

# Chess Corp

*... a brief history of web development*

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# Genesis : Online Chess Club

Online Chess Club  
[ Overview | Browsing Mode | PGN Format | Help | Logout ]

**michael - nilfilter**  
Move 24 (White)

Black's last move: Rf8-f7

Move Offer Draw Resign

... 12. Nxe7 Qxe7 13. 0-0 Qe6 14. Qe3 h5  
15. Qd2 Qd7 16. Qg5 Qe6 17. Qe3 Bh6  
18. Qf3 f6 19. d4 0-0-0 20. d5 Qd7 21. Qxf6  
Rhg8 22. Qf3 Rdf8 23. Qd3 Rf7

Notes: (encrypted) 📄

*michael: nun willst du mich nur beschwichtigen wette ich!*  
*nilfilter: ich sollte mir wieder angewöhnen, eine Partie parallel am Brett zu spielen. Leider nicht einfach bei 4 gleichzeitigen Spielen...*

- Limited interactivity
- PHP 4
- Static files backends
- CVS on SourceForge
- Single developer

# MKGI Chess Club - chess.mkgi.net

- Fork of « Online Chess Club »
- PHP/MySQL implementation
- Lots of server-side rendering
- Progressive implementation of AJAX and dynamic HTML
- Rules in PHP – Server only
- Since 2005 :
  - 3.000 players
  - 52.000 games
  - 3.700.000 moves



The screenshot displays the MKGI Chess Club interface. At the top, the logo "MKGI Chess Club" is visible, along with a user login status "Logged in as: alciblade" and a record "49 wins, 1 draws, 50 losses, 1178 Elo". Navigation links include [ Home | History Browser | Strategic View | PGN Format | Invite a friend | Help | Logout ].

The main content area shows a chess game between "alciblade" and "robot\_gnu chess\_04" at "Move 4 (White)". A message states "Black's last move: Knight moved from b8 to c6." Below this, there are input fields for "Your Move:" (with an "Offer draw" checkbox) and "Your Comment:". A "Your Note:" field is also present, with a red warning "(Only you can read it.)". A "Move!" button is located at the bottom of the input area.

The chessboard is shown with a knight on c6. To the right, a "Move History" table lists the following moves:

Move	White	Black
1.	e4	e5
2.	d4	exd4
3.	Qxd4	Nc6

At the bottom of the page, it says "MKGI Chess Club v2.2.0 © 2016 Alciblade.org" and "Page built in 48 ms Contact Us".

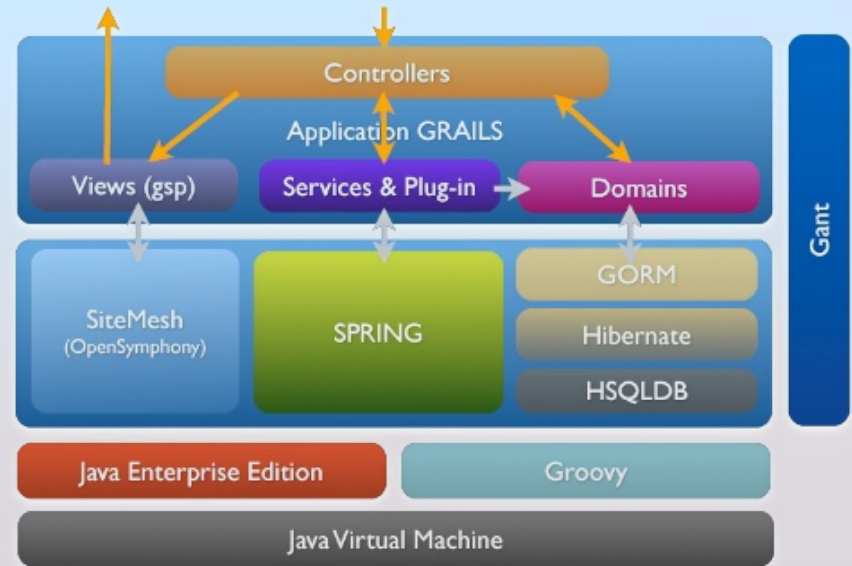
# 2010 : GWT Implementation



- Pros :
  - Java as a global development platform
  - GWT provides seamless client/server integration
  - Spring used for integration on server-side
- Abandoned because :
  - Compilation and debug
  - Adressability
- But :
  - Java implementation of Chess rules published as a standalone library on Maven central : (org.alcibiade : chess : 1.4.3)
  - Project used as a foundation for customer projects

