

Final Presentation **Smart Food Production In Small Spaces**

Loopbin

Team 3

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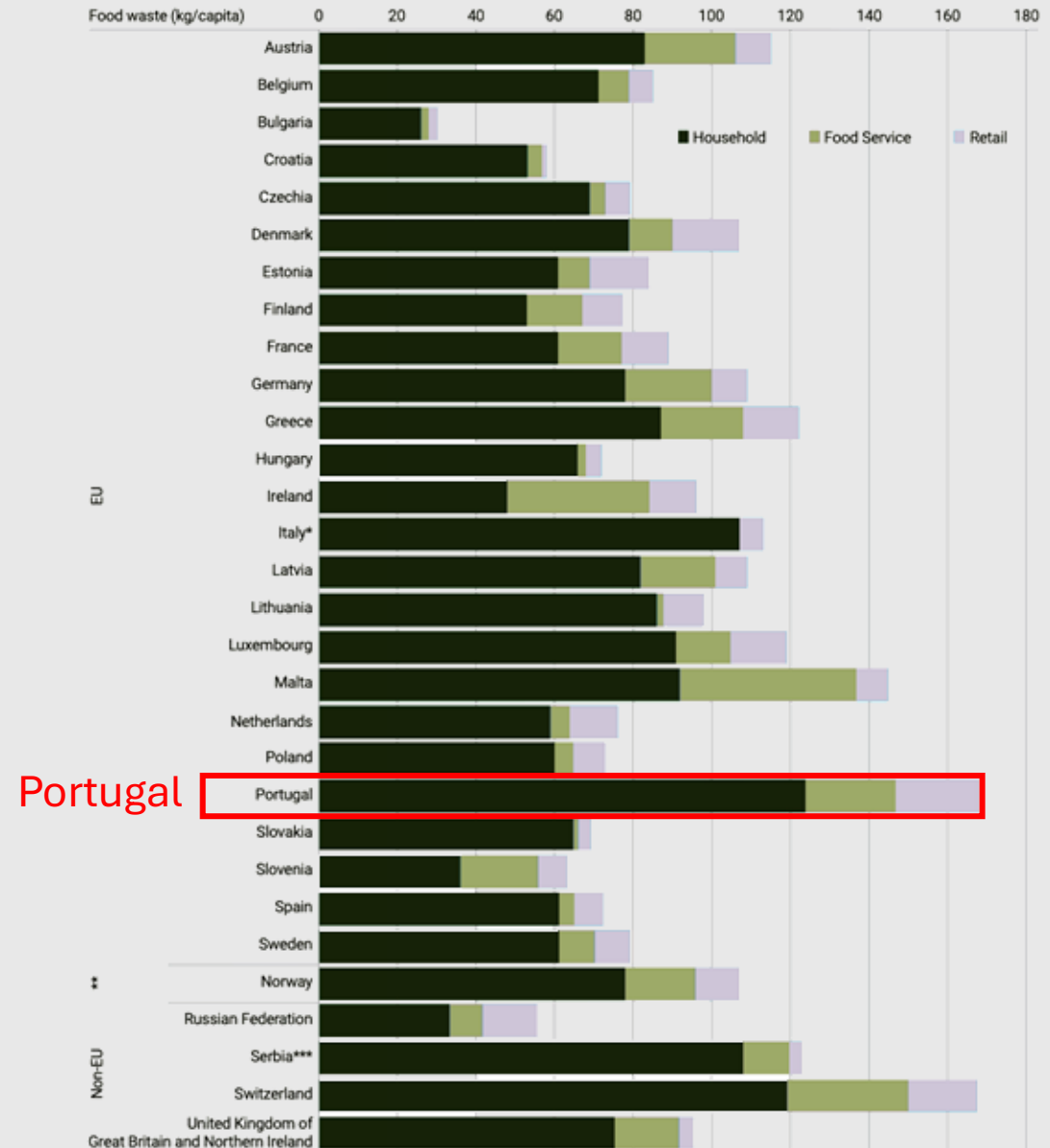
Nathan Audy

Simon Lünswilken

18/06/25

Problem

Food waste across Europe



Source: United Nations Environment Programme (2024). Food Waste Index Report 2024. Nairobi [pg. 34].

