Model View Controller

Design Architecture

Douglas Putnam

What is the MVC

We are building an web application that uses the Model-View-Controller (MVC) design architecture.

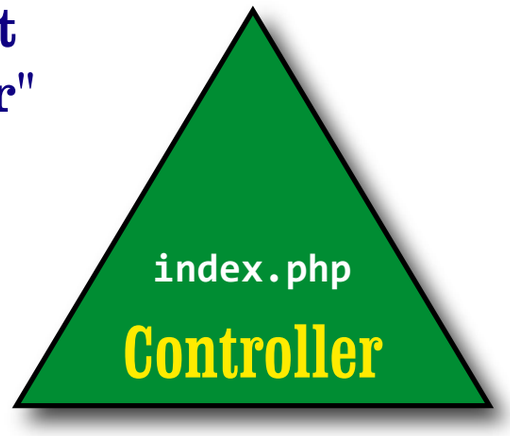
The MVC has become popular in web site design for several reasons.

- The Model (Business Tier) encapsulates application data, application flow, and business logic. Which means, the Model handles the database/persistence functionality.
- The View (Presentation Tier) and formats data from the Model for presentation.
- The Controller receives the Request input, directs the application flow, and translates it for the Model and View

Our Version of the MVC

Our Version of the MVC

In our project the "controller" is `index.php`



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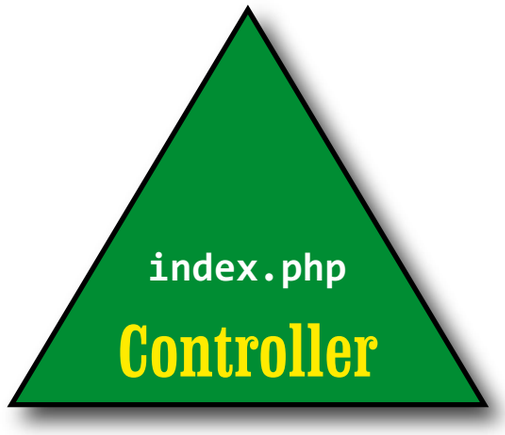

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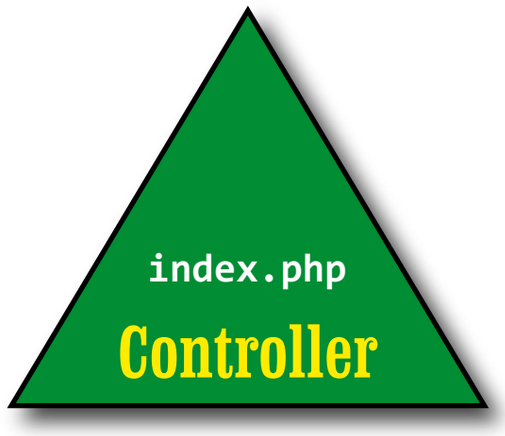
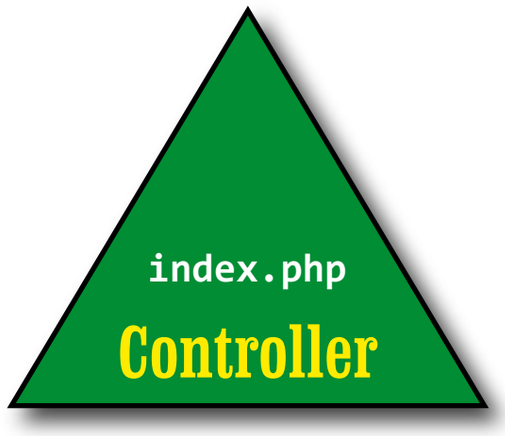


"**Views**" are kept in `phplib/views/`

```
<?php
echo $content_for_view;
?>
```

