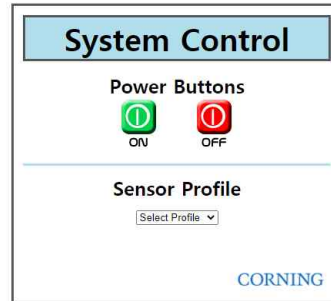
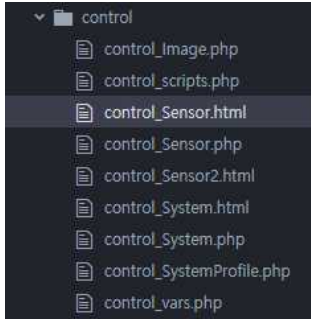


# 기존 Corning 카메라 제어 프로그램 코드 분석 정리

2021. 7. 13 화요일 연구미팅

1. url : [http://118.67.133.194/corning/control/control\\_System.html](http://118.67.133.194/corning/control/control_System.html)



```
<div class="main">
  <div class="pageTitle">System Control</div>
  <div id="systemControl_1">
    <form method="post" action="control_System.php">
      Power Buttons<br/>
      <span class="power">
        <!-- when input images are posted, only the coordinates are passed as name_x/name_y -->
        <input type="image" name="bsubmitOn" src="../images/on.gif" alt="Power ON" onmouseover="this.src='../images/onrollover.gif'"
onmouseout="this.src='../images/on.gif'" />
      </span>
      <span class="power">
        <input type="image" name="bsubmitOff" src="../images/off.gif" alt="Power OFF" onmouseover="this.src='../images/offrollover.gif'"
onmouseout="this.src='../images/off.gif'" />
      </span><br />
      <hr/>
    </form>
  </div>
</div>
```

- 윈도우 환경에서 XAMPP control를 활용하여 웹으로 실제로 보고, 리눅스에서는 EULA 라이선스에 관련 코드를 denied가 될 때도 창이 넘어가게 수정했는데 안됨
- form형식으로, 타입을 이미지로 POST방식을 통해, action으로 control\_System.php로 넘어가게 됨
- php형식 html로 감싸는 형태로 프로그래밍 되어있음
- profile도 form 타입만 다를뿐 보내는 방식은 전원버튼과 동일
- htdocs폴더 안에 거의 다 control 디렉토리 안에 html, php 파일이 존재
- 

2. url : [http://118.67.133.194/corning/control/control\\_System.php](http://118.67.133.194/corning/control/control_System.php)

```
<div class="main">
  <div class="pageTitle">System Control</div>
  <div id="systemControl_shutDown">
    <?php
      //when input images are posted, only the coordinates are passed as name_x/name_y
      $bsubmitOn_x = $_POST['bsubmitOn_x'];
      $bsubmitOff_x = $_POST['bsubmitOff_x'];

      if(isset($bsubmitOn_x))
        $choice = "ON";
      if(isset($bsubmitOff_x))
        $choice = "OFF";
```

- php안에 명령어에 대한 코드가 있음.
- 세션으로 넘겨받은 값을 b submit On\_x에 받아, \$choice변수로 switch문으로 제어하는 모습

```
// Determine if the user wants to start or stop the pi
switch( $choice )
{
    case "OFF":
        echo PowerSystemOff("ih");
        $_SESSION['ihOnOff_'] = "off";
    ?>

    <form action="control_System.html">
        <p class="container">
            <input class="button" type="submit" value="OFF" />
        </p>
    </form>

    <?php
        break;

    case "ON":
        $ihOnOff = $_SESSION['ihOnOff_'];
        if (strcmp($ihOnOff, "off") == 0)
        {
            $_SESSION['ihOnOff_'] = "on";
            echo PowerSystemOn("ih");
            //echo "<META HTTP-EQUIV='Refresh' CONTENT='1'; URL=/corning/status/status.html'W>";
        }
        else
        {
            // echo "<META HTTP-EQUIV='Refresh' CONTENT='1'; URL=/corning/control/control_System.html'W>";
        }
        break;
    }
    ?>
</div>
</div>
```