UN Sustainability Development Goals



Requirements & Concept

Objectives

Enhance accessibility



Faster Composting



High Quality Output



User Support



Sustainable Impact



Requirements

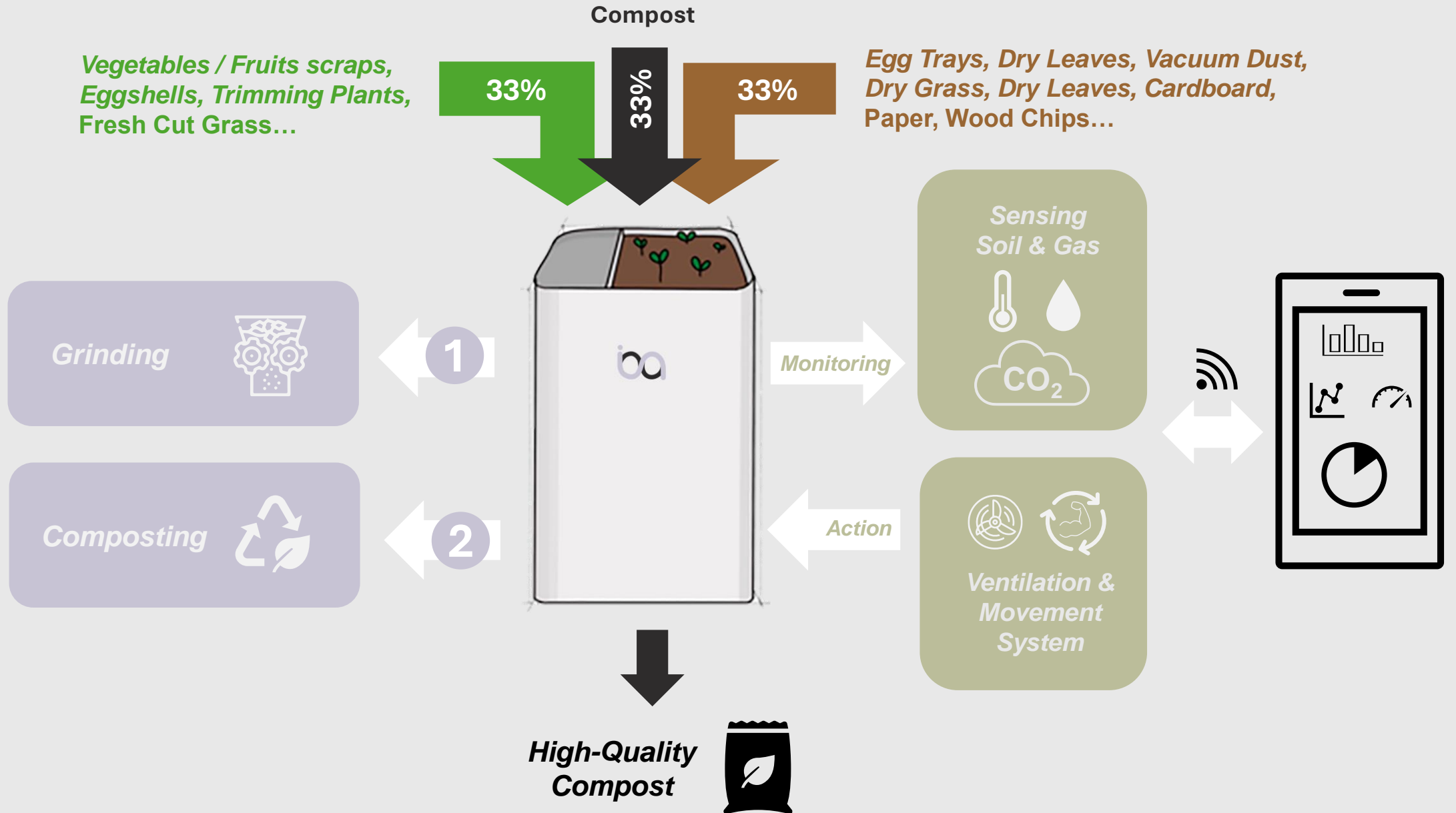
User Friendly Design & Price