View

Our Version of the MVC

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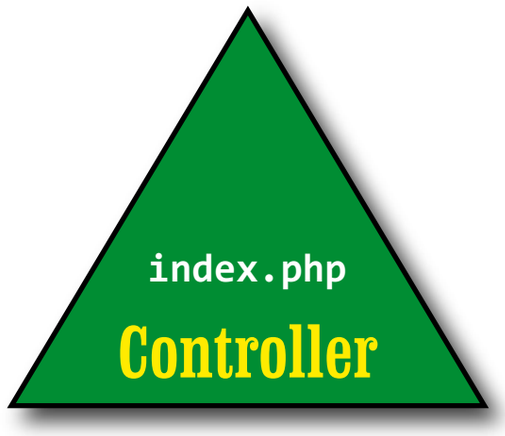

Our project "models" are kept in `phplib/models/`

```
<?php
$content_for_view ='Hi';
?>
```

Model

```
<?php
echo $content_for_view;
?>
```

View

Our Version of the MVC

index.php

Controller

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Model

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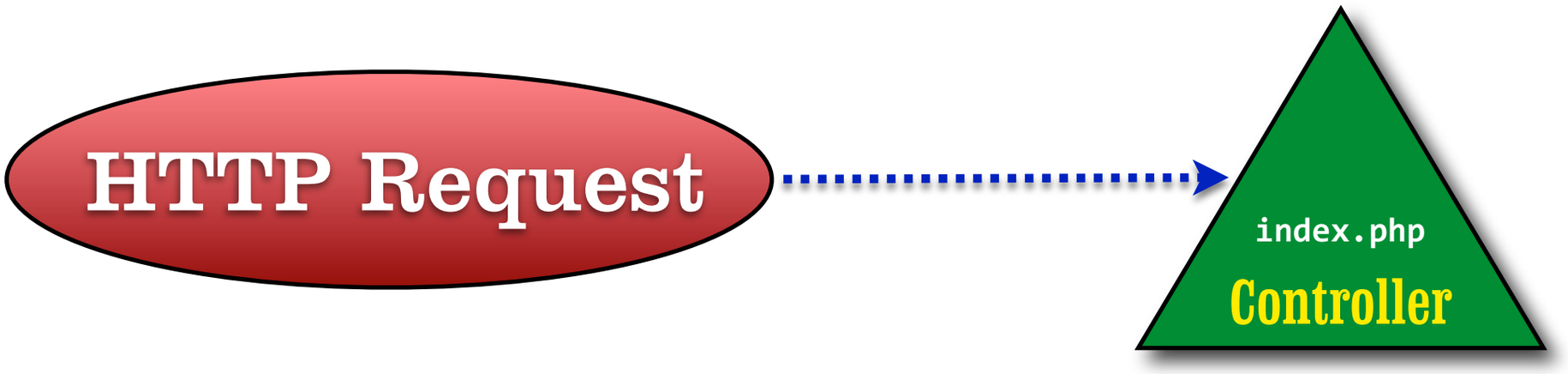
Our Version of the MVC

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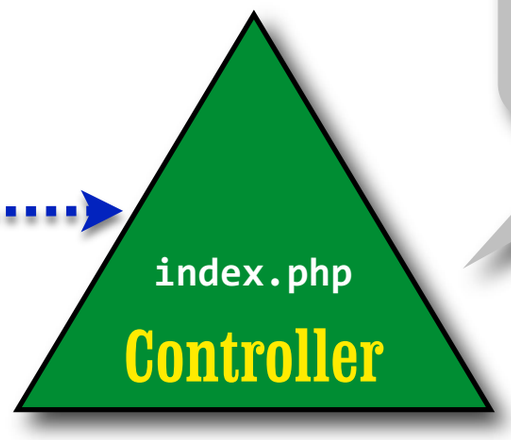

Upon receiving the request, the controller decides which view to display, and which model to run

