Week 6 - List of changes to the code since the March 29th commit that was the code submitted along the documents on Thursday.

The changes introduced since last iteration include a number of minor updates and clarifications, as well as revamping of some of the code. In addition to the specific work detailed below, some general improvements included adding/removing import statements, updating the JavaDoc API, etc. The other operations are detailed by class.

A common correction that was done was the removal of the re-instantiation of certain key attributes, including Odometer, Navigation ,etc, in other classes. Those attributes are now defined once in the Controller class, and the classes that need those attributes retrieve them from the Controller class.

1. ColourCalibration:

The most important change in this class was the removal of the Thread behaviour. The ColourCalibration class is now called at will by other classes, and no longer runs continuously in the background. This decision was made to save resources and because the Thread behaviour was mostly necessary for the labs. The run method was therefore deleted.

The flag variable that holds colour of the target cube is now an integer, compared to the ordinal value of the currentBlock, the colour of the cube last identified by the light sensor. The constructor and isBlock method were modified in consequence.

The colourDetection method was also updated to return a boolean value, specifically whether the newly-detected cube is the right one using the isBlock method. Furthermore, its isFieldSearching behaviour, a remnant of Lab 5, was removed, as well as the setFlag method.

1. Controller

After instantiating the several required objects (ColourCalibration and SearchAndLocalize now included in those objects.), the Controller class branches out into one of two behaviours: testing, or demonstration.

If testing, it executes a newly-added runTests method, which encapsulates the entirety of the testing behaviour. Otherwise, it executes the processData method of the WifiData class to retrieve the necessary information, then proceeds with the demonstration behaviour (localization, navigation, and so on).

1. LightLocalizer

Two methods were added: localizeXMid and localizeYMid that make sure that the robot navigates to the center of the tile, by calling the respective localizeX/Y method, and adjusting by the . Some updates were made to the localizeX and localizeY methods. Volen can you describe those updates? A minor helper method, roundDeci, was also added to round values.

1. Navigation

Only minor changes were made to the Navigation class: a usMotor instance of an EV3LargeRegulatedMotor was added, the sideUSSensor attribute was removed, the goToBlock method was commented out, and the blockDetected method was removed. Calls to set the navigating attribute to true or false were also added in appropriate movement-related methods (forward, rotate, stop…).

1. Robot

The local EV3 and motors attribute instances were removed from the class.

Some constants such as FORWARD\_SPEED OR ROTATE\_SPEED were modified.

1. SearchAndLocalize

The SearchAndLocalize class was completely rebooted, with the near-entirety of the old behaviour disappearing.

The first major change was the addition of a private inner class: Area. It is used by its outer class to store coordinates of the cubes that are encountered throughout the search, to help checking whether a cube detected at a given moment has already been processed and rejected.

More than 5 attributes were added to the SearchAndLocalize class, including an Odometer instances and several elements related to limiting the accepted area of mobility of the robot. Some attributes including destinations and min/maxCoord were removed.

Regarding methods, the findFlag and logger methods were added, and the getCC and getFoundBlock methods were removed.

1. WifiData

This class saw minor changes only, to comply with changes that were made to the Navigation class.