Composting Process of 4-6 weeks

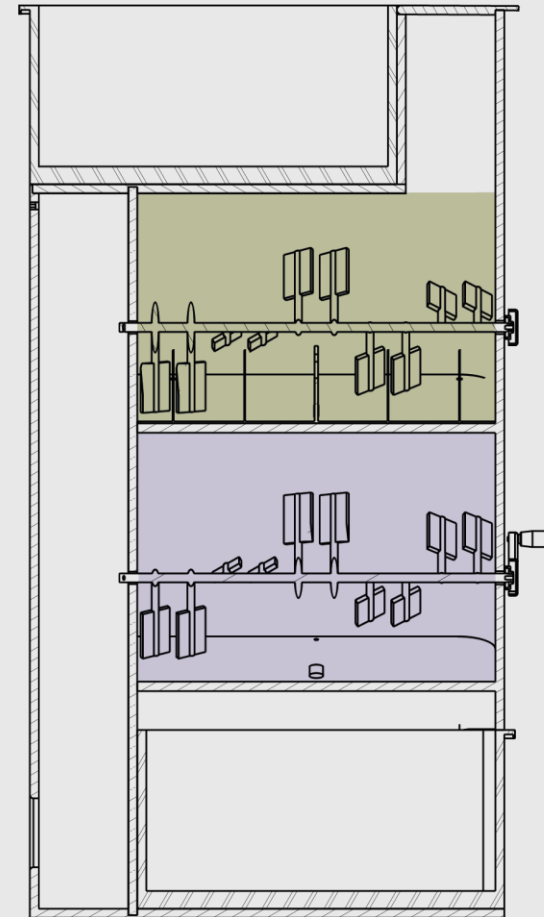
Suitable Compost for Growing Plants

Mobile App to Monitor Composting Process

Environmental Sustainable Materials



Our product

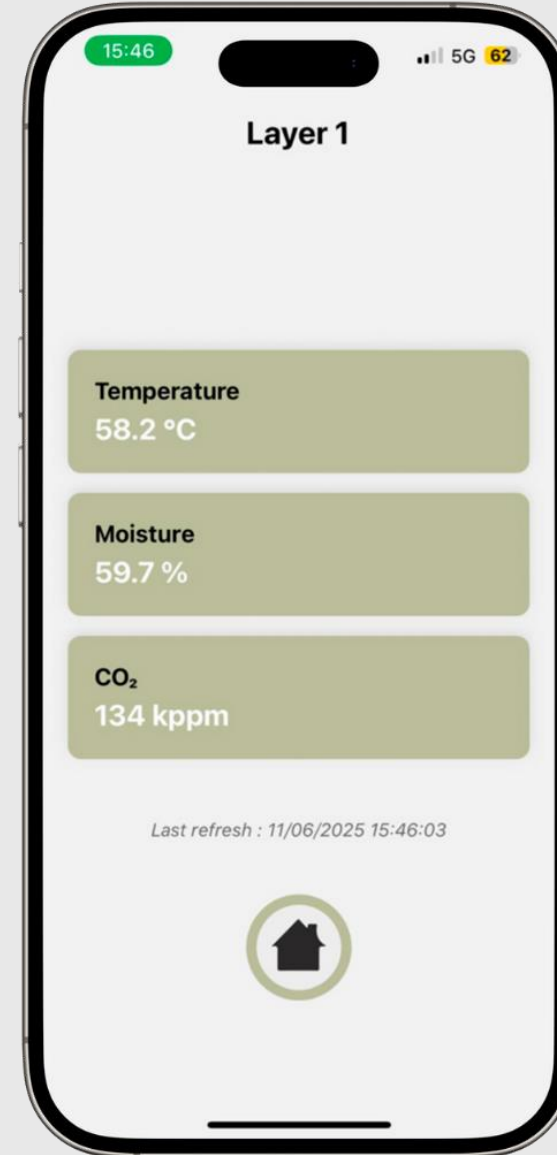
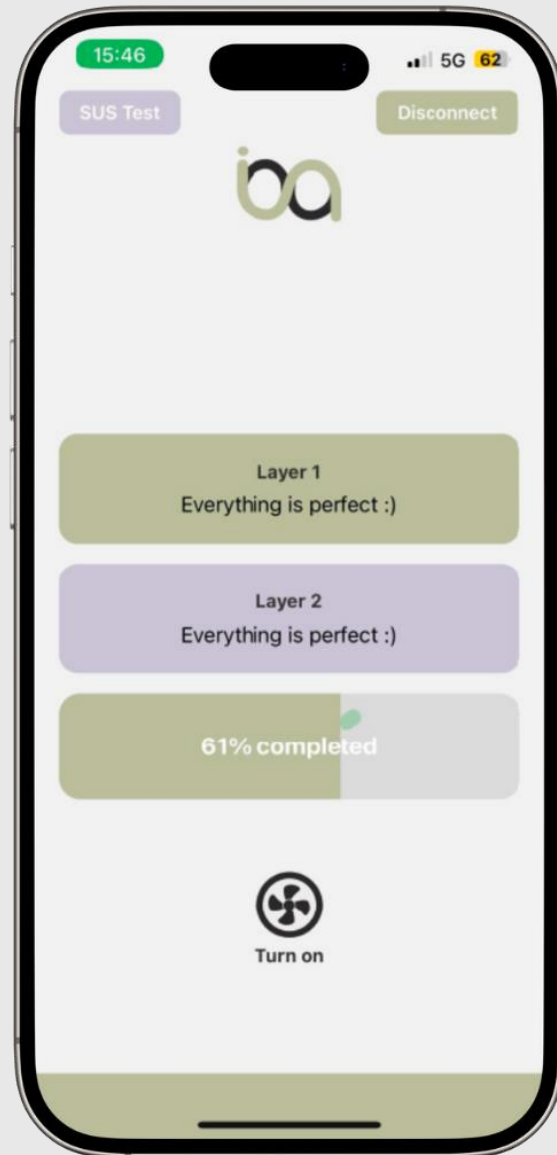


