



LAWN MATE

USER MANUAL
GROUP 18

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INTRODUCTION

PROBLEM DOMAIN

- Homeowners often spend a significant amount of time and effort on manual grass cutting, particularly during the growing season.
- Manual lawn mowing may result in inconsistent cutting patterns, leading to an uneven lawn appearance.
- Conventional lawnmowers, especially those using fossil fuels, contribute to environmental pollution and carbon emissions.
- Manual lawn mowing poses safety risks, including injuries from equipment operation and potential hazards for children or pets in the vicinity.
- Traditional lawnmowers may incur ongoing fuel and maintenance costs.

OVERVIEW OF OUR SOLUTION

- Our “**LAWN MATE**” automates the grass-cutting process, significantly reducing the time and physical effort required for lawn maintenance.
- A user-friendly interface, accessible via a mobile app.
- Empowers homeowners to customize schedules, providing a personalized and flexible lawn care experience.
- Efficient battery systems, minimizing environmental impact and contributing to eco-friendly lawn maintenance.
- A cost-benefit analysis explores the economic advantages of the **LAWN MATE**, considering factors like energy efficiency, reduced maintenance requirements, and long-term savings compared to traditional methods.

INTENDED USERS

Homeowners:

Ideal for maintaining lawns and yards in residential settings. Simple and user-friendly design for individuals with varying levels of gardening experience.

Professional Landscapers:

Suitable for small to medium-sized landscaping projects. Provides a balance of power and maneuverability for professional use.

Important Note:

This grass cutter is not intended for use by children or individuals under the age of 18, and its operation should be carried out by individuals who have read and understood this user manual.

OPERATING INSTRUCTIONS

GET STARTED WITH OUR MOBILE APPLICATION

HOME



Fig 01

SIGNUP

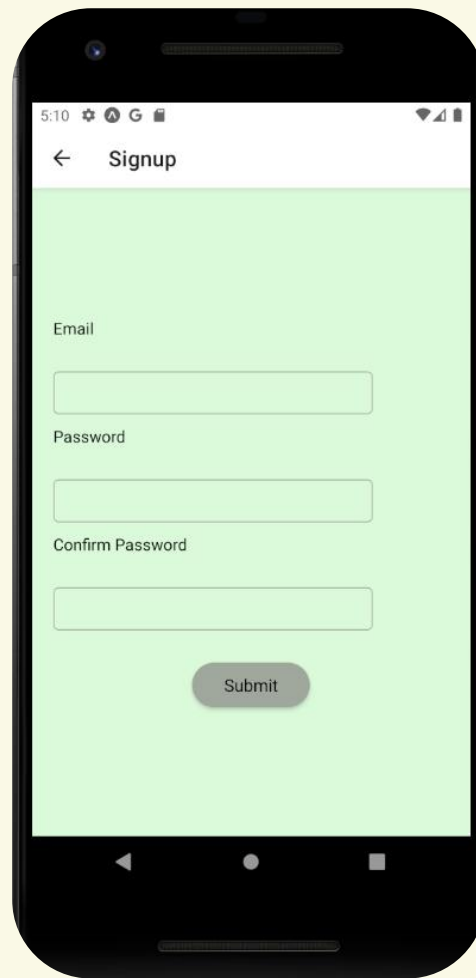
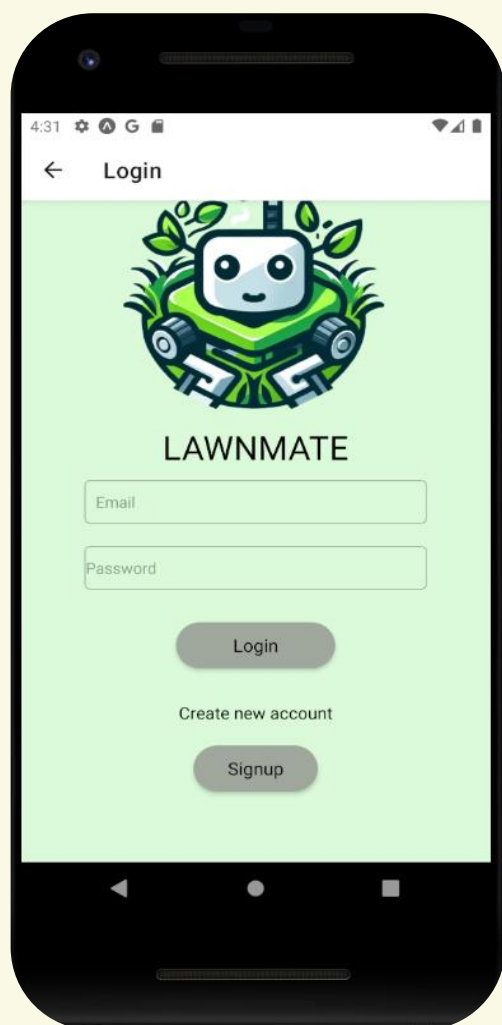


