Seaside Evolution

and things you never knew you could do

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Experimentation

Stabilization

Optimization

Adoption

Experimentation

WebObjects

Iowa

Interpreted Objects for Web Applications

Iowa Example

```ruby
class Main < Iowa::Component
  attr_accessor :person

  def all_people
    Person.fetch_all()
  end

  def delete_person
    Person.delete(@person)
  end
end
```

Iowa Example (cont'd)

```
<ul oid="people">
 <li>@person.firstName @person.lastName
   <a oid="delete_person">delete</a></li>
</ul>

<?
 people {
   item = person
   list = all_people
 }
?>
```
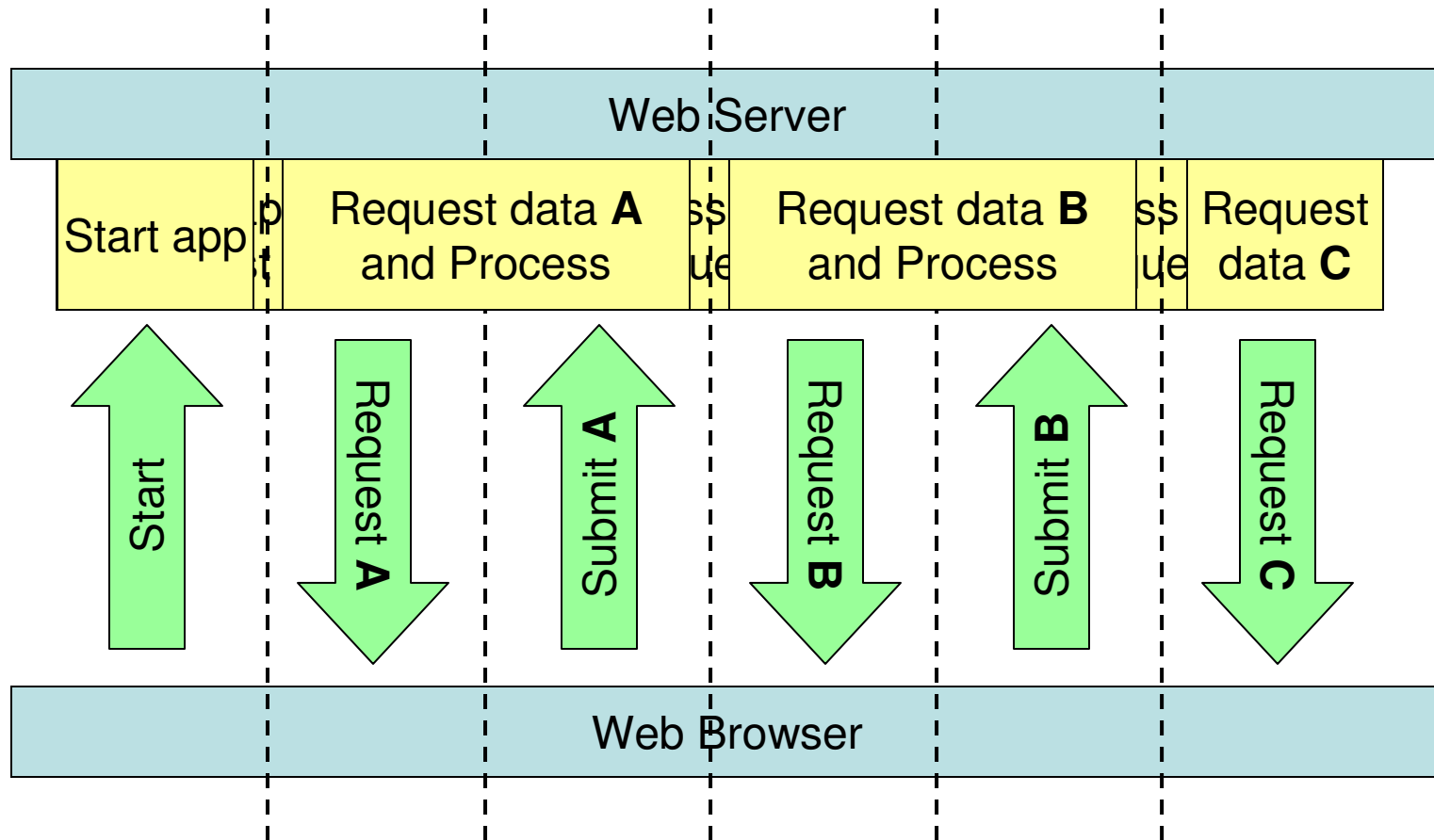
seaside

