



# Fjord – Design challenge

Theo Nordahl

Thursday, 19 November 2020

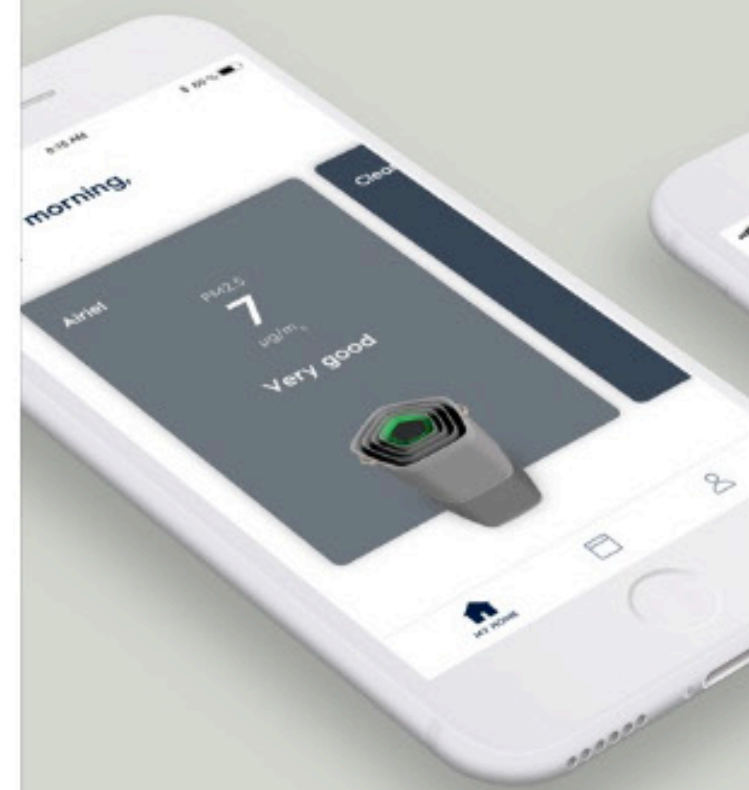
[www.theonordahl.com](http://www.theonordahl.com)

# 1. Design process

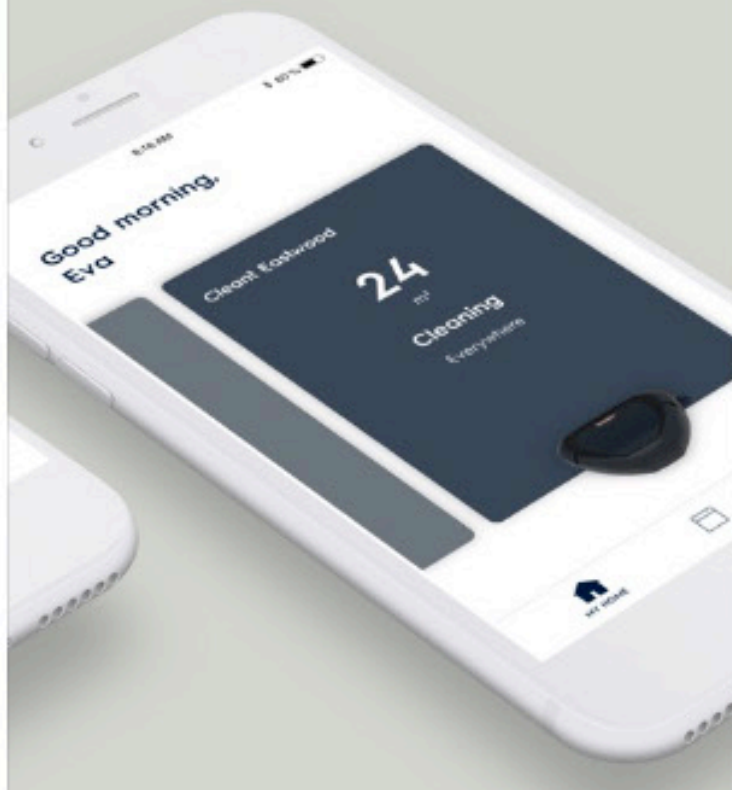
## 1.1 Research

Thursday, 19 November 2020

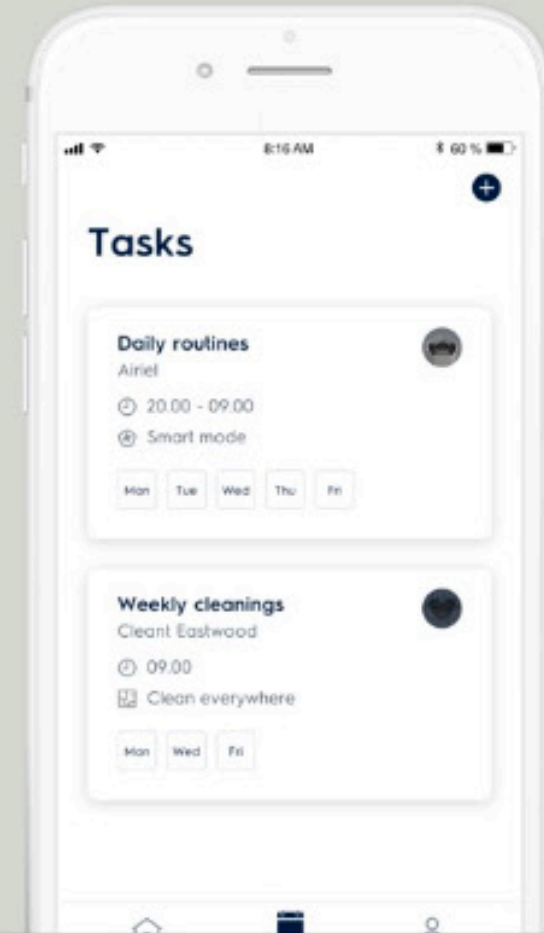
Come home to clean.



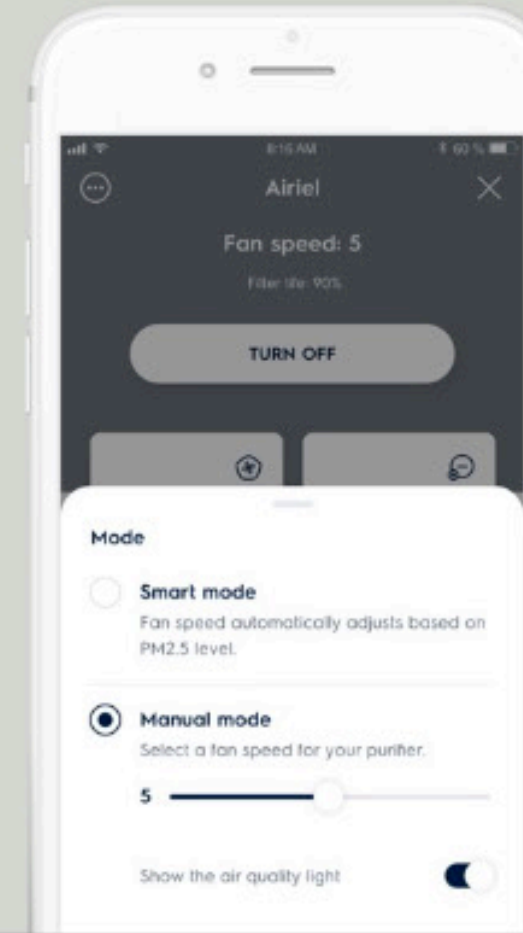
Good morning Eva



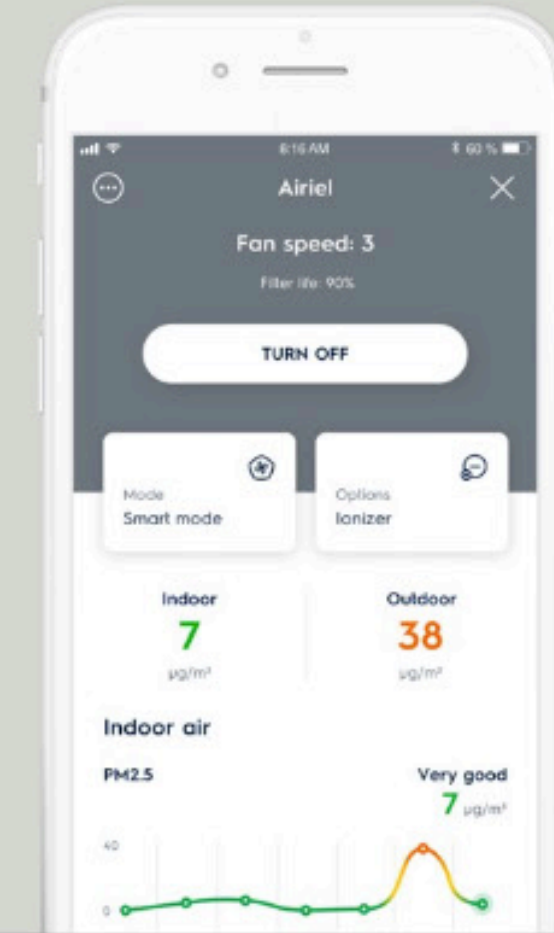
Schedule tasks.



Control from anywhere.



Get real-time data.



## New "Wellbeing" app



mauris Member ★

October 22

Electrolux is now pushing out the new "Wellbeing" app, with message that it will replace purei9 app.

I really hope that we can keep the old app in use, until the new app will have at least the same features as the old one.

Now the history display in the Wellbeing app looks very bad:

- No maps of previous cleaning runs.
- No total cleaning time or area.
- Statistics only for last 6 months.

Screenshots for comparison.



History



## REVIEWS

Review Policy

Write a Review

# 2.0



289 total



Jonas Yamazaki

★★★★★ November 6, 2020



Should be zero stars. Maybe its a good app. But how can you know? Cant even connect to your devices. Updated to 3 stars: Got it working, not sure why it wouldnt connect the first couple of times. App is okay except that its very slow to open and sometimes it will say "service unavailable" and i have...

