



# Smart Cleaning

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# outline

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## introduction

In today's fast-paced world, cleaning our living spaces can often be a time-consuming and arduous task. To address this challenge, I embarked on a mission to develop an intelligent and efficient solution that combines the power of robotics and automation. The result is the Smart an innovative device designed to —Cleaning Robot revolutionize the way we clean and maintain our homes

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This project aimed to create a cutting-edge cleaning robot that not only offers advanced cleaning capabilities but also incorporates smart features and seamless connectivity. The Smart Cleaning Robot can be operated manually or remotely controlled through a smartphone, providing users with flexibility and convenience.

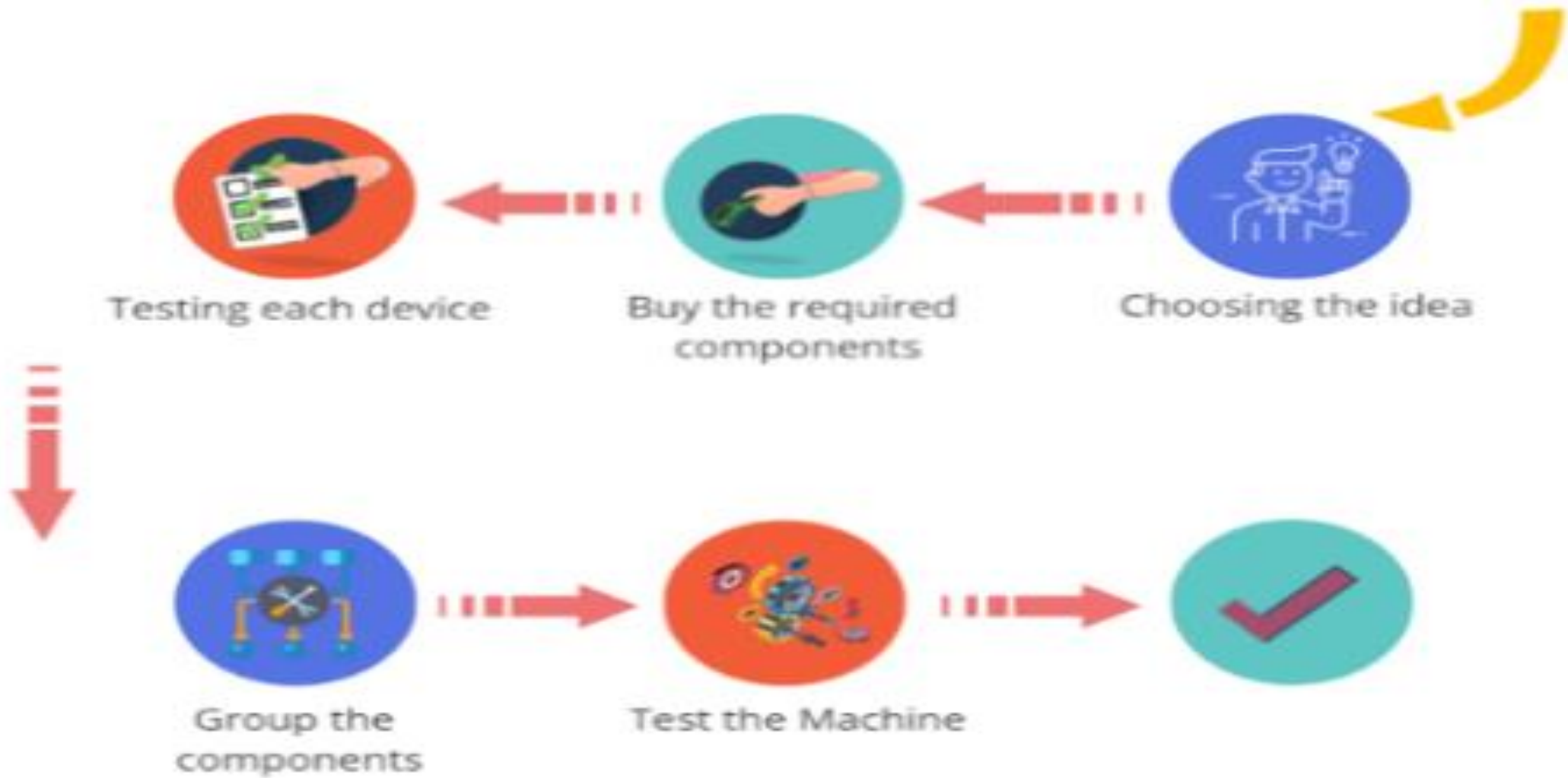
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Idea

