

Handlers: A modest proposal

- Larry Garfield
- Palantir.net
- Database maintainer
- PHP 5 evangelist
- General gadfly



Extensibility

- Make system do something new
- No code changes
- "Bendy"

Extensibility in Drupal

- Modules
 - Collections of hooks
- Hooks
 - One-to-many
 - Observer pattern
 - Inversion of control pattern

Horizontal extensibility

- Add new pieces to existing systems if designed for it
- Cannot change system
- Subsystems are inter-dependent

Vertical extensibility

- Swap out subsystems
- Subsystems are independent
- Current mechanism: custom include files

Swapping include files sucks

- Breaks registry
- Clunky
- Cannot lazy-load
- Cannot enable more than one version at a time

"Pluggable" subsystem

- ***Self-contained*** piece of code
- ***Called explicitly*** from some other code
- Handle some particular ***set of related operations***
- Can be ***swapped out*** for another implementation at runtime
- Supports ***multiple*** simultaneous implementations

What about hooks?

- Implicit call
- One-to-many, not many-to-one
- Multiple related operations are iffy
 - \$op
 - prefixes

Factory pattern

- OOP design pattern
- Layer of indirection
- Returns object with interface
- Variable implementation

Handler.module

- 2 hooks
 - `hook_handler_target_info()`
 - `hook_handler_info()`
- 2 concepts
 - Targets
 - Handlers
- PHP 5.2

Targets

- Task or subsystem
- Defines uniform interface
- Factory function

Handlers

- Class implementing a target's interface
- Gets called indirectly (but explicitly)
- "Handles" some operation(s)
- May be static or not

It's so simple!

- Interface
- Concrete class
- Factory

Example

28 August 2008
DrupalCon Szeged

Larry Garfield
Palantir.net

Possible current handlers

- Cache
- Password hashing
- Session handling
- Mail system
- Image toolkit
- Others?

New handlers

- Username/display name generation
 - <http://drupal.org/node/102679>
- Version Control API
 - SVN vs. CVS vs. Git vs...
- File storage backends
 - Local, CDN, Ramdisk...

New handlers

- Search engine
 - Local, Google, Lucene, Xapian...
- Authentication/identity
 - Local, OpenID, LDAP...
- Theme engines?
 - PHPTemplate vs. Smarty vs. PHPTal...

What about...

- Menu?
 - `menu()->executeActiveHandler();`
- Form?
 - `$form = form()->load('myform')->execute();`
- Response
 - Page, AHAH, JSON, REST...
 - Switch on HTTP headers

Advantages

- Cleaner separation of systems
- Automagic lazy loading
- Replace any code in Drupal w/out perf. cost
 - Subclass, associate, go.
 - No core hacking

No kittens were harmed in the making of this handler



**Every time you hack core
God kills a kitten**

Please, think of the kittens!

From your friend, Greg Dunlap

Feedback

- Handlers are...
 - A) Ready To Be Committed!
 - B) Concept Needs Work.
 - C) Won't Fix. :-)