Wicket Java web framework

MET, CSEN, Tutorial - 9

Component 4

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1 Learning Curve

Apache Wicket has a shallow learning curve; iff you are a java programmer, you needn't know any thing about CSS, JavaScript simply because everything related to the logic is written in pure java. Also you can make use of the tons of freely available components in your design. However Wicket's Internals are complex, so if you want to make your own components or add non-available components you will need to understand how wicket works (here it will be really steep). So to sum up, wicket is easy to start with but if you want to do something special (your own components) you will face a steep learning curve to understand Wicket internals.

2 Documentation

- After hearing to wicket users and seeing their online posts about wicket, also after checking the time and the number of files needed to just make "Hello world" application; I can conclude that wicket is not a lightweight that will take a few minutes to learn, However it's not that hard.
- Wicket is a component-oriented approach and It requires some up front investment of time, and the documentation isnt 100% complete. However the applications written by users in Wicket are cleanly designed and easy to modify.
- It is not any sort of Rapid Application Development tool. Yes, There is a lot of help available for the user when he needs. However he will need to be calm and patient because it not easy to deal with wicket as it takes effort and time to know how it works if you are a new developper.
- Wicket needs a lot of reading and knowledge before working. You can deal with it like you deal with Photoshop "it is a powerful tool to create amazing things. However to use it right then you need to master it first else it is useless" same goes here for Wicket !

3 Configuration

Although it took me some time to figure out how to configure wicket, but it turned out to be simple. to install wicket on your PC you need 2 things. First : you should get wicket packages downloaded from inside eclipse, this link
http://www.eclipse.org/m2e/download/ has the repository link to use in eclipse "install new software" second : you should download maven, it is a program that generates the project's files. In linux it's easy, just use apt-get cache and apt-get install commands to get maven while in windows, follow the steps here :
https://cwiki.apache.org/WICKET/windows-guide-to-installing-wicket-on-eclipse-with-maven.html

After that, creating new project should be easy, to make a quick start project, go to wicket.apache.org and write the name of yout project and it will give you a command to be written in maven to generate the project files, then import the files to eclipse and here you are. But it is not a one minute configuration.

4 Popularity & Community

4.1 Popularity

In fact wicket is not that popular. According to Java EE 2010 productivity report wicket got only a popularity of 7% and it has almost no job requests.

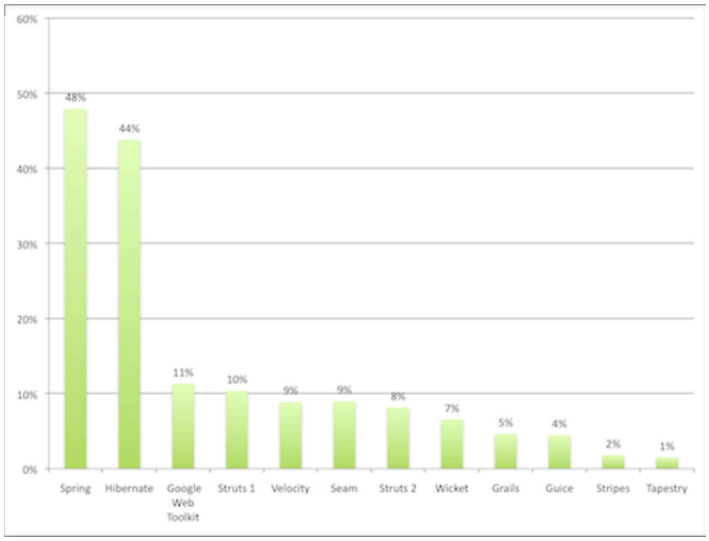


Figure 1: Popularity

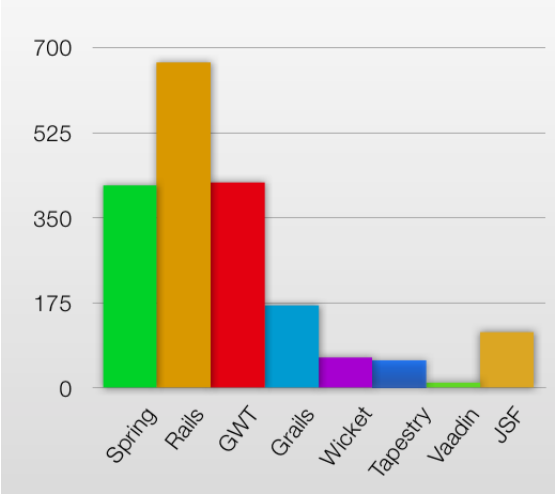


Figure 2: Jobs on dice.com

4.2 Community

Wicket has an awesome community, Members are really helpful. Wicket is supported by the creators, Their mailing List is ranked amongst the highest traffic Mailing list of Java web frameworks. In addition to that they have also a lot of active community groups and active twitter account for replying on questions and feedbacks. However other than that you may not find anything!.

