Documentation

This document shows the documentation of Project Midnight.

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0.0 Filesystem

This represents the filesystem of Project Midnight. Refer to this section for information on how locations.

```
+---+ app
   +---+ docs
       +---+ docu
           +---> documentation.md
           +---> documentation.pdf
           +---> ... <misc files> ...
       +---+ Third Party Licenses
         +---> index.md
           +---> index.pdf
       | +---> OFL.txt
       +---> Enthereon Cipher Projects.md
       +---> Enthereon Cipher Projects.pdf
       +---> Project Midnight.md
       +---> Project Midnight.pdf
       +---> System Design.vsdx
    +---+ src
       +---+ .sys
           +---+ logic
            | +---> db_config.php
              +---> logout.php
              +---> protocols.php
              +---> requiries.php
               +---> session.php
           +---+ meta
              +---> midnight.sql
        +---+ pages
           +---> db.php
           +---> live.php
           +---> login.php
         +---> manage.php
           +---> profile.php
           +---> retrieve.php
           +---> signup.php
       +---+ resources
           +---+ fonts
```

```
+---+ static
                    +---> ... <misc font files> ...
                +---> BodyFont.ttf
                +---> HeaderFont.ttf
              --+ images
                +---> banner logo large.png
               +---> banner logo medium.png
                +---> icon-16.png
                +---> icon-32.png
               +---> icon-64.png
                +---> icon-128.png
                +---> icon-256.png
            +---> ... <misc work files> ...
        +---+ scripts
            +---+ CSS
                +---> basic.css
                +---> onboard.css
            +---+ js
   +---> index.php
   +---> launchserver.bat
   +---> launchsys.bat
+---> .gitattributes
+---> .gitignore
+---> LICENSE
+---> README.md
```

0.1 Repository Information

• Author: @SilverousBlack

Repository Host: GitHub

• Repository Name: Project Midnight

• Repository Status: **Private**

Repository Version: 0.0.2

• License: Enthereon Cipher Projects General License

0.2 Version Information

- 0.0.1 Repository Launch with Log In and Sign Up capabilities
- 0.0.2 System Timeouts, Administrator-only Control

0.3 Licenses

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The goals of the Open Font License (OFL) are to stimulate
worldwide
development of collaborative font projects, to support the font
creation
```

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0.4 Developer Notes

- Due to XAMPP not properly working (installation problems).
 - PHP workaround is made through a seprate installation of PHP and Windows Batch Scripts.
 - launchserver.bat launches the PHP (8.0.1) Development Serverc with the system running at localhost:8080.

- launchsys.bat launches Microsoft Edge (developer choice browser) new window with the system running at localhost:8080.
- By nature of the web application, profile.php or the *Profile Management Page* is considered as the *home page*.
- A new MySQL user is created and used by Project Midnight by default.
- This document and other documents are written in Markdown, and exported to Portable Document Format (PDF) thereunto.

1.0 Source files and Code Works

1.1 db config.php

```
<?php
    $dbserver = "localhost";
    $dbuser = "user";
    $dbpword = "";
    $dbname = "MIDNIGHT";
    $dbconfig = mysqli_connect($dbserver, $dbuser, $dbpword,
$dbname);
    if ($dbconfig === false) {
        $error = mysqli_connect_error();
        die("Database Connection Error: {$error}\nAlter
    `src/.sys/logic/db_config.php` to fix errors.");
    }
}
</pre>
```

1.2 requiries.php

```
    include_once("db_config.php");
    function retrieveMatches(){
        global $dbconfig;
        $name = "'" . $_POST["uname"] . "'";
        $query = "SELECT * FROM USER WHERE NAME={$name}";
        $result = mysqli_query($dbconfig, $query)
        or die("Database Error: " . mysqli_error($dbconfig));
        return mysqli_fetch_assoc($result);
}