Fig 02

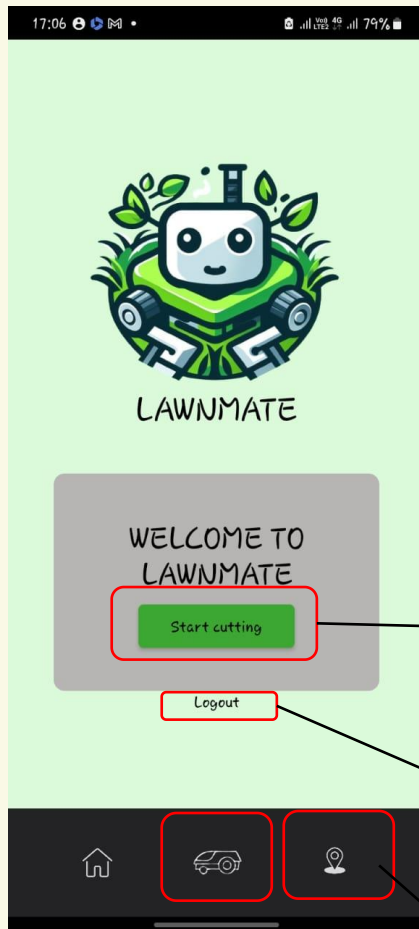
This is how the mobile application looks when you have it on your mobile phone. You would be able to sign up to register a new account. If you already have the account you would be able to log in To start up, enter your email address and the password.

If you are already an end user of us, when you have the application you would see a page to login, which is shown below.



Enter your registered email and password to login.

Fig 03



You will be directed to this kind of page where you would be able to start cutting. Before that, you have to add your device and location.

When the device and location are set, click on “Start cutting” to do manual or automatic cutting.

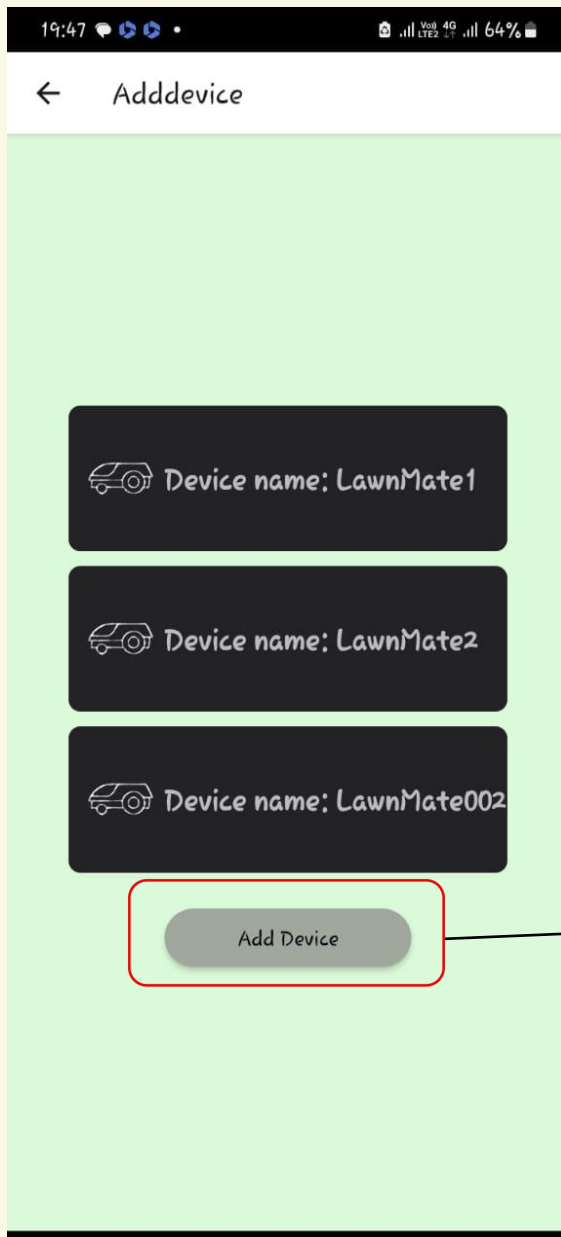
Log out when you finish cutting.