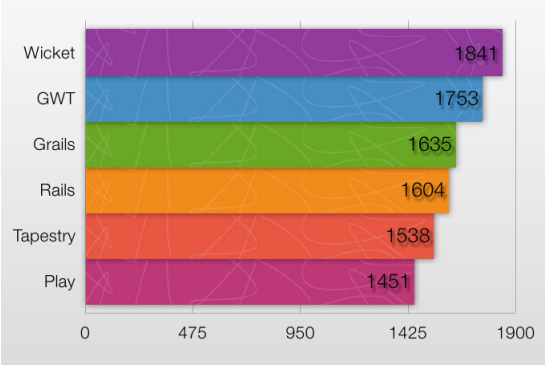


Figure 3: Average mailing list traffic as of 2010

Year 2012		
Mar 2012	Browse	307
Feb 2012	Browse	768
Jan 2012	Browse	603

Figure 4: This year mails

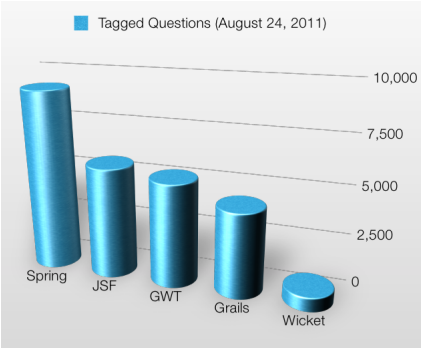
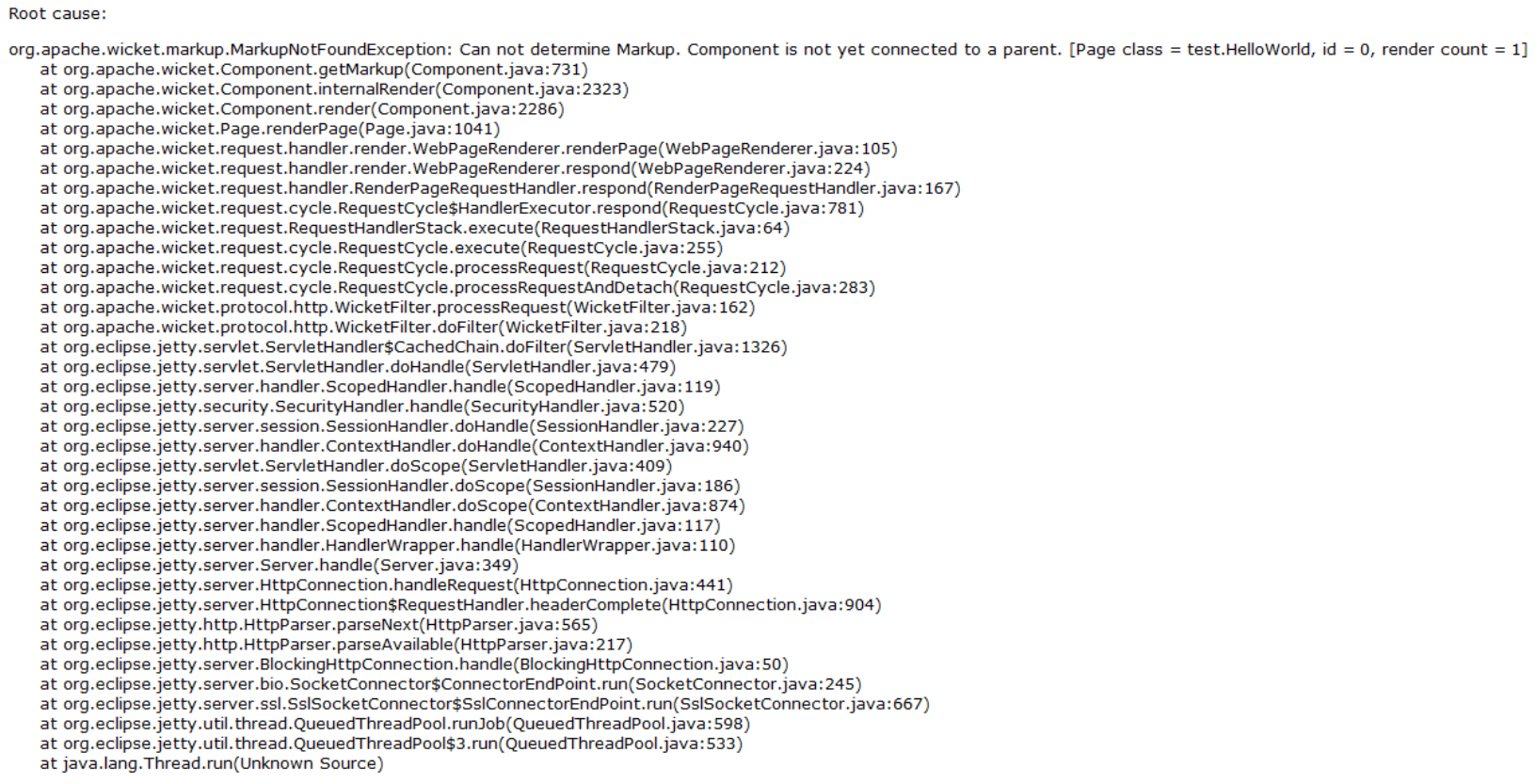