squeak enterprise aubergines server

Synchronous Development: inverting the request/response loop

Seaside 0.9: Example

```
html
 ^ '
 <ul sea:id="people">
  <li>[person.firstName] [person.lastName]
     <a sea:id="delete:">delete</a></li>
 </ul>
'
```

Example (cont'd)

```
addBindingsTo: template
  (template elementNamed: 'people')
     bind: #list toPath: 'allPeople';
     set: #iterator to: #person.

  (template elementNamed: 'delete:')
     bind: #argument toPath: 'person'.
```

Example (no bindings)

```
html
 ^ '

 <ul sea:id="person/allPeople">
  <li>[person.firstName] [person.lastName]
     <a sea:id="delete:">delete</a></li>
 </ul>
'
```

Example (conditionals, embedding)

```
html
 ^ '

<if sea:id="allPeople.isEmptyOrNil.not">
 Number of people: [allPeople.size]
</if>'
```

```
html
 ^ '

<form sea:id="save">
  <input sea:id="firstName" />
  <IADateSelector sea:id="birthday" />
</form>'
```

Seaside 0.9: Architecture

CORE

Session, etc.

Components (pages)

Templates, tags

Comanche Adaptor

PWS Adaptor

ModLisp Adaptor
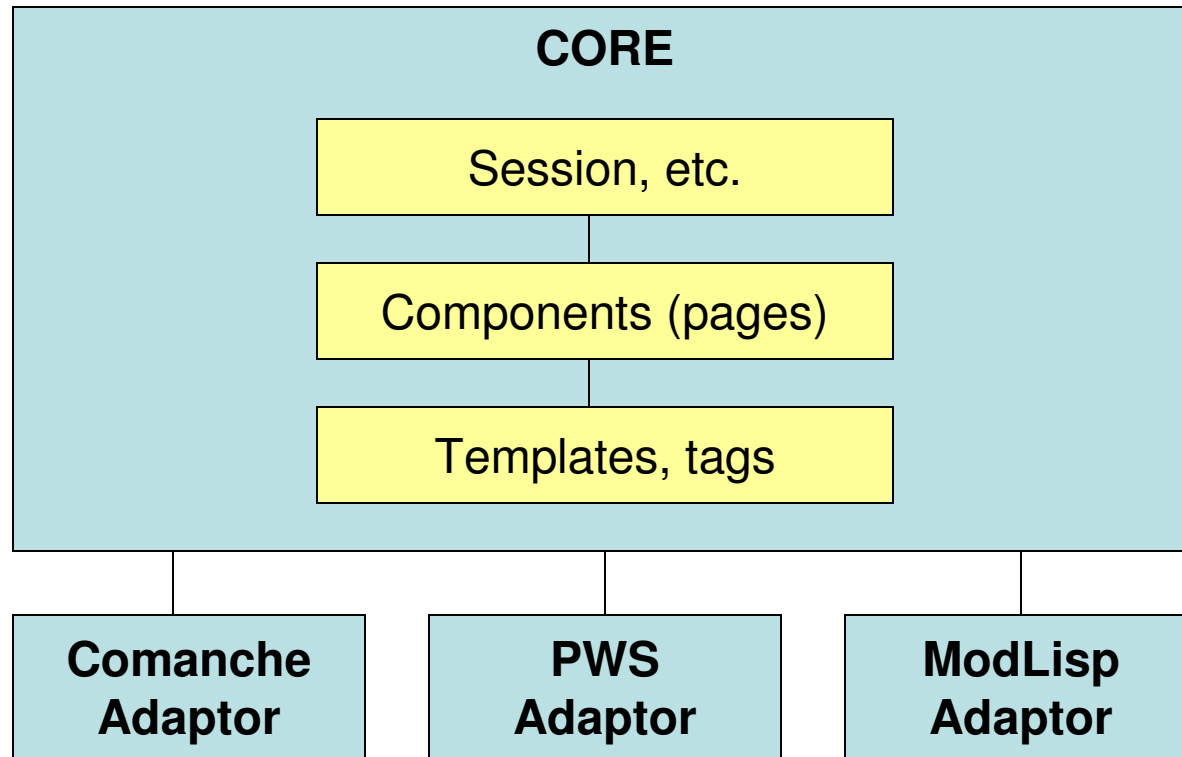
Seaside 2.x – Borges
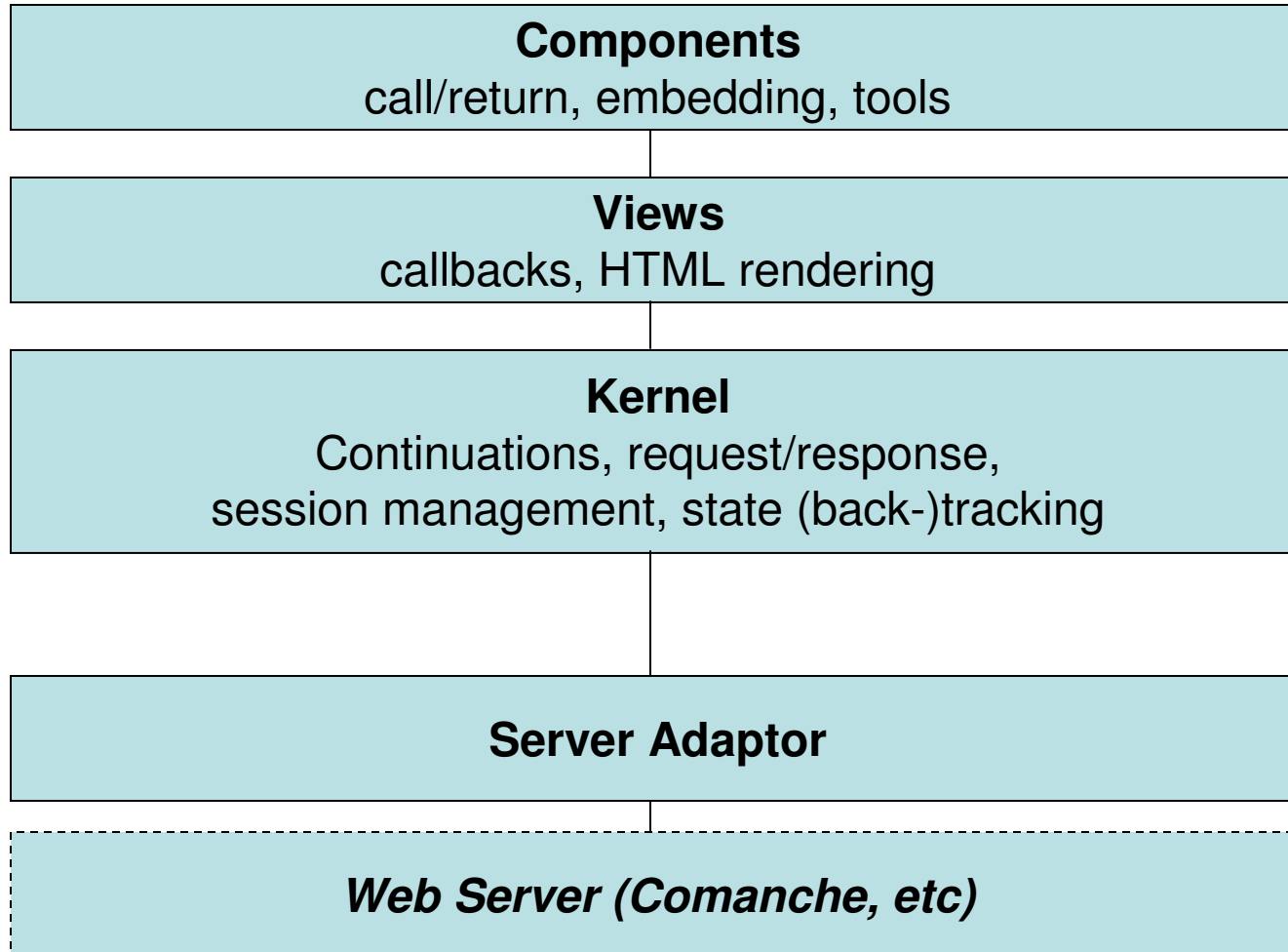
~~Templates~~