- \$choice 변수로 switch 문으로 제어로 on 과 off로 나뉘져, ihOnOff 세션 변수값에 off와 on을 입력  
- \$\_SESSION[ "xxx" ] 변수는 /control/control\_vars.php 안에 선언 되어있음

```
<?php
//include_once( __DIR__ . "/../ih_defines.php" );
if(!isset($_SESSION))
{
    session_start();
}

if (!isset($_SESSION['swirExposure_']))
    $_SESSION['swirExposure_'] = "";

if (!isset($_SESSION['vnirExposure_']))
    $_SESSION['vnirExposure_'] = "";

if (!isset($_SESSION['swirRate_']))
    $_SESSION['swirRate_'] = "";

if (!isset($_SESSION['vnirRate_']))
    $_SESSION['vnirRate_'] = "";

if (!isset($_SESSION['host_']))
    $_SESSION['host_'] = "";

if (!isset($_SESSION['port_']))
    $_SESSION['port_'] = "";

if (!isset($_SESSION['scans_']))
    $_SESSION['scans_'] = "1";

if (!isset($_SESSION['fov_']))
    $_SESSION['fov_'] = "60";

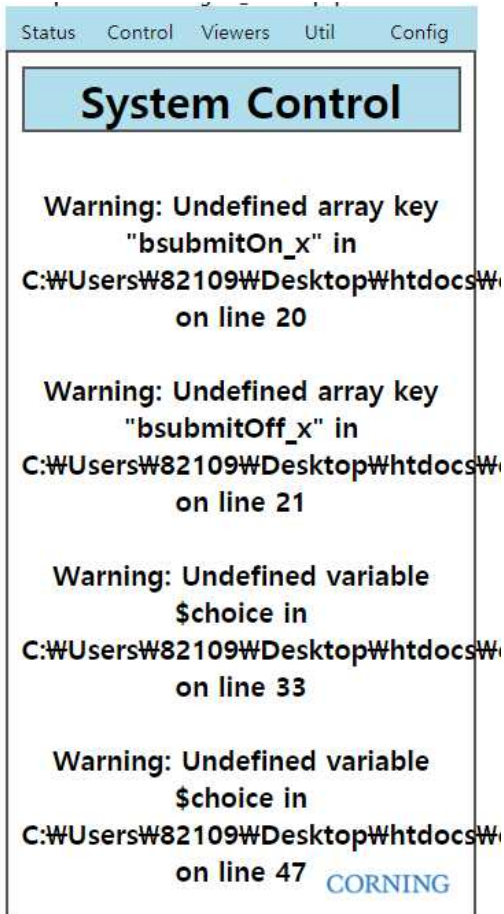
if (!isset($_SESSION['target_']))
    $_SESSION['target_'] = "001";

if (!isset($_SESSION['pass_']))
    $_SESSION['pass_'] = "001";
```

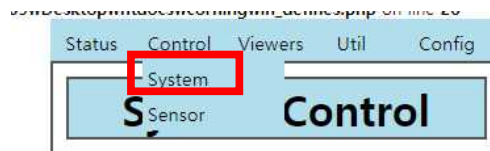
<ON OFF 명령에 대한 접근 방식>

1. 서버[Mobius]에서 value를 전송하면, MC[thyme]에서 서버에서 받은 value를 통해 control/control\_System.php 에 POST방식으로 \$\_POST['bsubmitOn\_x'] / \$\_POST['bsubmitOff\_x'] 세션 변수에 값만 전달되면 isset 함수에 따른 \$choice값이 on과 off로 지정
2. 크롤링의 셀레니움 라이브러리를 활용해서, 1번화면에서 on /off를 버튼을 누르는 방법

2. url : [http://118.67.133.194/corning/control/control\\_System.php](http://118.67.133.194/corning/control/control_System.php)

