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About me (@ptahchiev)

- Mathematician, software developer and entrepreneur

- Apache Maven developer

- Co-author of "JUnit in Action II"

- Interested in Spring

- Interested in e-commerce

- Founder of Nemesis Software Ltd. (@nemesissoftware)

- Hobby musician (http://soundcloud.com/ptahchiev)

Mind the gap

Mind the gap ≠ FOSS

- My journey in e-commerce began 2008

- Implemented more than 30 successful e-commerce stores

- I noticed several patterns

    - The vast majority of clients had the LAMP stack ...

        - ... and wanted enterprise Java stack …

        - ... because of performance problems.

            - Scaling was a problem

  - Infrastructure was a problem

  - Resources wasn't a problem

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Mind the gap ≠ enterprise

- Several Java enterprise e-commerce players

- None of which was cloud-ready

- Sharing the same disease

  - Legacy software issues

  - Modularity issues

  - Infrastructure issues

  - Knowledge issues

  - Time-to-market challenges

Solution

Solution

- A new platform that steps on the following principles

  - Enterprise

  - Cloud-ready (12 factor app)

  - Latest and greatest of FOSS

  - Open standards

  - Modular

  - REST

  - Easy to use, easy to import data and fast time-to-market

  - Demo storefront

Spring to the rescue

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Spring to the rescue – why?

- Evaluated several frameworks

- Why we ended up with Spring

  - The de-facto standard in Enterprise Java Programming

  - The spring eco-system provides the complete stack of technologies

  - The team behind it

  - Innovative

Spring to the rescue – initial implementation

- Started in 2011 with Spring 3.0.7.RELEASE

- Maven based project

- JPA backed with hibernate

- Csv based imports with catalog synchronizations

- Multiple javascript backends over REST

- Multi

  - Catalog   - Website

  - Language   - Currency

Spring to the rescue – initial implementation

- However, ecosystem not complete

  - No Spring platform bom

  - No Spring data solr/elasticsearch/rest/redis

  - No Spring mobile

  - No Spring session

  - No Jcache

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So what was it then?

- Spring WebMVC

- Spring security

- Spring data jpa was just out

- Spring social was just out

- Custom mobile implementation with HandlerInterceptor's postView

- Custom boot implementation

- Custom REST implementation

- maven-jetty-plugin or maven-tomcat-plugin

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Challenges

Spring Platform BOM

Spring Platform BOM

- Easy dependency management

- Maven plugin declarations

- Maven profile declarations

- Still to improve – expect to have properties for maven plugin versions

Spring Boot

Spring Boot

- Get rid of the custom constructions (replace with conditionals)