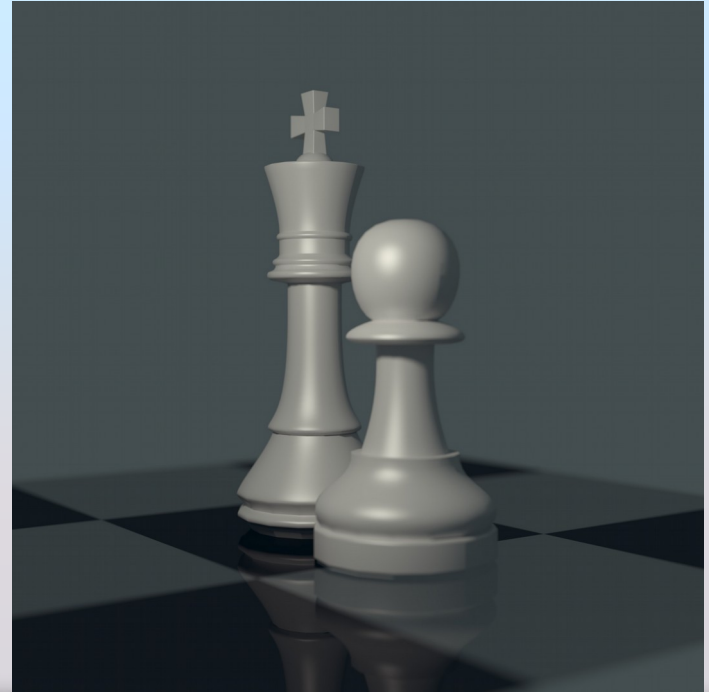
# 2014 : Grails

- Pros :
  - Can mix Java and Groovy
  - Uses Spring features so, we are always on friendly shores
  - Scaffolding features
  - Large number of plugins
- Abandoned because :
  - Plugins abstraction is painful when you want direct access to Spring/Java features
  - Spring Data / Spring Boot arrived
  - Upgrades were really painful
  - Rules were again server-only
- But :
  - A nice ChessBoard JS implementation (jQuery plugin) was produced and could be re-used



# 2015 : Chess Corp

- Switch from SourceForge to GitHub
  - <https://github.com/ChessCorp/>
- Address both Web and Native targets
- Modularization – Pluggable project architecture :
  - 1 rules module per target architecture :
    - 1 module in Java (backend + Android)
    - 1 module in JavaScript (browser, Node GUI or backend, Swift in the near future?)
  - Standalone UI components
  - Client applications
  - Club Server(s)
  - Assets
- Modules assembled provide a complete online chess club



# The ChessCorp Ecosystem

[github.com/ChessCorp](https://github.com/ChessCorp)



**chess-rules**  
npm: **chess-rules**  
bower: **chess-rules**

*Implementation of Chess rules and PGN serialization.*



**chess-ai-random**  
npm: **chess-ai-random**

*Basic Chess IA for testing purposes.*



**chess-cli**  
npm: **chess-cli**

*Set of command line utilities built for Node.*



**chess-assets**



**chess-board**  
bower: **chess-board**

*Chess Board Web Component*



**chess-history**  
bower: **chess-history**

*Interactive history table Web Component*



JavaScript Module



Java Module



Media Module

Future:



More AIs



More UI Web Components



**Alcibiade Chess**  
maven: **org.alcibiade:chess:jar**

*Implementation of Chess rules and PGN serialization.*



**Chess Club**  
maven: **org.chesscorp:chess-club:jar**

*Complete chess club web application released as an autoexecutable Jar with embedded HTTP server.*