Full Review

AB Electrolux November 9, 2020

Most of the things you mention should have been ironed out from the experience. The last parts to remove most known shortcomings is launching next week. Hope you see an improvement over time We would really like to help out. Could you please contact us on [info.wellbeing@electrolux.com](mailto:info.wellbeing@electrolux.com) we will do our best to solve the issue

M Mauri S is presenting

3 | 2:14 PM | You T

Browser tabs: New "Wellbeing" app — Bl... (1) Roundcube Webmail - H... Meet - Wellbeing - De... Inside+ Microsoft Forms Meet

Address bar: https://meet.google.com/biv-ewgw-org

Meeting controls: M You are presenting | 3:14 PM | Presentation (You) | You M

Samsung DeX

meet.google.com is sharing your screen. Stop sharing Hide

82% 15:14

Mauri S



## Robot Vacuum Cleaner Personality and Behavior

Bram Hendriks · Bernt Meerbeek · Stella Boess ·  
Steffen Pauws · Marieke Sonneveld

Accepted: 14 November 2010 / Published online: 23 December 2010  
© The Author(s) 2010. This article is published with open access at Springerlink.com

## How Anthropomorphism Affects Empathy Toward Robots

Laurel D. Riek\*, Tal-Chen Rabinowitch†, Bhisudev Chakrabarti‡  
& Peter Robinson\*

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†Centre for Music and Science  
University of Cambridge  
Cambridge, UK  
tcnr2@cam.ac.uk

‡Autism Research Centre  
University of Cambridge  
Cambridge, UK  
bc249@cam.ac.uk

## Why people become strangely attached to their robot vacuum cleaners

**Kate Darling** researches human-robot interaction. She explains why we are prone to forming emotional connections with robots and what we can learn from our relationships with pets and other animals



TECHNOLOGY 18 March 2020

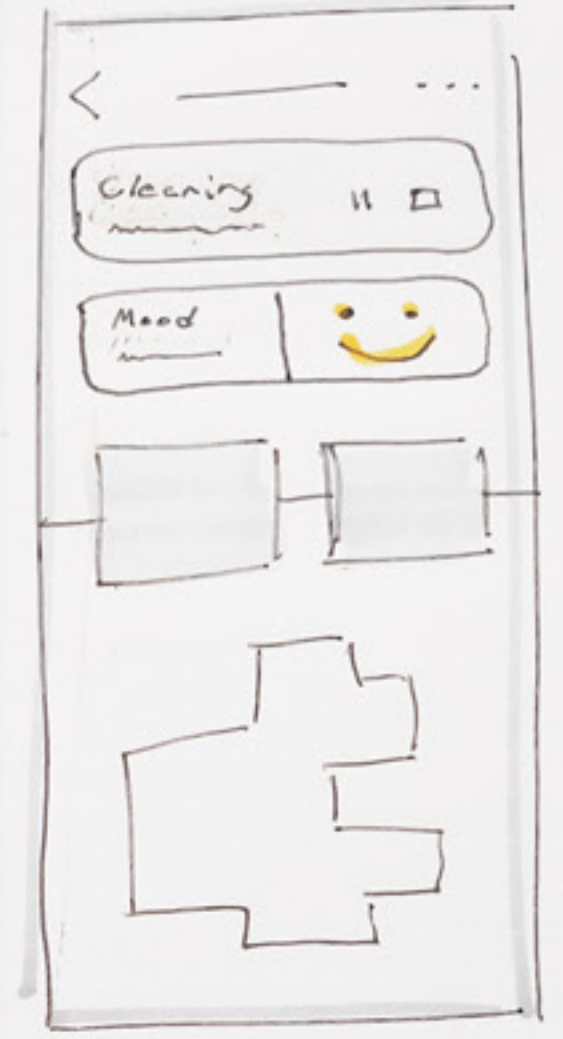
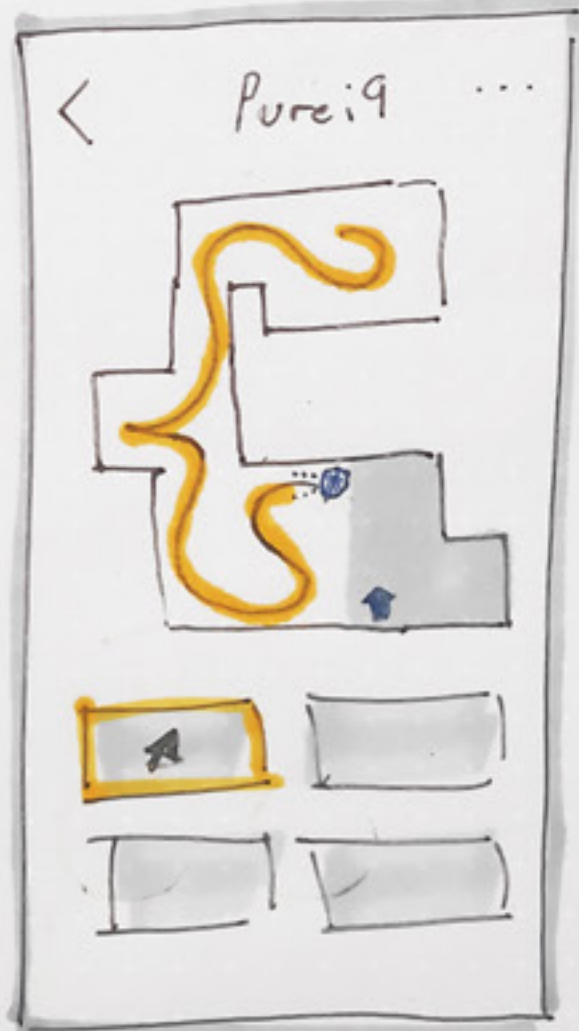
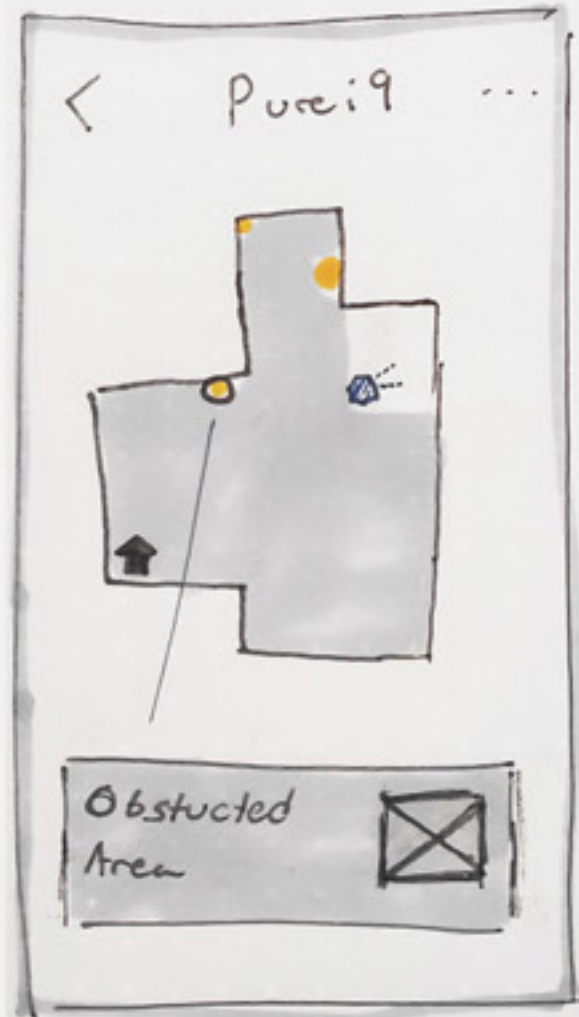
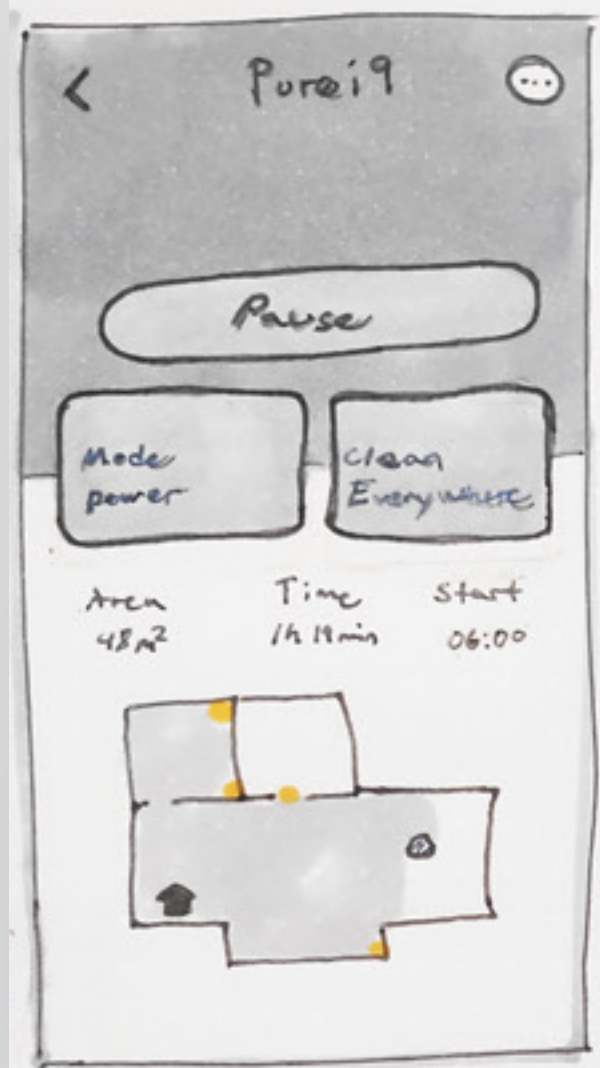




# 1. Design process

## 1.2 Ideation

Thursday, 19 November 2020



## Reviews and Feedback

### Problems/Design Opportunities

Unreachable  
points

Not trusting  
that the robot  
has done the  
job properly

that the

The robot  
has a camera  
that detects things  
close to the  
ground

Implement  
mic?

Voice commands?

