

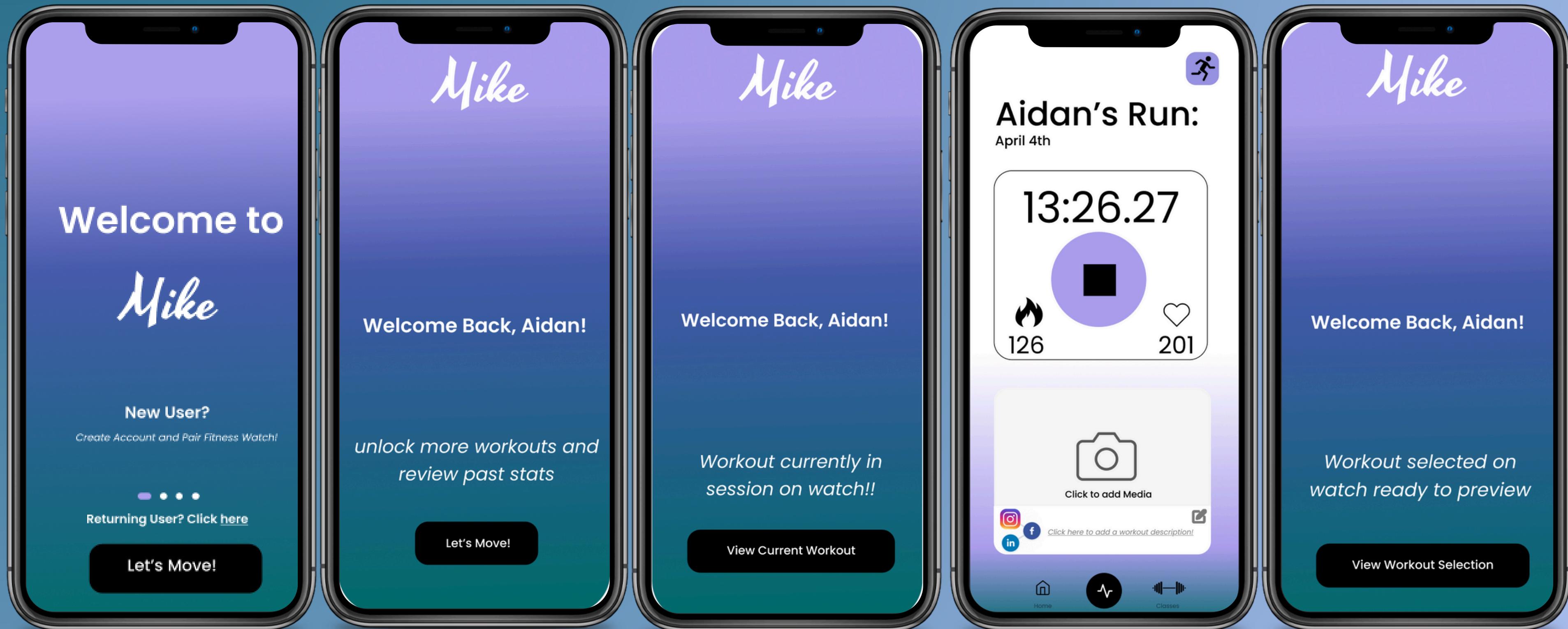


Mike

A study on usability in mobile
fitness applications

Overview of our App

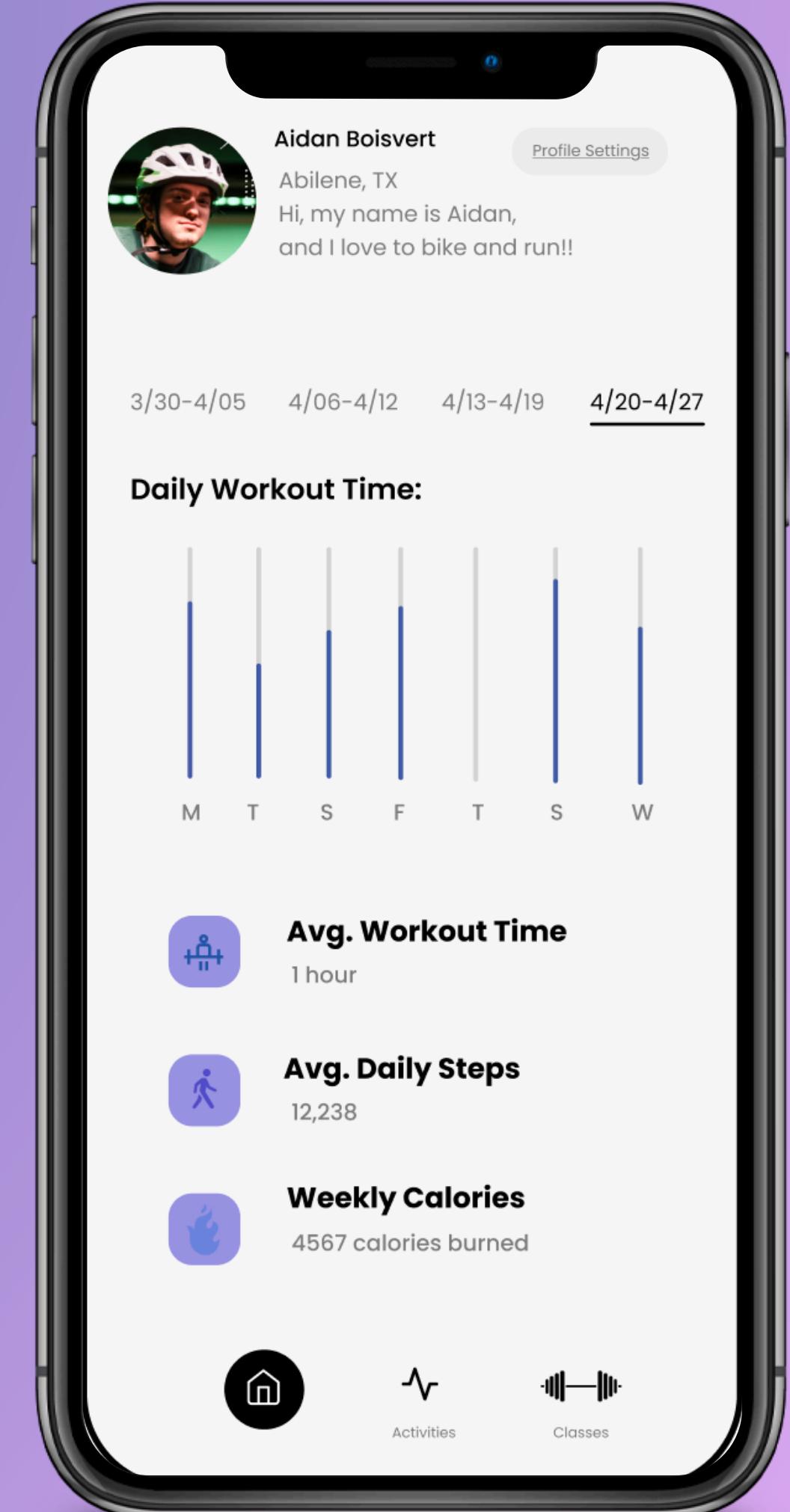
Varying States Based on Smartphone Status