# Server architecture

- Spring boot
  - API build with Spring Controllers
  - Stateless controllers : Session is persisted in database for authentication purposes only
- Spring Data Repositories
  - Currently JPA
  - De-coupling entities to allow transition to heterogenous backends
  - No string queries
- Java 8 :
  - Use of streams and improved Date/Time (required hacking dependencies to use Hibernate 5)
- Asynchronous tasks triggered thru a message bus (initially activemq as embedded broker)
- Server is distributed as standalone jar which includes all UI/Backend/H2



# Spring Boot Tip 1 : Ascii Art !

- Ascii banner can be customized :
  - Add banner.txt in the classpath :
    - A funky design in src/main/resources
    - An empty file in src/test/resources
  - Banners may be dynamic (if filtered by maven resources plugin) : use @project.version@ or any other build property

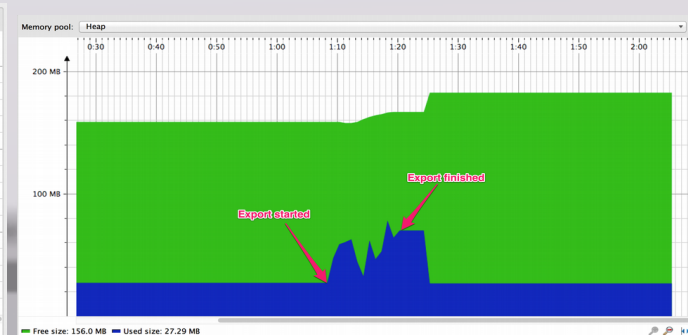
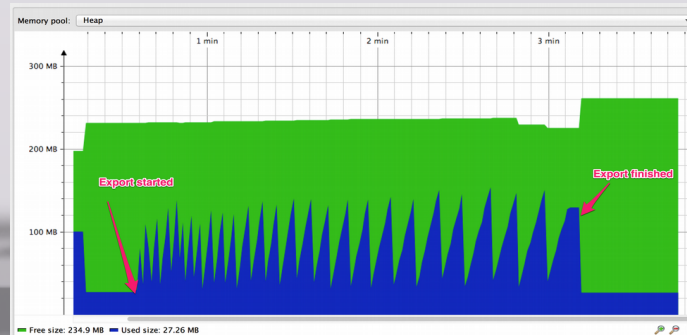
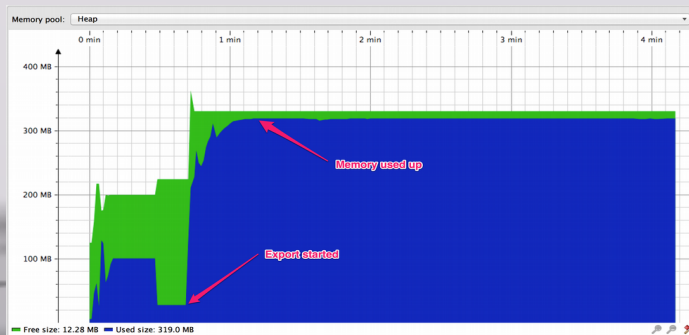
# Spring Boot Tip 2 : Swagger easy setup

- Achieved by Using SwingFox
- Dynamic introspection of controllers
- Generates Swagger compliant description



# Tip 3 : Spring Data & Streams

- Repositories can return streams :
  - Efficient on large data sets
  - Start processing while loading
  - No risk of memory overflow