Bounce  
ball

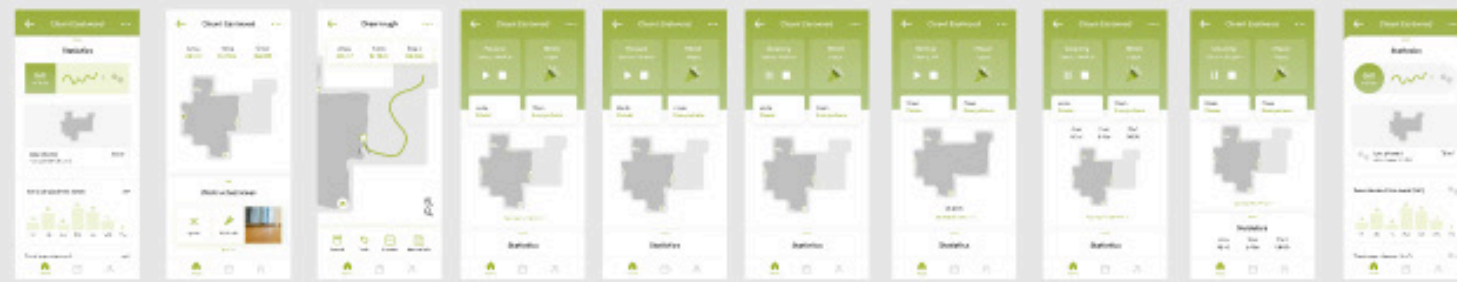
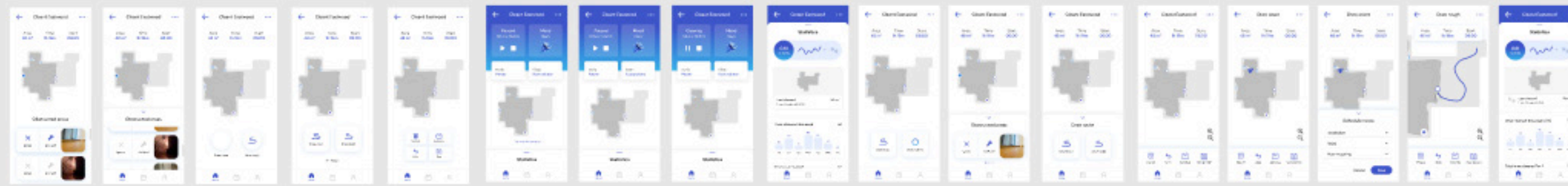
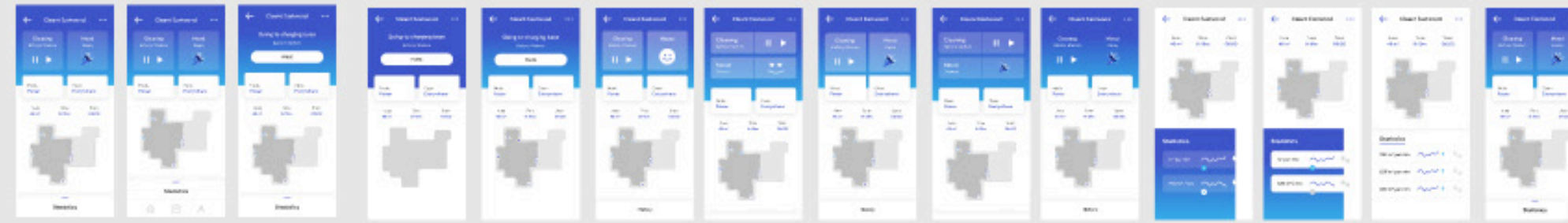
Further build  
a relationship  
between robot and  
human

Evaluation  
and  
learning  
progression  
(Raise a puppy)

