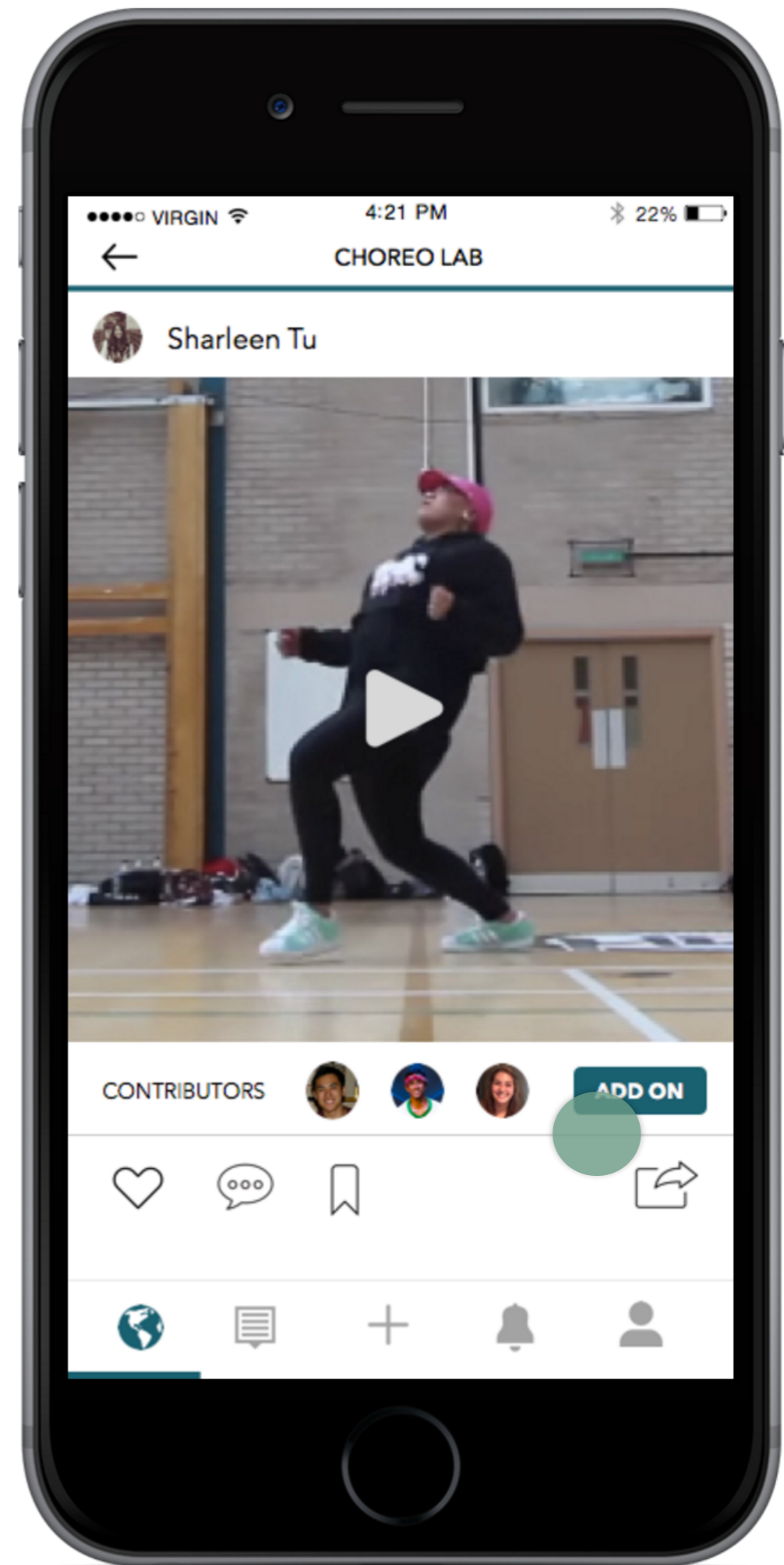


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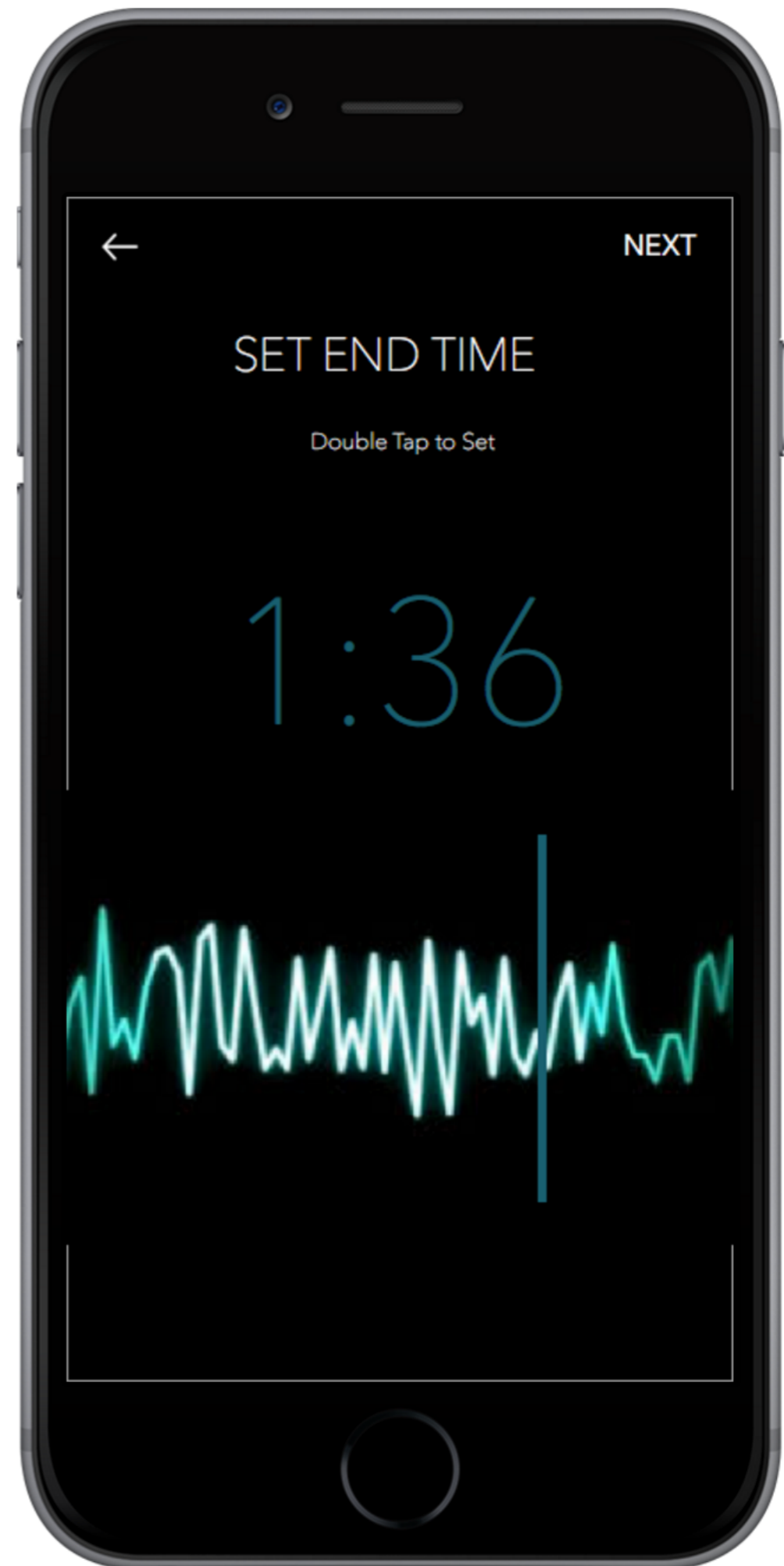