function generateUserNumber($number){
        $result = "";
}
```

```
if ($number < 10) $result .= "00";
        elseif ($number < 100) $result .= "0";</pre>
        elseif ($number < 1000) $result .= "";
        return $result . "{$number}";
   }
   function getUserName($name, $id, $stat){
        $astat = boolval($stat) == 1 ? 1 : 0;
        return $name . "#" . generateUserNumber($id) . $astat;
   }
   function verifyPassWord(string $target){
        $size = strlen($target);
        if ($size >= 8 && $size <= 20) return true;
        else return false;
   }
   function recordEntry($name, $word, $secq, $seca){
        global $dbconfig;
        $uven = "'" . $name . "'" . ", '" . $word . "'";
        $uent = mysqli_query($dbconfig,
        "INSERT INTO USER(NAME, WORD)
       VALUE ({$uven});")
        or die("Database Error [Cannot Add Entry]: " .
mysqli_error($dbconfig));
       $retr = mysqli query($dbconfig,
        "SELECT ID FROM USER
       WHERE NAME='{$name}';")
        or die("Database Error [Cannot Add Entry]: " .
mysqli_error($dbconfig));
        $ruid = mysqli fetch row($retr);
        $suid = $ruid[0];
       $sven = "'{$secq}', '{$seca}', {$suid}";
        $sent = mysqli_query($dbconfig,
        "INSERT INTO SECURITY(QUE, ANS, UID)
       VALUES ({$sven});")
        or die("Database Error [Cannot Add Entry]: " .
mysqli_error($dbconfig));
       $ret = array($uent, $sent);
       return $ret;
   function alert(string $msg){
        echo "<script type='text/javascript'>alert('{$msg}')
</script>";
   }
?>
```

```
<?php
   include_once("requiries.php");
   function logoutProtocol(){
        global $dbconfig;
        mysqli_close($dbconfig);
       unset($_POST);
       unset($_SESSION);
   }
   function pageloadProtocol(){
        global $dbconfig;
        if (!(isset($_SESSION["luid"]))){
            header("Loacation: login.php", true, 301);
            exit();
        }
        else {
            $luid = $_SESSION["luid"];
            $result = mysqli_query($dbconfig,
            "SELECT *
            FROM USER
            WHERE ID={$luid};")
            or die("Database Error: " .
mysqli_error($dbconfig));
            $localResults = mysqli_fetch_assoc($result);
            $user = getUserName($localResults["NAME"],
$localResults["ID"], $localResults["ASTAT"]);
            $_SESSION["uname"] = $user;
            $_SESSION["lusr"] = $localResults["NAME"];
            $_SESSION["luid"] = $localResults["ID"];
            $_SESSION["luas"] = $localResults["ASTAT"];
        }
   }
   function timeoutProtocol(){
        $cur = hrtime(true);
        $elapsed = (($cur - $_SESSION["lact"]) / 1e+9) / 60;
        if ($elapsed > 10){
            $_SESSION["alert"] = "System Timeout: Please log in
again";
            header("Location: login.php", true, 301);
        }
   }
   function adminProtocol(){
        if ($_SESSION["luas"] == 0){
```

1.4 session.php

```
<?php
  include_once("db_config.php");
  include_once("requiries.php");
  include_once("protocols.php");
?>
```

1.5 logout.php

```
<?php
   include_once("session.php");
   logoutProtocol();
   session_destroy();
   header("Location: ../../pages/login.php", true, 301);
?>
```

1.6 midnight.sql

```
-- Project Midnight default database setup

CREATE USER IF NOT EXISTS "user"@localhost IDENTIFIED BY "";

CREATE SCHEMA MIDNIGHT;

GRANT ALL PRIVELEGES ON MIDNIGHT.* TO "user"@localhost

IDENTIFIED BY "";

USE MIDNIGHT;