Add device

Add location

Fig 04

Click on the “Add Device” button to add your device. You will be directed to the page where the list of the devices appear.



If your device is not added to the application, add it by clicking on this button.

Fig 05

The image shows a mobile application interface for adding a device. At the top, there is a status bar with the time 19:47, signal strength, 4G LTE, and 64% battery. Below the status bar is a white header with a back arrow and the text 'DeviceForm'. The main content area has a light green background. It contains two text input fields: the first is labeled 'Device ID' and the second is labeled 'Password'. Below these fields is a grey rounded rectangular button labeled 'Submit'. A red rectangular box highlights the 'Submit' button, and an arrow points from this box to a separate green callout box on the right.

Enter Device ID and password to add your device.

Fig 06

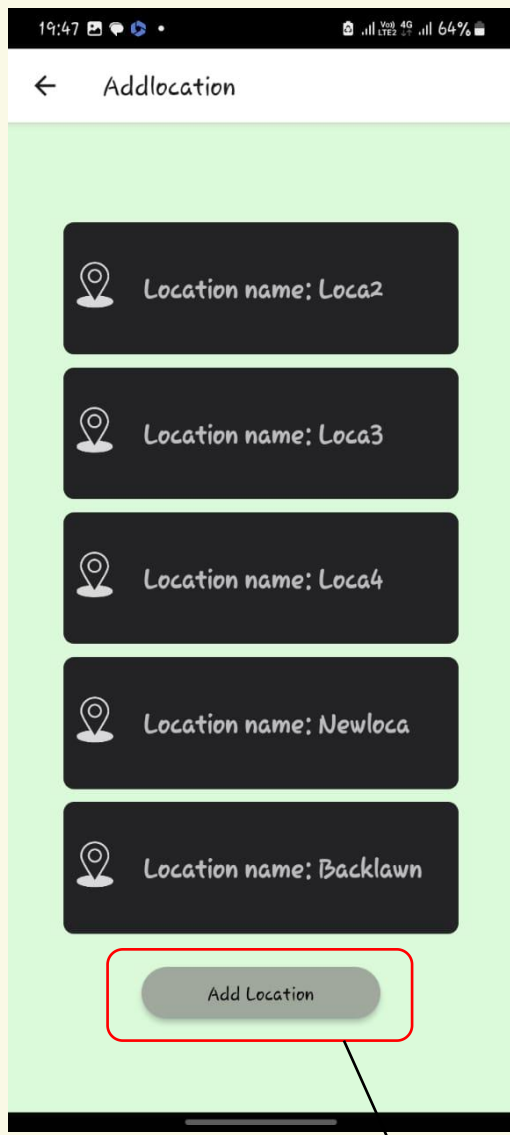


Fig 07

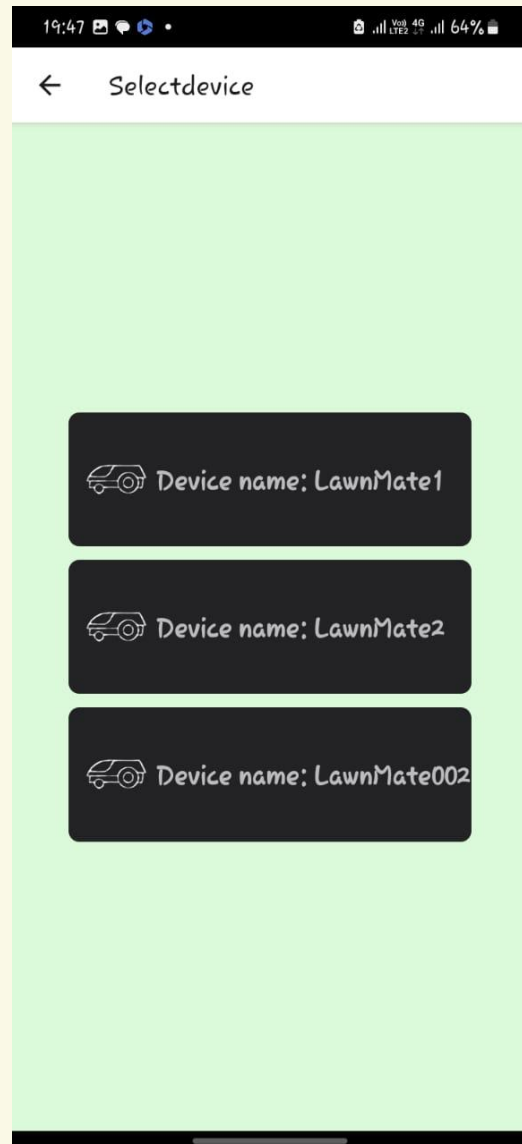


Fig 08

Add the location which should be cut.

After you click on the “Add Location” button, select the device that should be used for cutting.