Contribute





Contribute



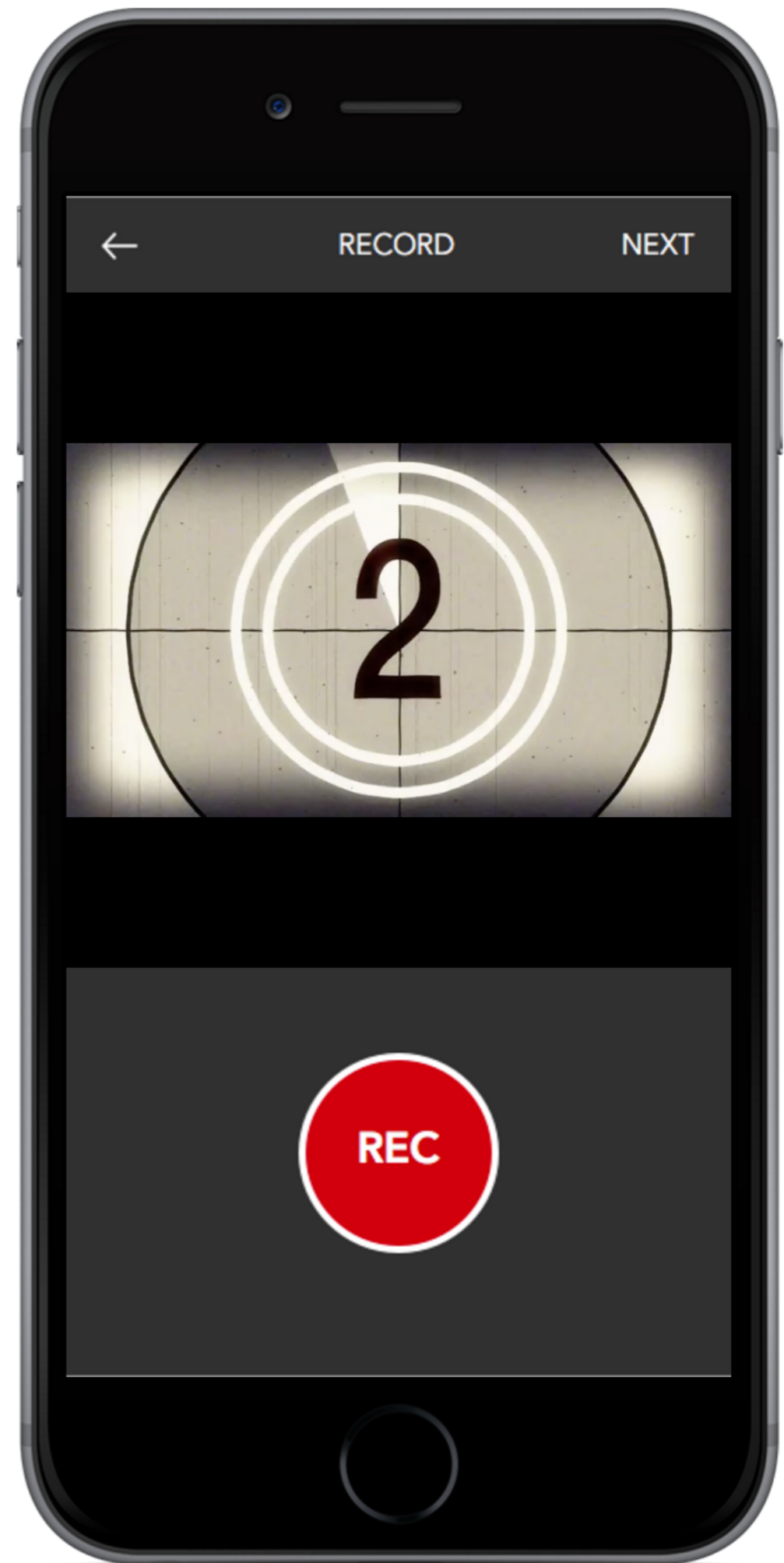


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