Overview of our App

Simple Three-part Organization

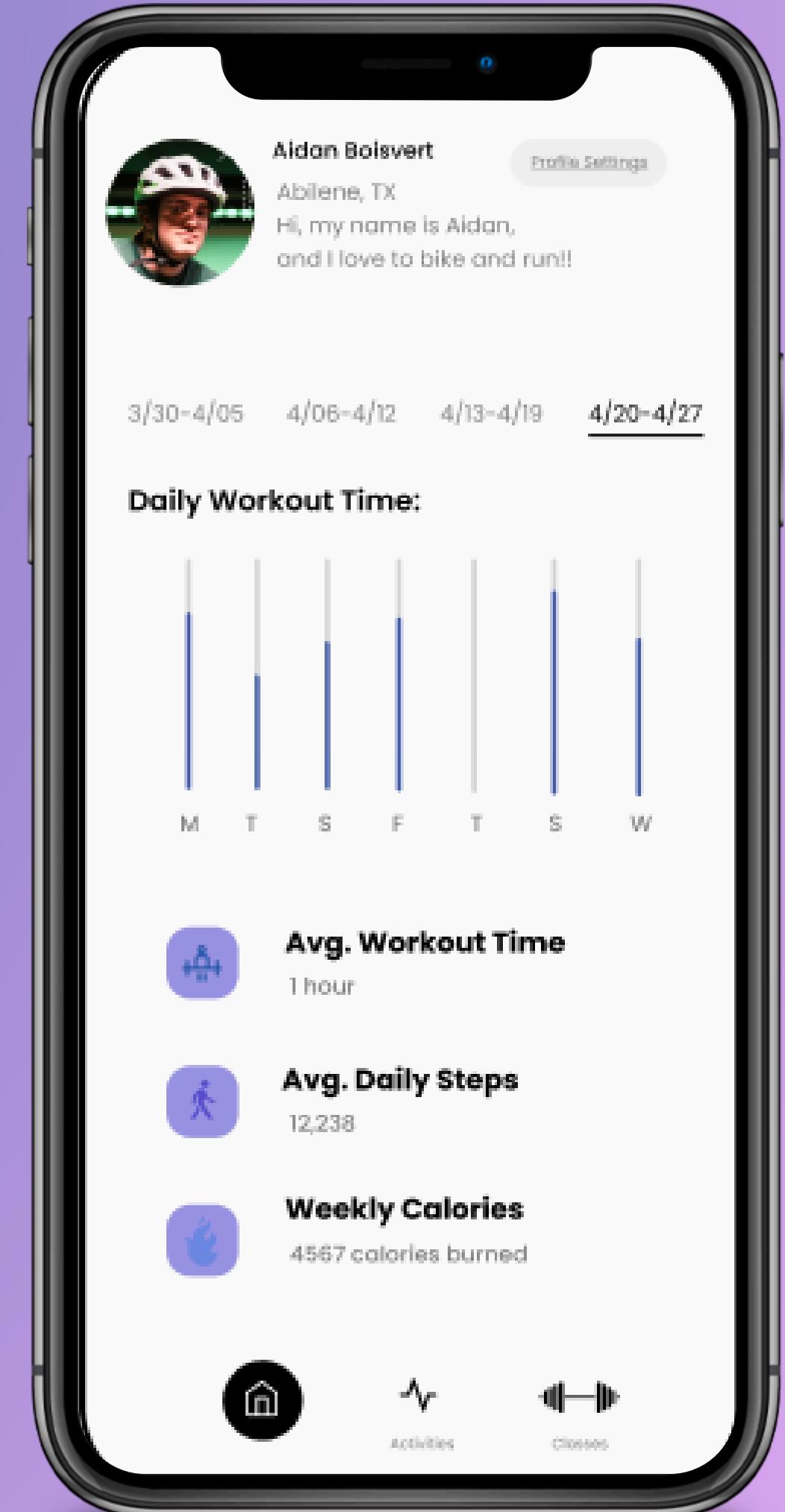
1. Home
2. Activities
3. Workout Videos (feature)