CREATE TABLE `user` (
  `ID` INT(3) NOT NULL AUTO_INCREMENT,
```

```
`NAME` VARCHAR(20) NOT NULL,
    `WORD` VARCHAR(20) NOT NULL DEFAULT '00000000',
    `ASTAT` BIT(1) NULL DEFAULT b'0',
    PRIMARY KEY ('ID')
COLLATE='utf8 general ci'
ENGINE=InnoDB
CREATE TABLE `cipher` (
    `ID` INT(6) NOT NULL,
    `NAME` VARCHAR(20) NOT NULL,
    `UID` INT(3) NULL DEFAULT NULL,
    PRIMARY KEY ('ID'),
   INDEX `UID` (`UID`),
    CONSTRAINT `cipher_ibfk_1` FOREIGN KEY (`UID`) REFERENCES
`user` (`ID`)
)
COLLATE='utf8 general ci'
ENGINE=InnoDB
CREATE TABLE `symbol` (
   `ID` INT(13) NOT NULL,
    `SYM` VARCHAR(1) NOT NULL,
    `CID` INT(6) NULL DEFAULT NULL,
    `UID` INT(3) NULL DEFAULT NULL,
    PRIMARY KEY ('ID'),
    INDEX `CID` (`CID`),
    INDEX `UID` (`UID`),
    CONSTRAINT `symbol_ibfk_1` FOREIGN KEY (`CID`) REFERENCES
`cipher` (`ID`),
    CONSTRAINT `symbol_ibfk_2` FOREIGN KEY (`UID`) REFERENCES
`user` (`ID`)
)
COLLATE='utf8_general_ci'
ENGINE=InnoDB
CREATE TABLE `security` (
    `ID` INT(15) NOT NULL AUTO INCREMENT,
    `QUE` VARCHAR(50) NOT NULL,
    `ANS` VARCHAR(50) NOT NULL,
    `UID` INT(3) NULL DEFAULT NULL,
    PRIMARY KEY ('ID'),
    INDEX `UID` (`UID`),
    CONSTRAINT `security_ibfk_1` FOREIGN KEY (`UID`) REFERENCES
`user` (`ID`)
```

```
COLLATE='utf8_general_ci'
ENGINE=InnoDB
CREATE TABLE `logs` (
    `ID` INT(15) NOT NULL AUTO INCREMENT,
    `REC` DATETIME NOT NULL DEFAULT current_timestamp(),
    `CID` INT(6) NULL DEFAULT NULL,
    `UID` INT(3) NULL DEFAULT NULL,
    PRIMARY KEY ('ID'),
    INDEX `CID` (`CID`),
    INDEX `UID` (`UID`),
    CONSTRAINT `logs_ibfk_1` FOREIGN KEY (`CID`) REFERENCES
`cipher` (`ID`),
    CONSTRAINT `logs_ibfk_2` FOREIGN KEY (`UID`) REFERENCES
`user` (`ID`)
)
COLLATE='utf8 general ci'
ENGINE=InnoDB
INSERT INTO USER(NAME, WORD, ASTAT) VALUES ("admin",
"projectmidnightadmin", 1);
INSERT INTO SECURITY (QUE, ANS, UID) VALUES ("What is the
crystal latice of Enthereon?", "Midnight Sky", 1);
```

1.7 login.php

```
<?php
    session_start();
    include_once("../.sys/logic/session.php");
    $error_uname = "";
    $error_pword = "";
    if (isset($_POST["uname"])) {
        $localResults;
        try {
            $localResults = retrieveMatches();
        }
        catch (Exception $e){
            $uname = $_POST["uname"];
            $error_uname = "Username [{$uname}] not found on database!";
            header("Location: ", true, 301);
        }
}</pre>
```

```
if (is null($localResults)){
            $uname = $_POST["uname"];
            $error uname = "Username [{$uname}] not found on
database!";
            header("Location: ", true, 301);
        }
        else {
            if ($_POST["psw"] == $localResults["WORD"]){
                $user = getUserName($localResults["NAME"],
$localResults["ID"], $localResults["ASTAT"]);
                $_SESSION["uname"] = $user;
                $_SESSION["lusr"] = $localResults["NAME"];
                $ SESSION["luid"] = $localResults["ID"];
                $_SESSION["luas"] = $localResults["ASTAT"];
                $_SESSION["lact"] = hrtime(true);
                unset($_POST["psw"]);
                header("Location: profile.php", true, 301);
                exit();
            }
            else {
                global $error pword;
                $uname = $_POST["uname"];
                $error pword = "Username [{$uname}] and
Password does not match";
        }
    }
    unset($ POST);
    pageendProtocol();
2>
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Log In page of Project Midnight. Project</pre>
Midnight is a part of Enthereon Cipher Projects by S. Black,
and is a predecessor of Project Eclipse. Read license notice
for information on copyrights.">
        <title>Midnight: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"</pre>
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"</pre>
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"</pre>
```