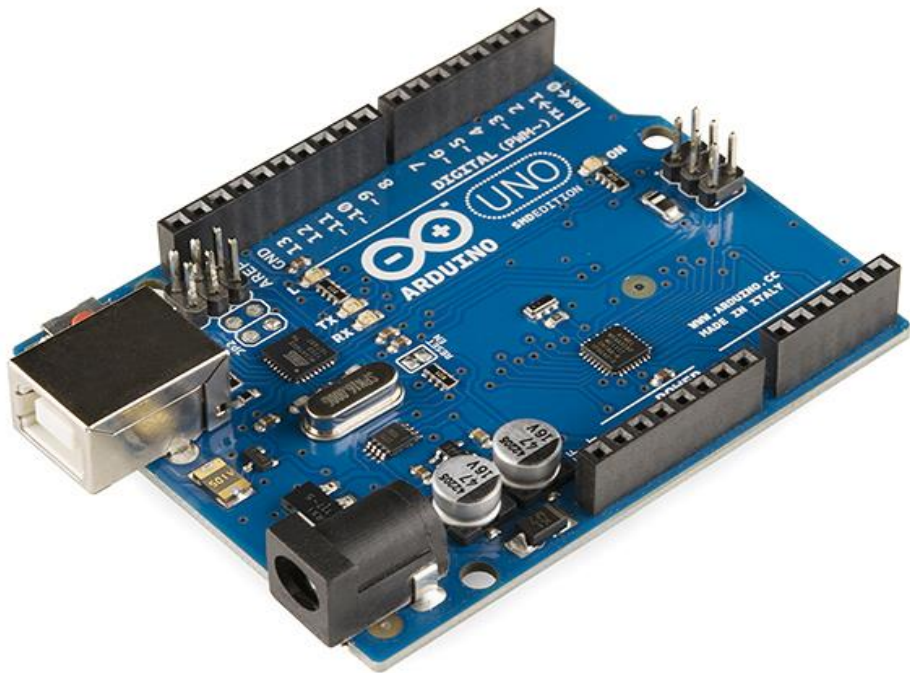
Where did  
the idea  
come from?

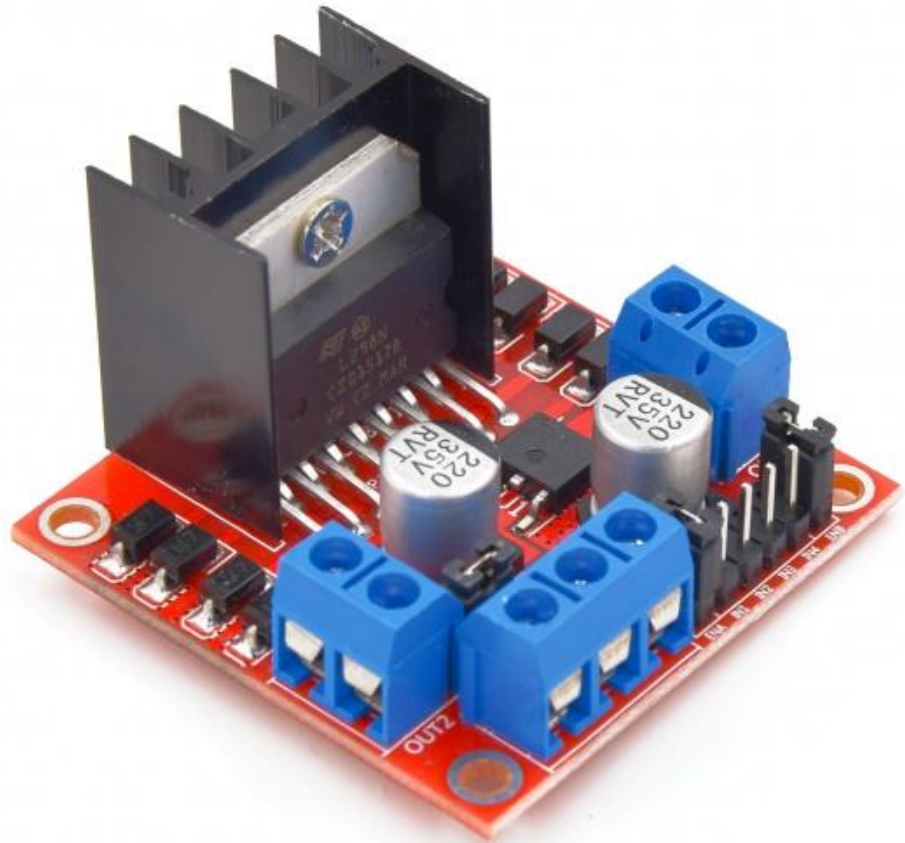
- "The idea for the Smart Cleaning Robot emerged from the need for more efficient cleaning solutions in today's fast-paced world. Inspired by the challenges of maintaining clean living spaces, I embarked on a mission to develop a robotic solution that could automate and streamline the cleaning process. Through personal experiences and extensive research, the idea took shape, envisioning a smart robot capable of tackling cleaning tasks with ease.