# 1. Design process

## 1.3 Iteration

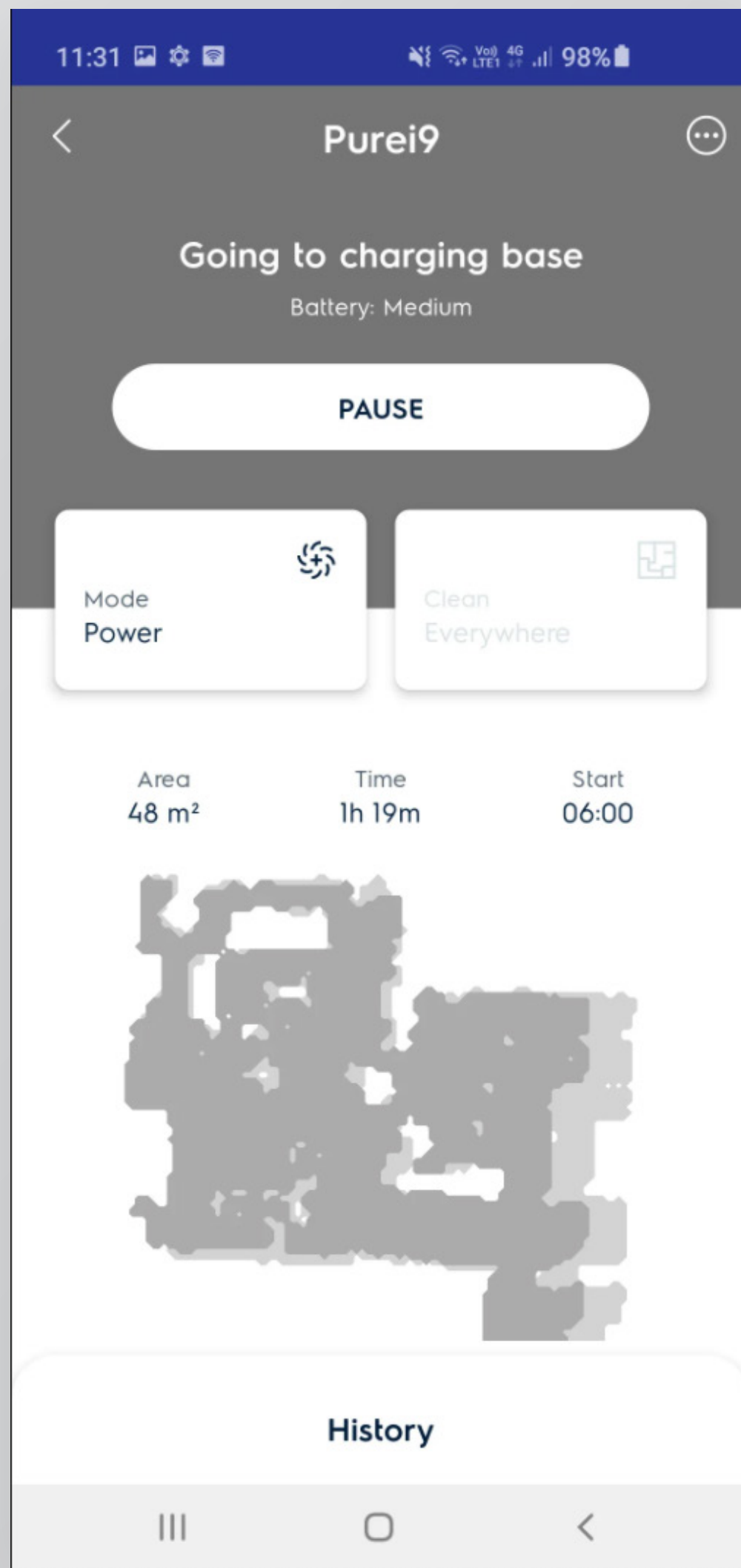
Thursday, 19 November 2020

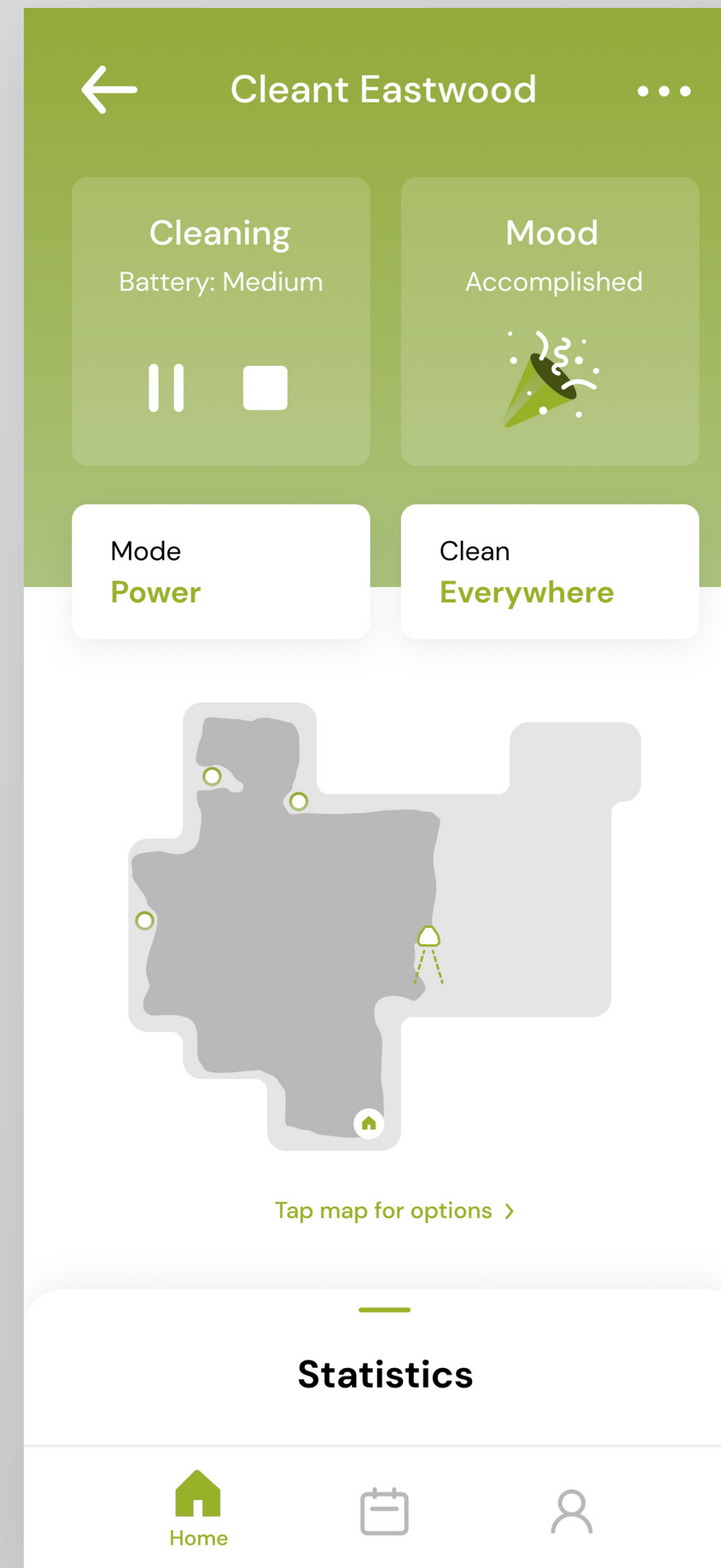
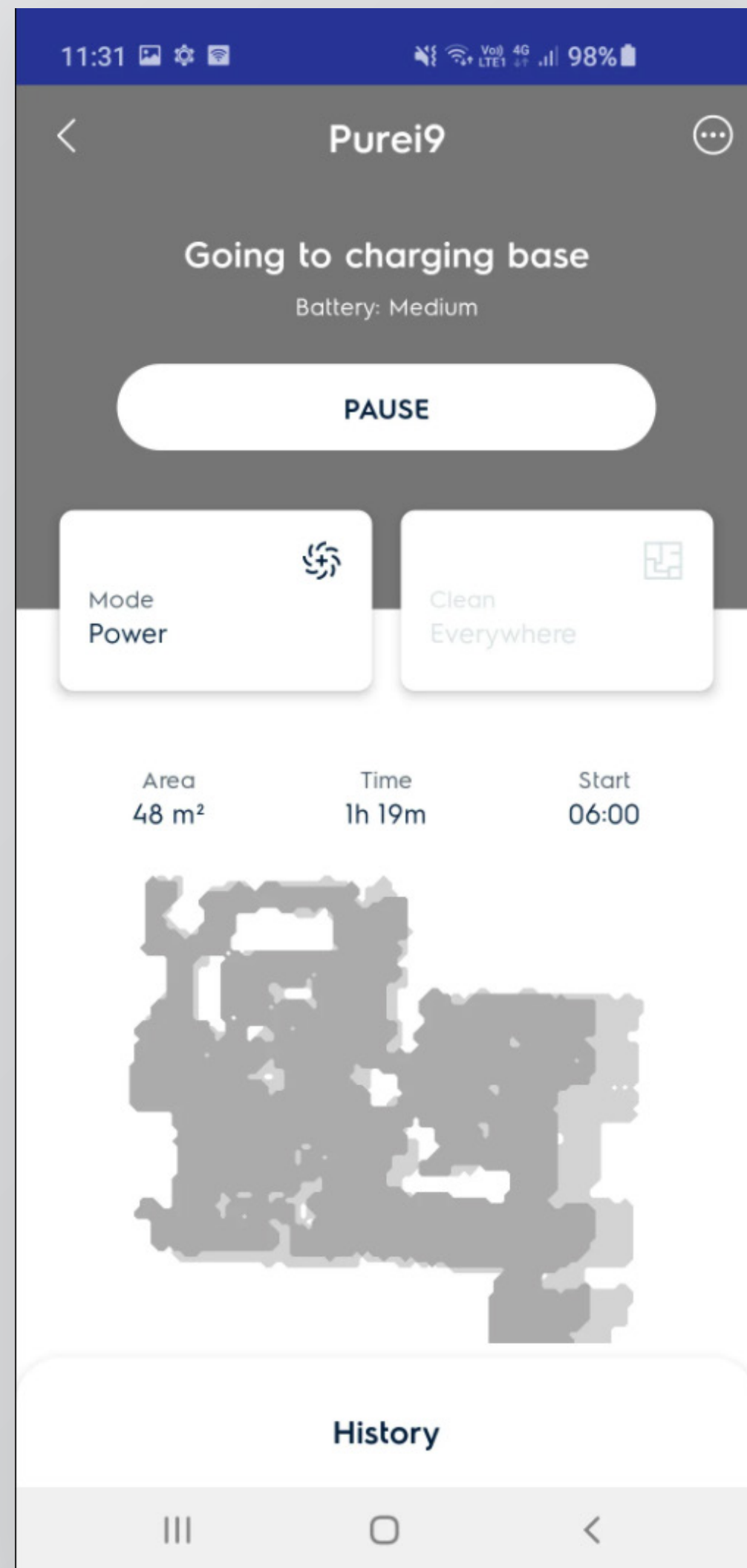


# 2. Final design

## 2.1 Visual direction

Thursday, 19 November 2020







# 2. Final design

## 2.2 Enhanced map

Thursday, 19 November 2020

Cleaning  
Battery: Medium

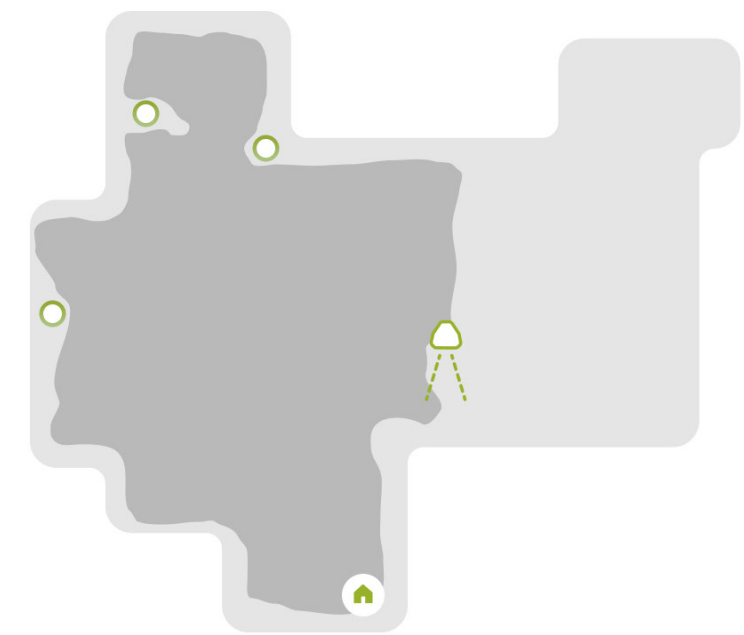


Mood  
Accomplished



Mode  
**Power**

Clean  
**Everywhere**



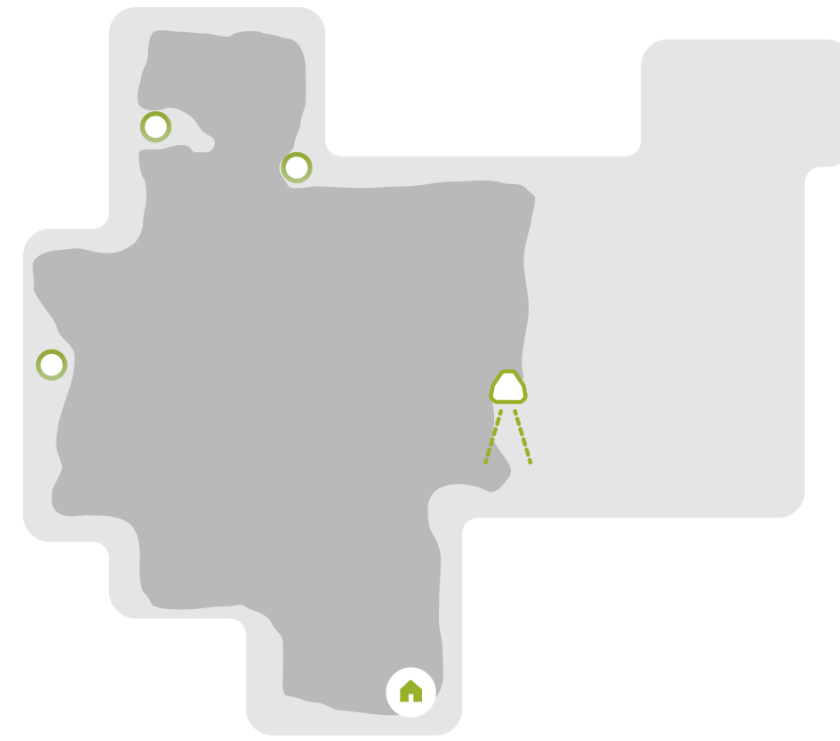
Tap map for options >

**Statistics**





Cleant Eastwood



Custom path

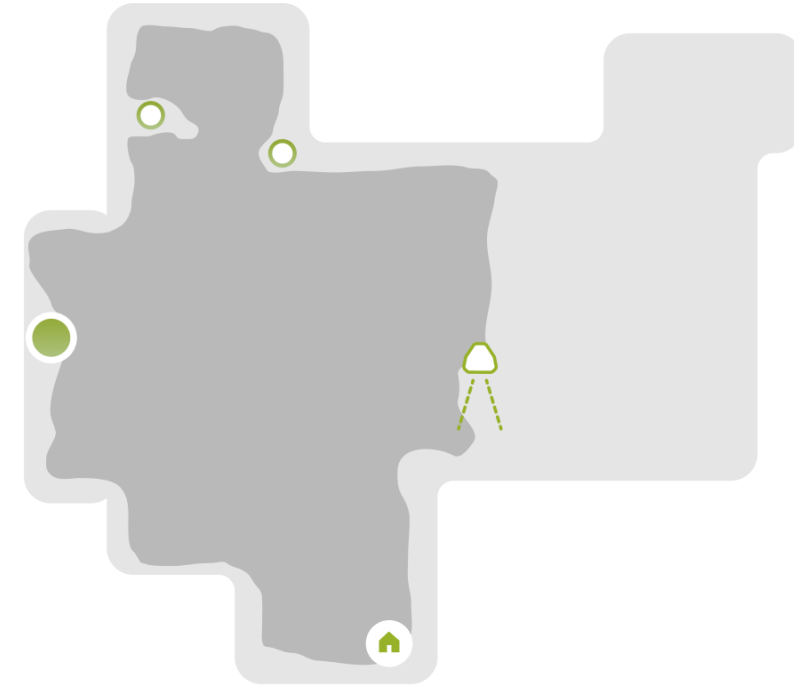


Obstructions






Home





Obstructed areas

 <p>Ignore</p>	 <p>It's fixed!</p>	
---	--	---



Obstruction photo



Cleaning  
Battery: Medium

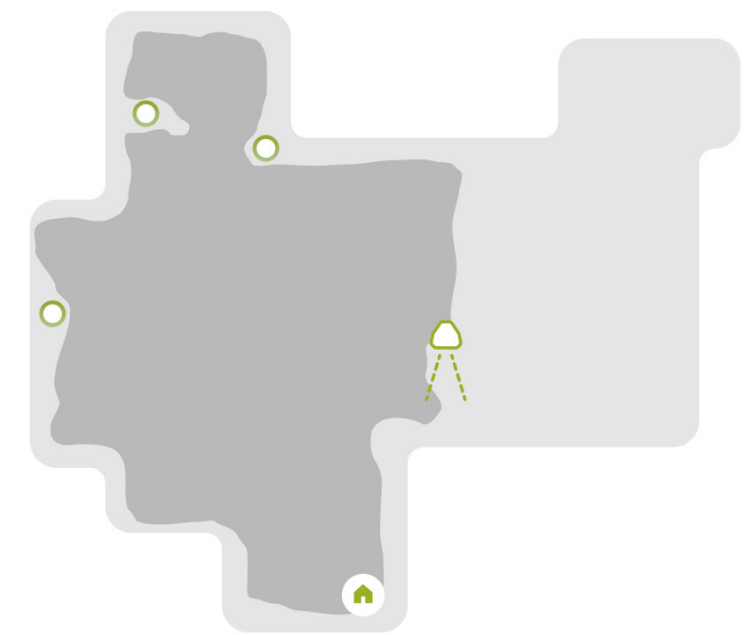


Mood  
Accomplished



Mode  
**Power**

Clean  
**Everywhere**



Tap map for options >

**Statistics**





Cleant Eastwood



Resting

Battery: Full



Mood

Accomplished



## Clean



**Everywhere**

Clean your entire space.