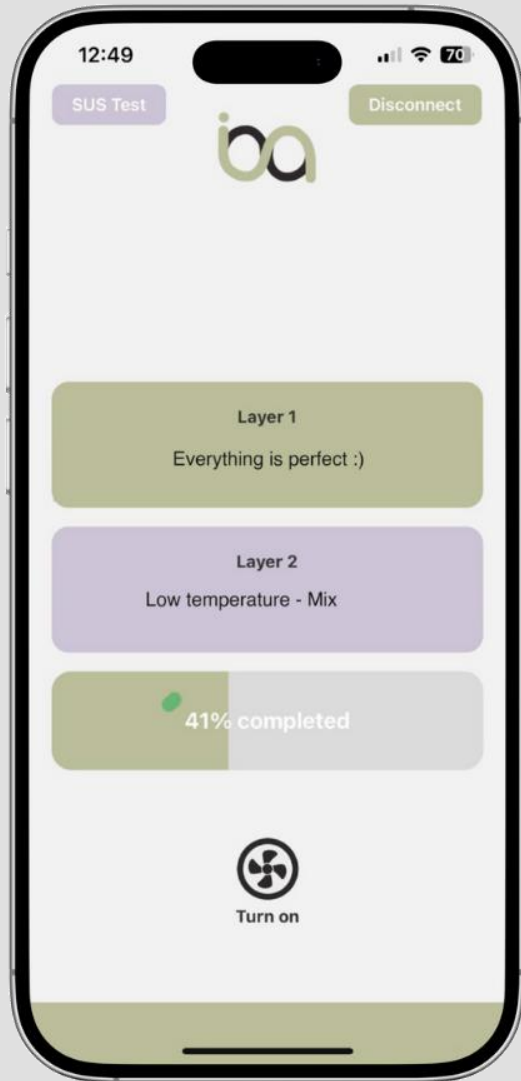
Layer 1

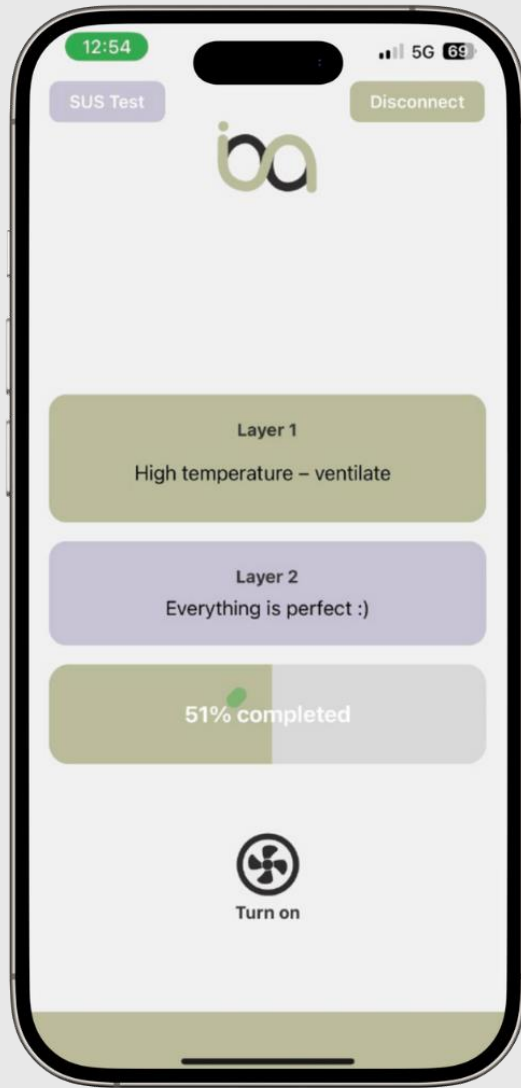
Layer 2











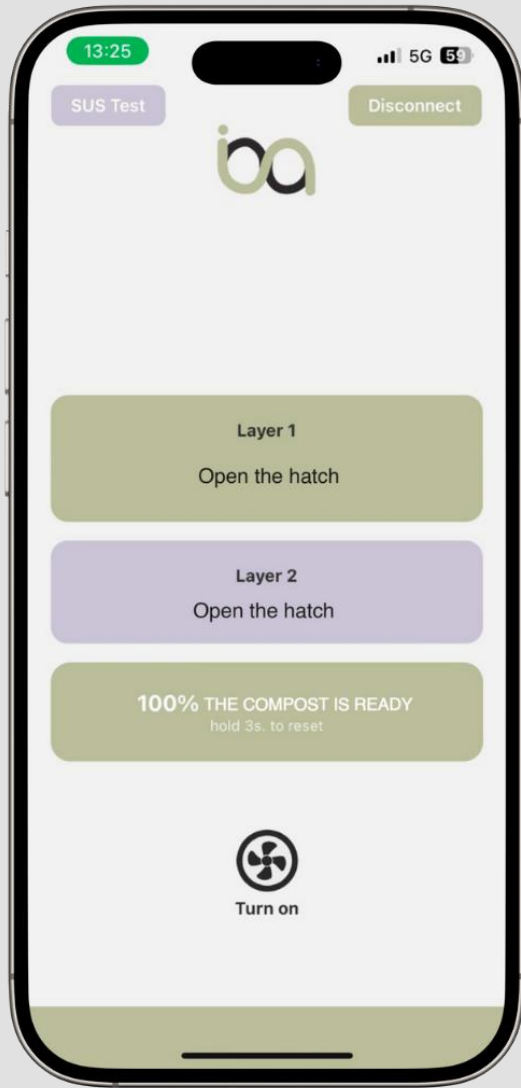
Layer 1
Everything is perfect :)

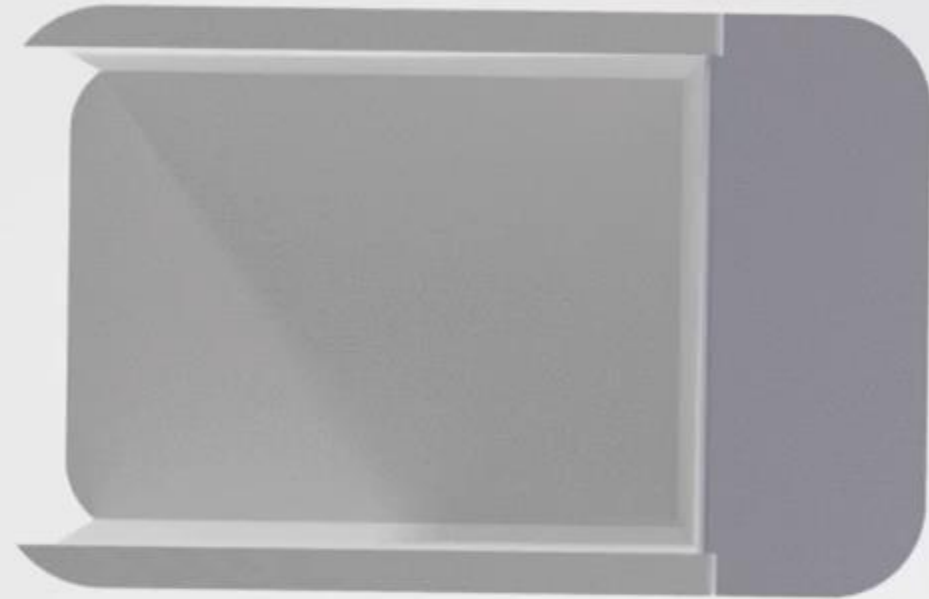
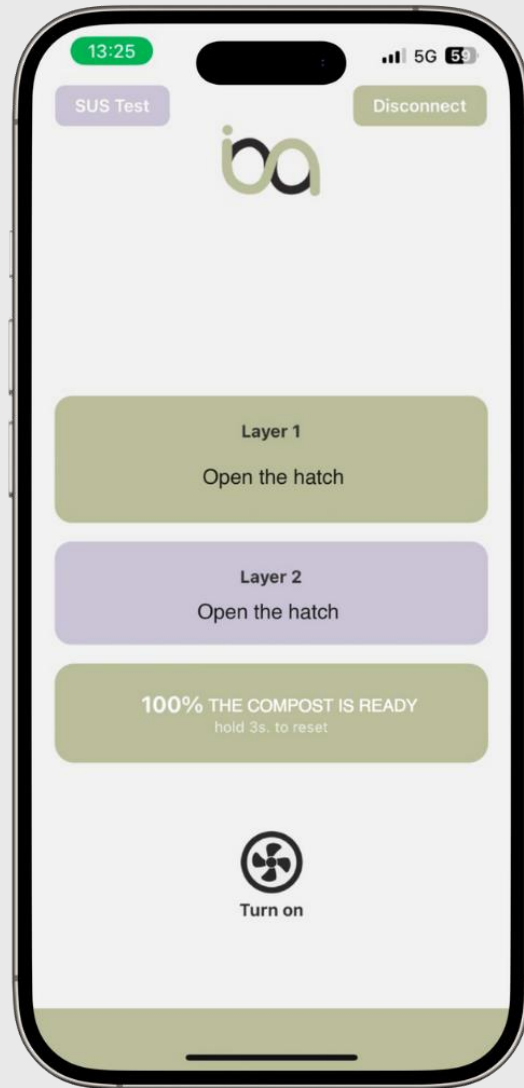
Layer 2
Everything is perfect :)