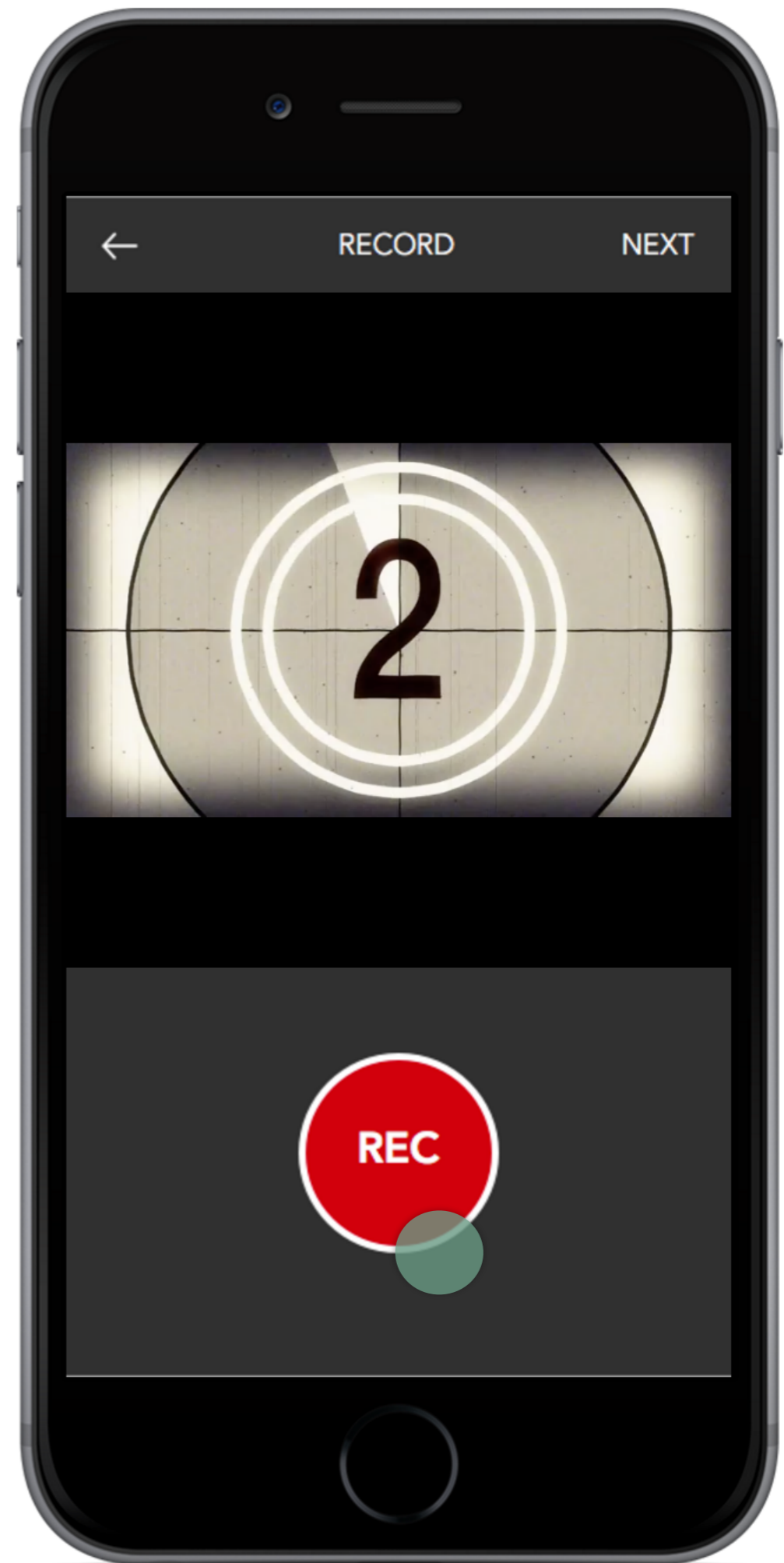


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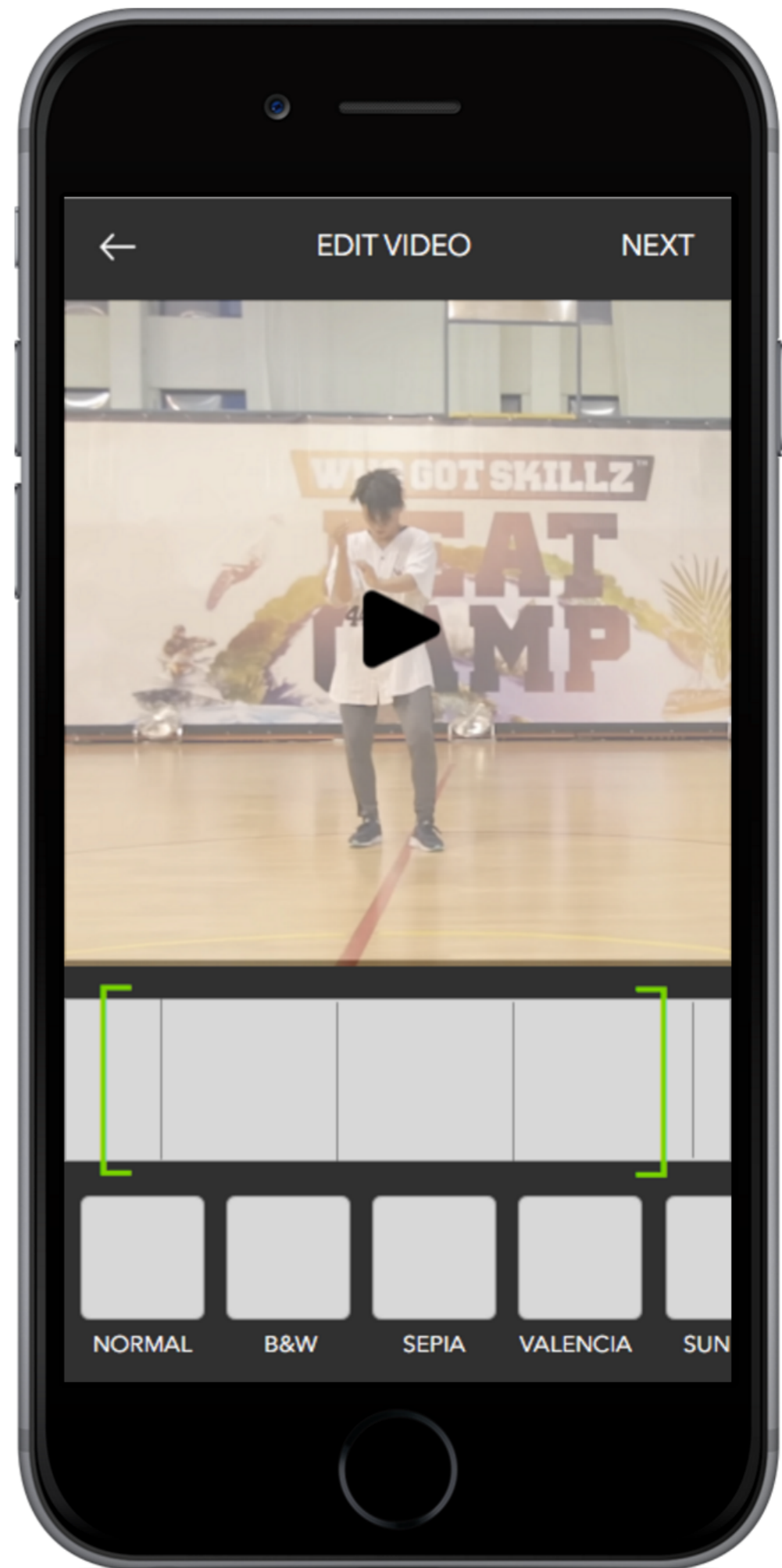