# Process steps

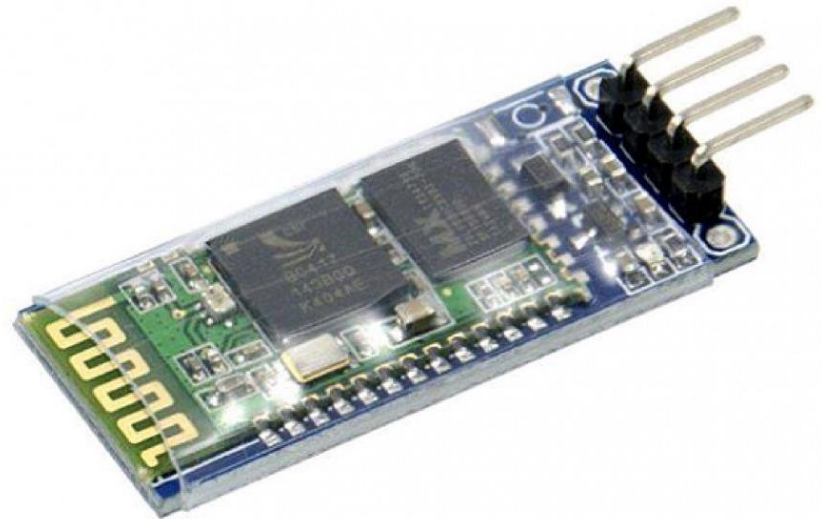
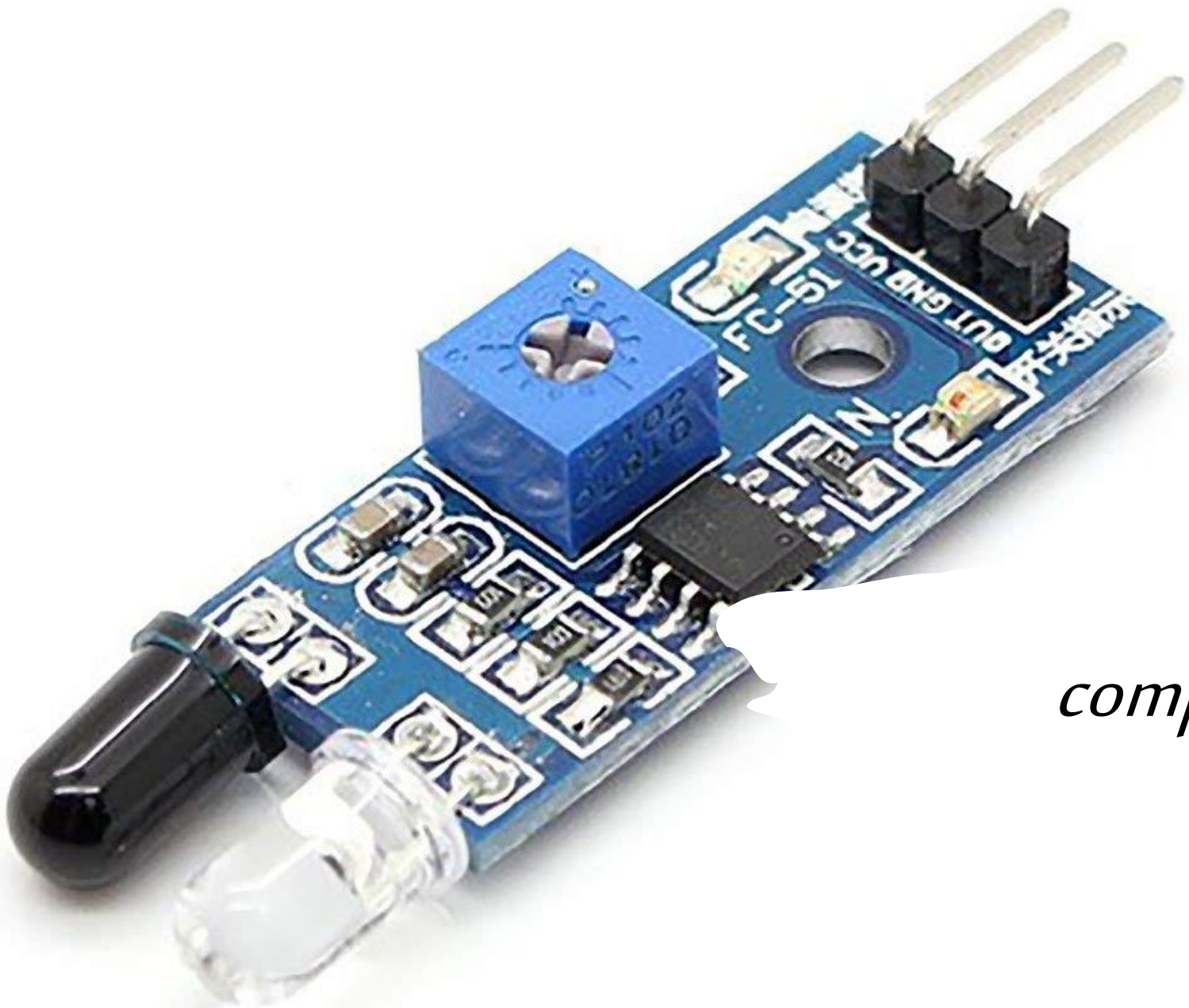