```
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"</pre>
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"</pre>
href="../resources/images/icon-16.png">
       <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/basic.css">
   </head>
   <body>
        <l
            <img class="banner" src="../resources/images/banner</pre>
logo medium.png" alt="Project Midnight Banner Logo Medium">
            <a class="active" href="">Log In</a>
            <a href="signup.php">Sign Up</a>
            <a href="../../docs/Enthereon Cipher">
</a>
Projects.pdf">About: Enthereon Cipher Projects</a>
            <a href="../../docs/Project"> <a href="../../docs/Project"> </a>
Midnight.pdf">About: Project Midnight</a>
            <a href="../../LICENSE">License</a>
       <div class="general">
            <div class="content">
               <h1>Log In</h1>
                <h2>Welcome to Project Midnight <img
src="../resources/images/icon-16.png"></h2>
                Login to continue.
                <form method="post" action="">
                    <label for="uname"><b>Username</b></label>
                    <input type="text" placeholder="Enter</pre>
Username" name="uname" required>
                    <?php
                        echo ("{$error uname}
");
                    ?>
                    <br>
                    <label for="psw"><b>Password</b></label>
                    <input type="password" placeholder="Enter</pre>
Password" name="psw" required>
                    <?php
                        echo ("{$error_pword}
");
                    ?>
                    <br>
```

```
<button class="login" type="submit"</pre>
onclick>Login</button>
                    <label>
                    <input type="checkbox" checked="checked"</pre>
name="remember"> Remember me
                    </label>
                </form>
                Not yet registered? <a
href="signup.php">Sign up here.</a>
                Lost your account? <a
href="retrieve.php">Retrieve here.</a>
            </div>
        </div>
   </body>
</html>
<?php
   if (isset($_SESSION["alert"])){
       alert($_SESSION["alert"]);
       unset($_SESSION["alert"]);
   }
?>
```

1.8 signup.php

```
<?php
   session_start();
   include_once("../.sys/logic/session.php");
   $error uname = "";
   $error pword = "";
   if (isset($_POST["uname"])){
        $pings = retrieveMatches();
       if (!(is_null($pings))){
            $uname = $_POST["uname"];
            $error_uname = "Username [{$uname}] already exists
in database! Consider changing.";
        }
        else {
            if (!(verifyPassWord($_POST["psw"]))){
                $error_pword = "Password must be at least 8
characters and at most 20 characters.";
            }
            else {
                $ret = recordEntry($_POST["uname"],
```

```
$_POST["psw"], $_POST["secq"], $_POST["seca"]);
                $localResults = retrieveMatches();
                $user = getUserName($localResults["NAME"],
$localResults["ID"], $localResults["ASTAT"]);
                $_SESSION["uname"] = $user;
                $ SESSION["lusr"] = $localResults["NAME"];
                $_SESSION["luid"] = $localResults["ID"];
                $ SESSION["luas"] =
boolval($localResults["ASTAT"]);
                unset($_POST["secq"]);
                unset($_POST["seca"]);
                unset($_POST["psw"]);
                header("Location: profile.php", true, 301);
            }
        }
    }
    unset($_POST);
    pageendProtocol();
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Sign Up page of Project Midnight.</pre>
Project Midnight is a part of Enthereon Cipher Projects by S.
Black, and is a predecessor of Project Eclipse. Read license
notice for information on copyrights.">
        <title>Midnight: Sign Up</title>
        <link rel="icon" type="images/png" sizes="256x256"</pre>
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"</pre>
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"</pre>
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"</pre>
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"</pre>
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/basic.css">
    </head>
    <body>
        <l
            <img class="banner" src="../resources/images/banner</pre>
```