**Zones**

Select zones to clean.



Hallway 1



Hallway 2



Living room



Bedroom



**Custom zone**

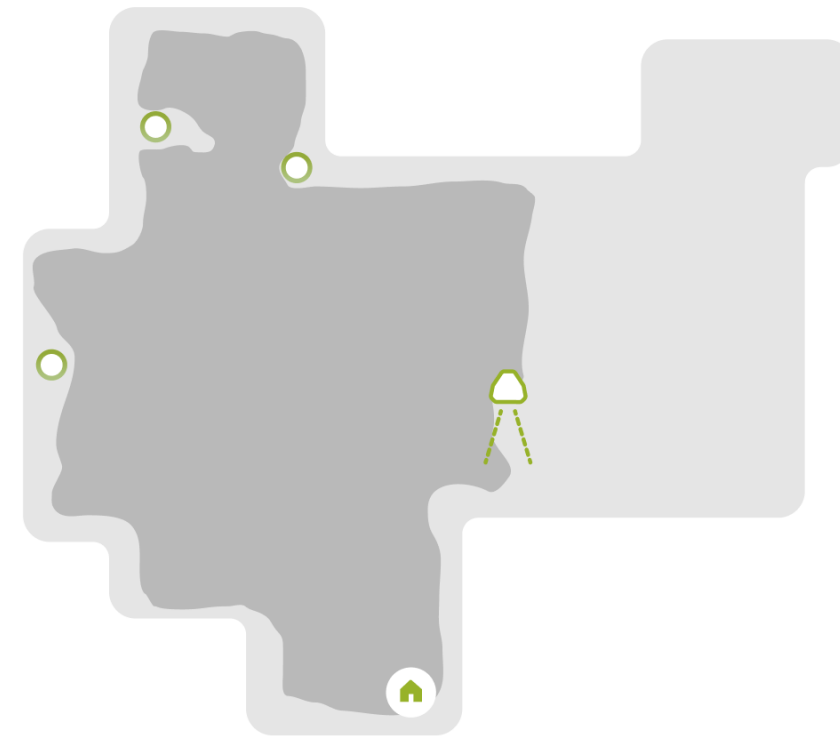
Draw area or path zones to clean.

