Title: Integration of giter8 in Scala IDE / Eclipse

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Abstract:

The aim of the project is to combine the giter8 command line tool with Eclipse IDE and it's extension, the Scala IDE.

Giter8 generates files and directories based on project templates published on github, and configures those projects with either default, or user-supplied values. Values can be entered interactively into the prompt, or given as command line parameters.

Integrating giter8 with Eclipse IDE requires an Eclipse plug-in to be written, which will have to connect to github to find available templates, then add appropriate New Project Wizards to the IDE. In a New Project Wizard, users will have to input the values needed to configure the project, so it would be beneficial to display the meaning of these properties and a list of allowed values.

Detailed idea:

1. Why is it needed?
   While giter8 is a great command line tool, when a developer is working in an IDE he doesn't want to switch to a terminal to create new projects. The learning curve of command line tools is also worse than that of GUI tools, since a GUI can use graphics, pop-ups, check boxes, combo boxes, radio buttons and other widgets to clarify the meaning of each option, list the possible values, display help files, and generally make the interface more intuitive.

   Integrating giter8 with the IDE would also make it possible to display additional information from a project's github web page. It could also help to create new templates and upload them to github through the IDE.

2. Contribution to the Scala community:
   Many members of the community are using giter8, and the number of templates is growing too. The idea of integrating it with the Eclipse IDE is quite popular and many people suggested it as a worthwhile project for GSoC.

   Integrating giter8 with Eclpise IDE would certainly increase the usage of giter8, and result in more templates being created, for the benefit of the whole community. Making new project templates for Eclipse IDE wasn't an easy task, but with those tools we might be able to change it and thus encourage people to use, create and share templates. When new frameworks or similar tools are released, templates for these will appear immediately, rather than late or never.

3. Plan:

What is already done:

- I familiarized myself with giter8 and the Simple Build Tool launcher.
- I experimented with github, having set up a repository at https://github.com/Xinef/Xapphire
- I have made some research about how to develop plug-ins in Eclipse IDE.

April 23 – May 21

- Setting up the working environment
- Establishing contact with the mentor and the giter8 developers
- Doing further research on giter8 and plug-in development

May 21 – June 4

- Creating a New Project Wizard that works for a single template and allows the users to input the values needed to configure the template

June 4 – June 18

- Implementing an option to list the templates found on github, search through them with regular expressions, and download more information on chosen templates
- Extending the New Project Wizard to work with all possible templates

June 18 – July 2

- Improving the New Project Wizard, so that it explains what each configuration value means and what are the possible / recommended values.

July 2 – July 16

- Milestone – the New Project Wizard should allow users to easily find the templates they need, list additional information about each template, configure each template and execute it
- Time for bugfixes, finishing unfinished tasks
- Mid-term evaluation

July 16 – July 30

- Adding a wizard that helps users to create a project for a new giter8 template (there is already a giter8 template for making giter8 templates, but additional tools that make the process easier, better explained and more automatic could be useful)

July 30 – August 13

- Documenting the project
- Bugfixing

August 13 – August 20

- Finishing the documentation

4. Why should you choose me for the task?

I am a student of Gdansk University of Technology, first year of master degree studies in Computer Science. I've chosen the Department of Intelligent Interactive Systems as my primary specialisation, since I am interested in advanced computer graphics programming and also the development of new graphical technologies. I'm also a member of two scientific groups: Vertex – dedicated to computer graphics and game development, and JUGGUT – the Java User Group of Gdansk University of Technology.

I've been programming in Java for over five years, and programming in C++ for about eight years. I've used Eclipse IDE for Java, Scala and C/C++ programming. I've been learning Scala and functional programming for about a year. My bachelor project was a 3D rigid body physics engine written in Java, where I used immutable data structures to gain some of the benefits of functional programming, while the rest of the engine was written in an imperative manner. I was also responsible for writing an example 3D application in Java3D that showcased the functionality of the physics engine.

I am willing to support the Scala Community because in my opinion Scala solves many of the problems that make programming graphics engines in Java tiresome, while benefiting from the advantages of JVM. I find both functional programming and the way Scala supports easy parallelization of operations to be very helpful when working with graphics.

While the project itself might not be directly related to computer graphics, I find it still a very interesting and worthwhile way to support the Scala community and the development of tools that help programming in Scala. I've found one giter8 template for LWJGL projects (an OpenGL wrapper for JVM), and I'd love to see more graphics related templates appearing in the upcoming years.

My CV is available at http://www.mediafire.com/?p6a2qg7igstdy1f