

Building a Financial Web Application Using Drupal

DrupalCon Szeged
August 29th, 2008





Domain Market

Overview

*or How To Build a Stock Exchange
in Three Months
With Zero Knowledge,
9,000 Euros,
and a Big Supply of ~~Slovak Beer~~ Motivation.*



The Fusu Story

July 2007

Tapas Bar, London





The Fusu Story

August 2007

Go Drupal





The Fusu Story

September 2007

Private **Beta**





The Fusu Story



We started with...

- Design, Theme (outsourced)
- Migrating 2 weeks of dev (backend logic, graph gen)
- Modules, content
- Goal: launch in one month
- Learning Drupal on the way





The Fusu Story

Design, Theme

\$69 Logo
\$109 Design
\$600 Drupalization

The screenshot shows the Fusu Domain Stock Exchange website. The header features the Fusu logo and navigation links for 'PORTFOLIO' and 'MY ACCOUNT'. A search bar with 'Get Quote' and a 'GO' button is present. Below the header, there's a section for 'NYSE-LISTED COMPANY EARNINGS EVENTS' and a 'Listed Domain Directory' link. The main content area is divided into three columns. The left column contains a sidebar with links: Home, About Us, Market Information, Fusu Regulation, My Account, My Portfolio, and Information For... (Domain Investors, Domain Owners, Media). The middle column has a large banner with the text 'One Market. Infinite Possibilities.' and a sub-header 'Inside the Domain Stock Exchange'. Below this is a detailed announcement about ING Clarion Real Estate Income Fund and ING Clarion Global Real Estate Income Fund. The right column features a 'Market Activity' section with a table of stock indices and their performance, followed by 'Fusu Markets' and 'Information For...' sections.

Domain Stock Exchange
Welcome to FUSU

Get Quote **GO**

Listed Domain Directory

NYSE-LISTED COMPANY EARNINGS EVENTS. TODAY -- LISTEN IN TO ADI, AEO, DKS, G, MPR and TGT.

Inside the Domain Stock Exchange

One Market. Infinite Possibilities.
It's all here at FUSU. The right place to be.
STOCKS | DOMAINS | GLOBAL

ING Clarion Real Estate Income Fund and ING Clarion Global Real Estate Income Fund Celebrate Transfer ING Clarion Real Estate Securities CEO T. Ritson Ferguson rings The Opening BellSM. An archived webcast of The Opening Bell is available. ING Clarion Real Estate Income Fund and ING Clarion Global Real Estate Income Fund Celebrate Transfer ING Clarion Real Estate Securities CEO T. Ritson Ferguson rings The Opening BellSM. An archived webcast of The Opening Bell is available. ING Clarion Real Estate Income Fund and ING Clarion Global Real Estate Income Fund Celebrate Transfer ING Clarion Real Estate Securities CEO T. Ritson Ferguson rings The Opening BellSM. An archived webcast of The Opening Bell is available. » [Click Here to Read More.](#)

Announcements

- **August 20 2007** | Tuesday | 20:15
[ING Clarion Real Estate Income Fund](#)
ING Clarion Real Estate Income Fund and ING Clarion Global Real Estate Income Fund Celebrate Transfer ING Clarion Real Estate Securities CEO T.
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Market Activity

FUSU Listed Volume 322,444,555,000
As of 22:05 20 Aug 2007

INDEXES	FUSU MARKET	FUSU ARCA	BROKER VOLUME
SPY	33,989,295	\$51.35	0.79% ▼
EEM	31,632,706	\$18.65	1.97% ▲
XLE	31,199,600	\$46.49	1.11% ▼
SUNW	29,236,600	\$8.00	2.17% ▲
EWZ	28,640,300	\$18.42	0.71% ▲

ALL STOCK DATA 2 MINUTES DELAYED

ARCAVISION ARCA WEB BOOK
NYSE ARCA AUCTIONS ABOUT THIS DATA

Fusu Markets

Fusu Arca Fund
ING Clarion Real Estate Income Fund and ING Clarion Global Real Estate Income Fund Celebrate Transfer ING

Fusu Exchange Rates
ING Clarion Real Estate Income Fund and ING Clarion Global Real Estate Income Fund Celebrate Transfer ING

Information For...

- Domain Investors
- Domain Owners
- Media



The Fusu Story

Drupalization

SVN Commit Log Sat, August 12, 2007:

The Big Drupalization:

- Classes now use Drupal's DB layer
- If classes return arrays, they are usually suitable for the `theme_table()` Drupal function





The Fusu Story

Drupalization

Private **Beta** Launch:

- Invitation only (using invite module)
- 100 personally known domainers
- Strategic partnership shortly after





Fusu Architecture

Overview

Backend:

- Financial logic
- Indexes, charts
- Parking



Auctions:

- IDO Auctions
- Domain Auctions
- Whitelabel



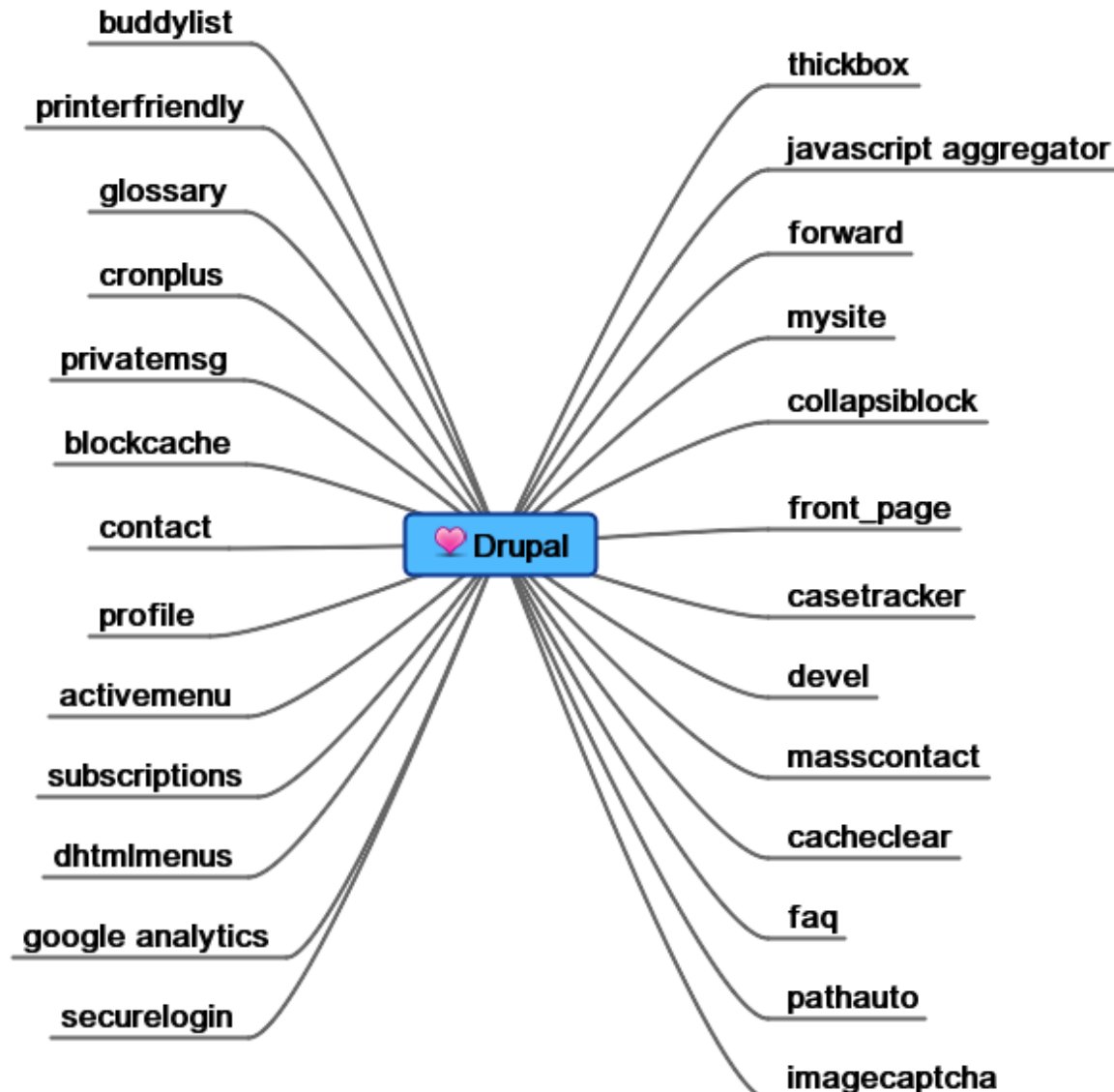
Drupal modules:

- Invite
- Glossary
- etc



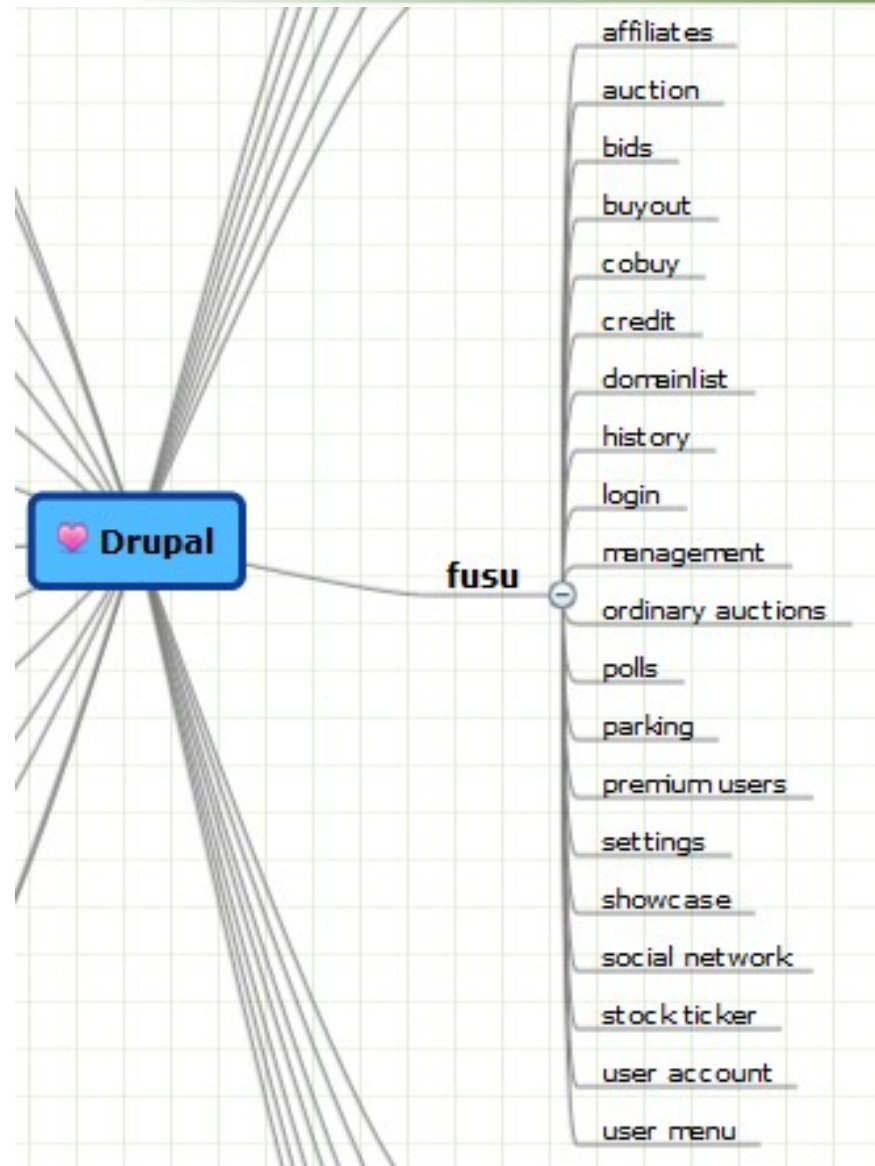
Fusu Architecture

Drupal Modules



Fusu Architecture

Custom Modules



Drupal Challenges

Oh, boy

- Deployment and development cycles
- Scalability
- Core hacking
- Module hacking
- Menu and caching
- Drupal 6.x



Drupal Challenges

Rock&roll



Drupal Challenges

Core and module hacking

- Core hacking
- Including pathauto

Guaranteed way to headache with Drupal upgrades

Solutions (work in progress)

- Contribute
- Just don't do it



Drupal Challenges

Scalability

- Memory 20mb/script
- Without any cache 200 queries/page
- Easy to produce unnecessary queries
- we are fools – rrdtool? Cactus? Uh?

Result: down first day of auctions

Optimization (work in progress):

- Easy: Frontend optimization
- Zend Optimizer
- Load Balancer
- Cache (agresssive)
- Cache (block cache)
- Cache (custom caching)



Drupal Challenges

Menu caching

Dynamic menu caching

- „New Messages (5)“
- cached even if set not to cache

Solution („oh boy“):

- Clear menu cache table on user login



Drupal Challenges

Drupal 6.x

- Drupal 6.0 released after launch
- No time to upgrade

Solution:

- ...

But even drupal.org runs 5.x ☺





Eight Years Ago

ApacheCon 2000

Considering the vastly growing amount of servers on which PHP is now running, taking a look at the huge step PHP made from version 3.0 to version 4.0, and seeing its mature and up-to-date base, PHP has surely become what it has been aiming at: A great tool for rapid development of stable and fast Web applications.



If your business relies on Web applications, you should certainly consider PHP.

This session shows how your business can benefit from the use of PHP, give an overview of PHP's business-relevant features, and show you what you need to consider when adopting PHP.

Today

DrupalCon 2008

Considering the vastly growing amount of servers on which ~~PHP~~ **Drupal** is now running, taking a look at the huge step ~~PHP~~ **Drupal** made from version 3.0 **5.0** to version 4.0 **6.0**, and seeing its mature and up-to-date base, ~~PHP~~ **Drupal** has surely become what it has been aiming at: A great tool for rapid development of stable and fast Web applications.



If your business relies on Web applications, you should certainly consider ~~PHP~~ **Drupal**.

This session shows how your business can benefit from the use of ~~PHP~~ **Drupal**, give an overview of ~~PHP's~~ **Drupal's** business-relevant features, and show you what you need to consider when adopting ~~PHP~~ **Drupal**.

Summary

Drupal as framework

Drupal is

- easy to set up
- a framework of functions for db abstraction, user management output, etc
- RAD through its extensive set of modules
- supported by a great community
- „adaptable, flexible“

Cons: not as geeky as Ruby





The End

(Almost)

Questions?



The End
Really

Thanks!

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www.fusu.com



The End

One last thing

Work in Bratislava?

jobs@fusu.com