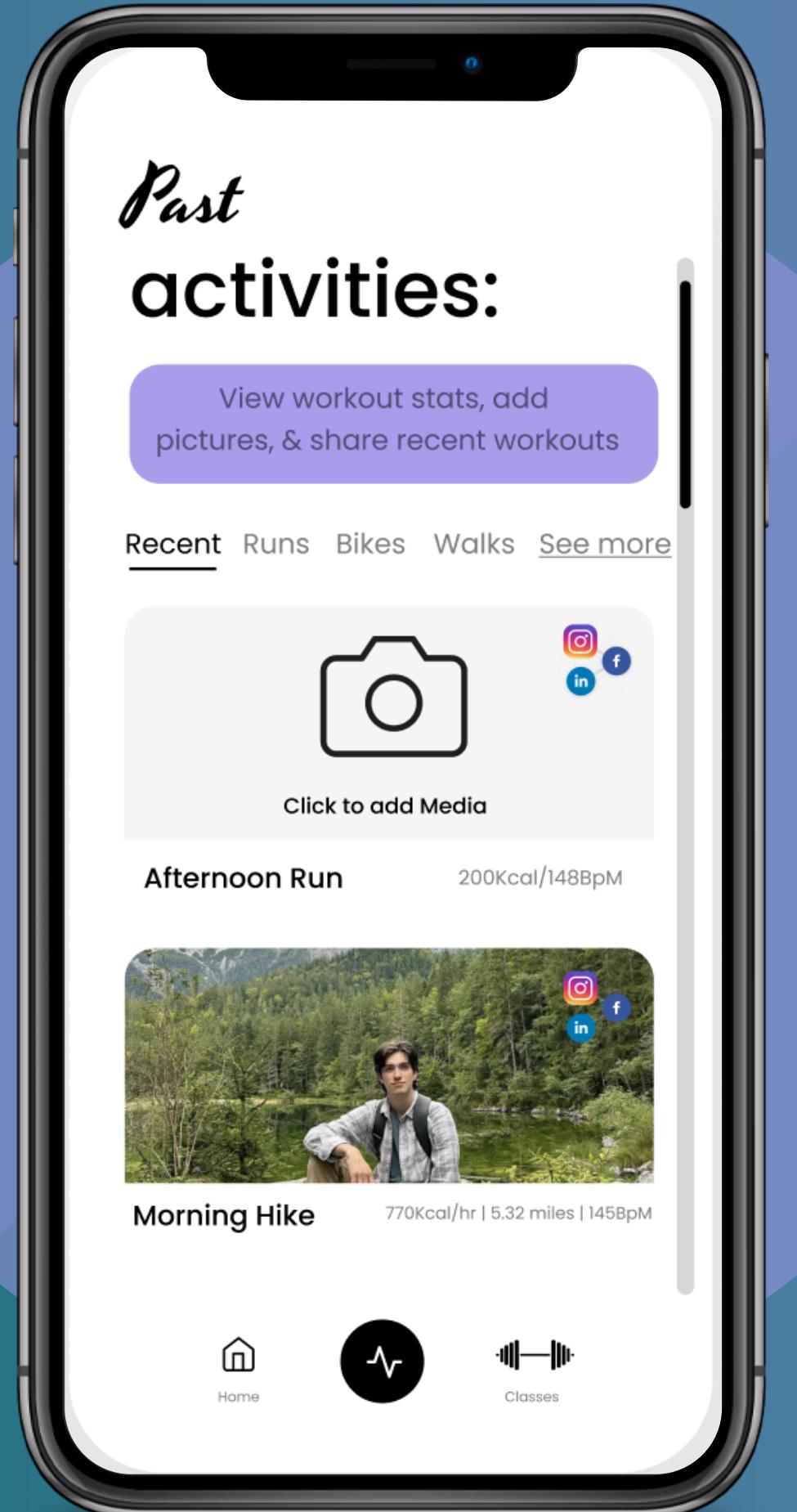


Overview of our App

Simple three-part Organization

1. Home Page:
 - a. Design Choices:
 - i. Background
 - ii. Readable font (DMMT)
 - b. Essential Info
 - i. Profile
 - ii. Workout Time/History
 - iii. Time, Steps, Calories
 - c. Simple Navigation/Layout with Icon
 - d. What can the user do?
 - i. View stats
 - ii. Workout videos (extra feature)





User Tasks:

1. Find a previous workout and view its stats
2. Add a picture to a past activity and share it to your Instagram story
3. Find a workout video for 10 min. Pilates deep core burner and start it

Why these tasks?

User Testing

01

Predicted: **4.44 sec**
Users: **7.73 sec**

02

Predicted: **10.25 sec**
Users: **15.48 sec**

03

Predicted: **4.37 sec**
Users: **5.86 sec**

- 1) Find a previous workout and view its stats
- 2) Add a picture to a past activity and share it to your Instagram story
- 3) Find a workout video for 10 min. Pilates deep core burner and start it

User Testing Process & Results:

User Testing:

User 1: Grégoire Hoyeau

Task 1: 7.35 seconds

Task 2: 15.68 seconds

Task 3: 4.07 seconds

User 2: Jaime Lewis

Task 1: 5.84 seconds

Task 2: 11.17 seconds

Task 3: 6.65 seconds

User 3: Preston DeFriend

Task 1: 10.84 seconds

Task 2: 25.65 seconds

Task 3: 4.81 seconds

User 4: Kate Pickrell

Task 1: 6.90 seconds

Task 2: 11.11 seconds

Task 3: 4.66 seconds

User 5: Thomas Buisson

Task 1: 7.70 seconds

Task 2: 13.80 seconds

Task 3: 9.10 seconds

User Averages:

Task 1: 7.73 seconds

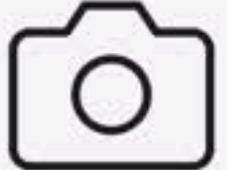
Task 2: 15.48 seconds

Task 3: 5.86 seconds

Past activities:

View workout stats, add pictures, & share recent workouts

Recent Runs Bikes Walks See more



Click to add Media



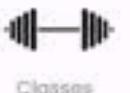
Afternoon Run

200Kcal/148BPM



Morning Hike

770Kcal/hr | 5.32 miles | 145BPM



Home



Classes

Task 1 GOMS model

Find a previous workout and view its stats

Starting from app welcome message:

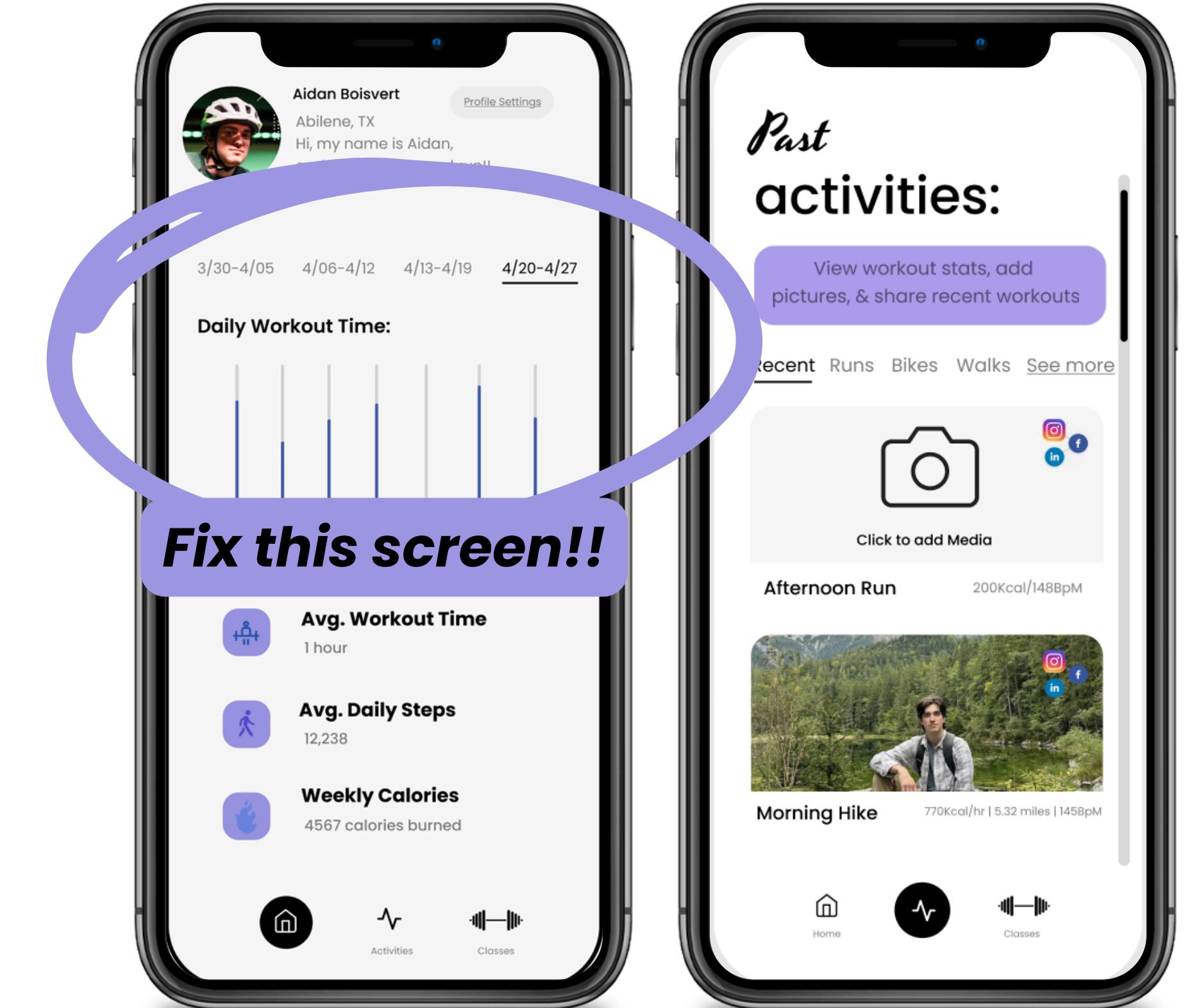
STEP:	TIME:
Tap on app	80 ms
Mentally prepare	1.35 s
Tap on Let's Move Button	80 ms
Mentally Prepare	1.35 s
Tap on Activities button	80 ms
Mentally prepare	1.35 s
Tap on Previous Activity	80 ms
Swipe/scroll to view all stats	70 ms
TOTAL:	4.44 seconds

