Period 2---CodeReview

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Introduction

The code we are going to review was written for our Create robot so that it will go to the tower and will try to grab the Botguy or the FEMA director (blue prism). The Create code review was written by the students Omar and Jabr, and it was performed by Abdel Baset. The code review took place on 13\01\2019.

Best Practices Checklist

- ☑ Code uses functions to organize code.
- ☑ Code includes comments documenting each function's purpose.
- ☑ Code includes comments documenting each function's arguments
- ☑ Code function’s return values.
- ☑ All variables name in the reviewed code are descriptive and convey its use in the program.
- ☑ Code generally avoids the use of unnamed numeric constants other than 0, 1, or 2.
- ☑ Code is appropriately formatted to show flow of control.
- ☒ Comments that are no longer in use are removed.

After our team reviewed the checklist we found that our programming team didn’t remove the comments that are no longer in use/needed. We also need to recheck the functions and the necessary comments for the code.

Code Analysis

Reliability

We detected a massive error that occurred whilemoving both the servos in an opposingway using different variables for each servo, sowe detected that the arm may break if the variables entered are mistaken.

We are currently trying to find an equation for the servos to move properly in an opposing way without conceding errors.

Although the code became quite reliable and the arm is moving with good accuracy, we will keep testing and improving the code to make sure the arm works in a perfect way.

Maintainability

Our team-programming students Omar and Jabr add comments to the program and update the team members with the new changes in the Create robot programming on the weekly team meeting, so that the code is easy for everyone to understand and easy for the programming team to modify and reuse.

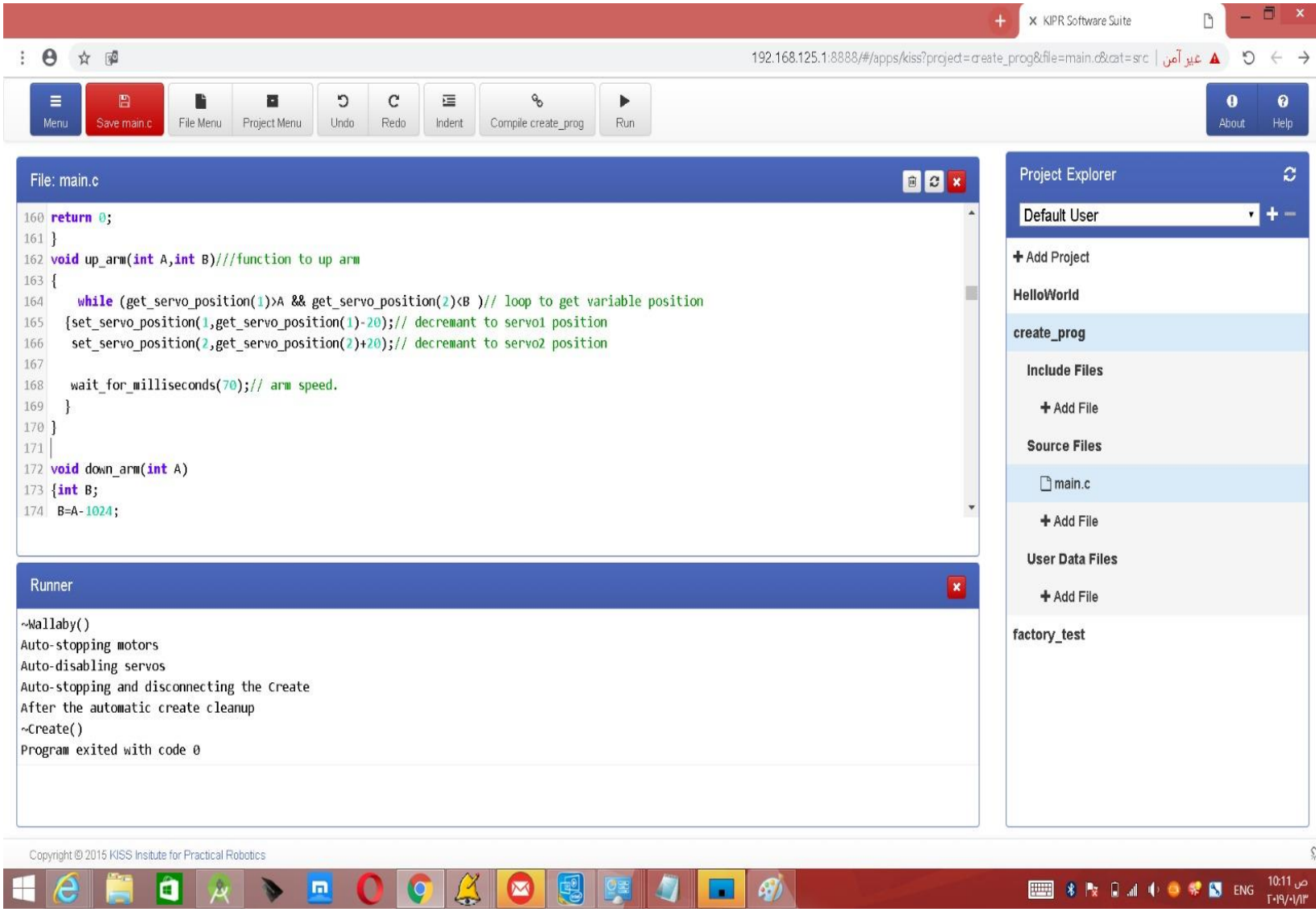
Our documentary team members George and Ahmed suggested to send a copy of the code on the team's chat group on Telegram to make it easy for the members to recheck it continuously.

Effectiveness

The captain and team members have revised the code, watched the program work and it was approved that the code effectively performed all the required tasks in a correct way.

After the team captain and members witnessed the Create robot perform the code. They came up with a suggestion which is to reduce the variables in the servo's equation so that the arm will move slowly and will be more stable or to increase the milliseconds to make the arm move slower and to remain stable (if necessary). We also kept testing the arm and tried to find the perfect equation for the servos' movement.

The code review shown down is a part of our Create robot arm programming:



The following code includes the added improvements:

- The servos' movement equation that will reduce programming team's calculating time and will increase efficiency when the servos' function is called in the main function.
- Using one variable instead of two variables.