In the last chapter, you built a working MVC framework and put together the Home controller and view. In this chapter, you’ll complete the back end of the app by building the Question and Room components. This chapter puts the Model class to work, as well as the form submission handling that you built in the previous chapter.

Building the Questions

It might seem backward to build the Question controller before the Room controller, but because the Room controller needs several snippets of markup from the Question controller to output its view, let’s start here and work to the Room controller.

Building the Question Controller

To begin, create a new file called class.question.inc.php in system/controllers/ and add the following code:

```php
<?php

/**
 * Processes output for the Question view
 *
 * @author  Jason Lengstorf <jason@lengstorf.com>
 * @author  Phil Leggetter <phil@leggetter.co.uk>
 */

class Question extends Controller
{

    public $room_id,
            $is_presenter = FALSE;

    /**
     * Initializes the class
     *
     * @param $options  array   Options for the controller
     * @return          void
     */
```
public function __construct( $options )
{
    parent::__construct($options);

    $this->room_id = isset($options[0]) ? (int) $options[0] : 0;
    if ($this->room_id===0) {
        throw new Exception("Invalid room ID supplied");
    }
}

/**
 * Generates the title of the page
 *
 * @return string   The title of the page
 */
public function get_title(  )
{
    // Questions can't be called directly, so this is unused
    return NULL;
}

/**
 * Loads and outputs the view's markup
 *
 * @return string   The HTML markup to display the view
 */
public function output_view(  )
{
    $questions = $this->get_questions();
    $output = NULL;
    foreach ($questions as $question) {

        /*
         * Questions have their own view type, so this section initializes
         * and sets up variables for the question view
         */
        $view = new View('question');
        $view->question     = $question->question;
        $view->room_id      = $this->room_id;
        $view->question_id  = $question->question_id;
        $view->vote_count   = $question->vote_count;

        if ($question->is_answered==1) {
            $view->answered_class = 'answered';
        } else {
            $view->answered_class = NULL;
        }
    }