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View

Our Version of the MVC

HTTP Request

index.php

Controller

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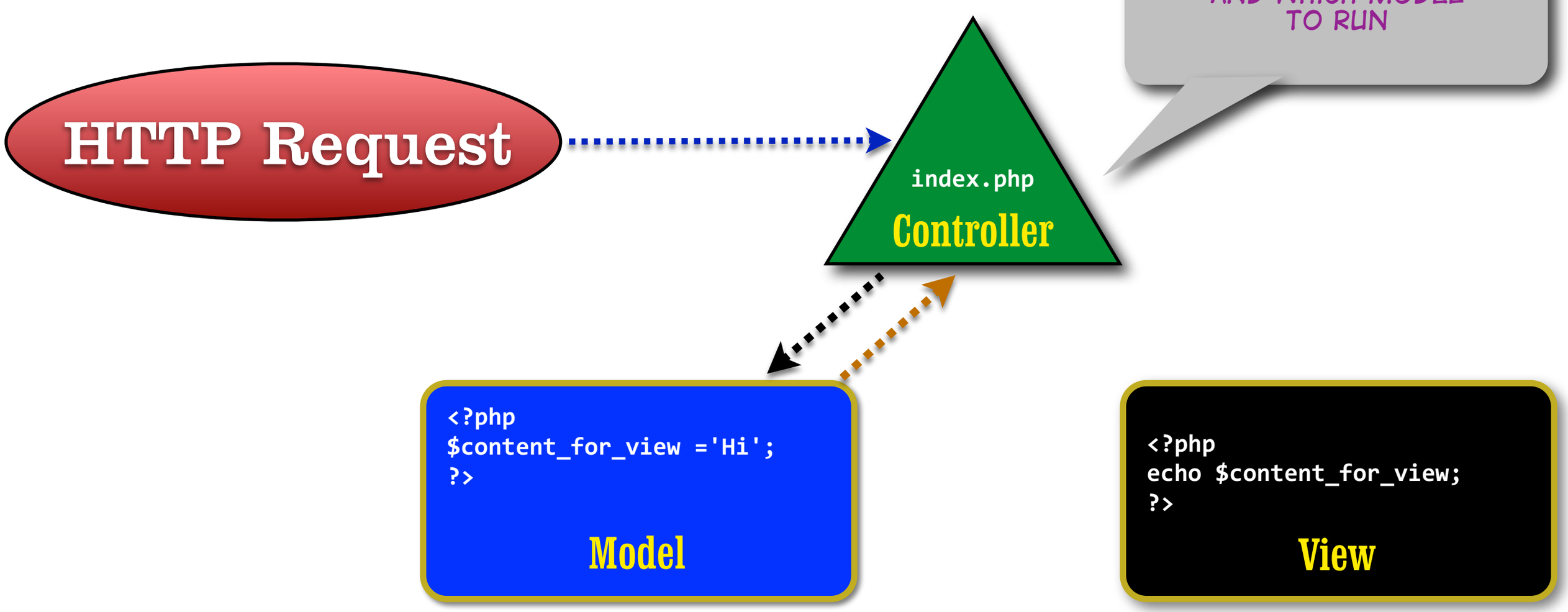

