## **Best Practises when Developing with Lenya** 1.4

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## 1. Speeding Up Development

Following these tips can increase your development productivity:

- Set up your development environment correctly. The time you invest in this will pay off very quickly.
- Practise <u>test-driven development</u> (http://en.wikipedia.org/wiki/Test\_driven\_development). Since you can execute the tests with a single click in Eclipse, you don't need to build and restart the application to check if something works.
- During development, set modules.copy=false in local.build.properties. This way, you don't have to execute the build process when you change something in a module (except Java files and patches for cocoon.xconf).
- Put all your non-Java files XSLTs, CSS files, JX templates and complex sitemaps in modules. This allows you to change them without rebuilding (see preceding tip). Using modules for anything which is not specific for a publication is a good practise anyway it encourages generic design and reuse.

## 2. Building Maintainable Applications

To ensure the simplicity and maintainability of your Lenya-based applications, try the following tips:

- Use resource types sparingly. A new resource type adds complexity to your application. It requires to patch <code>cocoon.xconf</code> and is therefore a static element of your application. Most differences between pages can be implemented by using different XSLTs or templates in the presentation layer, or even using distinct samples to provide a starting point for a certain type of page.
- Make extensive use of resource type formats. This way, you create orthogonality if you implement
  a certain format in each of your resource types, it is very easy to include arbitrary resources in
  different locations. Typical examples of formats are print views, teasers, summaries, icons, and RSS
  feeds.
- Modularize your application. You can put each resource type in a separate module. Service
  implementations are good module candidates as well by adding or removing them from your build
  path you can easily switch between several implementions. A complex application is likely to
  feature a shared module which contains utility XSLTs and other resources which are used across
  multiple modules.
- Use templates instead of XSLTs for layout purposes. This is an example of the <u>Separation of Concerns</u> (http://en.wikipedia.org/wiki/Separation\_of\_concerns) paradigm. XHTML templates can be edited without XSLT skills and without influencing your presentation logic. For more information, check out the article <u>Style-free Stylesheets with Cocoon</u> (http://www.cocooncenter.org/articles/stylefree.html) on cocooncenter.org.
- Keep your sitemaps simple. It is very hard to write tests for sitemaps, and complex ones are difficult
  to read. Instead of building huge nested pipelines (e.g. for error handling), it often makes sense to
  implement a specific selector or action to handle the complicated aspects of the page flow. As soon
  as the functionality is implemented in Java, it can be tested using unit tests and refactored using your
  favorite IDE.
- Don't overload your usecase handler classes with view-specific details. The handler is occupied with business logic, it shouldn't have to deal with the view as well. If the JX templates become too

complex, consider writing utility classes and call them from the template. Modularizing JX templates is another promising approach to reduce their complexity.