```
logo medium.png" alt="Project Midnight Banner Logo Medium">
           <a href="login.php">Log In</a>
           <a class="active" href="">Sign Up</a>
           <a href="../../docs/Enthereon Cipher">
</a>
Projects.pdf">About: Enthereon Cipher Projects</a>
           <a href="../../docs/Project">href="../../docs/Project</a>
Midnight.pdf">About: Project Midnight</a>
           <a href="../../LICENSE">License</a>
       <div class="general">
           <div class="content">
               <h1>Sign Up</h1>
               <h2>Welcome to Project Midnight <img
src="../resources/images/icon-16.png"></h2>
               Welcome! We're glad to have you here!
               Complete the form to register and sign up.
<form method="post" action="">
                   <label for="uname">Username</label>
                   <hr>>
                   <input type="text" placeholder="Enter</pre>
Username" name="uname" required>
                   <br>
                   <?php
                       echo ("{$error_uname}
");
                   ?>
                   <br>
                   <label for="psw">Password</label>
                   <br>
                   <input type="password" placeholder="Enter</pre>
Password" name="psw" required>
                   <br>>
                   <?php
                       echo ("{$error pword}
");
                   ?>
                   <br>
                   <label for="secq">Security Question</label>
                   <br>>
                   <input type="text" placeholder="Security</pre>
Question" name="secq" style="width: 100%">
                   <br>>
                   The security question
[optional] would be used later to retrieve your log in
```

```
credentials in case they are lost.
                   <br>
                   <label for="seca">Security Question
Answer</label>
                   <br>
                   <input type="text" placeholder="Security</pre>
Answer" name="seca" style="width: 100%">
                   <br>>
                   Take note of your
security question and answer! Both must match to retrieve an
account.
                   <br>>
                   <button class="login" type="submit"</pre>
onclick>Sign Up</button>
                   <label>
                       <input type="checkbox"</pre>
checked="checked" name="remember"> Remember me
                   </label>
                   By registering, you agree to our privacy
statement
               </form>
               Already registered? <a href="login.php">Log
In here.
           </div>
       </div>
    </body>
</html>
```

1.9 retrieve.php

```
<?php
    session_start();
    include_once("../.sys/logic/session.php");
    if (isset($_POST["ret"])){
        $retrieve_stat = true;
        $uid = $_POST["uid"];
        $que = $_POST["secq"];
        $ans = $_POST["seca"];
        $result = mysqli_query($dbconfig,
        "SELECT *
        FROM SECURITY
        WHERE UID={$uid};")
        or die("Database Error: ". mysqli_error($dbconfig));</pre>
```

```
if (!($result)){
            $error_ret = "Cannot Execute Request: Cannot find
security records of User with ID [#{$uid}].";
        else {
            $local = mysqli_fetch_assoc($result);
            if (is_null($local)) {
                $error_ret = "Cannot Execute Request: User [#
{$uid}] has null security records.";
            else {
                if (!($que == $local["QUE"] && $ans ==
$local["ANS"])){
                    $error_ret = "Cannot Execute Request:
Security records for User [#{$uid}] does not match records.";
                else {
                    $result = mysqli_query($dbconfig,
                    "SELECT NAME, WORD
                    FROM USER
                    WHERE ID={$uid};")
                    or die("Database Error: " .
mysqli_error($dbconfig));
                    $local = mysqli_fetch_assoc($result);
                    $ret_uname = $local["NAME"];
                    $ret pword = $local["WORD"];
                    $ret_success = "Request Success: Account
credentials for User [#{$uid}] is successful.";
        }
    }
    unset($ POST);
    pageendProtocol();
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Account Retrieval page of Project</pre>
Midnight. Project Midnight is a part of Enthereon Cipher
Projects by S. Black, and is a predecessor of Project Eclipse.
Read license notice for information on copyrights.">
        <title>Midnight: Sign Up</title>
```