# components





*components*

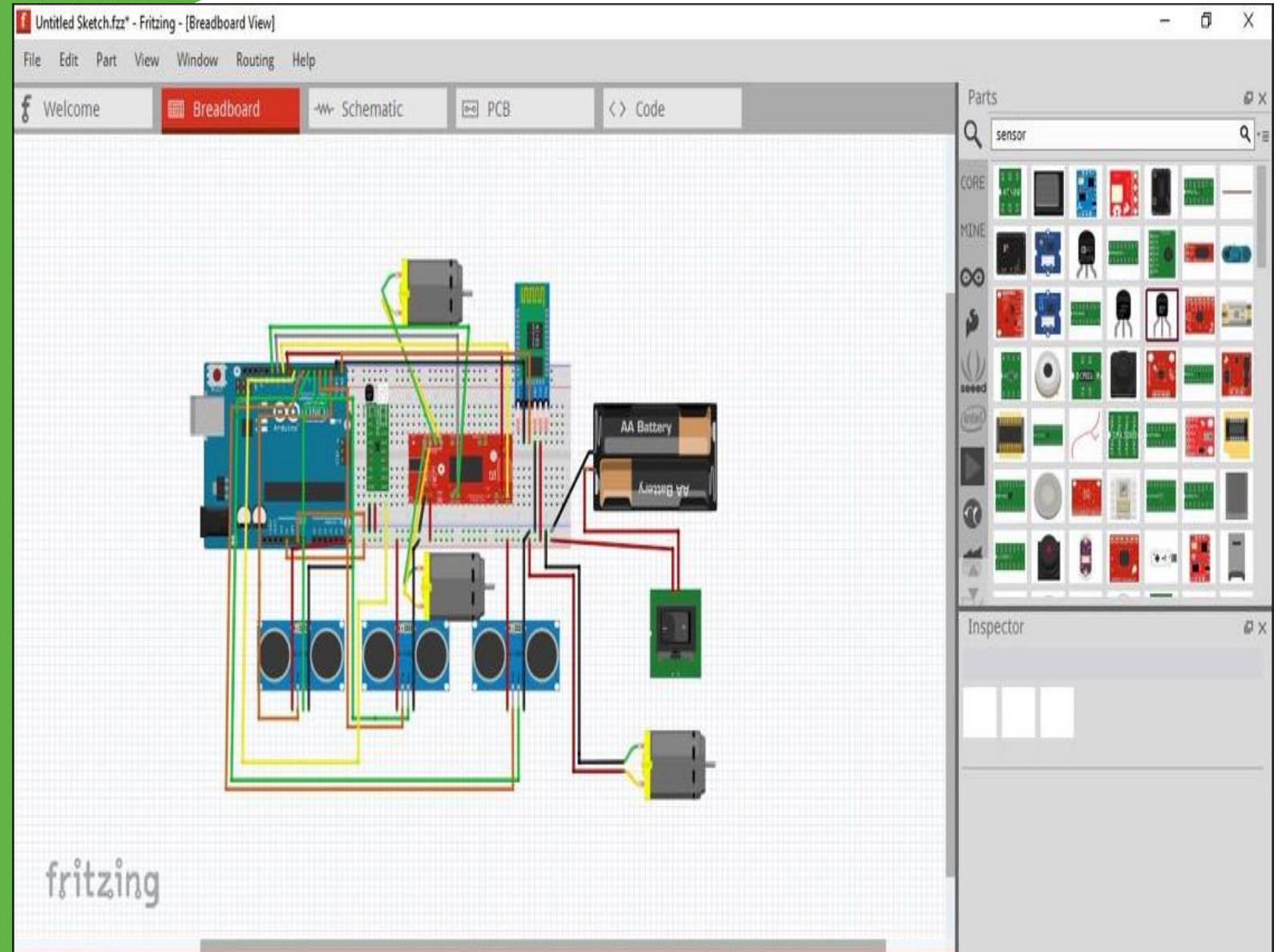



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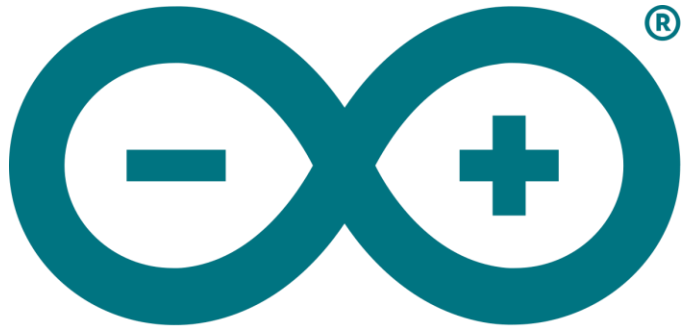
# Assembly process



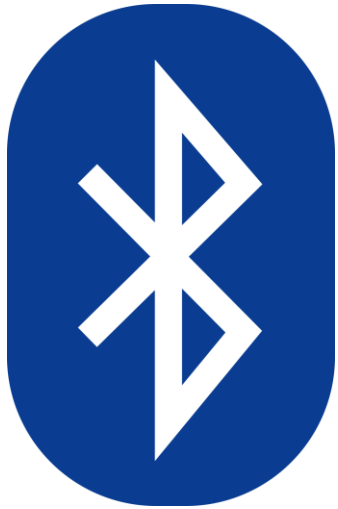


## Project Operation and Functionality

- **Power On:** Activate the smart cleaning robot by pressing the power button.
- **Autonomous Navigation:** The robot uses sound sensors to detect walls and obstacles, as well as an infrared sensor to prevent falls from ledges or slopes.
- **Random Movement:** The robot moves in a random pattern, ensuring thorough coverage of the cleaning area.
- **Bluetooth Connectivity:** Connect the robot to your smartphone via Bluetooth for remote control.
- **Smartphone Control:** Use the smartphone app to control the robot's movement and path with an easy-to-use interface.
- **Real-Time Monitoring:** Monitor the robot's progress, battery status, and cleaning coverage in real-time.



**ARDUINO**



*technology*

## Future Work

- In terms of future work, there are several potential areas for improvement in the smart cleaning robot. This includes integrating advanced machine learning or AI algorithms for enhanced navigation and obstacle avoidance. Additional sensors, such as cameras or environmental sensors, can provide more comprehensive data for intelligent cleaning tasks. Smart mapping and localization techniques can optimize the cleaning path. Improving the user interface and control system can enhance the user experience. By exploring these directions, the robot can continue to evolve and offer more efficient cleaning capabilities.

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