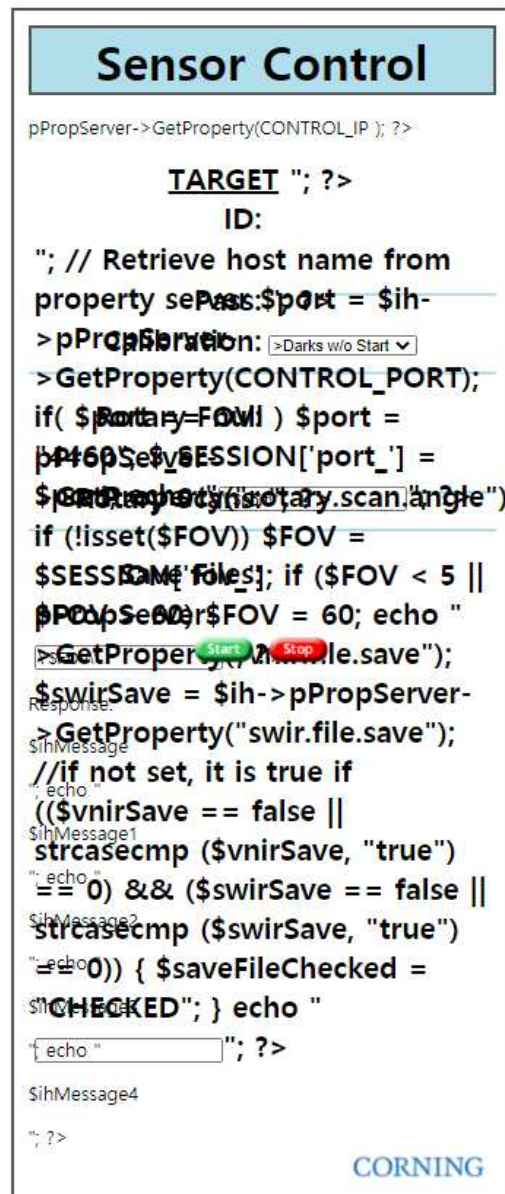


가) [http://118.67.133.194/corning/control/control\\_System.html](http://118.67.133.194/corning/control/control_System.html)



상위 메뉴에서 Control클릭 후 리스트로  
System과 Sensor 상세 메뉴가 나오고  
System를 누르면 1번 이미지가 다시 나옴

나) [http://localhost/corning/control/control\\_Sensor.html](http://localhost/corning/control/control_Sensor.html)



3. [http://localhost/corning/control/control\\_Sensor.html](http://localhost/corning/control/control_Sensor.html) 를 통해서,  
input태그에서 host와 port를 입력하는 것으로 추측(target과 pass라는 값또한 입력하는 데 아직 파악이 안됨  
입력받은 세션 변수를 활용하여, control\_Sensor.php에서, 명령어 관련된 코드가 있음

```
<form name="controlForm" method="post" action="control_Image.php">
  <p>
    <?php
      $ih = new Sensor( $sensor, IH_PROPSERVER_FILE );
      //Retrieve host name from property server
      $host = $ih->pPropServer->GetProperty(CONTROL_IP );
    ?>
  </p>
  <div id="sensorControl">
    <u>TARGET</u>
    <?php
      if( $host == null )
        $host = "udp://127.0.0.1";

      $SESSION['host '] = $host;
      echo "<input id=\"ihHost\" name=\"ihHost\" type=\"hidden\" value=\"\$host\" size=\"15\"/>";
    ?>
    <div class="sensorItem">
      <div class="sensorLabel">ID:</div>
      <div class="sensorInput">
        <?php
          $target = $_SESSION['target_'];
          echo "<input id=\"ihTarget\" name=\"ihTarget\" type=\"text\" value=\"\$target\" size=\"10\"/>";

          // Retrieve host name from property server
          $port = $ih->pPropServer->GetProperty(CONTROL_PORT);
          if( $port == null )
            $port = "4460";

          $SESSION['port '] = $port;
          echo "<input id=\"ihPort\" name=\"ihPort\" type=\"hidden\" value=\"\$port\" size=\"15\"/>";
        ?>
      </div>
    </div>
    <div class="sensorItem">
      <div class="sensorLabel">Pass:</div>
      <div class="sensorInput">
        <?php
          $pass = $_SESSION['pass_'];
          echo "<input id=\"ihPass\" name=\"ihPass\" type=\"text\" value=\"\$pass\" size=\"10\"/>";
        ?>
      </div>
    </div>
    <div class="spacer1"><hr /></div>
    <?php
      $use = getStatusValue("page.control.calibration.use", $_SERVER['DOCUMENT_ROOT']."/corning/interfaceConfig
      if (strcasecmp ($use, "true") == 0)
      {
        ?>
```

#### 4. Control\_Sensor.php를 보면

```
// Determine sensor type
$sensor = $_POST["sensor"];

// Retrieve variables
$host = $_POST[$sensor."Host"];
$port = $_POST[$sensor."Port"];
$target = $_POST[$sensor."Target"];
$pass = $_POST[$sensor."Pass"];
$command = $_POST["command"];
$calibrate = $_POST["calibrate"];
```

```
includes
├── phpPropServer.php
└── phpSockets.php
```