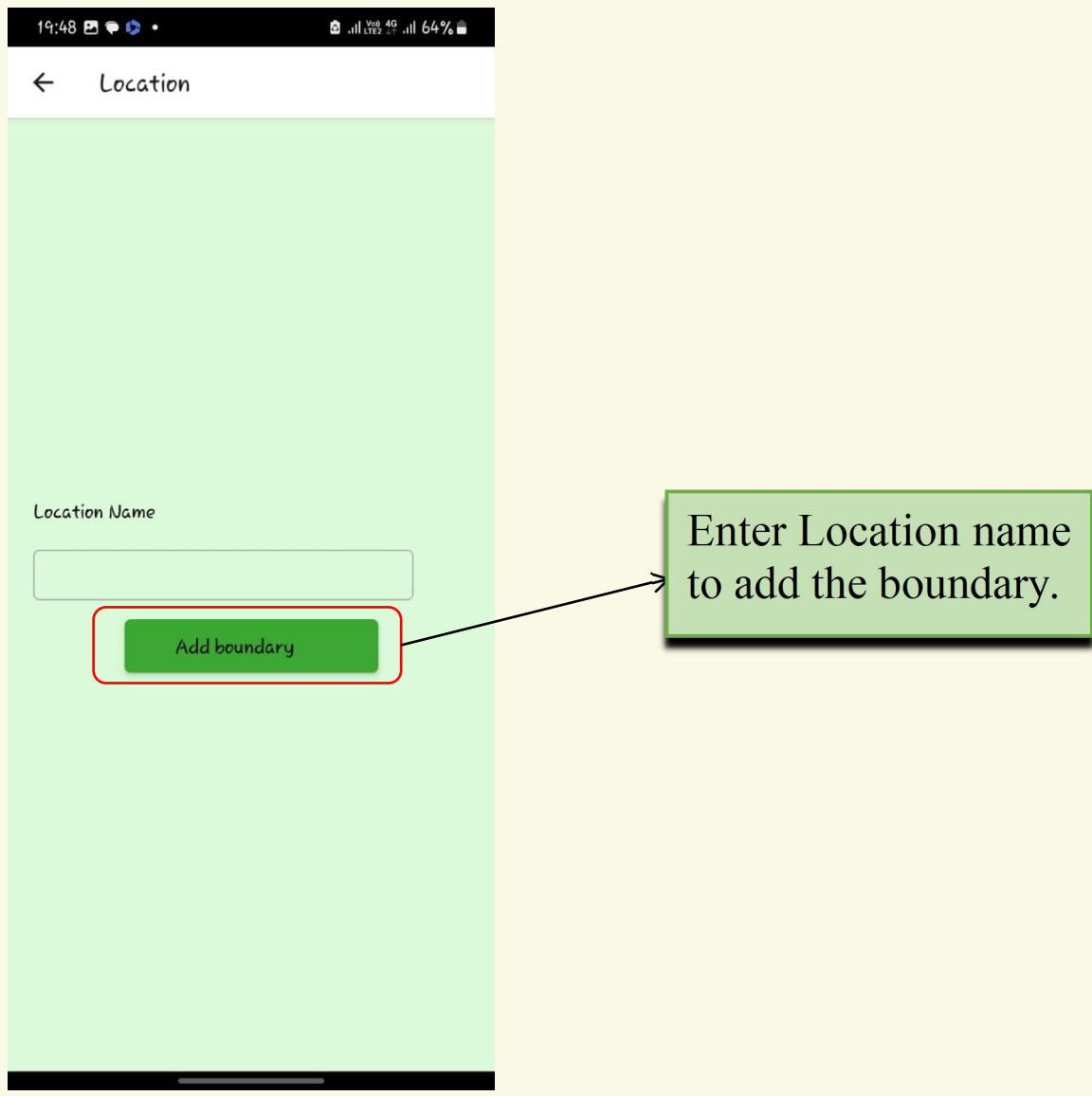
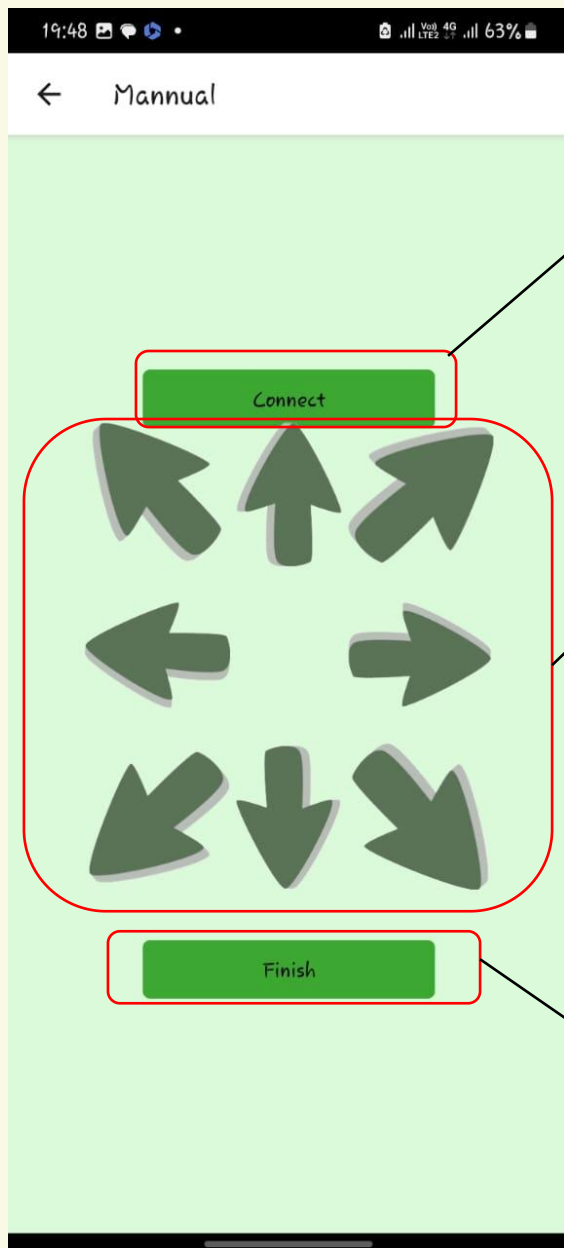


Fig 09

After specifying the device and location, you can manually add boundary by clicking on the “Add Boundary” button.

