BatteryRobot Manual

Version 0.1.1

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Document Control Page

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# Project Overview

# General Limitations and Warnings

Cannot perform vial and pipette operations for safety purposes

# Requirements

# File Hierarchy

Project is under the BatteryRobot folder.

# Version Control

Project uses Git for version control. Project repository is on Github under the Lopez Group email.

# Detailed Codebase Explanation

## Main.nproj

The most important file for this project is the \*.nproj file (for this project, it’s named Main.nproj). This file contains all the robot configurations, locators etc.

## Locators

Locators are names given to specific coordinates of the robot workstation. They allow for simplicity and readability when positioning the robot at a specific location.

When working in Python, all locators are imported from MainProject\src\main\Locator.py. However, locations are stored in the Main.nproj file, not the Locator.py file itself. They are only exported to the latter for script execution.

Locators can be edited through the “Locator” tab on the NorthIDE (see “View”).

### Pipette and Gripper Locators

Locators are relative to either the pipette holder or gripper of the robot. On the “Locator” tab, each Locator will have an icon denoting which robot part the locator is relative to.

### Types of Locators

#### Standard

Standard locators simply store the coordinates of a point of interest on the workstation.

#### Grid

Grid locators are a list of coordinates that denote the locations of a grid-like structure on the workstation e.g. vial racks.

### Mapped Locators

Accessible through Locators.py

## Classes

### BatteryRobot

### T8

### PowderShaker

## Powder Protocols

All powder protocols are defined in MainProject\src\main\settings\powder\_protocols.py.

## External Libraries

Pandas

Gamry

## Errors Raised for Safety Purposes

Some Exceptions (errors) are raised during runtime to avoid collision between components of the robot.