```
<link rel="icon" type="images/png" sizes="256x256"</pre>
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"</pre>
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"</pre>
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"</pre>
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"</pre>
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/basic.css">
    </head>
    <body>
        <l
            <img class="banner" src="../resources/images/banner</pre>
logo medium.png" alt="Project Midnight Banner Logo Medium">
            <a href="login.php">Log In</a>
            <a href="signup.php">Sign Up</a>
            <a href="../../docs/Enthereon Cipher">
</a>
Projects.pdf">About: Enthereon Cipher Projects</a>
            <a href="../../docs/Project">-</a>
Midnight.pdf">About: Project Midnight</a>
            <a href="../../LICENSE">License</a>
        <div class="general">
            <div class="content">
                <h1>Account Retrieval</h1>
                Retreive your account here!
                Complete the form to attempt retrieving your
account.
                <form method="post" action="">
                    <input type="hidden" name="ret"</pre>
value="true">
                    <label for="uid">User ID</label>
                    <br>
                    <input type="number" name="uid"</pre>
placeholder="User ID" required>
                    The User ID (UID) is the first three
digits of your User Tag ("#xxxx").
                    <br>
                    <label for="secq">Security Question</label>
                    <br>
                    <input type="text" name="secq"</pre>
```

```
placeholder="Security Question" required>
                   <br>
                   <label for="seca">Security Question
Answer</label>
                   <br>
                   <input type="text" name="seca"</pre>
placeholder="Security Answer" required>
                   <br>>
                   <button class="login"</pre>
type="submit">Retrieve</button>
               </form>
               Remember your credentials? <a
href="login.php">Log in here.</a>
               Do you want to sign up? <a
href="signup.php">Sign up here.</a>
               <?php
                   if (isset($retrieve_stat)){
                       echo "<hr>>";
                       echo "<h2>Results</h2>";
                       if (isset($error_ret)){
                           echo "{$error ret}
";
                       }
                       else {
                           echo "
{$ret_success}";
                           echo "Quickly take
note of your credentials. We are not liable for any leak of
information.";
                           echo "<form>";
                           echo "<label>User Name</label>
<br>";
                           echo "<input type=text type=value</pre>
value='{$ret_uname}' readonly><br>";
                           echo "<label>Password</label><br>";
                           echo "<input type=text</pre>
value='{$ret_pword}' readonly>";
                           unset($retrive stat);
                       }
                   }
               ?>
           </div>
       </div>
    </body>
</html>
```

1.10 profile.php

```
<?php
    session_start();
    include_once("../.sys/logic/session.php");
    pageloadProtocol();
    timeoutProtocol();
    if (isset($_POST["unc"])){
        $localresults = retrieveMatches();
        $uname = $_POST["uname"];
        if (is_null($localresults)){
            $luid = $_SESSION["luid"];
            $buffer = "'" . $uname . "'";
            $result = mysqli_query($dbconfig,
            "UPDATE USER
            SET NAME={$buffer}
            WHERE ID={$luid};")
            or die("Database Error: " .
mysqli_error($dbconfig));
            $user = getUserName($uname, $luid,
$_SESSION["luas"]);
            $_SESSION["uname"] = $user;
            $_SESSION["lusr"] = $uname;
            $success_uname = "Request Success: User Name
successfully changed.";
        }
        else {
            if ($uname == $_SESSION["lusr"]){
                $error_cname = "Cannot Execute Request: New
User Name [$uname] is similar to current.";
            }
            else {
                $error_cname = "Cannot Execute Request: New
User Name [$uname] has a duplicate.";
        }
        unset($_POST["unc"]);
    if (isset($_POST["pwc"])){
        $luid = $_SESSION["luid"];
        $buffer = mysqli_query($dbconfig,
```