Fig 10



Using the bluetooth you can control the device for movement. So by clicking on the “Connect” button get connected with the device through bluetooth and start controlling the device.

These are the directions how the device would work. By pressing on the buttons you can drive the device in what directions you need.

After you define the boundary, click on the “Finish” button to stop defining the boundary.

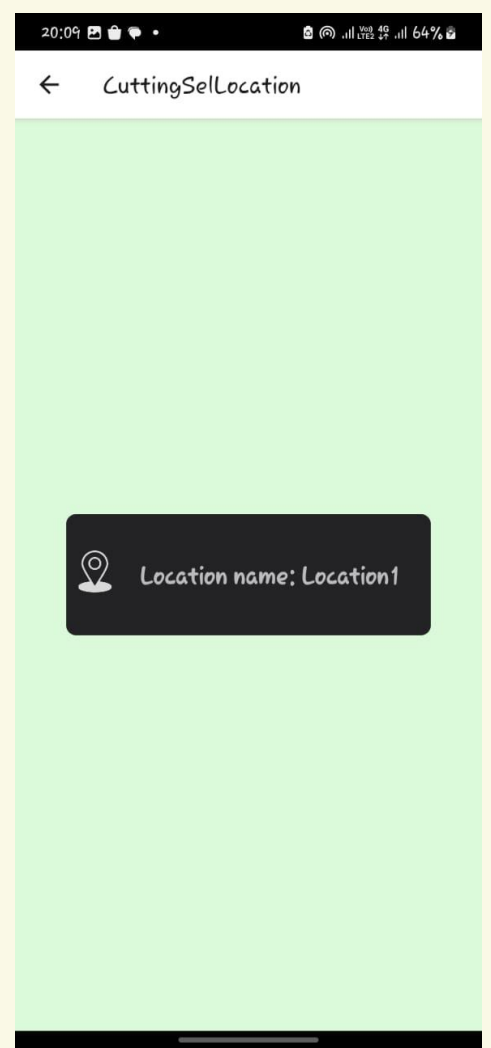
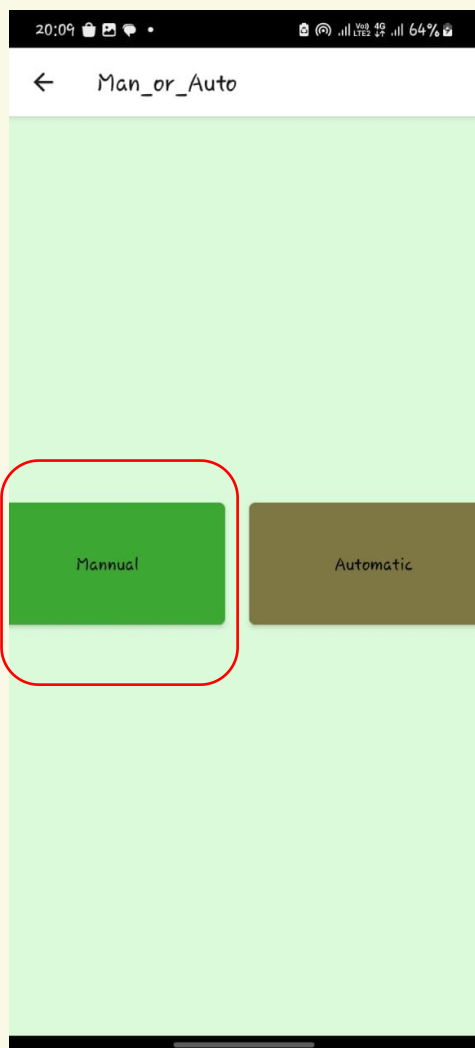
Now you’ve done with defining the boundary. Let us now move on to automatically cutting the grass!

