Proposal

Integrated Code Risk Score Application

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1 Objective:

The objective of this project is to build an integrated code risk score program using open source technologies; help prevent downstream software engineering test failures; and attempt to expand the program for UIUC Courses CS 242 and CS 126 to provide Risk score to each student – before they commit their code online.

2 Problem Statement/Rationale:

Rationale for creating this tool is to help build an end-to-end product that can be used by any company for improving the overall code quality. Currently, in the industry there is a real need, specially in DevOPS, for reducing the number of people who are reviewing code – in the enterprise supply chain; this program can help in automating good code – thereby, reducing overall code to be reviewed manually. Furthermore, in University level Programming courses alot of Teaching Assistants are required to manually review the code for providing relevant feedback. I want to expand this program for UIUC Courses CS 242 and CS 126 in order to help students – write better code; with a successful automated tool – students can have access to a more in-depth analysis for improving their code.

3 Approach:

I plan on approaching this project through several steps. First step is to conduct analytical research on already existing continuous integration tools that are in use in industry. Next, select all the tools that I will be using for creating the final integrated tool. Third, understand how to use code inspection – and for which all language. Once, I am ready with narrowing down the problem to specifics, then layout design for review – from my advisor; thereby, implement the design and start preparing test cases. Lastly, once the program is ready for the basic step, work in-depth with my advisor to build the GUI for this product which could be used for CS 126 and CS 242.

4 Possible Setbacks:

Possible setbacks may include the restricted computational capabilities; and/or possible API problems with the current open source technologies in use.