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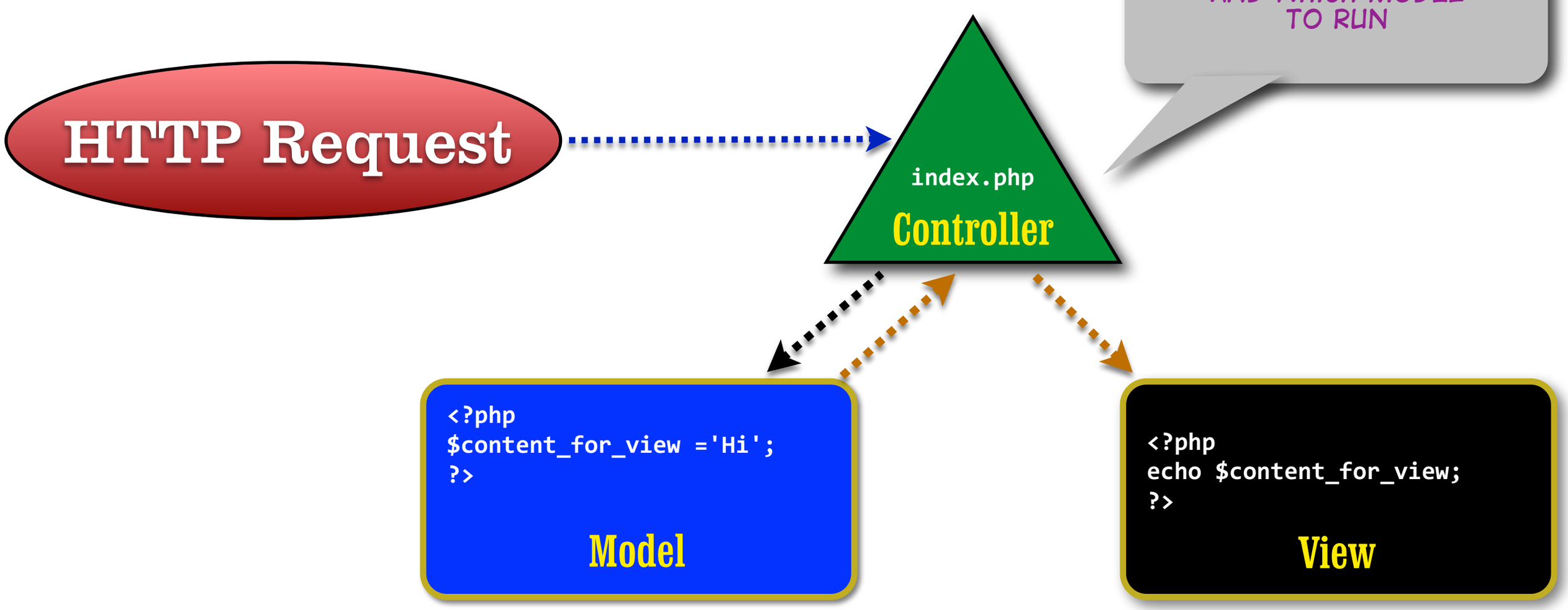

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HTTP Request

index.php

Controller

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Model

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View

This is the output of my clever program

Separating Model and View

```
<!-- ecards.html -->
<table>
  <tr>
    <td>
<?php
  $files = get_file_list($ecard_dir);
  foreach($files as $f) {
    $html = '<a href .... >';
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    <?php echo $html; ?>
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```

Separating Model and View

PHP allows us to mix PHP code into HTML or text pages. In the MVC design architecture we take steps to separate code and presentation.

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ALTHOUGH THIS CODE "WORKS", IT DOES NOT FOLLOW THE IDEA OF SEPARATING MODEL AND VIEW

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A Better Way

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ecards.html

```
<!-- ecards.html -->


<?php
  include MODEL_DIR.'ecards.php';
?>


<table>
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Our Friend index.php

```
if(isset($_GET) && isset($_GET['v']) ) {
  if(file_exists(VIEW_DIR . basename($_GET['v']) . '.html')) {
     /* Look for model code associated with $VIEW */
     if(file_exists(MODEL_DIR . basename($_GET['v']))) {
         include MODEL_DIR . basename($_GET['v']);
     }
    $VIEW = basename($_GET['v']) . '.html';
  }
  else {
    $VIEW = 'error_404.html';
  }
}
```

Our Friend index.php

We can have index.php include the model at the time it determines the view.

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if(isset($_GET) && isset($_GET['v']) ) {
  if(file_exists(VIEW_DIR . basename($_GET['v']) . '.html')) {
     /* Look for model code associated with $VIEW */
     if(file_exists(MODEL_DIR . basename($_GET['v']))) {
         include MODEL_DIR . basename($_GET['v']);
     }
    $VIEW = basename($_GET['v']) . '.html';
  }
  else {
    $VIEW = 'error_404.html';
  }
}
```

Our Friend index.php

We can have index.php include the model at the time it

We check to see if there is a model named $VIEW.php and include it.

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     /* Look for model code associated with $VIEW */
     if(file_exists(MODEL_DIR . basename($_GET['v']))) {
         include MODEL_DIR . basename($_GET['v']);
     }
    $VIEW = basename($_GET['v']) . '.html';
  }
  else {
    $VIEW = 'error_404.html';
  }
}
```

END