Figure 5: Existance outside the mailing lists

5 Descriptive errors

Same way as java represents errors, a hierarchy of java classes where the exception took place, but actually, it's a big list this time, take a look on the following image



This may seem chaos. but actually, it is good, it gives you all possible locations of error so that you can trace it easily, However it is not user friendly by any means.

6 Release cycle

Actually wicket was originally written by Jonathan Locke in April 2004. Version 1.0 was released in June 2005 then It graduated into an Apache top-level project in June 2007 and last Stable release was 1.5.4 at January 23 2012.There is always new releases for improvements and bugs fixing ex: 2009 there was 3 releases while in 2010 there was 2 releases and finally at 2011 there was 9 releases.

7 Power points

- Less technology is used on Wicket: Mainly Java and XHTML. This means that with less technology, less to learn, and less points of failure. The only failure points are the binding between the java component and its matching HTML
- Pure Object-orientation: As for us MET students , it will be of great benefit because we worked a lot with the object oriented programs and we exploited the Object oriented language with all its benefits, power points, best practices and as well as week points.
- Having all the logic of wicket in java makes it compile-save, unit testable and debug able. And also the logic is separated from the layout because logic is in java, layout is in HTML, which will ease the job and makes it easy to divide the work between the team that some will work on the design side and others will work on the developer side.
- Refactoring capabilities: Compared to other frameworks like Struts that use JSPs and other technologies that are not compile-save, since Wicket uses Java and XHTML , using an IDE like eclipse makes it really easy to re-factor the code, but in case of other frame work, it is almost impossible to re-factor the code written.
- Built-in and easy-to-use AJAX support. Easy, extensible and usable with AJAX framework like JQuery.
- Testability: provides a testing API that we can validate the component and pages with it.

8 Compatibility

- About compatibility with different operating systems: Wicket is already compatible with Mac OS, Windows, and Linux and no problems were detected on installing them on either system.
- For the latest release of wicket 1.5 the only thing that developers will have to put in mind is that they will have to download latest version of Java: Java 5, in order to be able to work with Wicket
- For converting between different versions, almost no problems were encountered. Only some new features added in the new releases that it was needed to change few words in some lines in the code.

9 Migration

Through my searching about migration issues between different web frameworks and wicket I came up with this

- No conflict when migrate from wicket 1.4.2 to Spring 3
- I couldnt find, almost, anything about migration from Wicket to another framework except for the already mentioned point

10 Performance & Scalability

10.1 Performance

Wicket has a good Heap size management (heap dump) (takes a really low amount of heap) Wicket Models are efficiently implemented. Wicket has a good performance reputation.

10.2 Scalability

Wicket is scalable to a good extent, however implementing a scalable system in general in a hard task however wicket is a good candidate, i can't say anything more convenient than walmart mobile site has been built using wicket check: http://mobile.walmart.com/

11 Security, Deploying & Production

11.1 Security

Wicket framework performs authentication, authorization and using Password-Based Encryption mechanism to encode and decode URL.