Layers

~~Magic~~

In all fiction, when a man is faced with alternatives he chooses one at the expense of the others. In the almost unfathomable Ts'ui Pen, he chooses - simultaneously - all of them. He thus creates various futures, various times which start others that will in turn branch out and bifurcate in other times...

- Jorge Luis Borges, *The Garden of Forking Paths*

Seaside 2.0: Architecture

Components
call/return, embedding, tools

Views
callbacks, HTML rendering

Kernel
Continuations, request/response,
session management, state (back-)tracking

Server Adaptor

Web Server (Comanche, etc)

Seaside 2.3: Architecture
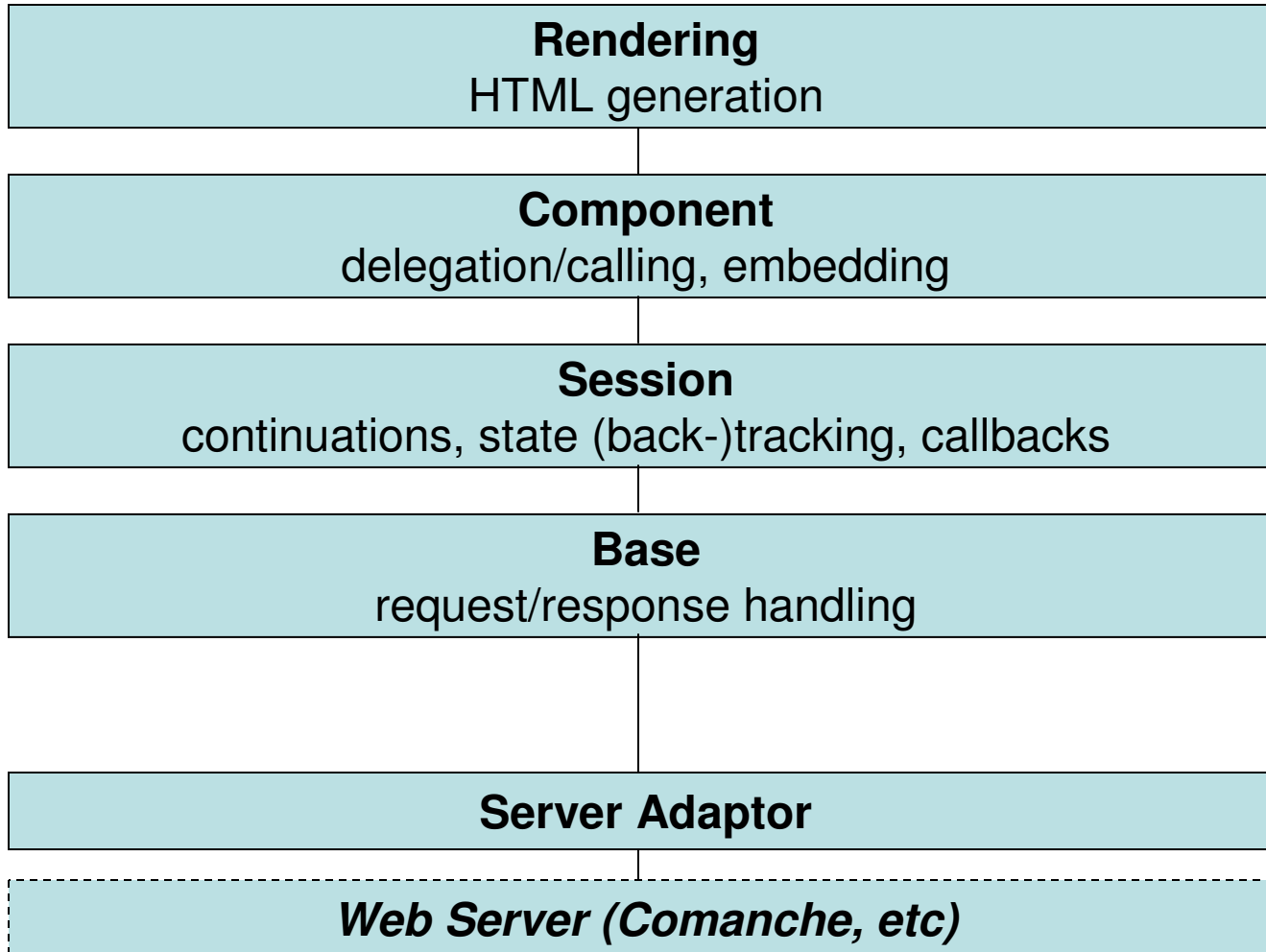
Rendering
HTML generation