01

Find a previous workout and view its stats

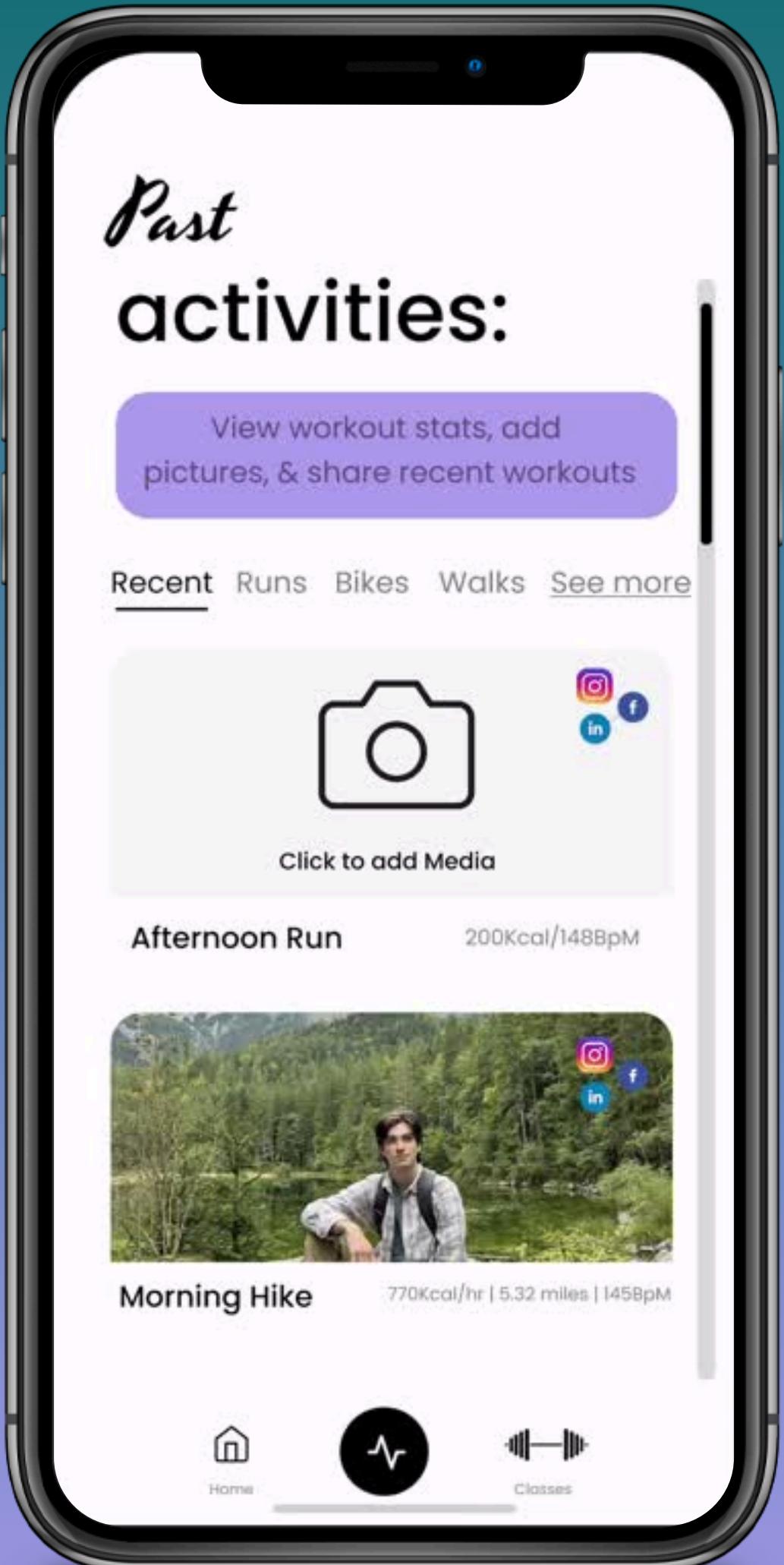
Findings:

- Users followed app's conventions
- Hesitancy switching to "Activities" tab
- Hesitation viewing past workout's stats – which past workout to select
 - clearer user directions?
- Outlier: one user confused by stats summary, thinking by clicking on the main page's activity summary would lead them to the activities instead of the activity icon at the bottom of the app.



Task 2 GOMS model

Add a picture to a past activity and share it to your Instagram story



Starting from past activities page, assuming user IS logged in to Instagram:

STEP:	TIME:
Mentally prepare	1.35 s
Tap on "Afternoon run"	80 ms
Tap on "Click to add media"	80 ms
Mentally prepare	1.35 s
Tap on "Take photo or video"	80 ms
Take photo (tap camera button)	80 ms
Mentally prepare	1.35 s
Tap "Use photo"	80 ms
Mentally prepare	1.35 s
Tap "Share"	80 ms
Mentally prepare	1.35 s
Tap on social media sharing icon	80 ms
Tap on Instagram icon	80 ms
Mentally prepare	1.35 s
Tap on "Story" option	80 ms
Mentally Prepare	1.35 s
Tap "Your story" to confirm and add to story	80 ms
TOTAL:	10, 250 ms = 10.25 s

