coala: coala plugin for Eclipse IDE.

1 Student Info

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2 Code Sample

2.1 Contributions to coala

https://github.com/coala-analyzer/coala-bears/commits?author=nishant-mor
https://github.com/coala-analyzer/coala/commits?author=nishant-mor

2.2 Working Prototype for coala Plugin for Eclipse

https://github.com/coala-analyzer/coala-eclipse

2.3 Demo

https://youtu.be/1RmxULxdSsc

3 Project Info

3.1 Proposal Title

coala: coala plugin for Eclipse IDE.

3.2 Possible Mentors

- AbdealiJK
  - Gitter: https://gitter.im/AbdealiJK
- Lasse Schuirmann
  - Gitter: https://gitter.im/sils1297

3.3 Proposal Abstract

The aim of this project is to build an easy to use coala plugin for Eclipse IDE which can do the static code analysis on the file or the project and make the errors and warnings visible to the user in eclipse itself with the various markers provided by eclipse plugin-development Environment (PDE). In this project the user will also have

- An option to enable on the fly static code analysis provided the selected bear is fast enough for the job.
- A nice UI for editing coafile inside Eclipse.

3.4 Proposal Detailed Timeline

3.4.1 Community Bonding Period

Duration	Goals
22nd Apr - 22 May.	• Discuss with mentors – necessary modification to be done for on the fly analysis. – the design mockups for coafile editing inside Eclipse. • Go through the tutorials of Java Swt for coafile editing UI. Although I have some hands-on experience of Java Swing which is quite similar to Java Swt.

3.4.2 Coding Period

Week	Goals
Week 1 (23rd May - 29th May)	• Current prototype is more like a hardcoded version which only runs CheckStyle bear on a particular file, make it more general to run using –find-config and –limit-files. • Add coala menu in the menu bar of Eclipse with commands to run coala on a particular file and on a particular project. • Add Checkbox for enabling on the fly option, execution of which will be implemented in week 6-7.
Week 2 (30th May-5th June)	• Current prototype runs coala on the main thread of eclipse which can cause freezing of UI if large files are being processed. Implement a coala thread so that it can be run in background and user can experience smooth run of coala. • Implement functions to build – A custom marker to differentiate the levels of severity. – A custom message to inform the user about the bear which triggered the issue and point its location.

Week	Goals
Week 3 (6th June - 12th June)	• Implement a method to clean up markers that are not currently valid or whose issues are resolved. • Integrate the custom marker to display the marker by iterating through all the issues generated in the output of coala-json, their severity to display the right marker for the issue. • Default setting of eclipse is to show only 100 issues in the problems window. Introduce an option in coala menu to select the number of issues displayed in the problems window.
Week 4 (13th June - 19th June)	• Buffer week if something didnt go as planned, writing documentation and add tests to check coala connectivity, json library dependency, testing custom markers using JUnit testing.
Week 5 (20th June - 26th June)	• Implement a view to let user view the results for the last run of coala.This can be implemented either by creating a form type GUI using Java SWT or by creating a html file from json output to display the issues in pretty format.
Week 6-7 (27th June - 10th July)	• One extra week for on the fly checking as it has has never been done so far, and may need more work behind the scene and we may get some unpredicted complications which will need to be sorted out. • Implementing on the fly code analysis functionality by using IElementChangedListener() property which triggers only when the user is idle for 0.5 sec and not on every key stroke this will save lot of computation time.
Week 8 (11th July - 17th July)	• Continue the on-the fly functionality and checking the bears which are fast enough to run on-the-fly and notifying users if bear is not fast that it is not a good Idea and that bear might not be that fast for on-the-fly analysis.
Week 9 (18th July - 24th July)	• Buffer Week incase something went wrong. • Writing documentation and reviewing code written till now.

Week	Goals
Week 10 (25th July - 31st July)	• Adding a spinner at the status bar to represent that coala is currently running. • Adding a command in coala menu to directly open coafile for editing. • Adding a small coala icon in the menu to run coala. • Adding an option to run automatically run coala on every save if user wants to enable that this will be implemented using IResourceChange-Listener().
Week 11-12 (1st Aug - 14th Aug)	• Implement interface for Editing Coafile inside eclipse. – User will have option to choose from the list of bears. – Output of "coala –bears=SomeBear –show-bears" will be parsed to know all the needed settings and optional settings for each bear, this info will be displayed to the user in JFace or Java SWT UI and the user will be able to choose any setting and specify its value. – These output will be displayed to the user using JFace or Java SWT UI. Which will also have following options ∗ Default action for the Bear/Bears selected. ∗ Files to consider. ∗ Files to ignore.
Week 13 (15th Aug - 23rd Aug)	• Buffer week if something didnt go as planned and also completing the remaining documentation.

4 Other Commitments

4.1 Do you have any other commitments during the main GSoC time period, May 23rd to August 23rd?

4.1.1 Do you have exams or classes that overlap with this period?

My next semester will be starting from 2nd August but usually there is no work load till august end. There may be overlap of classes but not exams in August. I have devised the project timeline to complete most the work before August.

4.1.2 Do you plan to have any other jobs or internships during this period?

No, I will be devoting my complete time to GSOC to ensure the completion of project.

4.1.3 Do you have any other short term commitments during this period?

I have no other commitments between May 23rd to August 23rd. I have summer vacations from 7th May to 30th July. I will be able to devote 40 hours per week without fail.

4.2 Have you applied with any other organizations?

No.

5 Extra Information

Link to resume: http://bit.ly/208jrTq
University Info:

- **University Name:** Indian Institute of Technology, Guwahati, India.
- **Major:** Mathematics and Computing
- **Current Year:** 3rd Year
- **Expected Graduation date:** June 2017
- **Degree:** Bachelor of Technology

Other Contact Info:

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