

# Logging and Analyzing the Usage Patterns of Blockly Blocks in App Inventor

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While learning often emphasizes the need to understand the process leading to a final solution, the App Inventor service currently does not have the capability to record and review how users create Android applications (“apps”) with it.

Blocks-Level Analysis (B.L.A.) provides this analytic capability by logging the actions a user takes to create apps. More specifically, it logs the changes in Blockly, the blocks scripting language App Inventor uses, recording the step-by-step process a user takes when developing an app. B.L.A. works in the background, integrated such that users see no difference in experience when using App Inventor.

The infrastructure for B.L.A. has been established, but there is still a need to test the service on various user groups to validate the concept. Testing will involve ensuring relevant data is collected and that data can be processed to benefit developers, educators, and users alike. Potential use cases for B.L.A. include deploying it in a classroom and providing teachers with reports of their students’ coding habits and practices, or using it to record a group of novices working through the tutorials for the first time to identify usability concerns and provide best practices and recommendations with tutorials.

The logging of the creation process will help educators identify students’ misconceptions, help developers identify usability concerns, and help the App Inventor community as a whole by providing data-proven suggested practices and personalization based on user type.

Potential Questions B.L.A. can answer:

- What are common causes to runtime errors? Logic errors?
- What trends prevent errors? Resolve errors?
- How can we classify users?
- How do different types of users use App Inventor differently?
- Do users design iteratively?
- What components confuse users?