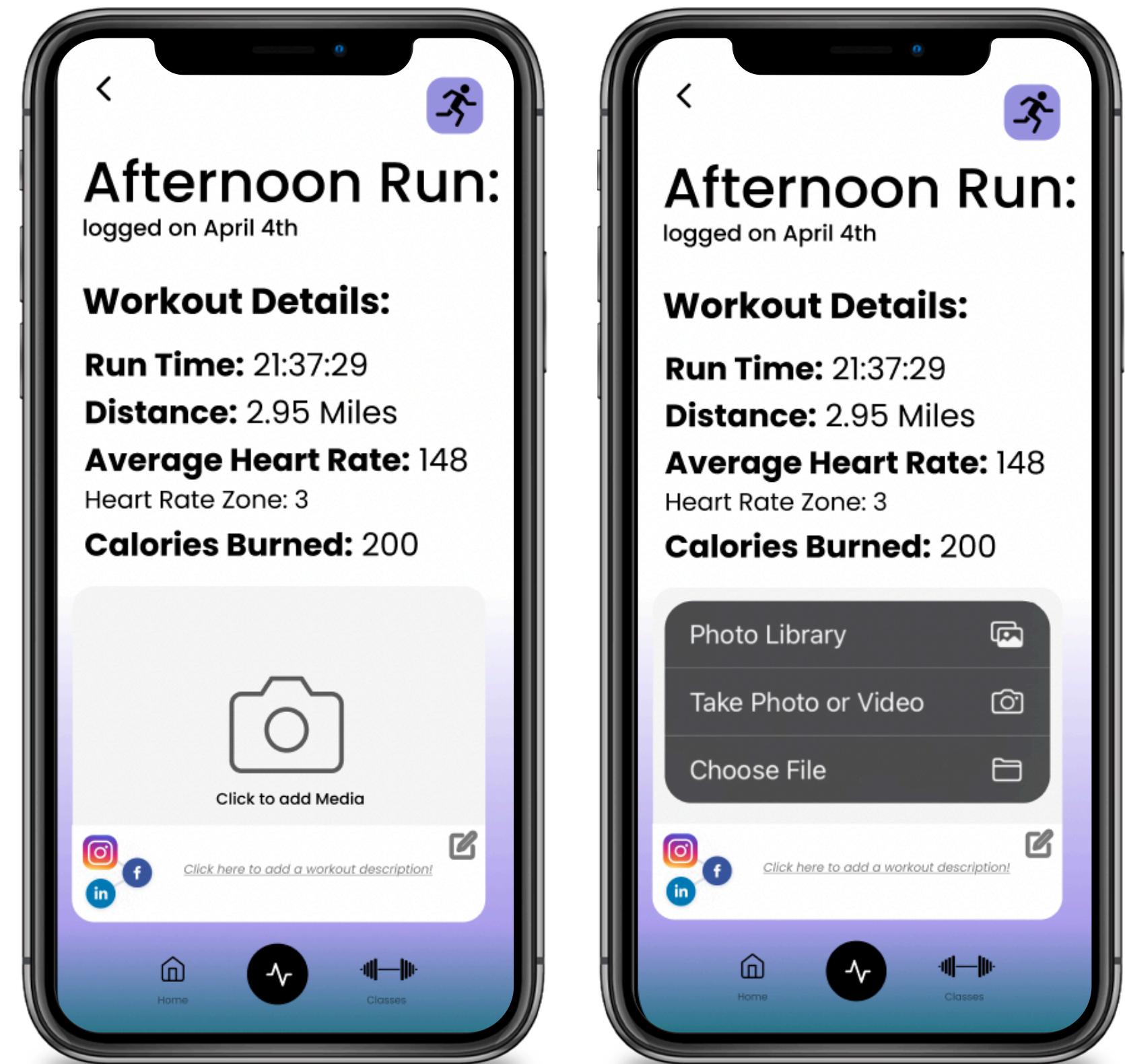
02

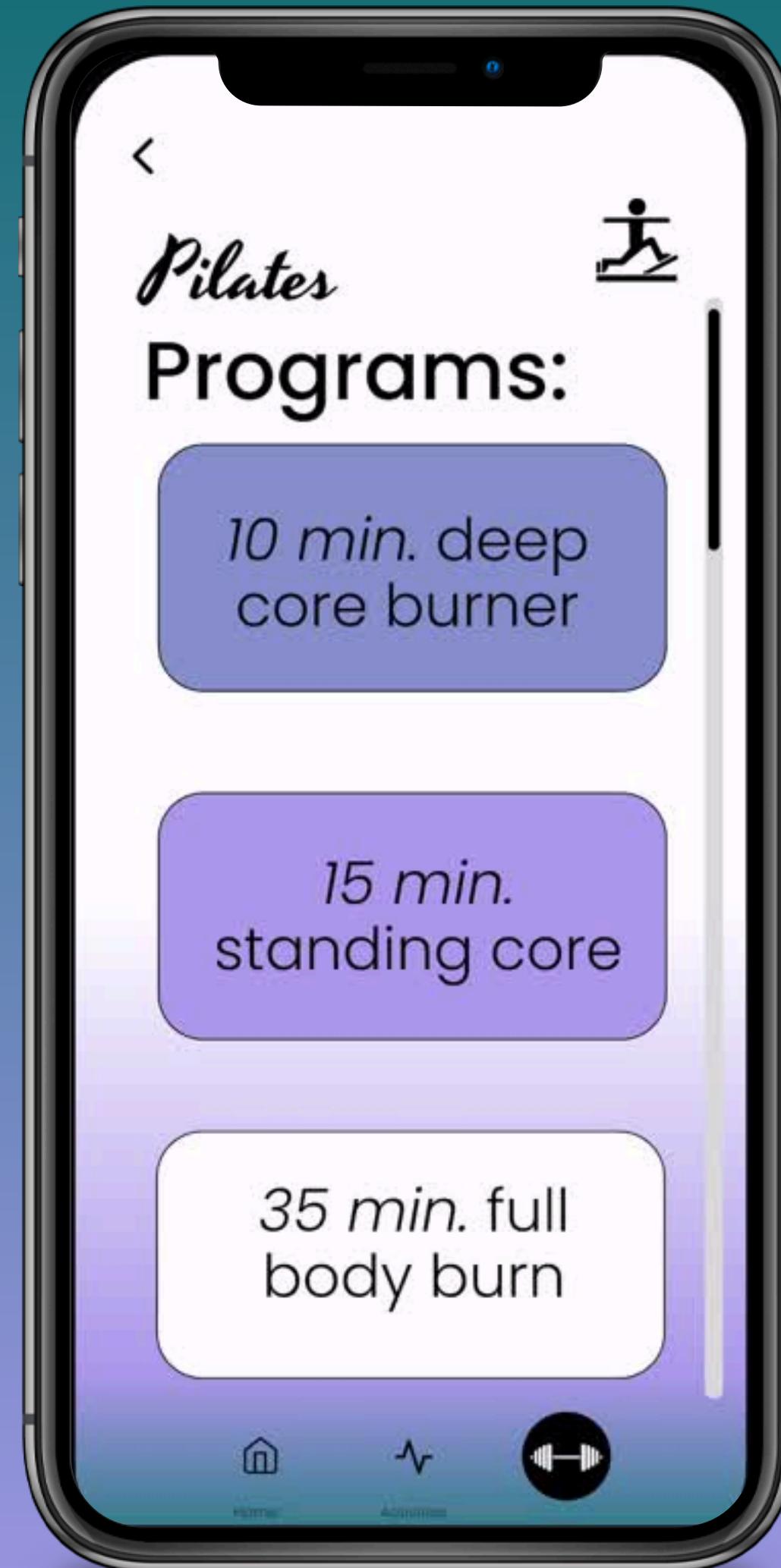
Add a picture to a past activity and share it to your Instagram story

