OpenEMR Code Analysis

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With my knowledge, back end developers do algorithmic work, and front end developer work on how to display (such as HTML, JS, and CSS), and give and take data with keys. But I don’t know how they exactly works, and how to distinguish them. So I want to compare answers from now and after I finish studies.

Q-1) When you say it is written in PHP do you mean the backend is written in PHP?

I don’t know how to distinguish those, so I just opened very first file which is

C:\Users\JunhyukK\Desktop\openemr-4.2.2\openemr-4.2.2\ccr and saw that the form was PHP. When I saw it is written in PHP, I thought that it is kind of programming language such as HTML or Java, but after I search for it, I realized that it is not only programming language but used for script language on web. It helps to activate HTML.

Q-2) What about the front-end?

I don’t know how to distinguish front end and back end but I could assume that the file name “display.php” can be front-end.

Q-3) What language is it written in? Java?

I think this language is more like Ruby or HTML, than Java, and I tried to search for some special functions such as “echo”, or “global”, and most of those were related with HTML. Also, there was <PHP ~ >, so I think this is HTML language which is embedded in PHP. And for controllers, I think it is written in C with PHP.

While I was answering questions, I realized that I need to start from beginning, so I wanted to translate the codes first, and to understand all values and functions, I started with controllers

- Understandable

- Confusing

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| Filename: C:\Users\JunhyukK\Desktop\openemr-4.2.2\openemr-4.2.2\controllers |
| <?php ?>  Start of php, all PHP scripts are going inside <> |
| require\_once ($GLOBALS['fileroot'] . "/library/classes/Controller.class.php");  require\_once($GLOBALS['fileroot'] ."/library/classes/InsuranceCompany.class.php"); |
| Check that file is already included, if not, call it again. |
| class C\_InsuranceCompany extends Controller {  Make new class “C\_InsuranceComplany” which is extended from Controller  var $template\_mod;  var $icompanies;  Make new variables $template\_mod and $icompanies in class  function \_\_construct($template\_mod = "general") {  We need \_\_construct to pass any values. We don’t need this on class but we need it on function  Set $template\_mod as “general”  parent::\_\_construct();  Set new variable parent  $this->icompanies = array();  Set icompanies as empty array.  $this->template\_mod = $template\_mod;  Set original variable template\_mod as given template\_mod(“general”)  $this->assign("FORM\_ACTION", $GLOBALS['webroot']."/controller.php?" .  $\_SERVER['QUERY\_STRING']);  $this->assign("CURRENT\_ACTION", $GLOBALS['webroot']."/controller.php?" . "practice\_settings&insurance\_company&");  $this->assign("STYLE", $GLOBALS['style']);  Assign() => pass name/value pairs, or associative arrays containing the name/value pairs.  $this->InsuranceCompany = new InsuranceCompany();  } |
| Make new insurance Company instance which is called InsuranceCompany |
| function default\_action() {  return $this->list\_action();  } |
| Call list\_action function, set it as default for action() |
| function edit\_action($id = "",$patient\_id="",$p\_obj = null) {  action new function with new variables $id as empty string, $patient\_id as empty string, $p\_obj as null  if ($p\_obj != null && get\_class($p\_obj) == "insurancecompany") {  $this->icompanies[0] = $p\_obj;  }  If $p\_ob is not null and get\_class(returns the name of the class of an object) is “insurancecompany”, then first element of icompanies array is $p\_obj  elseif (get\_class($this->icompanies[0]) != "insurancecompany" ) {  $this->icompanies[0] = new InsuranceCompany($id);  }  Else if first element of icompanies array is not “insurancecompany”, then icompanies’ first element is “insuranceCompany($id)”  $this->assign("insurancecompany", $this->icompanies[0]);  Make pairs with “insurancecompany”, “icoimpanies[0]”  return $this->fetch($GLOBALS['template\_dir'] . "insurance\_companies/" . $this->template\_moid . "\_edit.html");  fetch = bring the next row from a result set  } |
| function list\_action($sort = "") {  Make new function with $sort(empty string) variable  if (!empty($sort)) {  $this->assign("icompanies", $this->InsuranceCompany->insurance\_companies\_factory("",$sort));  }  If $sort is not empty, pair up “icompanies, and insurance\_companies\_factory(“”,$sort)”  else {  $this->assign("icompanies", $this->InsuranceCompany->insurance\_companies\_factory());  }  Else, pair up icompanies and insurance\_companies\_factory()  return $this->fetch($GLOBALS['template\_dir'] . "insurance\_companies/" . $this->template\_mod . "\_list.html");  }  fetch = bring the next row from a result set |
| function edit\_action\_process() {  if ($\_POST['process'] != "true")  return;  where is “post” defined? What they want to return?  //print\_r($\_POST);  if (is\_numeric($\_POST['id'])) {  $this->icompanies[0] = new InsuranceCompany($\_POST['id']);  If $\_POST[‘id’] = number or numerical string, make new InsuranceCompany with variable $\_POST[‘id’]  }  else {  $this->icompanies[0] = new InsuranceCompany();  }  Else first element of icompanies = new InsuraceCompany()  Does this mean operating new class?  paient::populate\_object($this->icompanies[0]);  //print\_r($this->pharmacies[0]);  //echo $this->pharmacies[0]->toString(true);    $this->icompanies[0]->persist();  Set first element of icompanies array as persist();  //echo "action processeed";  $\_POST['process'] = "";  }  Make $\_POST’s process element as empty string  } |
| New PHP functions |
| <?php ?> = Start of php, all PHP scripts are going inside <>  require\_once() = Check that file is already included, if not, call it again  var = define new variable  \_\_construct = We need \_\_construct to pass any values. We don’t need this on class but we need it on function  assign() => pass name/value pairs, or associative arrays containing the name/value pairs  get\_class() = returns the name of the class of an object  is\_numeric() = Find whether a variable is a number or a numerical string |
| New Questions |
| Can we use other programming languages such as Java or Python inside PHP?  There is “return;;”, what does it return?  $this was “itself” on Ruby, and is this same here? And can we skip this? |
| We called file by using require\_once$GLOBALS[‘fileroot’] and used $GLOBALS['template\_dir']  How does it work? Do we call file each time we call $GLOBALS? How can we know there exists ‘template\_dir’? or others or do they store that somewhere and call?  There are some variables which is not defined in this file, such as $\_POST, I thought that it can be just  What does the “Fetch”, “assign” exactly do in this codes. |