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# Kobuki Installation Documentation

Contactless Temperature Monitor

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# Summary

This documentation is to guide you through the setup and installation of Kobuki on the Raspberry Pi.

## Equipment

- Raspberry Pi 3 / 4 loaded with ubiquity ROS (Ubuntu 16.04)
- Kobuki Turtle Bot

## Method

Interface into the Raspberry Pi and open up the terminal.

### Installation of ROS-Kinetic:

```
$ sudo apt-get install ros-kinetic-kobuki
```

### The installation of ROS-Melodic:

To install the Kobuki Driver onto Melodic, the package will have to be compiled from source code

```
$ sudo apt-get install python-catkin-tools
```

### Make Workspace

```
$ mkdir -p kobukiws/src
```

### Go to Workspace source folder and clone repo

```
$ cd kobuki_ws/src
$ catkin_init_workspace
$ git clone https://github.com/amateurmaker/Turtlebot2.git
$ git clone https://github.com/yujinrobot/kobuki.git
```

### Go back to workspace and install dependencies

```
$ cd ..
$ wstool init src src/kobuki/kobuki.rosinstall
$ sudo rosdep install --from-paths src --ignore-src -r -y
```

### Build package

There will be missing dependencies, do apt-get ros-melodic-<missing dependency>

```
$ catkin build
```

Run these commands or place them into ~/.bashrc

```
$ . /kobuki_ws/devel/setup.bash
```

OR

```
$ source ~/kobuki_ws/devel/setup.bash
```

## Moving Kobuki

### Terminal 1:

```
$ roscore
```

### Terminal 2:

```
$ roslaunch kobuki_node minimal.launch
```

### Terminal 3:

```
$ roslaunch kobuki_keyop safe_keyop.launch
```

## Conclusion

The Kobuki turtle bot should now be able to be controlled via the Raspberry Pi. Using an external device such as a laptop to interface into the Raspberry Pi will grant control of the turtle bot.