Findings:

- Social media icon = clear signifier
- Photo conventions = discoverability.
- One user hesitated to read the full privacy warning; others clicked "share" without reading.
- Easily add picture to story from activity screen.
- Consistency helped task completion.
- Aligned with DMMT design: many "clicks", but low cognitive load.

NOTE: same process for each state the app is in (i.e. during, before, or after a workout)





Task 3 GOMS model

Find a workout video for 10 min. Pilates deep core burner and start it.

Starting from the post log-in screen:

STEP:	TIME:
Mentally prepare	1.35 s
Tap on Classes tab	80 ms
Mentally Prepare	1.35 s
Tap on Pilates program section	80 ms
Mentally prepare	1.35 s
Tap on 10 min. Deep core burner video	80 ms
Tap on play button to begin video	80 ms
TOTAL:	4.37 seconds

03

Find a workout video for 10 min. Pilates deep core burner and start it

Findings:

- Users easily found the “Classes” tab to access the workout.
- One user hesitated when choosing between categories (pilates, walks, lifting).
- Unclear if the hesitation was due to user error, unclear signifiers, or ambiguous task instructions.



HCI Strengths

- Follows platform and social media conventions
- High discoverability through clear icons and labels
- Low cognitive load even in multi-step tasks (DMMT)
- Strong feedback and natural mapping (e.g., photo, activity flows)
- Few slips/errors: supports error prevention and recovery
- Consistency across features and screens

HCI Weaknesses

- Some ambiguity in task instructions
- Some category labels caused hesitation (e.g., Pilates vs. Walks)
- One misleading affordance (activity summary not clickable) -
FIXING THIS!!
- Privacy prompt may be overlooked (unfamiliarity?)

