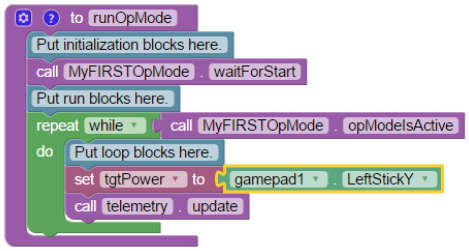
FIRST Tech Challenge – Blocks Programming Tool

Blocks Programming Tool…
A new graphical development tool is available for teams that compete in the *FIRST* Tech Challenge robot competition. This tool, known as the *Blocks Programming* tool, is powered by Google's Blockly programming language.



The Blocks Programming tool is integrated into the *FIRST* Tech Challenge Android Robot Controller app and it provides an intuitive and easy-to-use method to program a competition robot.

How Does It Work?
The Blocks Programming tool is unique because users can create, modify and store custom programs directly onto their *FIRST* Tech Challenge Robot Controller Android smartphones.

A developer uses a laptop, Chromebook or even a tablet to connect to the Blocks Programming mode server that resides on the *FTC Robot Controller*. The developer uses a Javascript-enabled browser to create and edit the programs, and then saves the programs directly onto the Robot Controller.

Benefits
The Blocks Programming tool has numerous benefits, especially for the novice programmer:

1. *Easy to setup* - The Blocks Programming functions are included with the existing FTC Robot Controller Android app. Teams simply have to install the app, place it into programming mode, and then start programming with their laptop or Chromebook.
2. *Saves op modes directly to phone* – When a team has created a new op mode, they can save it directly to the phone. They do ***not*** need to rebuild and then reinstall the FTC Robot Controller app.
3. *Uses easy-to-understand, programming blocks* – The Blocks Programming tool lets users create their op modes using intuitive, jigsaw-shaped programming blocks. Users who are familiar with the MIT App Inventor should be able to transition very quickly to this tool.
4. *No Internet connection required* – In Blocks Programming mode, a user connects to the Robot Controller using the same secure Wi-Fi network that the Driver Station uses. No external or extra Wi-Fi networks are needed.
5. *No extra software needed* – A user simply needs a laptop and the Robot Controller app to get started with programming.

Additional Information
The Blocks Programming tool was introduced with version 2.2 of the FTC Robot Controller app.

A training guide, which shows in detail how to use the Blocks Programming tool, is available from the *FIRSTInspires.org* website.

FIRST TECH CHALLENGE