63% completed



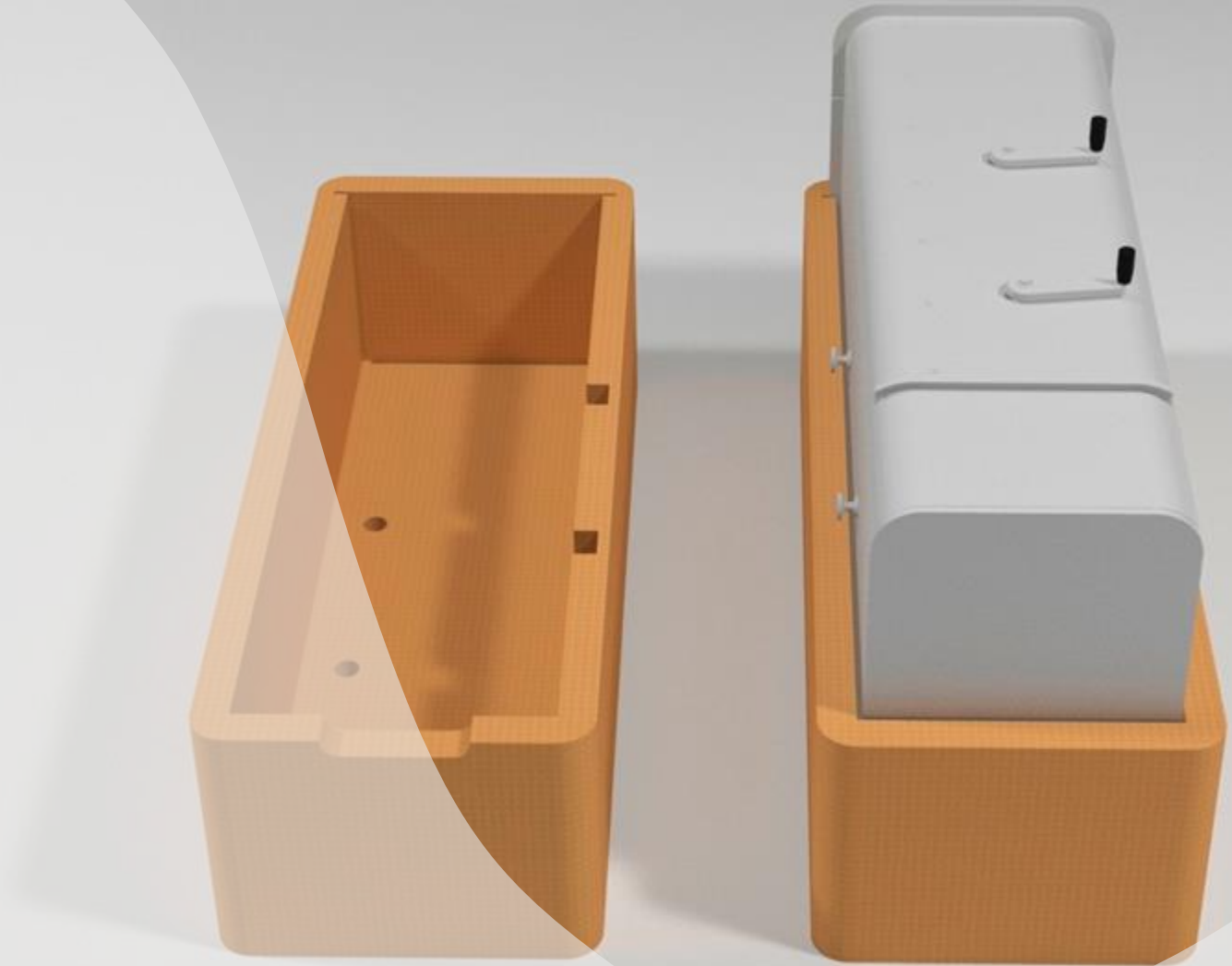
Turn on

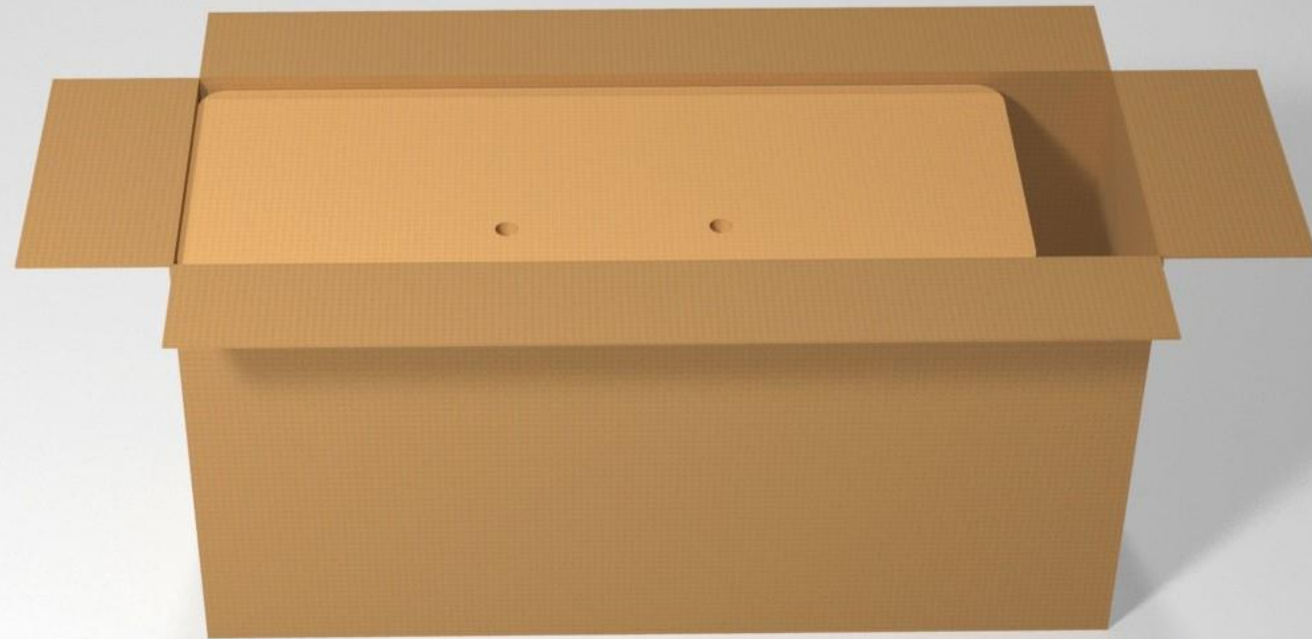






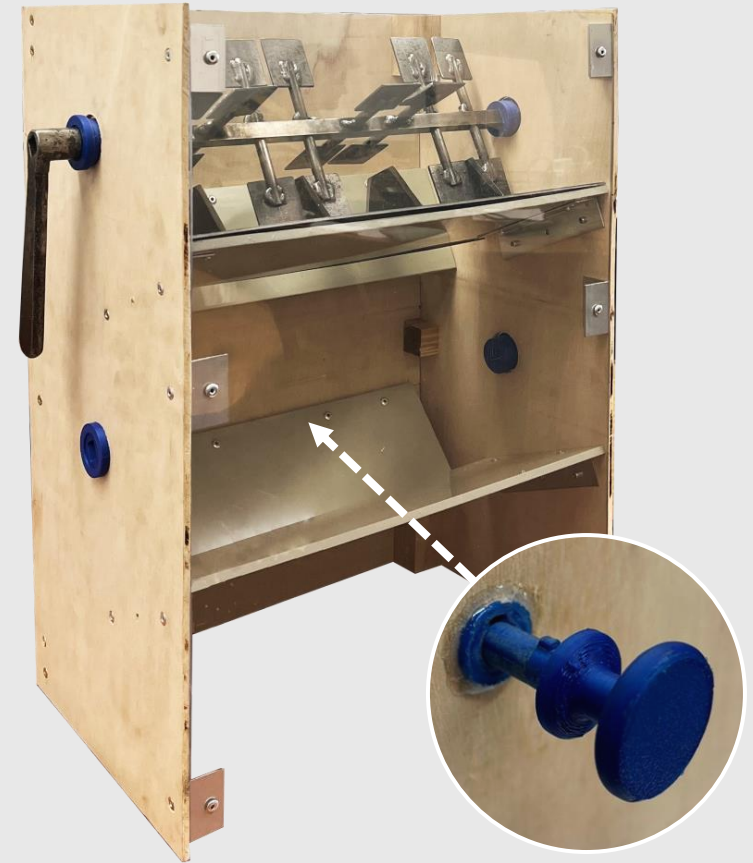
Packaging