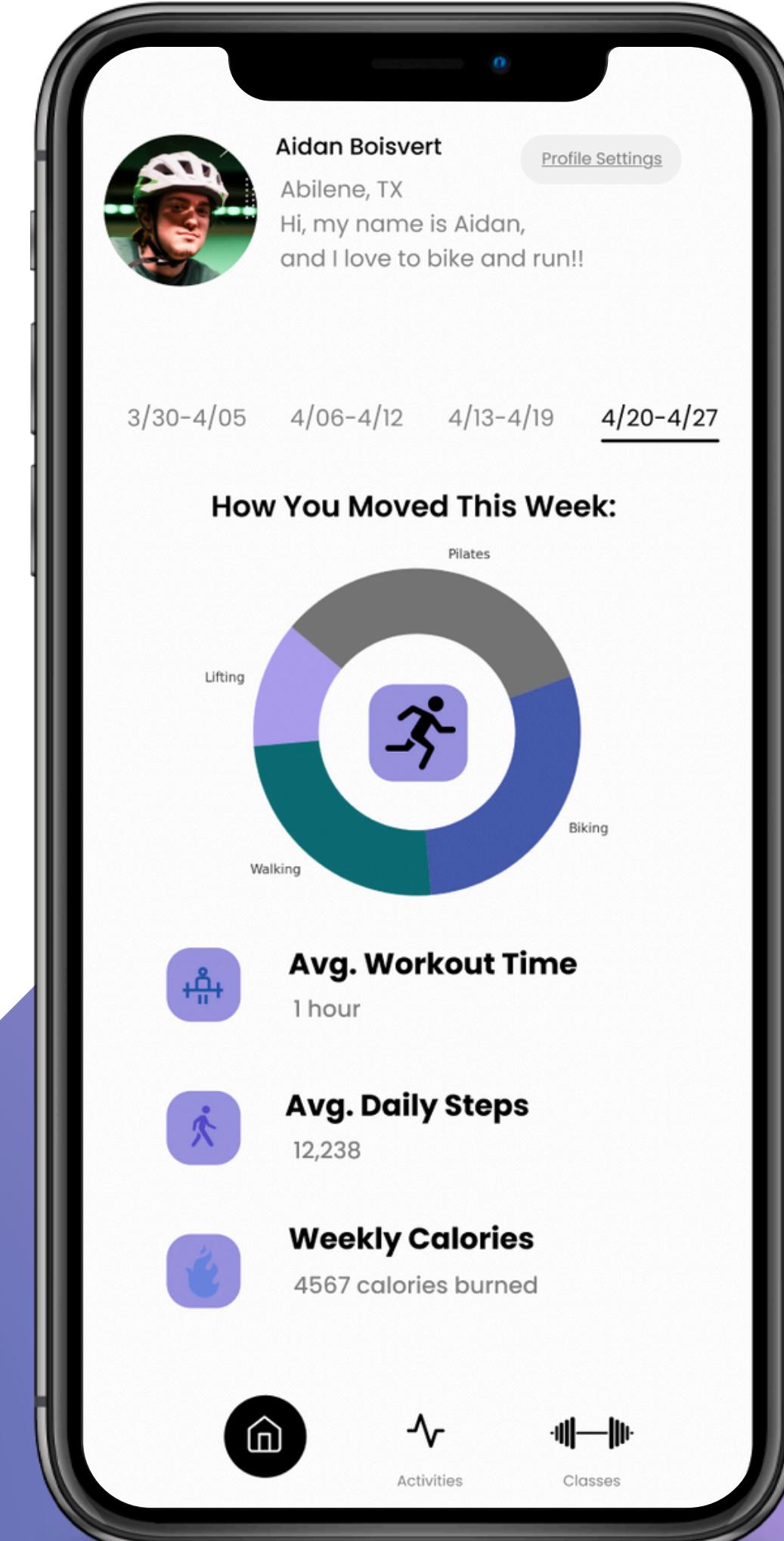


TAKEAWAYS

Post-User Testing

Eliminate False Affordance

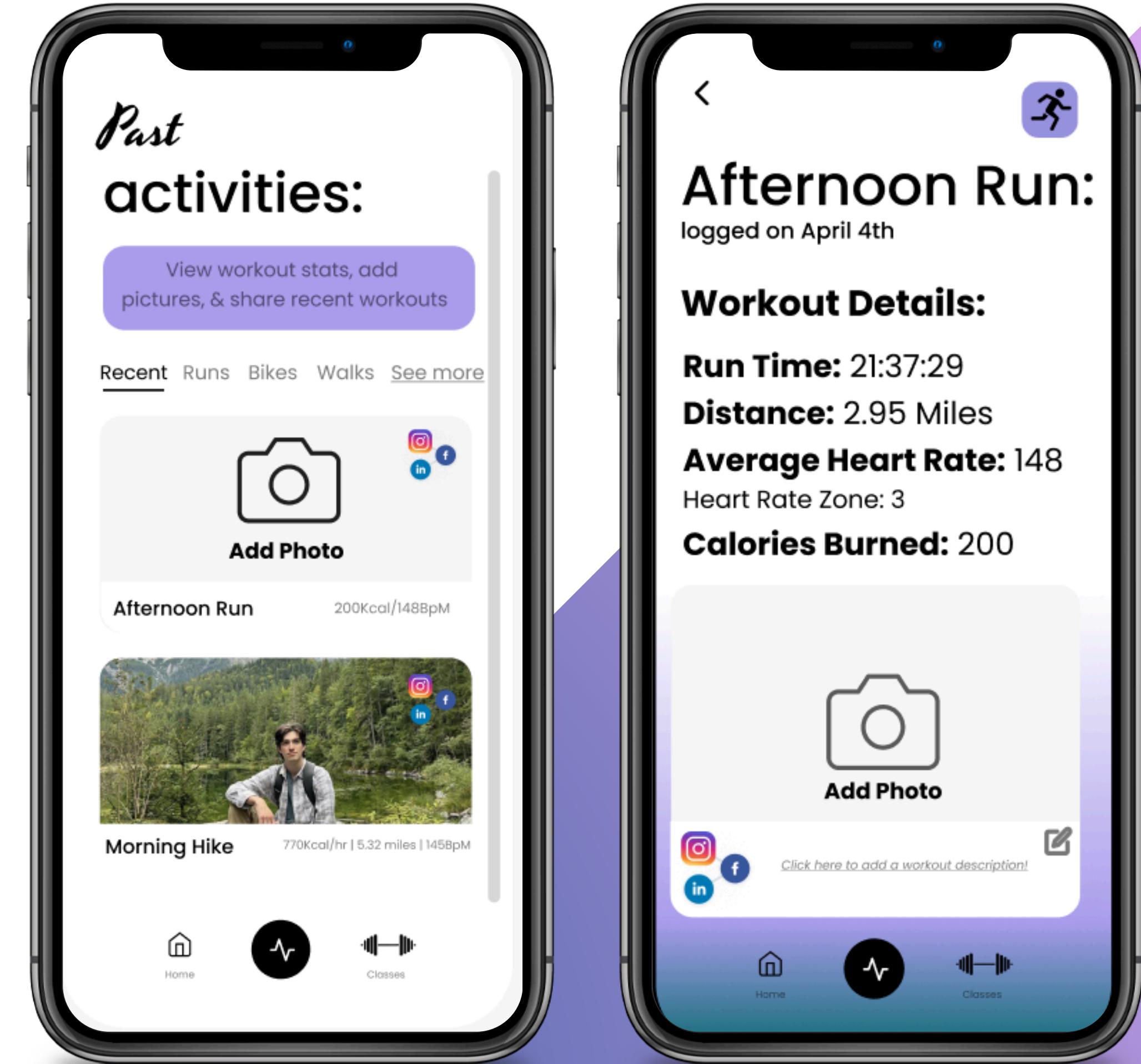
- Activity type overview instead of time active per day
- Consistent with the home page's high-level overview
- Clarifies that "Activities" tab is the correct signifier for viewing past workouts
- Increase discoverability
- Eliminate cognitive dissonance



Post-User Testing

Clarify Signifier

- “Add Photo” now bolded and larger
- Replaces “Click to Add Media” for better visibility
- Relies on implicit convention: assumes users know they can click to add a photo
- Condensed text and increased readability: reduces cognitive load and makes action clearer



Conclusion:

- Importance of clear signifiers
- Uniform design to minimize cognitive load and dissonance
- Follow conventions for ease of discoverability