After that, you can select manual or automatic cutting according to your preference type by clicking on the “Start cutting” button that appears in the home page.

Fig 11

Fig 12

Fig 13



Click on “Manual”

Select Device name

Select Location

After this, you will be directed to the Manual page(Fig 10) again.

Fig 14

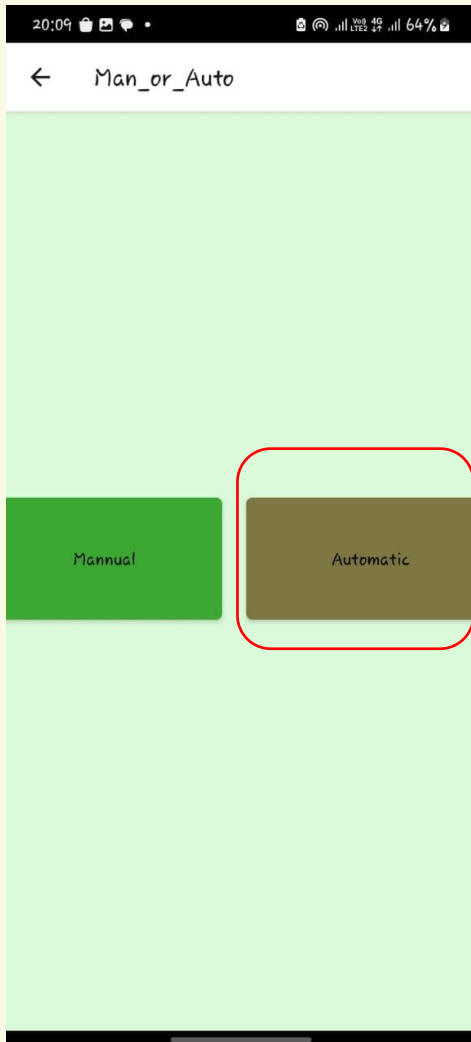
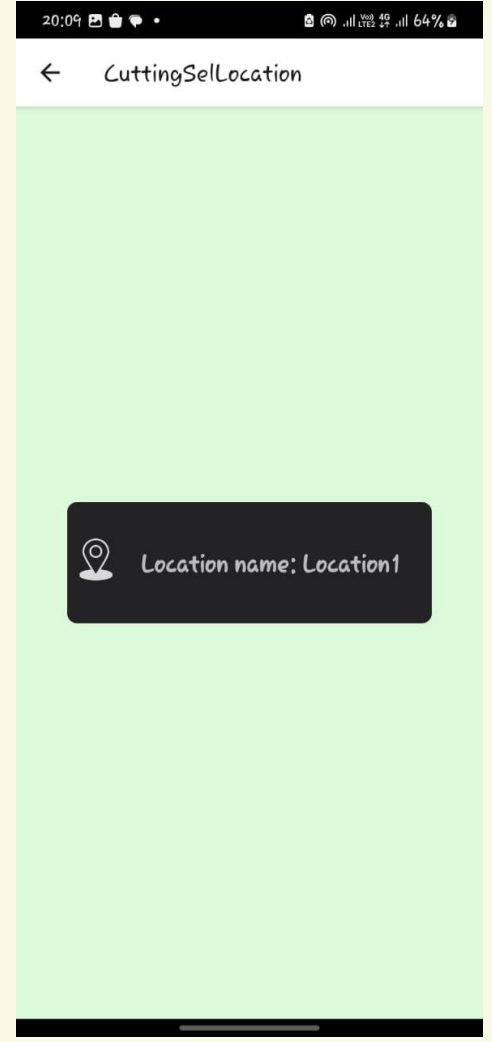