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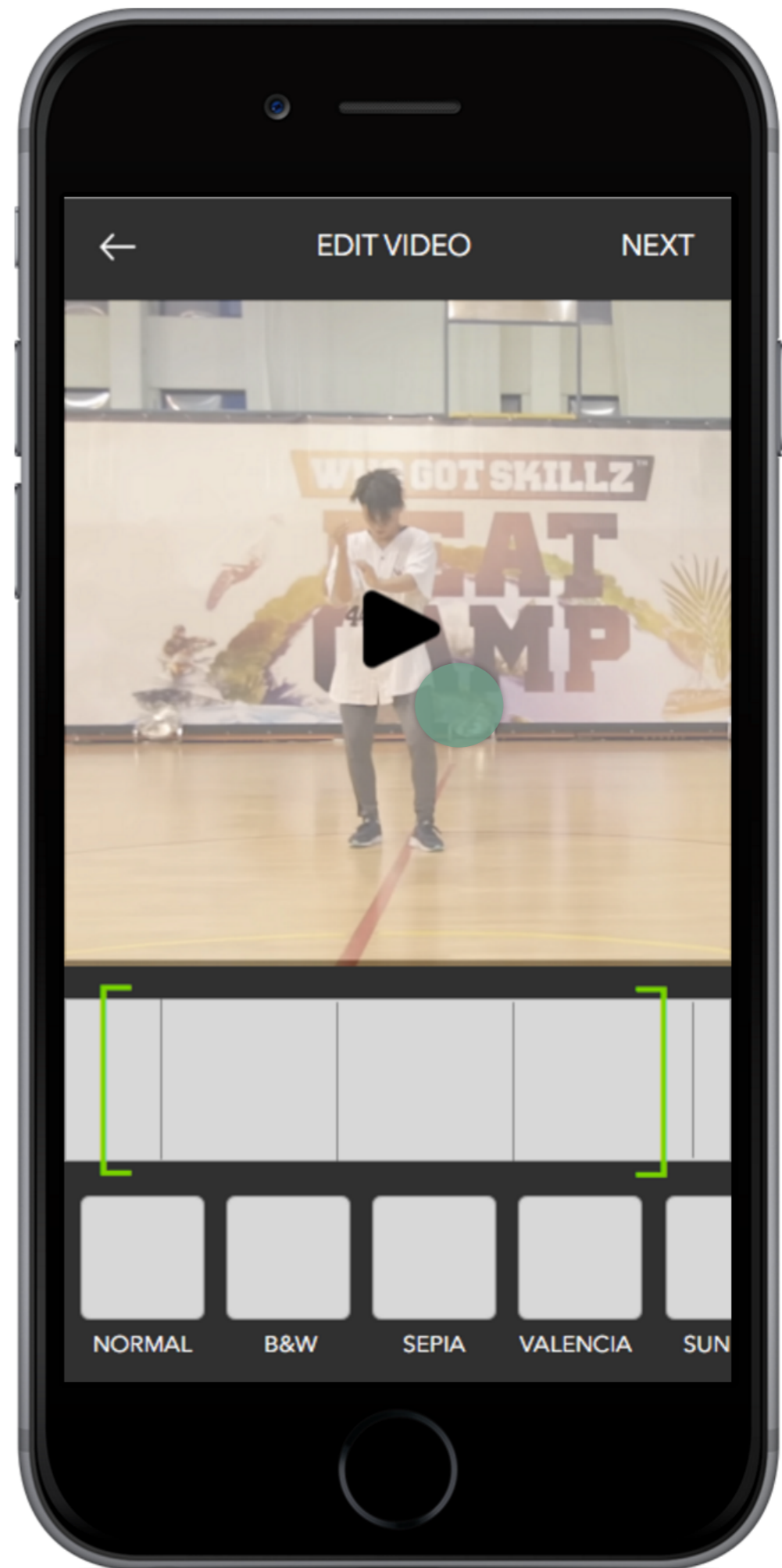
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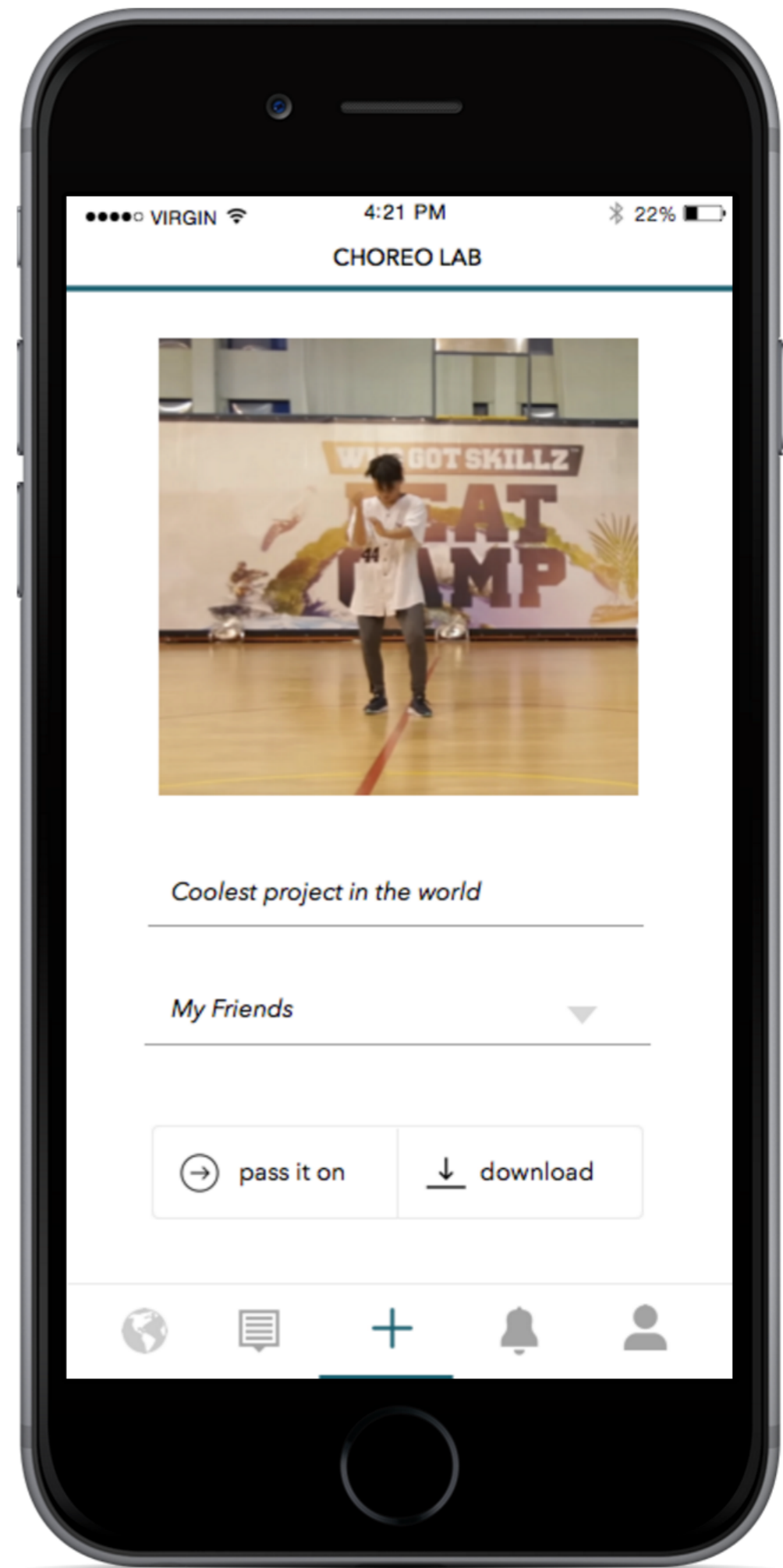