Cancel

Save



Cleant Eastwood



Custom path



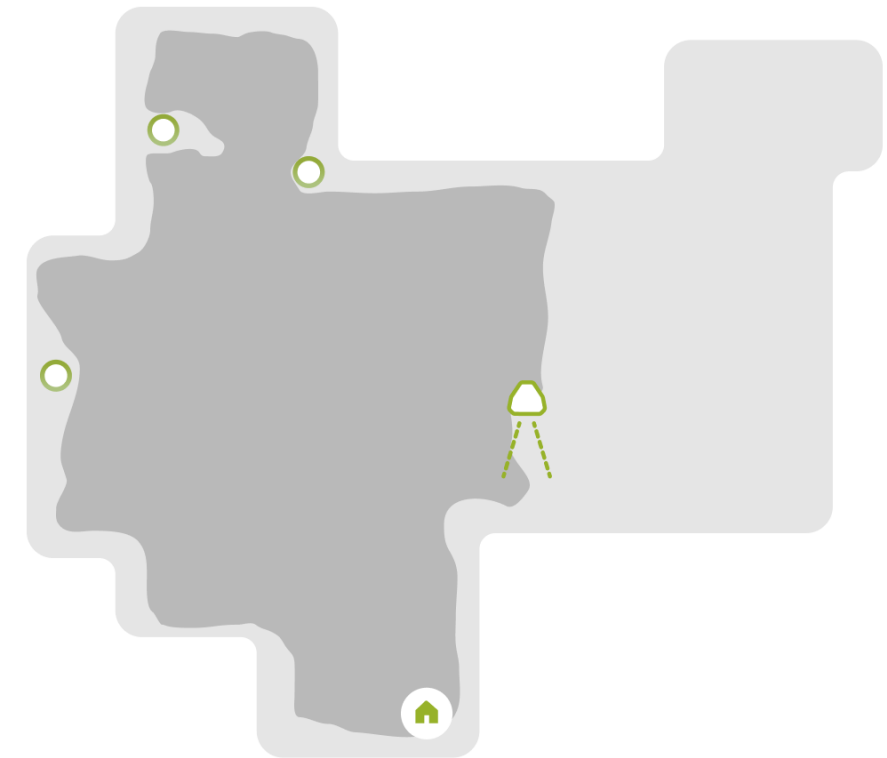
Obstructions



Home







Draw exact  🔍 🔍



Undo



Draw area



Schedule



Discard



Draw path

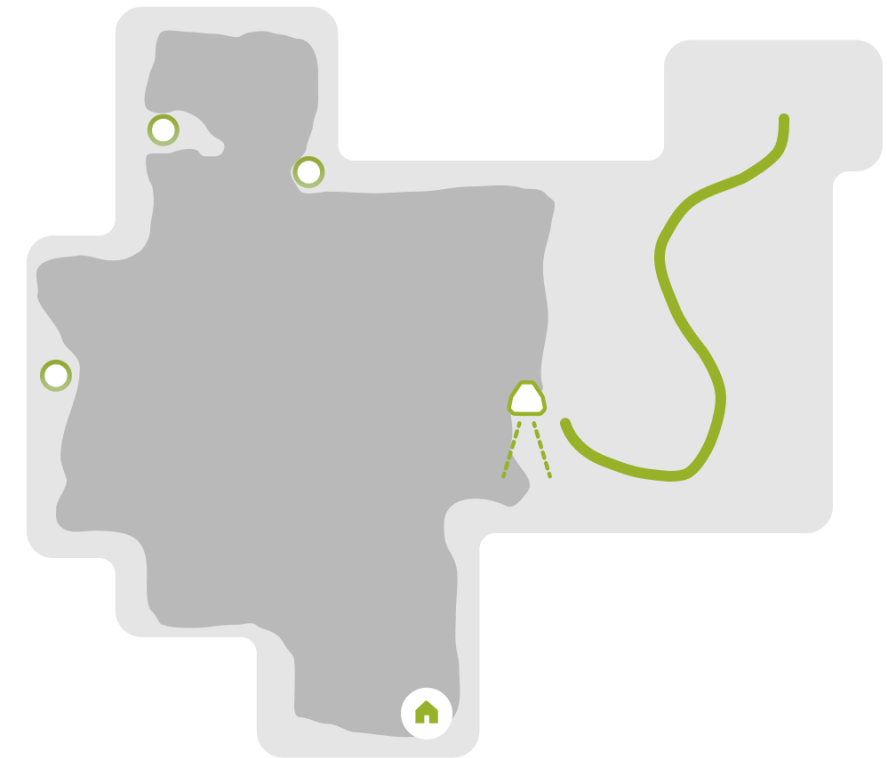


Save & exit



Home





Draw exact  🔍 🔍



Undo



Draw area



Schedule



Discard



Draw path

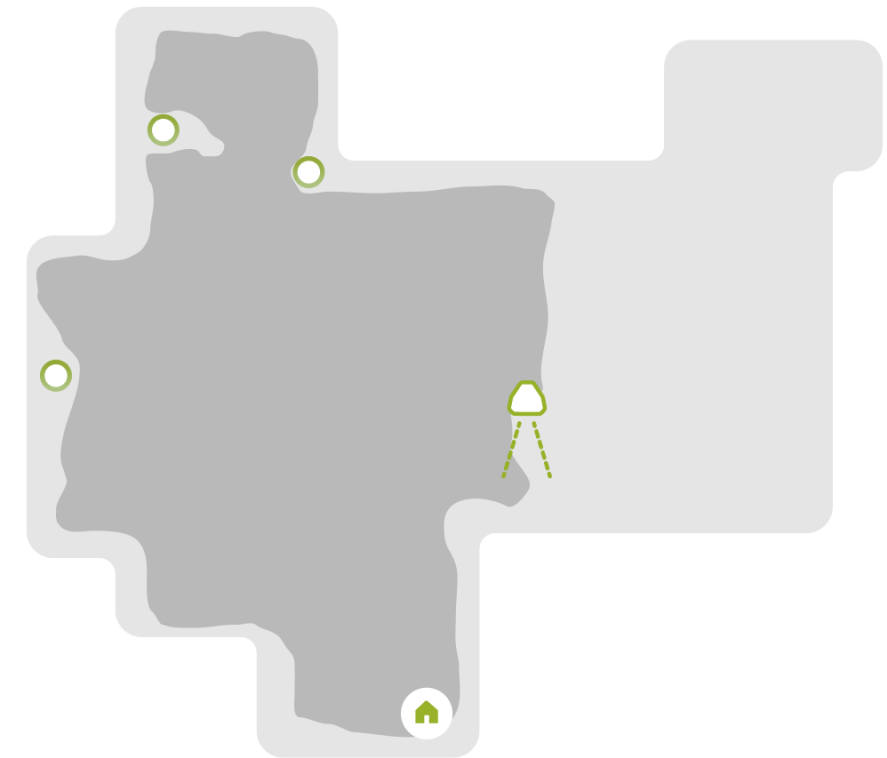


Save & exit



Home





Draw exact  🔍 🔍



Undo



Draw area



Schedule



Discard



Draw path

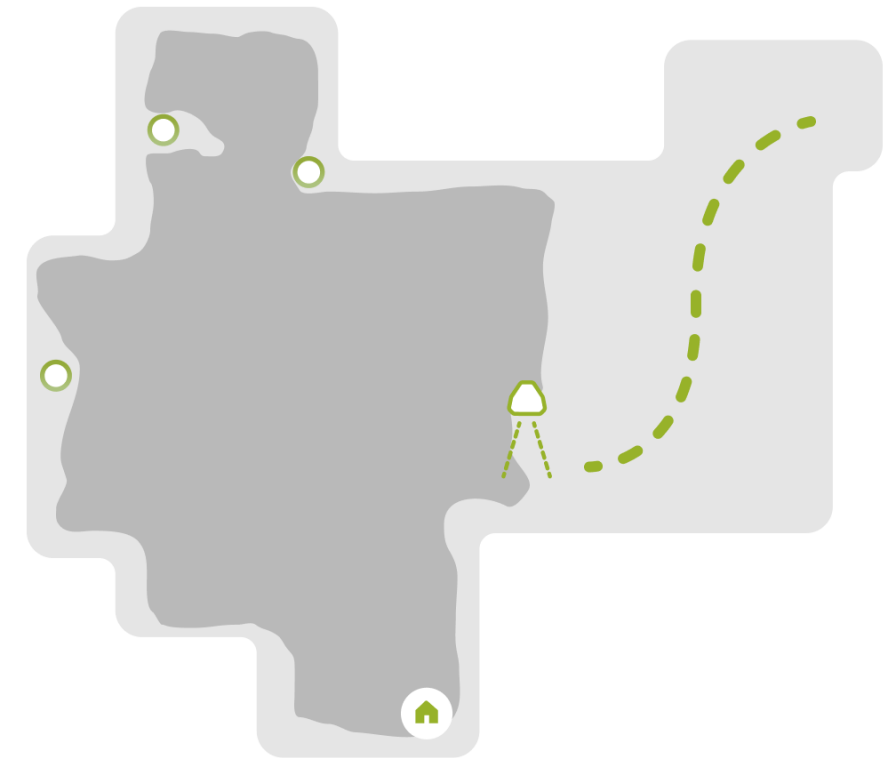


Save & exit



Home





Draw exact   



Undo



Draw area



Schedule



Discard



Draw path



Save & exit

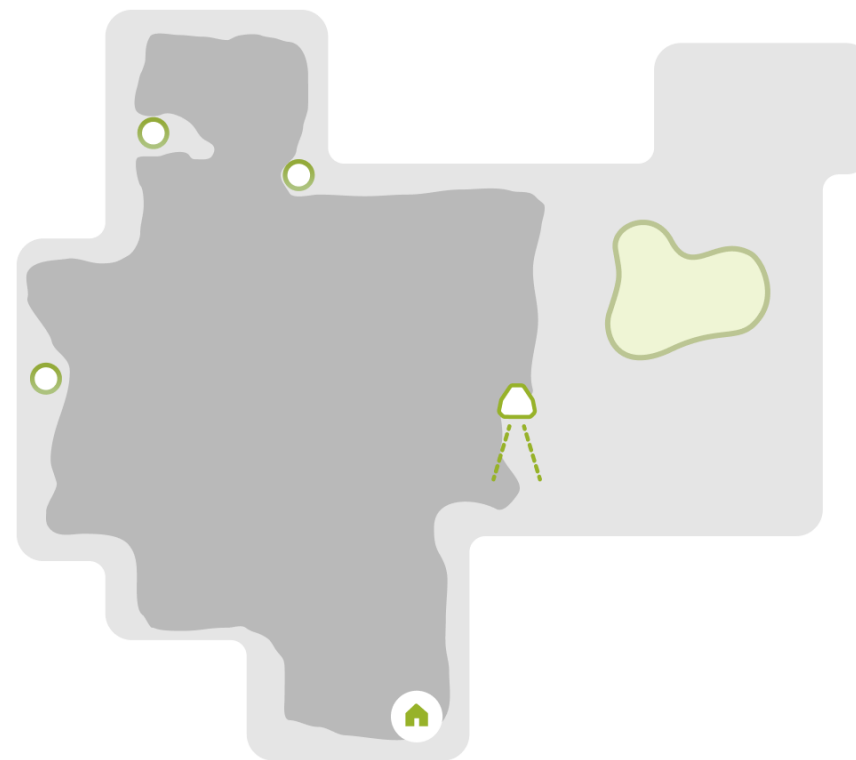


Home





Draw area



Undo



Draw area



Schedule



Discard



Draw path