Fig 15



Fig 16



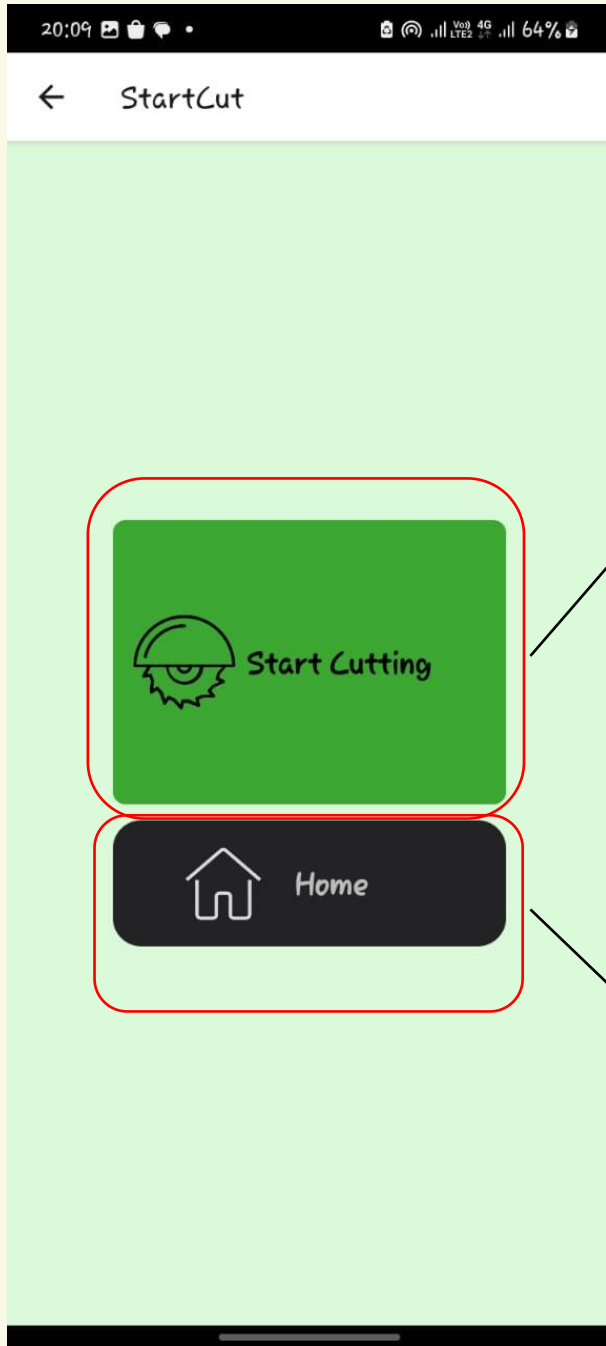
Click on “Automatic”

Select Device name

Select Location

Place your device on the same point where you started training the device when you gave the boundary manually!!!

Fig 17



Click on “Start Cutting” for the device to automatically cut the grass inside the selected boundary.

After the process is over, you can click on “Home” to go to the initial page.

HARDWARE

How to turn on?

- Switch on the battery to turn on the device.

Charging module

- Using the charging module, you can charge the battery whenever it is needed.

Define and start cutting

- Note the location when you start mapping manually.
- Locate the device when you use to cut the grass at the same location.
- Automatic operation would be done when you locate the device at the correct position of the lawn.(Initial position where you started the manual mapping)



SAFETY INSTRUCTIONS

- Keep the grass cutter stable during operation. Avoid operating on steep slopes or uneven terrain that may compromise stability.
- Store the grass cutter in a secure and dry location. Keep it away from children and unauthorized users.
- Do not tamper with or override any safety features built into the grass cutter. These features are designed to protect users and should not be disabled.
- Before starting the grass cutter, inspect the area for potential hazards such as rocks, debris, or uneven terrain. Remove any obstacles that could interfere with the machine's operation.
- Operate the grass cutter in well-ventilated outdoor areas. Avoid using it in enclosed spaces to minimize the risk of exposure to exhaust fumes.