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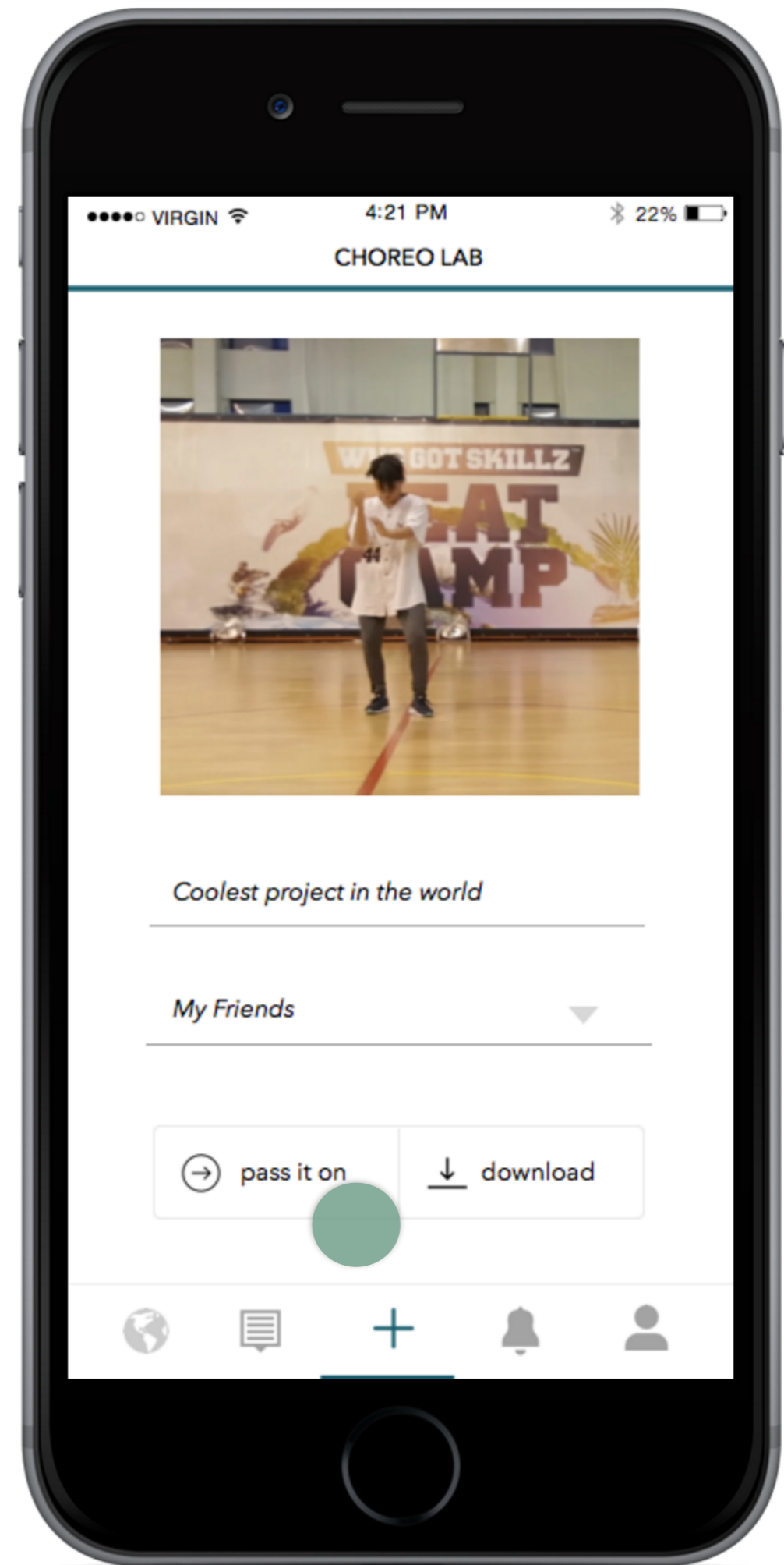