- phpSockets 클래스를 생성하여, host와 port를 입력받아 fsockopen소켓 통신을 진행
- phpSockets 클래스는 /includes 디렉토리의, phpSockets.php에서 fsockopen소켓을 통해 open, close하고 message의 수신, 보내기, 읽기 함수들이 구현되어 있음

```
$pSocket = new phpSockets($host, $port);

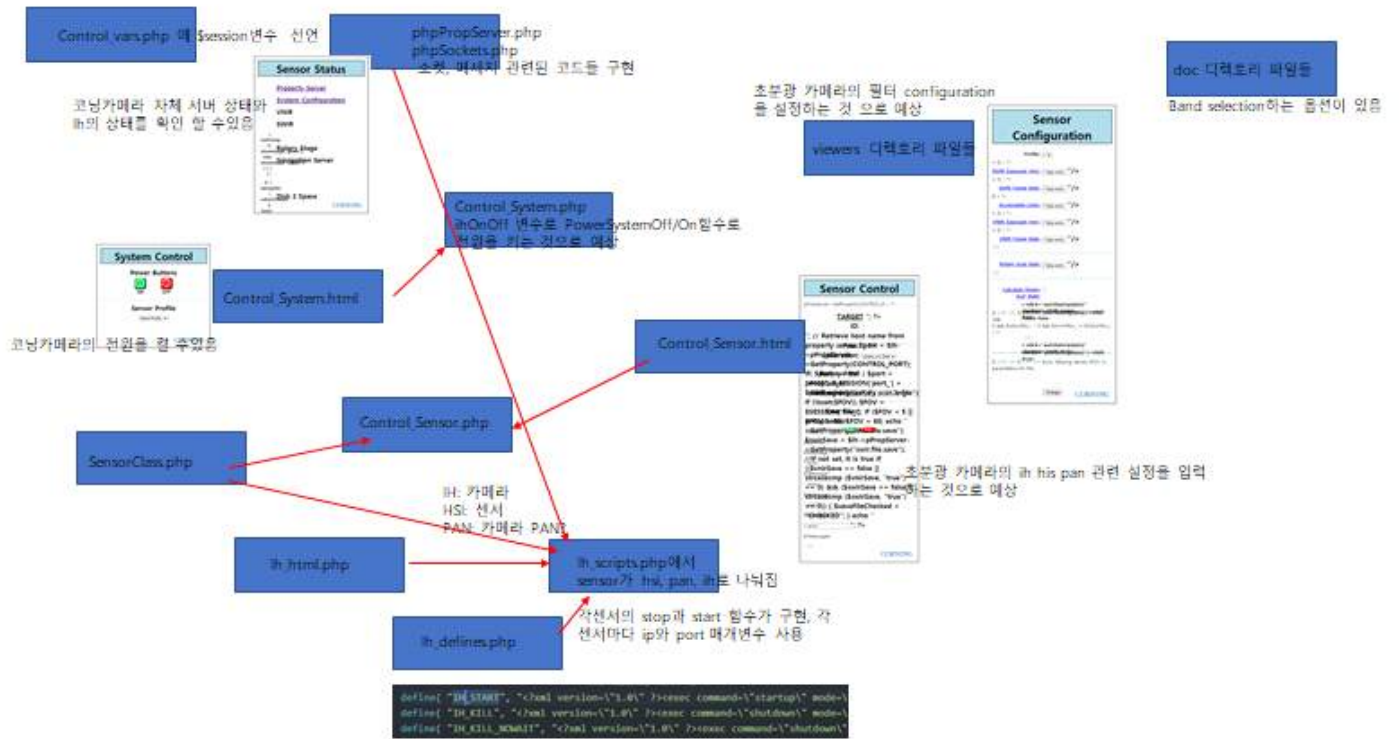
if(@ $pSocket->OpenSocket(2) == -1)
{
    echo "Failed to open socket to $host.";
    return;
}

// File where the property server host and port number can be found.
$sensor = new Sensor( $sensor, IH_PROPSERVER_FILE );

// Create the event ID
$eventID = $sensor->CreateEventID($target, $pass);

$ihArray[0][0] = "event.id";
$ihArray[0][1] = $eventID;

// The following are messages that can be sent to IRONHORSE:
// 1. Initialize
// 2. Test
// 3. Darks w/o Start
// 4. Start w/ or w/o calibration
// 5. Stop
// Determine which message the user wants to send
```



하..