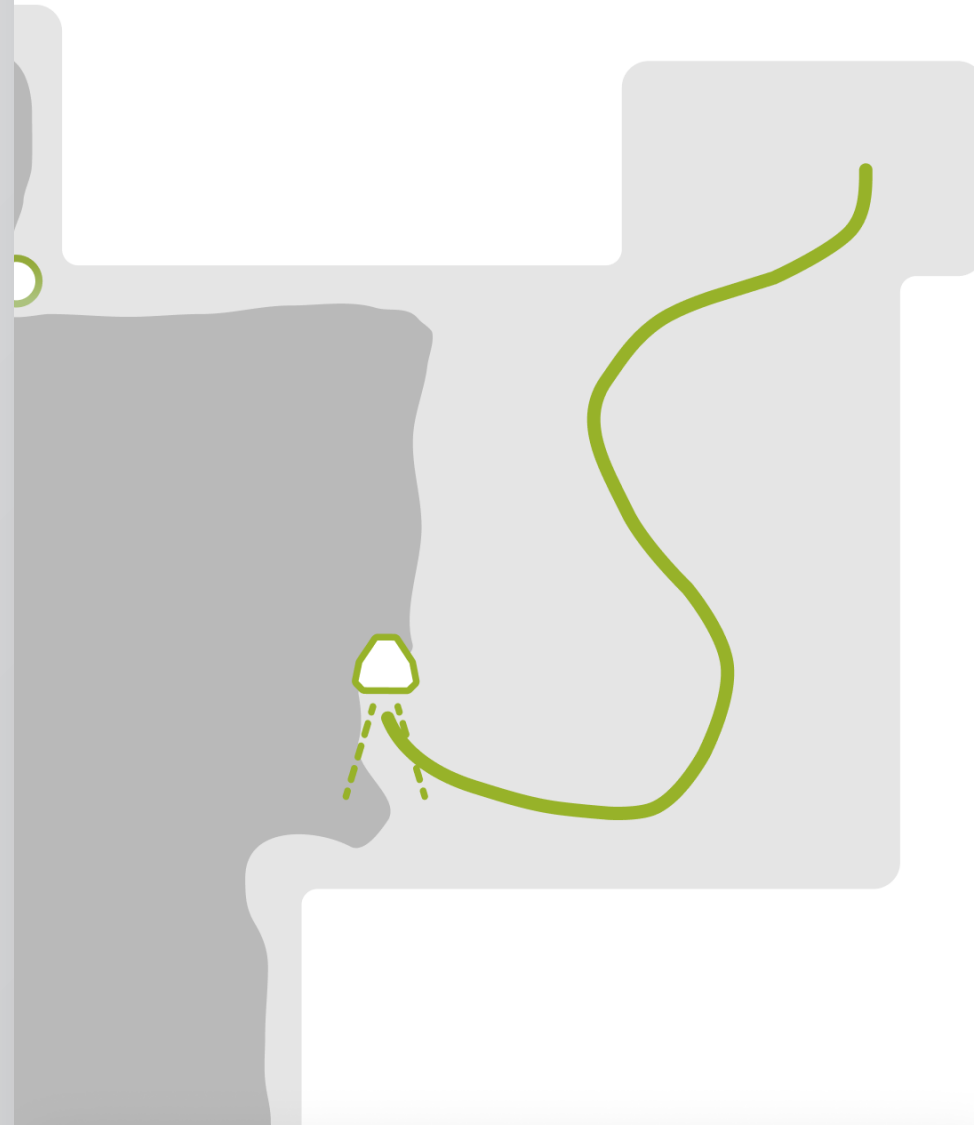


Save & exit



Home



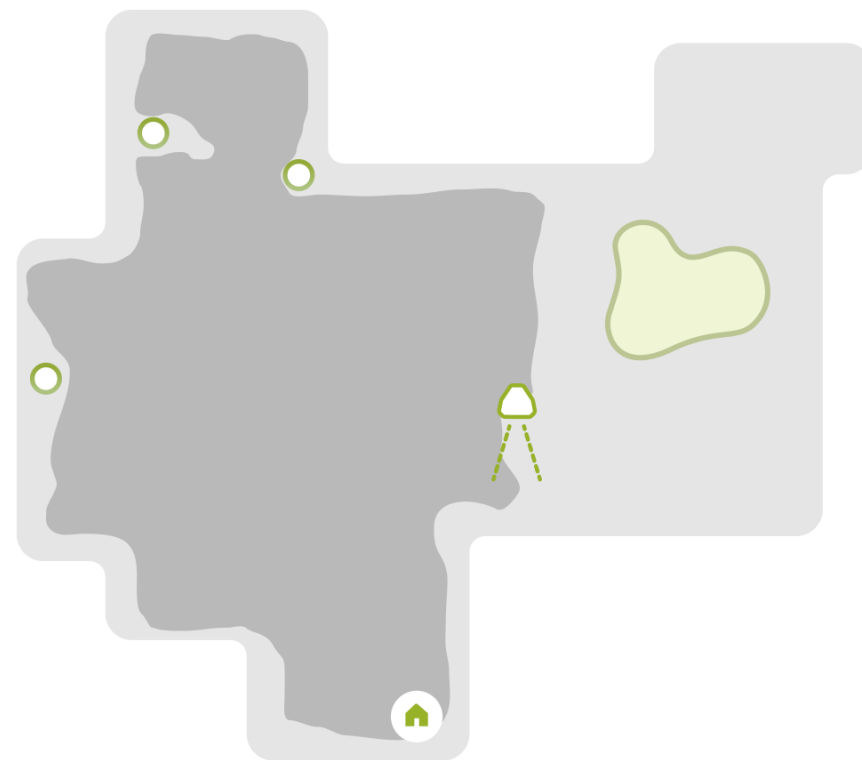


Draw exact  🔍 🔍

- ↶ Undo
- 📍 Draw area
- 📅 Schedule
- 🗑️ Discard
- 📐 Draw path
- 📄 Save & exit



Draw area



### Schedule route

14 Oktober

12:30

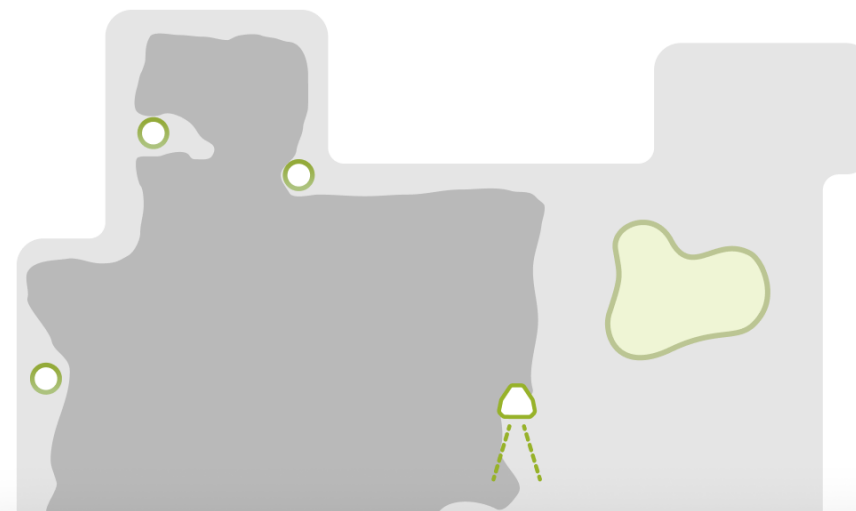
Non-recurring

Cancel

Save



Draw area



### Schedule route

14 Oktober



12:30



Non-recurring

Every day

Every week

Every month

Every year





## 2. Final design

### 2.3 Pure i9 moods

Thursday, 19 November 2020

Cleaning  
Battery: Medium

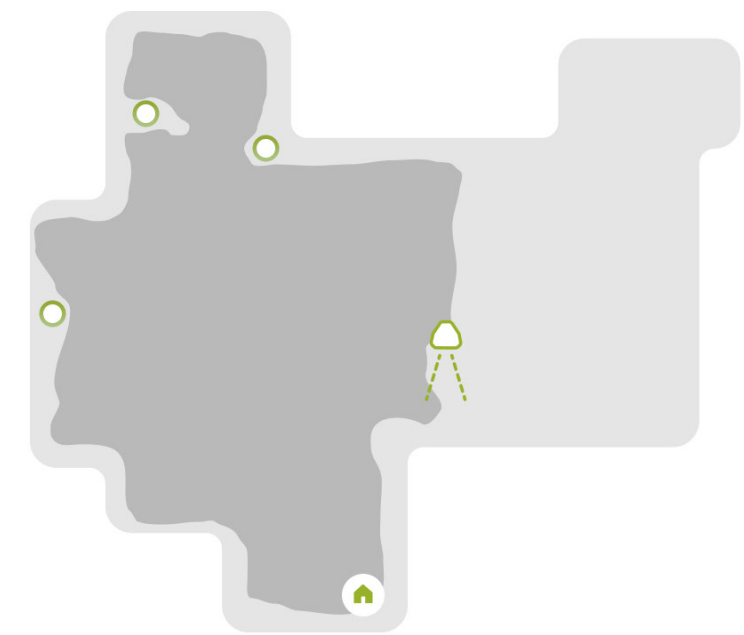


Mood  
Accomplished



Mode  
**Power**

Clean  
**Everywhere**

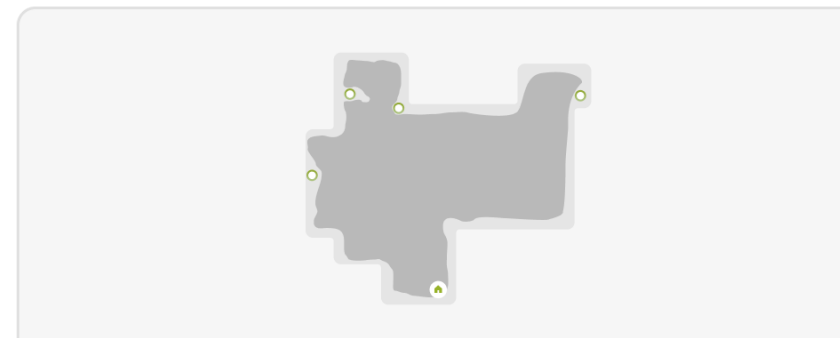


Tap map for options >

**Statistics**

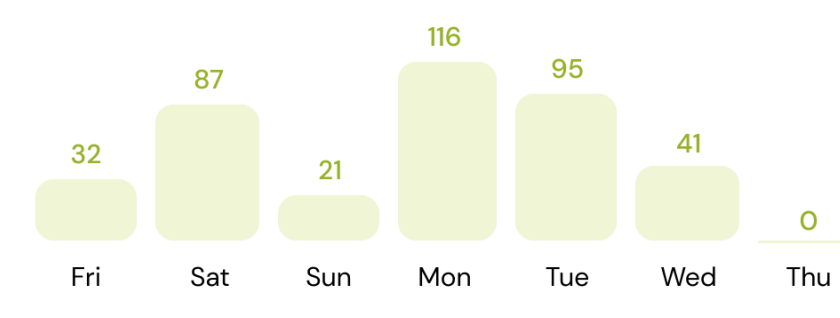