- Separate each module as a spring-boot module

  - Add spring.factories and @Configuration class

  - Client to list it as maven dependency

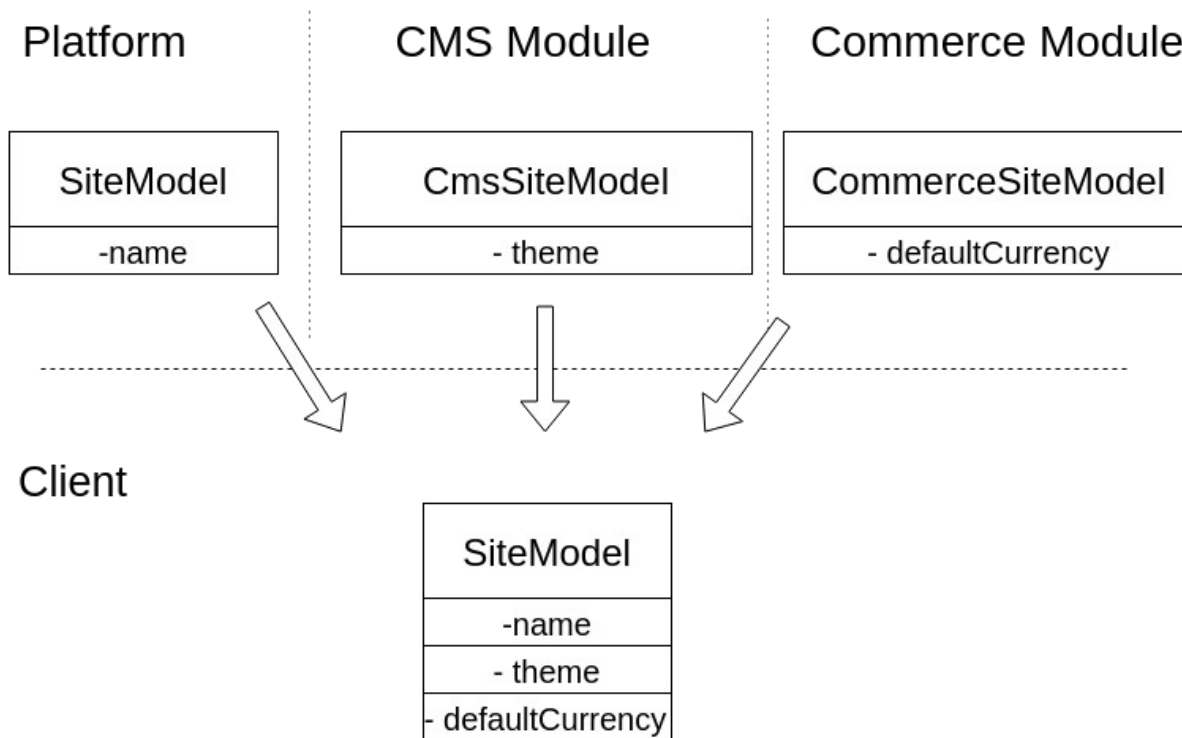- Use the actuator endpoints

- Maven plugin

Spring Boot

- The overall code that was reduced code ~ 60%

- We didn't just stop there

    - We raised 11 issues

    - Contributed the jcache actuator endpoint

    - Contributed the STOMP logging actuator endpoint

- Kudos to (@snicoll) and (@david_syer)

start.nemesis.io

Spring DATA

Spring Data – JPA – domain model

Spring Data – JPA ≠ domain model

- Setup modular domain model

- JPA entities as interfaces

- Keep repositories in the platform

Spring Data – JPA ≠ repositories

- Implications on modularity

- Kudos to Oliver Gierke (@olivergierke)

- Expose it all via REST

- We didn't just stop there

    - Raised more than 30 JIRA issues (mostly on Spring Data REST)

Spring Data – Search

- Introduce spring-data repositories for JPA/Solr/Elasticsearch

- Common core + Multiple implementations (Solr, Elasticsearch)

- Kudos to Christoph Strobl (@stroblchristoph)

Spring Data – REST

- Server-side generated

- Projections

- Validation

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Spring Session

Spring Session

- Pre-Spring-Session implementation

- Replace it all with Spring session

- Implications on the SessionService

- Multiple browser sessions

- Kudos to Rob Wynch (@rob_wynch)

Spring Batch

Spring Batch

- Allows us to orchestrate different jobs (csv imports, catalogs syncs, etc)

- Demo initialization

- Aggregate imports implementation

- Executor service for multi-threaded reader

- Session implications

- Kudos to Michael Minnella (@michaelminella)

Spring WebMVC

Spring WebMVC

- Jawr

- Webjars & Themes

- Kudos to Rossen Stoyanchev (@rstoya05)

Spring Security

Spring Security

- Securing the storefront

- Securing the REST layer

- Kudos to Rob Wynch (@rob_wynch)

Spring Mobile

Spring Mobile

- Single platform hosts multiple sites

- Each website can be responsive or not

- If not responsive the website needs a separate set of views

- If responsive however we must always view the desktop views

Testing

Testing

- Each module contains a set of unit/integration tests

- The REST module contains also mockMVC tests

- The storefront contains both mockMVC and selenium tests with multiple profiles

- Tests are executed on a CircleCI machine on each repository push

Documentation

Documentation

- Documentation is maintained inside Git repository

- Stored in Asciidoc format

- Built and deployed by maven on CircleCI on each push

- Rest module uses also spring-restdocs

Lessons Learned

Lessons Learned

- Software is never complete – there is always room for improvement

- Spring turned out to be the right choice for us

- Don't hesitate to ask for support

- The Spring team is really great

Questions?

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