Prototype



Manufactured prototype

Two different composting layers

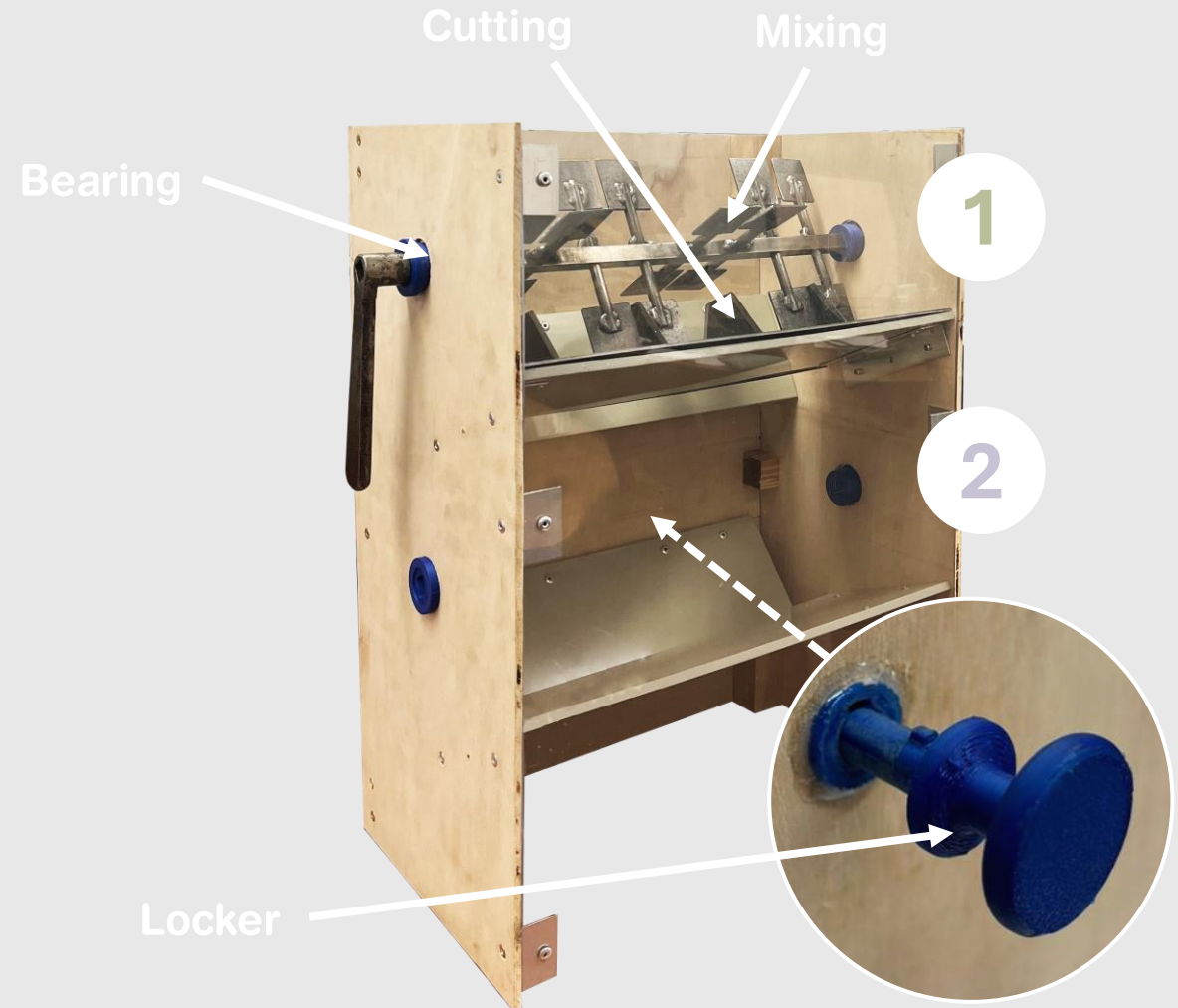
Layers 10 % smaller than original
Original shape maintained