### Statistics



**Last cleaned** **78 m<sup>2</sup>**  
Friday, October 30, 2020

### Area cleaned this week (m<sup>2</sup>)



### Total area cleaned (m<sup>2</sup>)

### Statistics

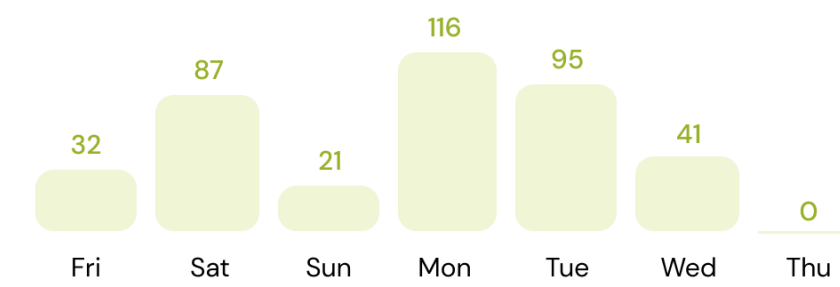
Area  
48 m<sup>2</sup>

Time  
1h 19m

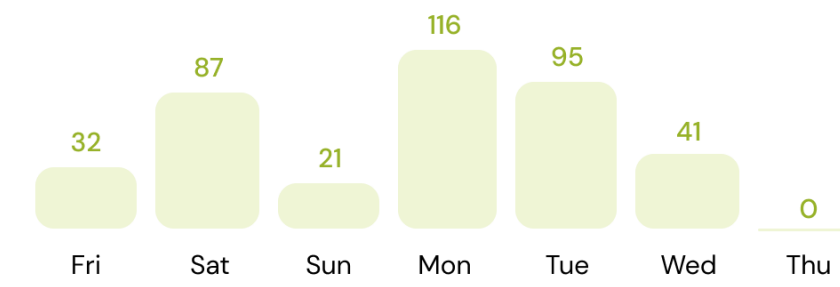
Start  
06:00



### Area cleaned this week (m<sup>2</sup>)



### Total area cleaned (m<sup>2</sup>)



Cleaning  
Battery: Medium

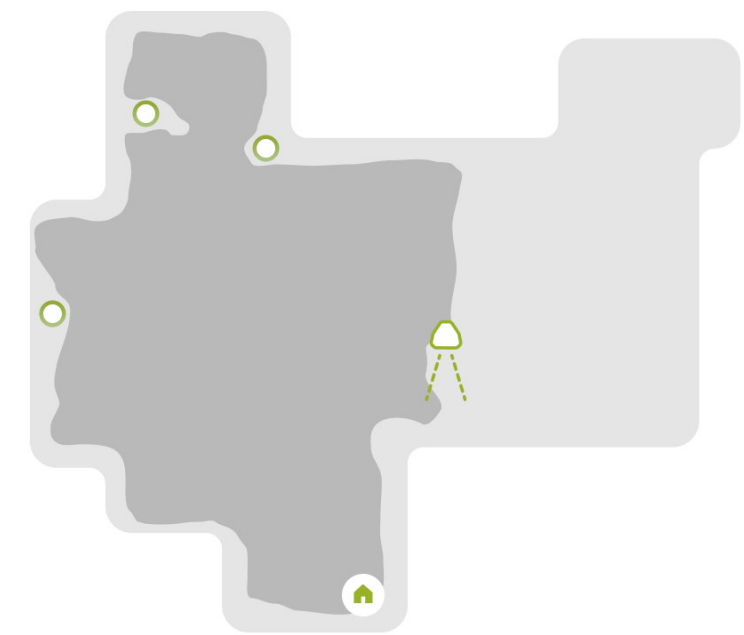


Mood  
Accomplished



Mode  
**Power**

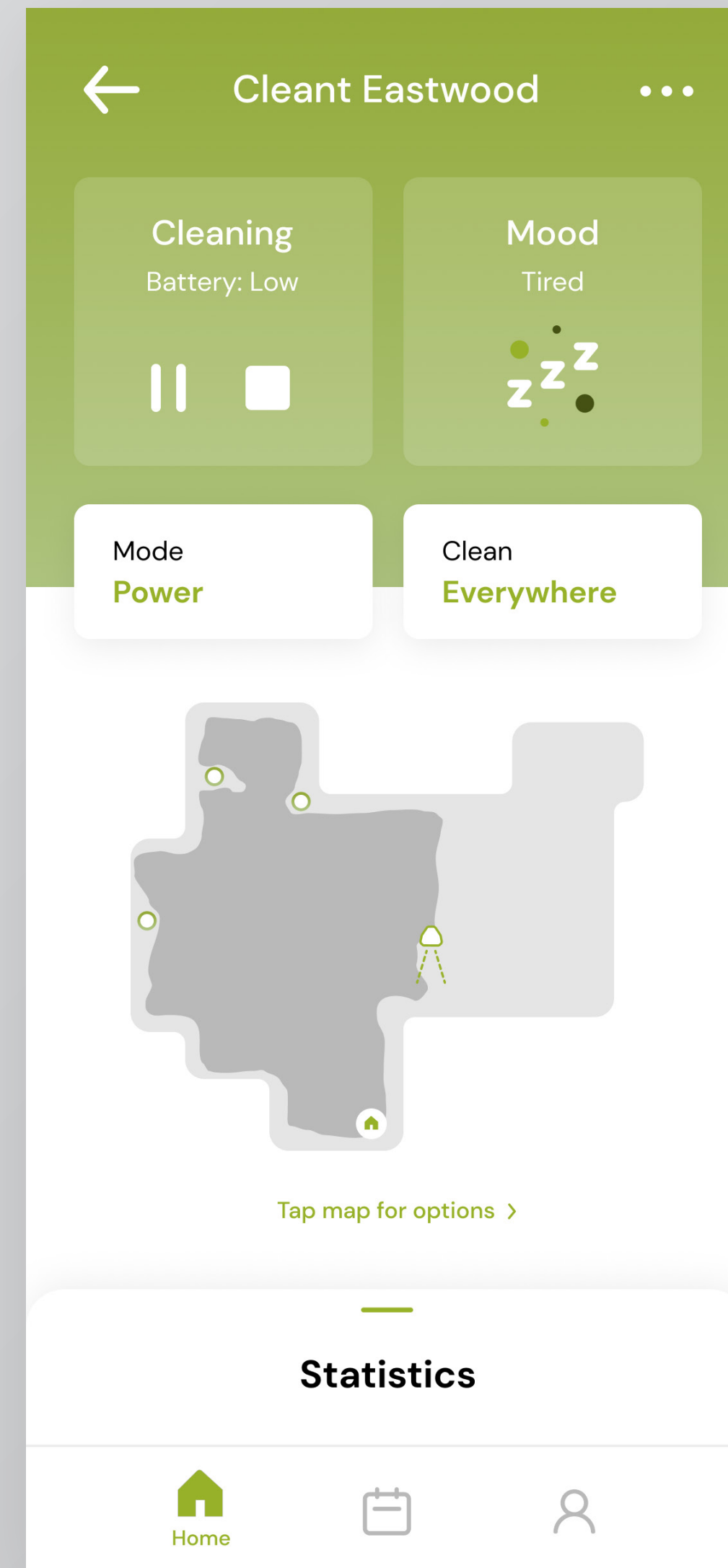
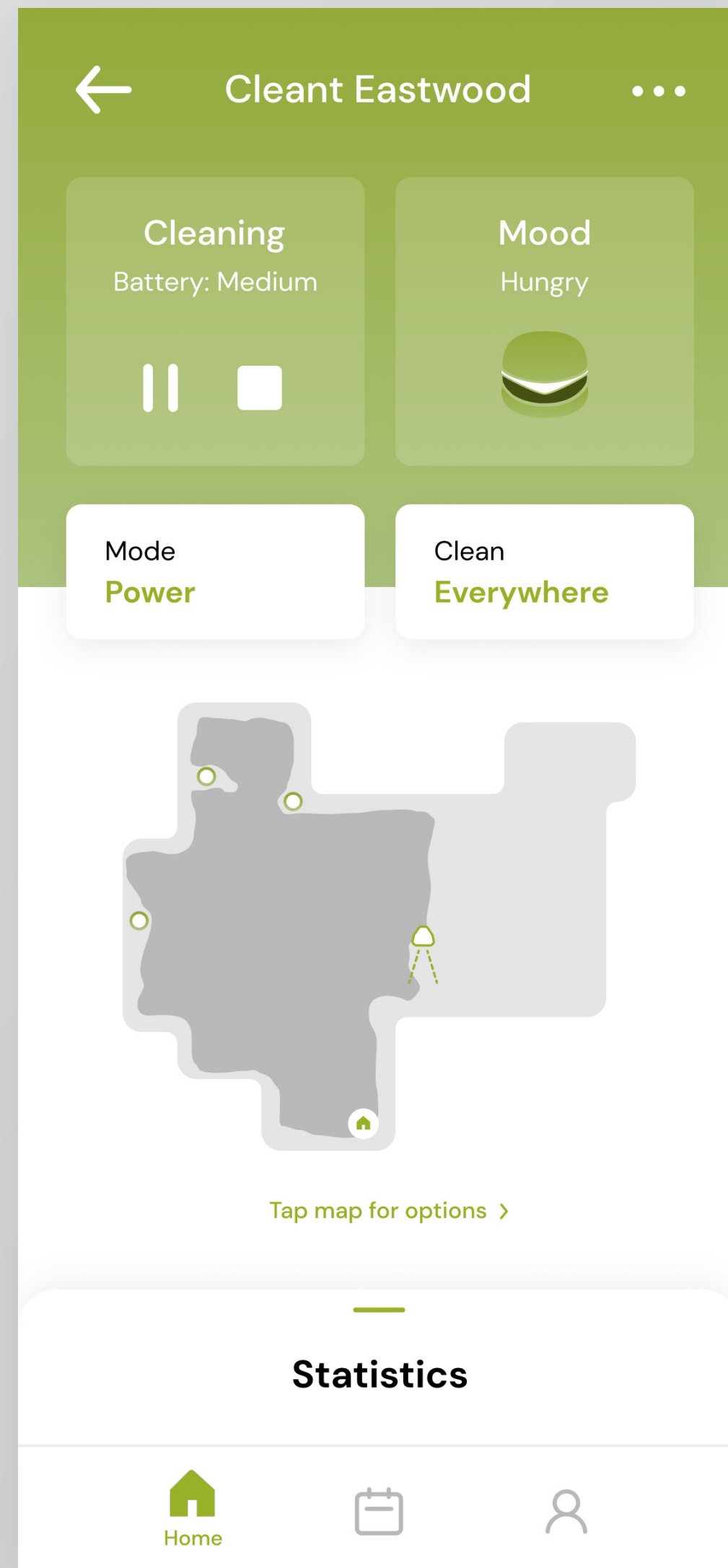
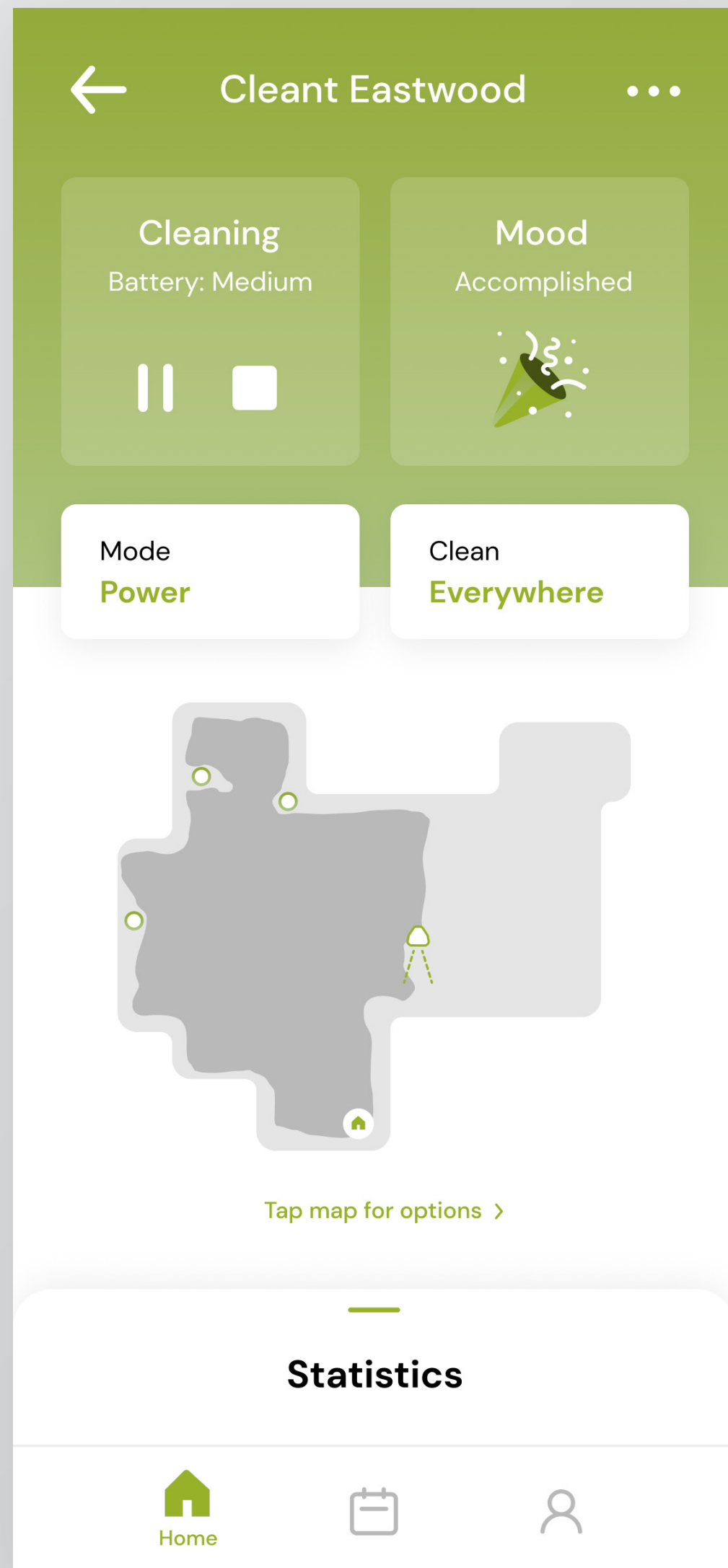
Clean  
**Everywhere**



Tap map for options >

**Statistics**





**Thank you for your time!**