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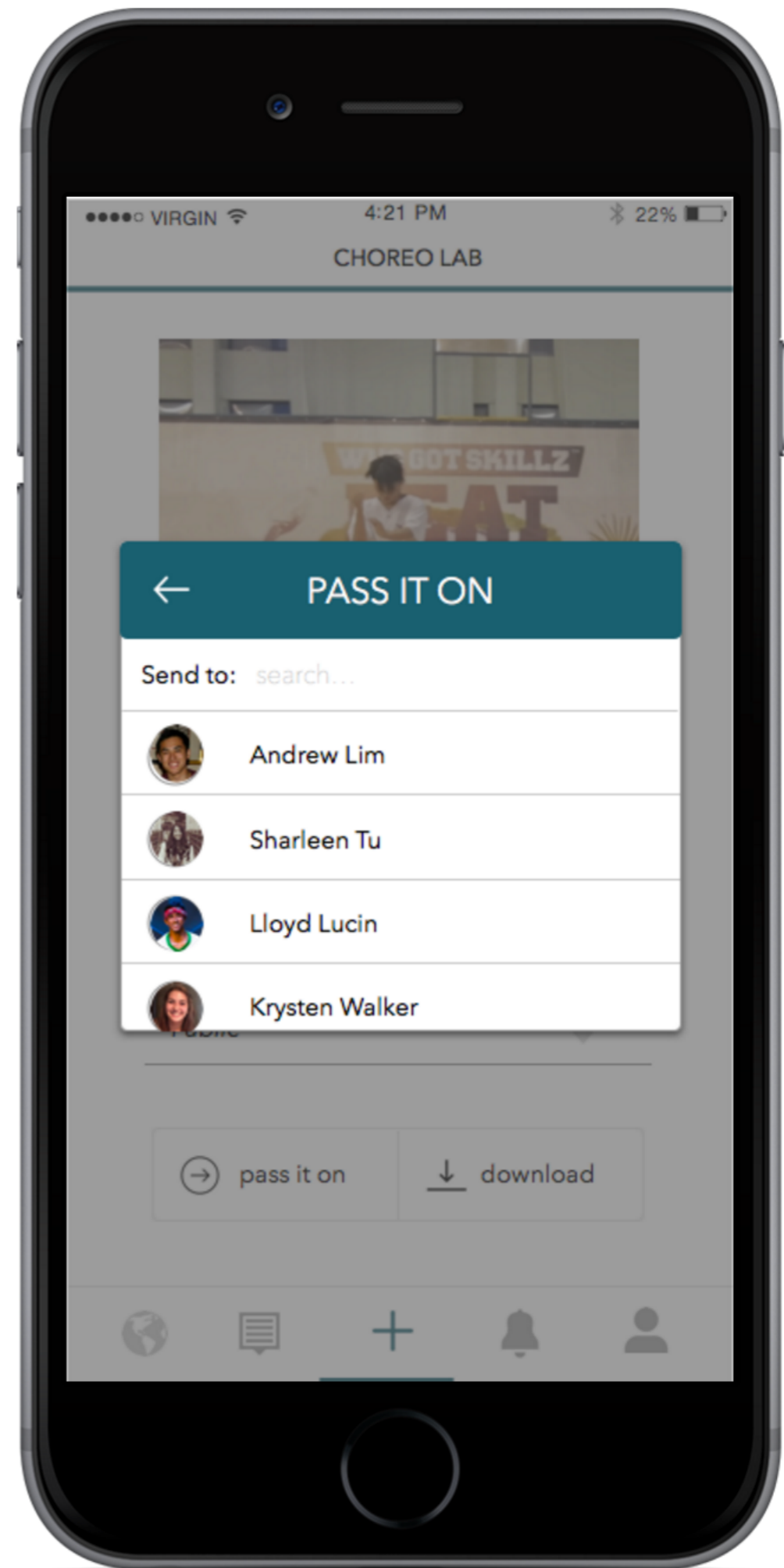


  
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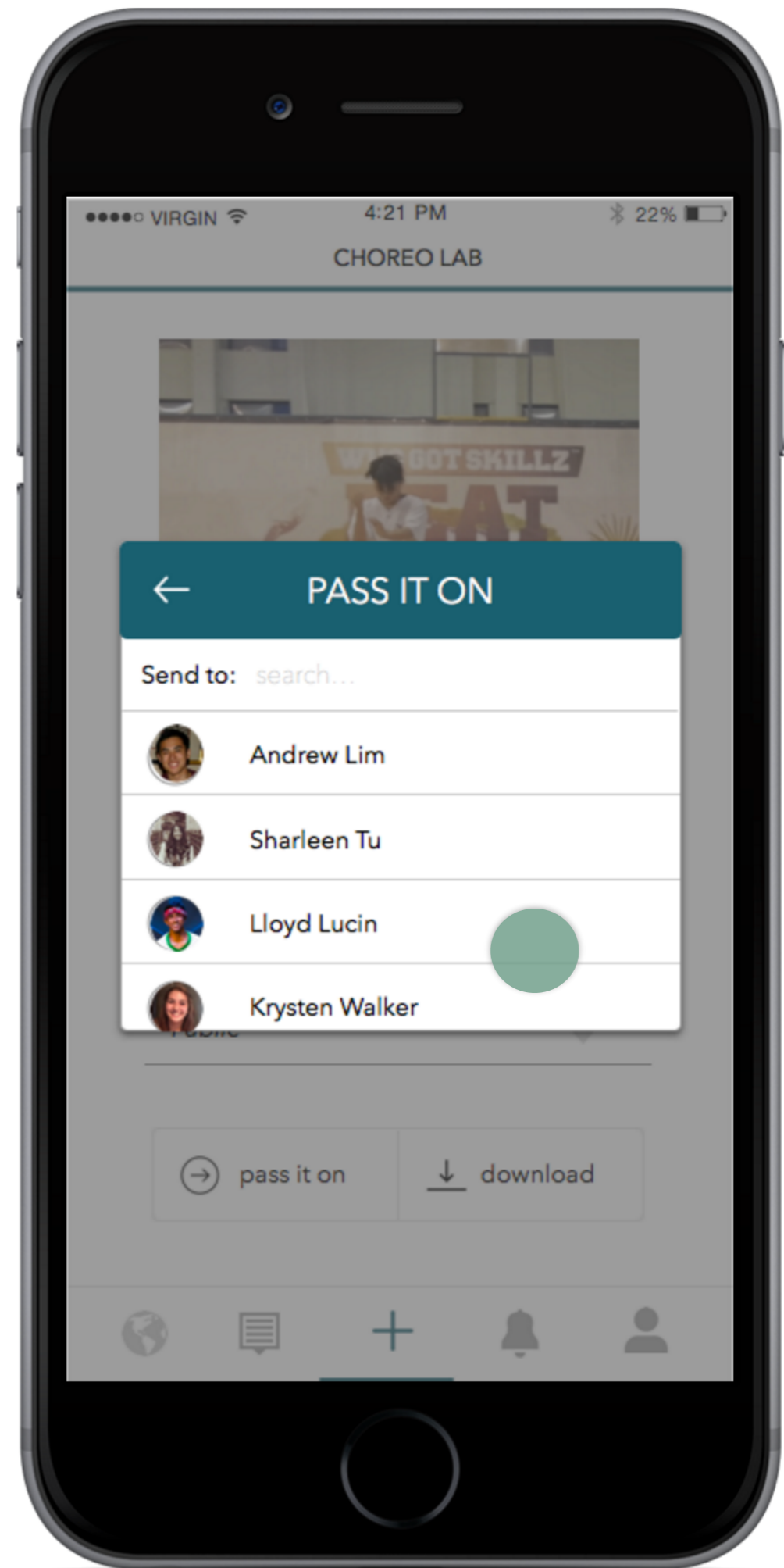