Layer 1

Cutting & Mixing Part
Bearing System
Locking & Opening System

Layer 2

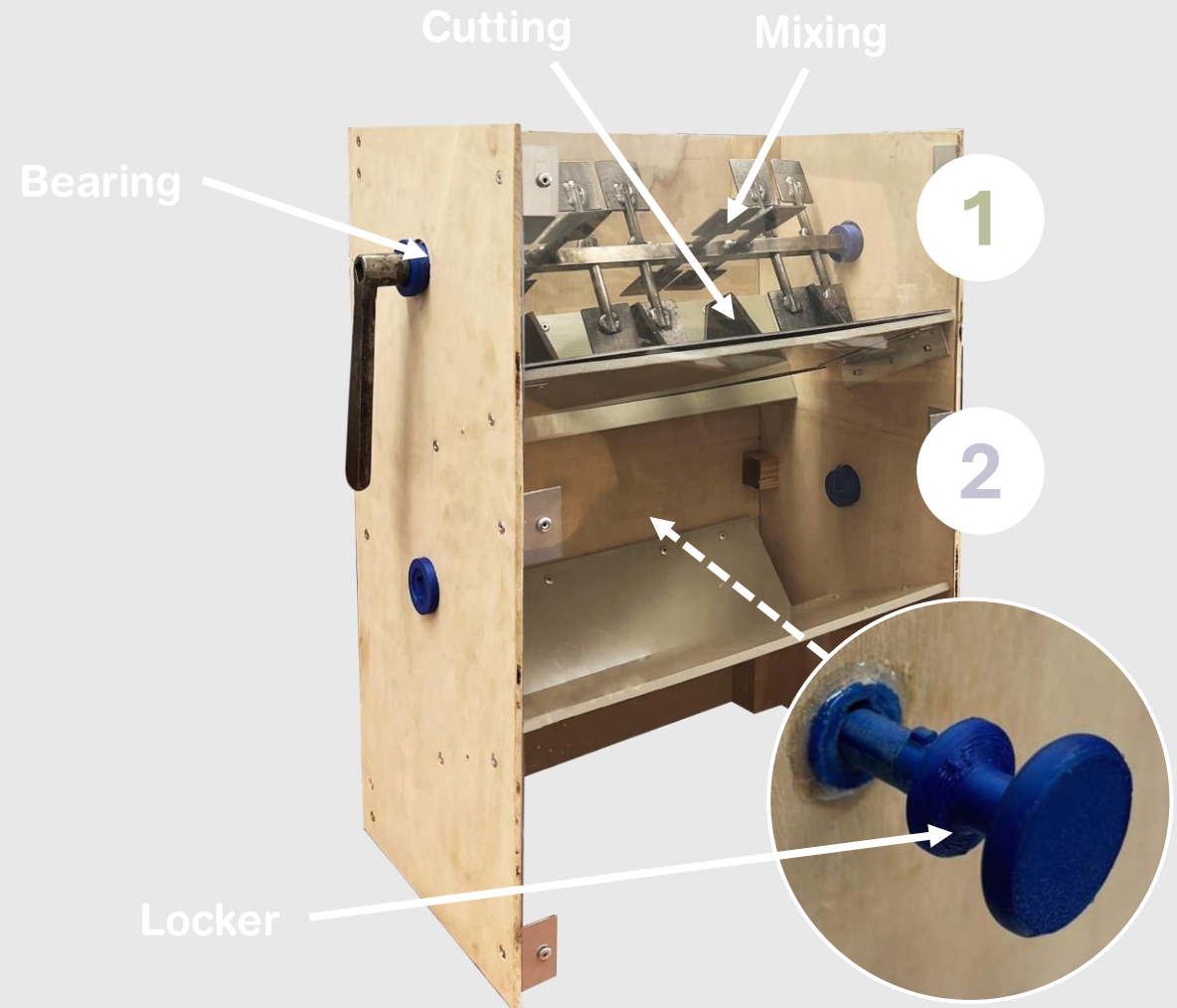
Locking & Opening System



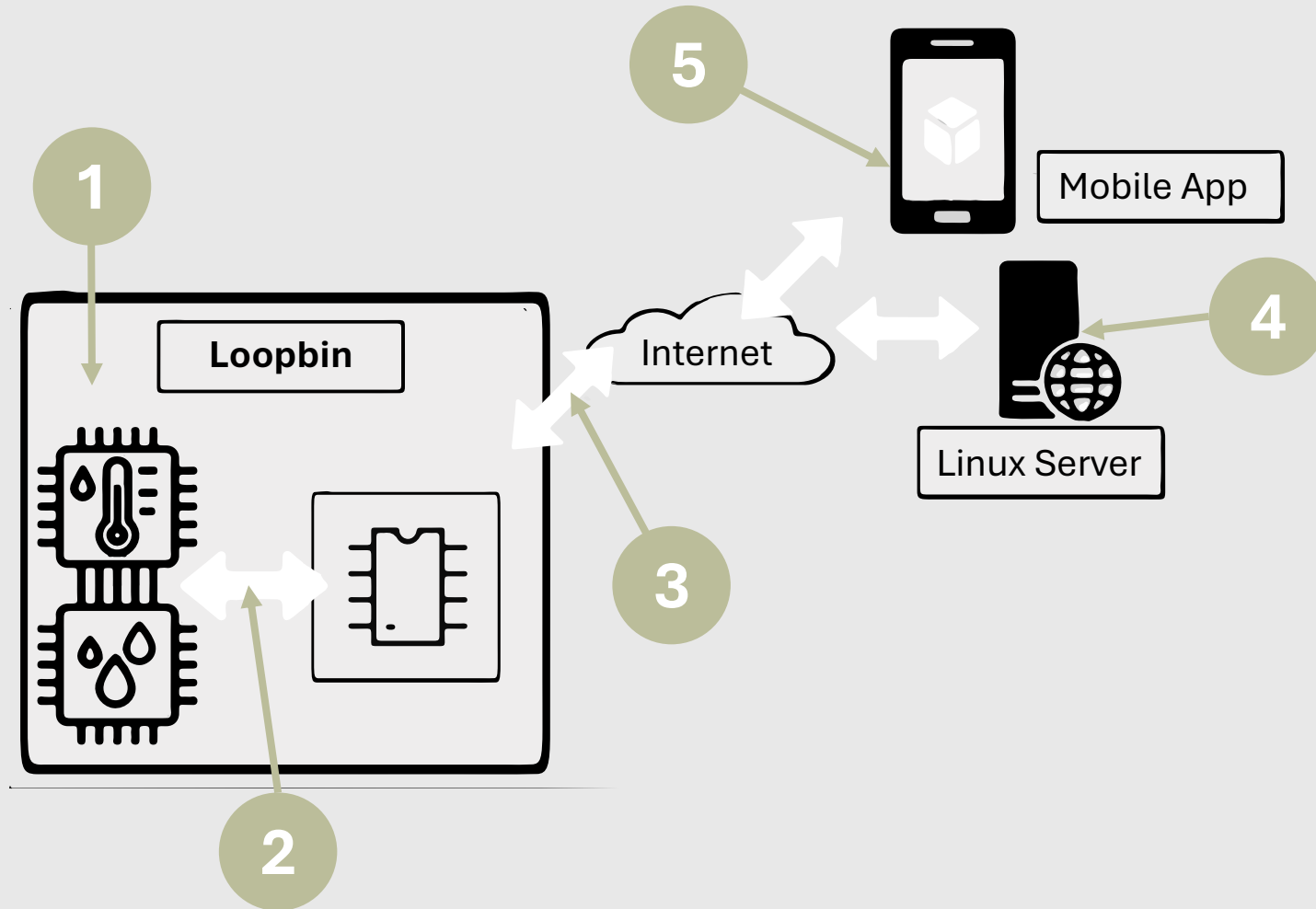
Test & Results

Mechanics tests

<i>Function</i>	<i>Pass / Fail</i>
Mixing	Pass
Bearing	Pass
Locker	Pass
Cutting	Fail



