Sixty Seconds Robot - An Effective Development Approach for Robot Programming

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Nowadays, a lot of people are interested in robotics technology. However, most of them do not have a required knowledge in robotics and pogramming. Therefore, it has become a major barrier for innovations in robotics. However, if the basic process is automated, the entire problem can be solved without wasting programmers' effort and time. There are some visual programming software existed for programming in robotics such as Visuino, GLTINO, XOD.IO, etc. The main problem of those types of advanced software is that the learning difficulties at the beginner level. Some of those tools are not much user-friendly for novice learners. Some of them do not facilitate to identify hardware related errors in the robot. To overcome these barriers, an efficient software tool has been introduced in this research to design the basic structure of a robot. The automated IDE can identify hardware related errors. There are many types of robots, such as line follow, wall detect, arm based, etc. The user can select a template from the IDE for one of the types and customize it. Also, it can be used for tuning sensors, Proportional Integral Derivative (PID) generators, etc. In this solution, the user has only to customize the template, and then the code for Arduino circuit that is generated automatically. Since, this is a full GUI application to do Arduino robotics, this provides a platform for the beginners to learn robotics and make their own projects with less errors. Our future development is mainly focused on developing solid work based on a universal template for more Artificial Intelligent (AI) based robots, radio signal based robots, etc. Ultimately, those extensions can be used in simple applications to more advanced applications such as robot based toys, military tools, drone technology, etc. In addition to that, the researchers have planned to develop a community for that where anyone can create libraries for implemented robotics platforms.

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