Component
delegation/calling, embedding

Session
continuations, state (back-)tracking, callbacks

Base
request/response handling

Server Adaptor

Web Server (Comanche, etc)

Stabilization

- State tracking
- Modularity
- Canvas API

Optimization
Memory•Speed•Complexity

WebVelocity

seaBreeze

pier

GLASS

Adoption

Portability

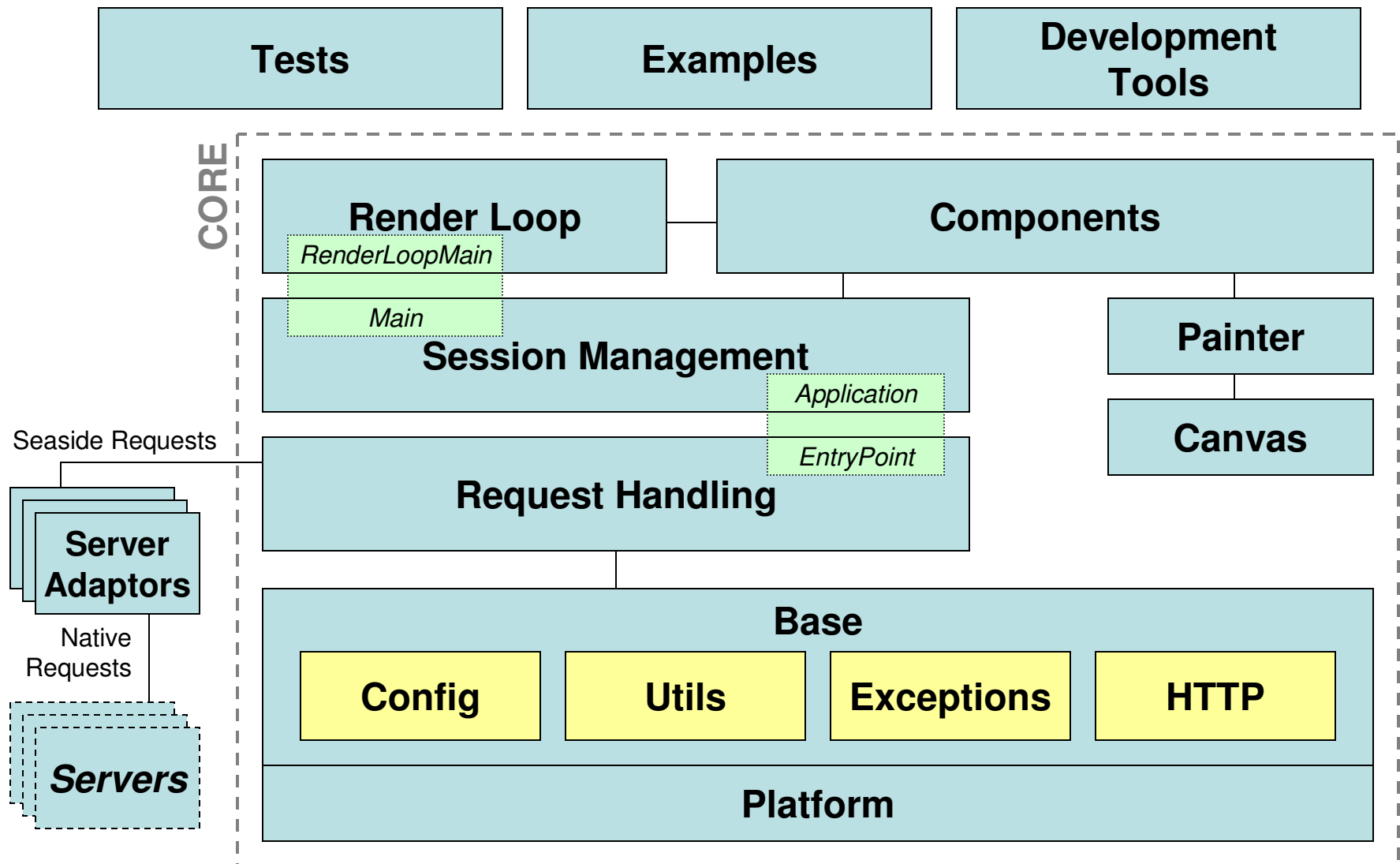Documentation

Advocacy

Seaside 2.9: Architecture

Tests	Examples	Development Tools

CORE

Render Loop
- *RenderLoopMain*
- *Main*

Components

Session Management
- *Application*
- *EntryPoint*

Painter

Canvas

Seaside Requests

Server Adaptors

Native Requests

Servers

Request Handling

Base

Config	Utils	Exceptions	HTTP

Platform

The Metaphor

- main() {   *WARenderLoopMain*
-     root = new_root_component();

-     while (1) {   *WARenderLoop*
-         render(root); *WARenderContinuation*
-         process_callbacks(root);

-         redirect();   *WARedirectContinuation*
-     }
- }

Plugging In: Some Ideas

- Configuration
- Error Handler
- Request Handler
- Session Expiry Handler
- Toolbar or Halo plugin
- … ?

Example: Configuration

- Subclass WASystemConfiguration
- Implement #describeOn:
- *(optional)* Implement #parents
- Add the configuration to your application

- *Note: attribute names need to be unique so prefix yours appropriately to avoid collisions*

Example: Configuration

```
describeOn: config
    (config string: #myappSoapHost)
        label: 'SOAP Host';
        comment: 'My App SOAP server hostname'.
    (config list: #myappTheme)
        label: 'Theme';
        options: [self allThemes].


    config at: #sessionClass put: MySession.
```

Example: Error Handler

- Subclass WAErrorHandler

- Implement #handleError:

- *(optional)* Implement #handleWarning: and #internalError:

- Select the error handler in your application's configuration

Example: Error Handler

```
handleError: anError
  session := WACurrentRequestContext session.
  self
   sendEmailForSession: session
   error: anError.


  self forkAndSaveForDebugging.
```

Example: Request Handler

- Subclass WAEntryPoint

- Implement #handleRequest:

- *(optional)* Implement your own Configuration and add it as a parent in #defaultConfiguration

- Add an instance of your class to a dispatcher

Example: Session Expiry Handler

- Subclass WAExpiredSessionKeyHandler
- Implement #handleRequest: to return a response
- Configure your application to use your new handler

Questions?

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Seaside 2.9 (a peek)

- Split into modules
- Configuration system refactoring
- First class mime types and locales
- Cryptographically secure session and continuation keys
- RequestContext
- Painter/Presenter refactoring (?)