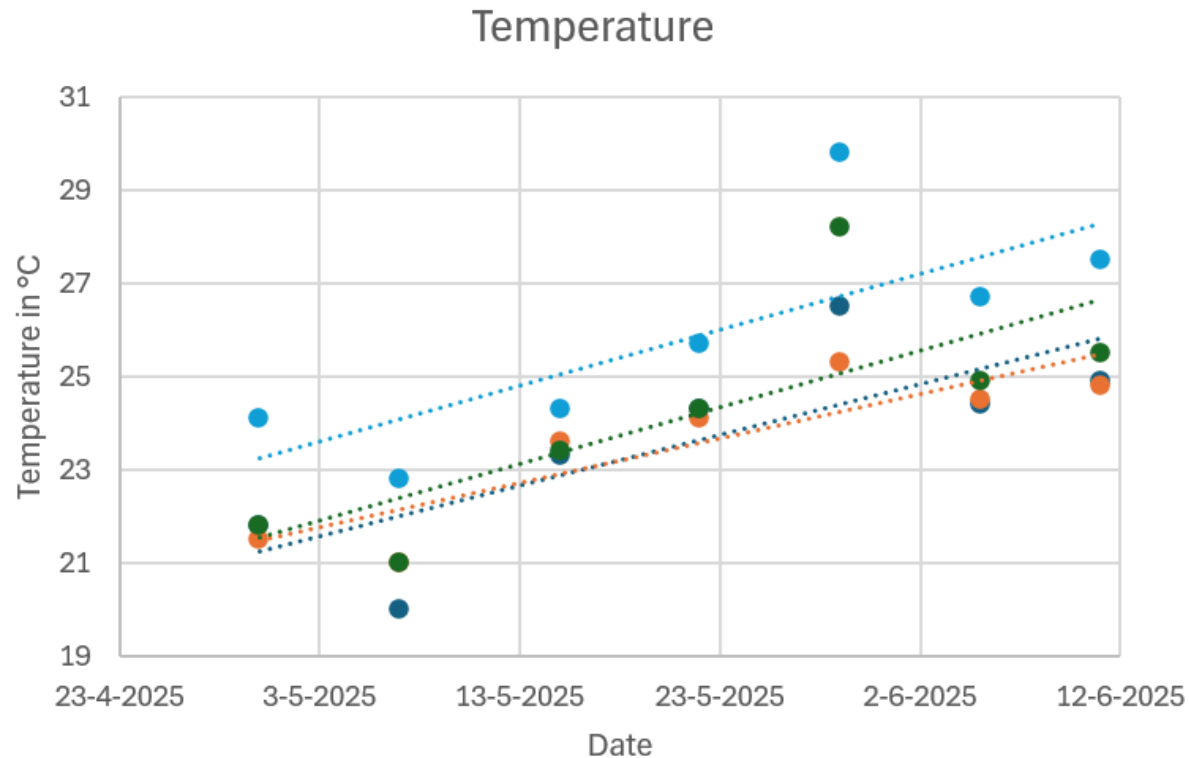
Electronics tests



N°	Function	Status
1	Sensors calibration	Pass
2	Sensors/controller communication	Pass
3	Internet communication	Pass
4	Maximum users test	Pass
5	Satisfaction of users on the app	Pass

Composting tests

- 6 weeks process
- No difference in percentage moisture



- completely closed bin
- bin opened above
- bin with side openings
- large bin (environment)



April 30th



June 11th

Conclusion

Achievements



TEAMWORK &
CROSS-CULTURAL
COMMUNICATION



DOCUMENTATION



PROTOTYPE AND
PRODUCT
DEVELOPMENT



PROMOTION OF
HOME GARDENING



MINIMIZING FOOD
WASTE

Future development



Enable compost sharing within local communities via the app



Expand to new markets and target audiences



Design refinement, size options, and material and technology upgrades



Explore solutions to handle a wider range of waste types

Video



Loopbin

LOOPBIN is an intelligent composting bin that uses smart sensors to analyze various parameters such as humidity, temperature and gas levels in real time. This data is sent to the mobile app, which provides users with personalized advice on how to optimize their compost and avoid common mistakes. It makes composting easy for beginners, while ensuring high quality compost.



Add your food scraps



Monitor the process



Grow your own plants

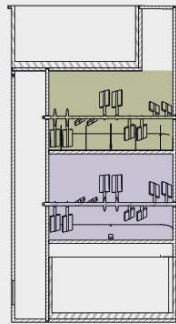


Planting box
To grow your own plants

Mixer
It is used to turn and aerate the compost

Cutting part
Its function is to cut the food scraps into smaller pieces

Handle
It allows the user to turn the mixer manually



Layer 1
The first phase of the composting process takes place here

Layer 2
The second phase of the composting process takes place here

Compost box
To collect the ready compost



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ABOUT US

We are an international team of students, driven by innovation and sustainability will, wishing to contribute to reduce food waste.

Learn more!



Order now at:
www.leftlovers.com

Contact us:
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customer@leftlovers.com



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Loopbin

No garden?
No problem!

Meet the LeftLovers' Loopbin and turn your foodwaste into plant food!



HOW DOES IT WORK?

1. Put your organic waste into the bin



2.The app will give you a notification when you need to add anything or stir the waste

3.Take out your compost



4. Use the compost in the plant box on top and grow your own plants!

ABOUT THE APP



Status of the compost at all time

Reminders for optimal composting

Gardening tips tailored to your plant choices

WHY LEFTLOVERS?

- ✓ Composting without the mess
- ✓ Odor free
- ✓ Perfect for small spaces
- ✓ No garden needed
- ✓ Real time insights via the app
- ✓ Reduces food waste

Thank you!