11.2 Deploying

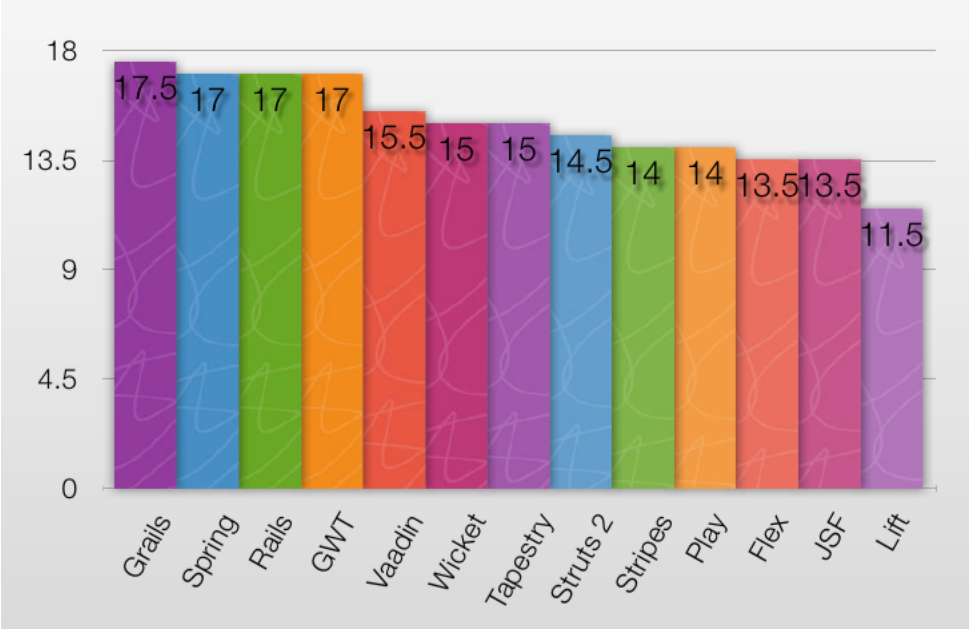
Can be deployed on several web servers, including but not limited to: Apache & Google App Engine

11.3 Production

There are allot of success stories available at: cwiki.apache.org/WICKET/websites-based-on-wicket.html such as mobile.walmart.com & http://www.youritprofile.com/

12 Summary using a comparison matrix

Weight	Criteria	Struts 2	Spring MVC	Wicket	JSF	Tapestry	Stripes	GWT	Grails	Rails	Flex	Vaadin	Lift	Play
10	Developer Productivity	5.00	5.00	5.00	5.00	10.00	5.00	10.00	10.00	10.00	0.00	10.00	5.00	10.00
0	Developer Perception	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Learning Curve	5.00	5.00	2.50	2.50	2.50	5.00	5.00	5.00	5.00	5.00	5.00	2.50	5.00
5	Project Health	2.50	5.00	5.00	5.00	2.50	2.50	5.00	5.00	5.00	2.50	5.00	5.00	5.00
5	Developer Availability	2.50	5.00	2.50	5.00	5.00	2.50	5.00	2.50	5.00	5.00	2.50	0.00	2.50
0	Job Trends	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	Templating	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	Components	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Ajax	2.50	5.00	2.50	2.50	2.50	2.50	5.00	2.50	2.50	2.50	5.00	5.00	2.50
5	Plugins or Add-Ons	2.50	0.00	5.00	5.00	2.50	0.00	5.00	5.00	5.00	5.00	5.00	2.50	5.00
10	Scalability	10.00	10.00	5.00	5.00	5.00	10.00	10.00	5.00	5.00	5.00	5.00	10.00	10.00
10	Testing	10.00	10.00	5.00	5.00	10.00	10.00	5.00	10.00	10.00	0.00	5.00	5.00	10.00
0	i18n and l10n	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Validation	5.00	5.00	5.00	2.50	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.50	2.50
10	Multi-language Support (Groovy / Scala)	5.00	5.00	10.00	10.00	10.00	10.00	0.00	10.00	0.00	0.00	10.00	0.00	5.00
10	Quality of Documentation/Tutorials	5.00	10.00	5.00	5.00	5.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
0	Books Published	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	REST Support (client and server)	5.00	10.00	5.00	0.00	5.00	5.00	5.00	10.00	10.00	5.00	5.00	5.00	5.00
10	Mobile / iPhone Support	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	5.00	10.00	10.00	10.00
0	Degree of Risk	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	**Weighted Totals**	70	85	67.5	62.5	75	77.5	80	90	82.5	50	82.5	62.5	82.5



13 References

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- http://wicket.apache.org/
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- several developpers opinions