Contribute



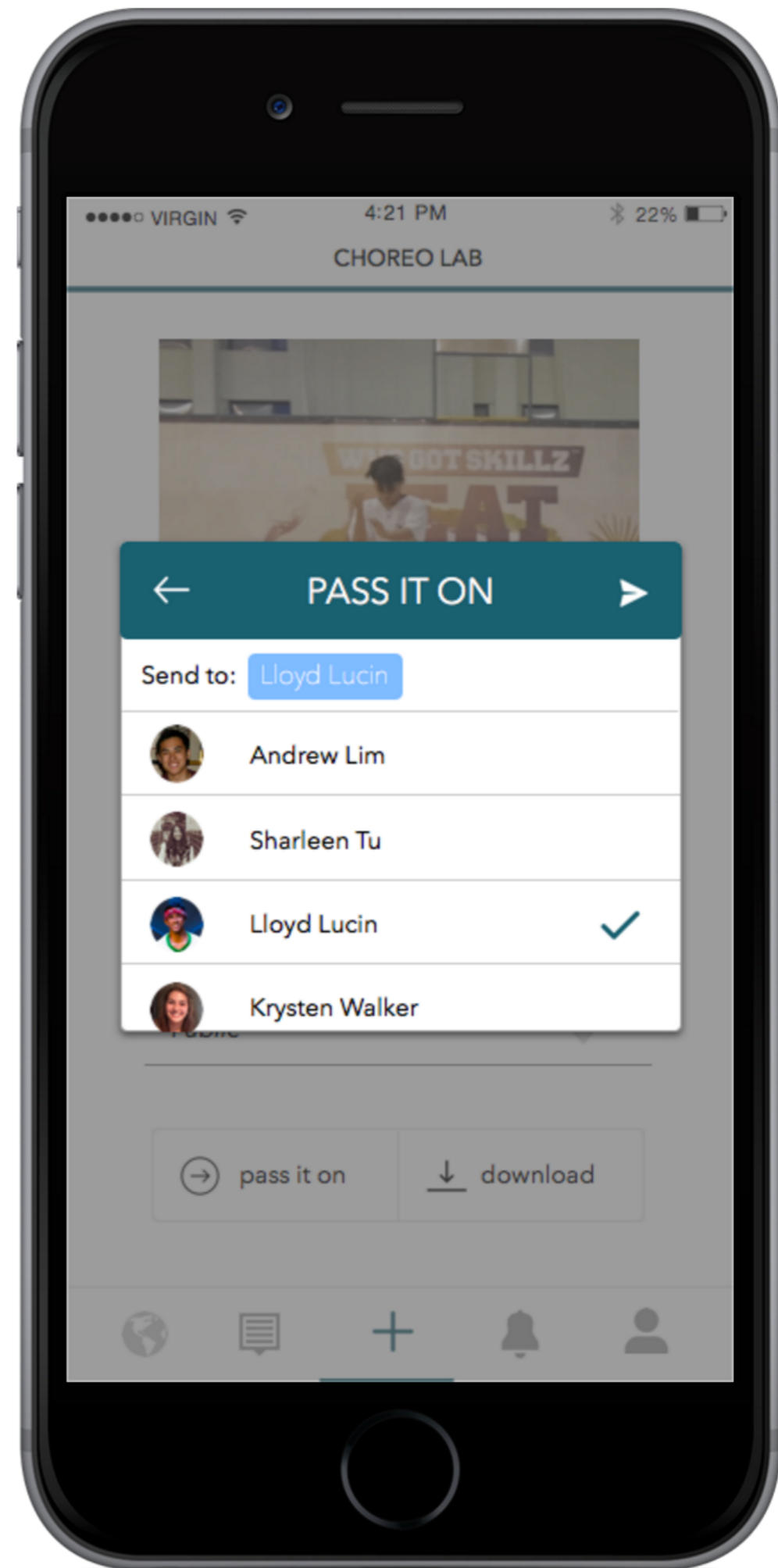


Contribute



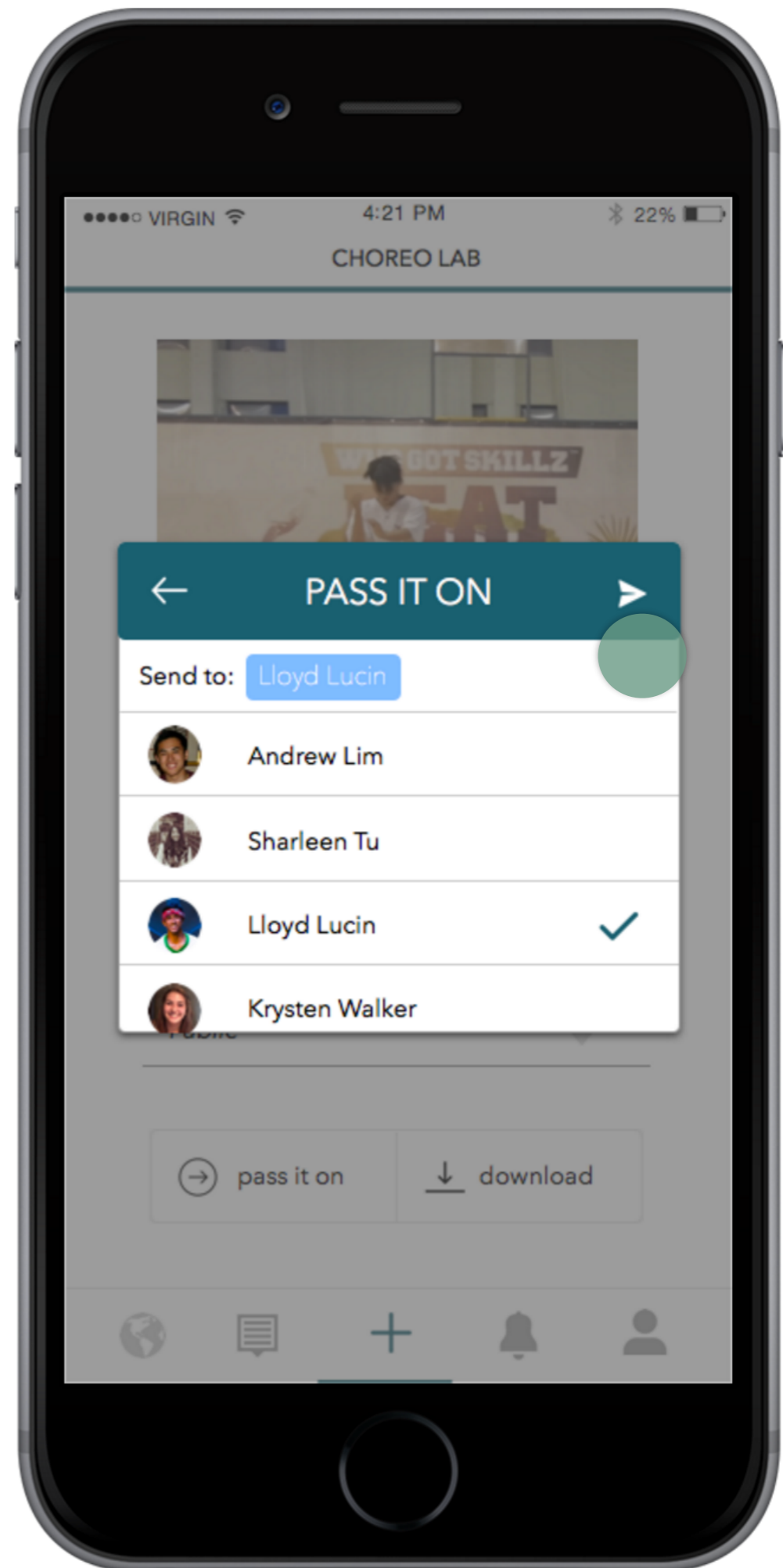


Contribute



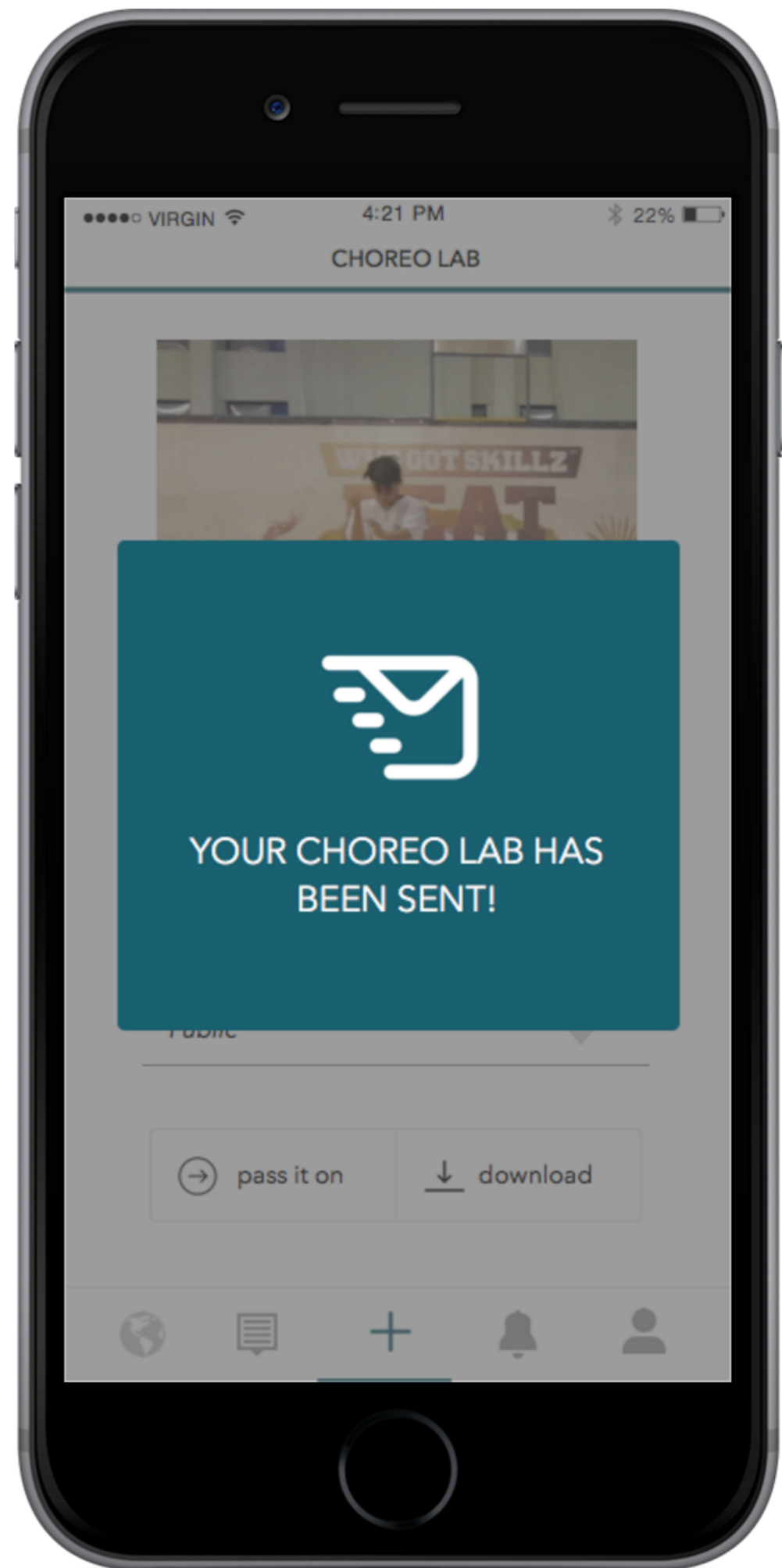


Contribute





Contribute





# Prototyping Tools

- + sketch
- + marvel



# SKETCH

## PROS

- + Accurate mobile artboards
- + "Symbols" to templatize artboards
- + Grid/ruler/alignment

## CONS

- No interactive components
- Complicated export process



# MARVEL

## PROS

- + Copying common hotspots across views

## CONS

- No support for conditional flows
- Minimal video support
- Previewing on device

# Limitations and Tradeoffs

- + multimedia support
- + dynamic input
- + microinteractions
- + content variety

# Wizard of Oz and Hard-coding

- + recording
- + post editing
- + final compilation video



## **Team Website:**

<http://web.stanford.edu/class/cs147/projects/creation/EnhancingDancing/>

## **Medium-Fi Prototype:**

<https://marvelapp.com/11icj87>