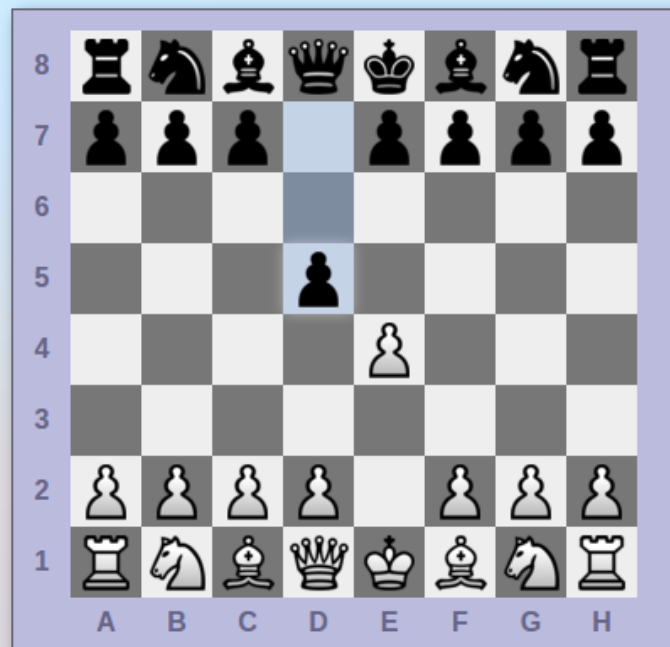
# Pre-requisite : chess-rules

- Library provides :
  - Position model
  - Available Moves
  - Move object to/from PGN
  - Calculate move impacts
- Distributed on Npm and Bower



# Initial Component : <chess-board />

- Initially developed as JQuery plugin
  - Interface is JavaScript API
- Easily migrated to Polymer
  - Interface is DOM attributes and events



# Integration POC : chess-sample-ui

Chess Corp - UI Components Demo



ChessCorp Sample

Chess Corp is an open source project aimed at creating a complete chess software ecosystem: rules implementations, web components, complete website, board and piece sets, ...

This simple demonstration page showcases how ChessCorp components can be assembled to create an interactive chess board.

This demo integrates:

- chess-rules:  
A JavaScript implementation of chess rules  
See:  
<http://github.com/ChessCorp/chess-rules/>
- chess-board:  
An interactive board web component  
See:  
<http://github.com/ChessCorp/chess-board/>
- chess-ai-random:  
A random playing chess artificial intelligence  
See:  
<http://github.com/ChessCorp/chess-ai-random/>

Made by The Chess Corp Team, Contact us at [chesscorp@alcbiade.org](mailto:chesscorp@alcbiade.org)  
Code released under the MIT License.

Find me on GitHub

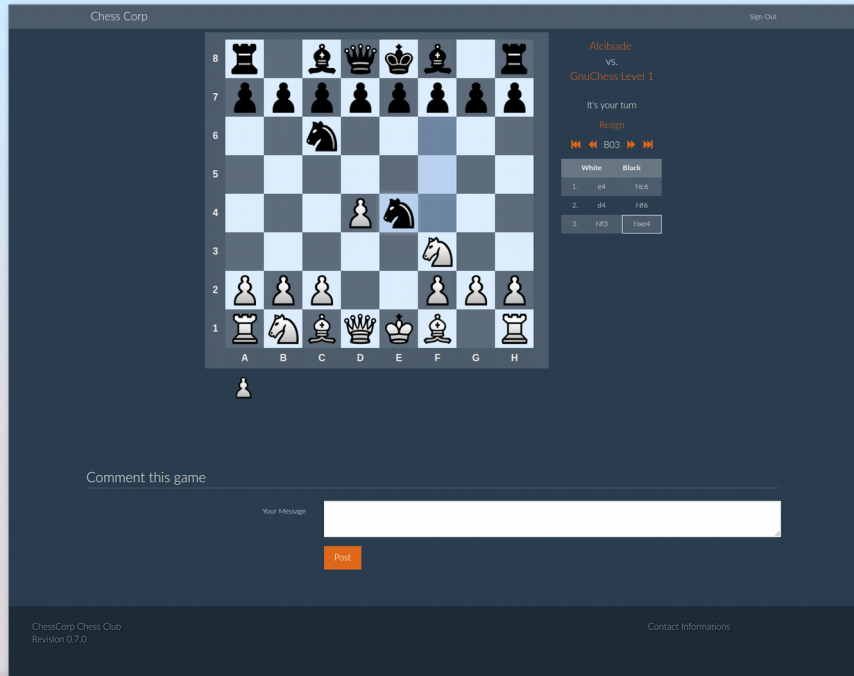
- Try a simple integration of chess-rules, chess-board and chess-ai-random
- Assess the level of external binding

# Club UI v1 : Material Design

- Based on a Yeoman scaffolding template
- Whole UI build on the Polymer elements catalog
- Many embedded elements



# Club User Interface Version 2 : Bootstrap



- Integration of a Bootstrap CSS
- Dynamic scripts are not available (modals, dropdowns, ...) because JQuery can't be called from the shadow DOM