```
FROM USER
        WHERE ID={$luid};")
        or die("Database Error: " . mysqli_error($dbconfig));
        $chunk = mysqli_fetch_assoc($buffer);
        if ($_POST["opsw"] != $chunk["WORD"]) {
            $error opsw = "Cannot Execute Request: Old password
does not match record.";
        elseif ($_POST["npsw"] == $chunk["WORD"]) {
            $error_npsw = "Cannot Execute Request: New password
is similar to current.";
        elseif ($_POST["npsw"] != $_POST["cpsw"]) {
            $error_cpsw = "Cannot Execute Request: Passwords do
not match.";
        }
        else {
            $load = "'" . $_POST["npsw"] . "'";
            $result = mysqli_query($dbconfig,
            "UPDATE USER
            SET WORD={$load}
            WHERE ID={$luid};")
            or die("Database Error: " .
mysqli_error($dbconfig));
            $success_pword = "Request Success: Password
successfully changed.";
       unset($_POST["pwc"]);
   }
   if (isset($_POST["secc"])){
       $luid = $ SESSION["luid"];
        $secq = "'" . $_POST["secq"] . "'";
        $seca = "'" . $ POST["seca"] . "'";
        $result = mysqli_query($dbconfig,
        "UPDATE SECURITY
       SET QUE={$secq}, ANS={$seca}
       WHERE UID={$luid};")
        or die("Database Error: " . mysqli_error($dbconfig));
       $success_security = "Request Success: Security details"
successfully changed.";
       unset($_POST["secc"]);
   }
   unset($_POST);
   pageendProtocol();
```

```
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Manage Profile page of Project Midnight.</pre>
Project Midnight is a part of Enthereon Cipher Projects by S.
Black, and is a predecessor of Project Eclipse. Read license
notice for information on copyrights.">
        <title>Midnight: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"</pre>
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"</pre>
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"</pre>
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"</pre>
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"</pre>
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/basic.css">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/onboard.css">
    </head>
    <body>
        <l
            <img class="banner" src="../resources/images/banner</pre>
logo medium.png" alt="Project Midnight Banner Logo Medium">
            <a class="active" href="">Manage Profile</a>
<a href="manage.php">Manage Ciphers</a>
            <a href="live.php">Live Cipher</a>
            <?php
                if ($ SESSION["luas"] == 1){
                    echo "<a class='adminoff'
href=db.php>Database Server</a>";
            ?>
            <a href="../.sys/logic/logout.php"</li>
class="logout">Log Out</a>
            <a href="../../docs/Enthereon Cipher">
</a>
Projects.pdf">About: Enthereon Cipher Projects</a>
            <a href="../../docs/Project"> <a href="../../docs/Project"> </a>
Midnight.pdf">About: Project Midnight</a>
```

```
<a href="../../LICENSE">License</a>
       <div class="general">
           <div class="content">
               <h1>Profile Management</h1>
               Hi <b><?php echo $_SESSION["uname"]; ?></b>!
You can change usernames, passwords and others here!
               <hr>>
               <h2>User Name</h2>
               <?php
                   if (isset($success_uname)){
                      echo "{$success_uname}
";
                   }
               ?>
               <form method="post" action="">
                   <input type="hidden" name="unc"</pre>
value="true">
                   <label for="uname">New User Name</label>
                   <br>
                   <input type="text" name="uname"</pre>
placeholder="New User Name" value="<?php echo</pre>
$_SESSION["lusr"]; ?>" required>
                   <?php
                      if (isset($error_cname)){
                          echo "<br>";
                          echo "{$error_cname}
";
                      }
                   ?>
                   <br>
                   <button class="login" type="submit"</pre>
onclick>Change User Name</button>
               </form>
               <hr>>
               <h2>Password</h2>
               <?php
                   if (isset($success pword)){
                      echo "{$success_pword}
";
                   if ($_SESSION["luas"] == 1){
                      echo "It is advised to
keep administrator credentials constant.";
```

```
<form method="post" action="">
                    <input type="hidden" name="pwc"</pre>
value="true">
                   <label for="opsw">0ld Password</label>
                   <input type="password" name="opsw"</pre>
placeholder="Old Password" required>
                   <?php
                       if (isset($error_opsw)){
                           echo "<br>";
                           echo "{$error_opsw}
";
                       }
                    ?>
                   <br>
                   <label for="npsw">New Password</label>
                    <br>
                   <input type="password" name="npsw"</pre>
placeholder="New Password" required>
                   <?php
                       if (isset($error_npsw)){
                           echo "<br>";
                           echo "{$error_npsw}
";
                       }
                    ?>
                   <br>
                   <label for="cpsw">Confirm Password</label>
                   <br>
                   <input type="password" name="cpsw"</pre>
placeholder="Confirm Password" required>
                   <?php
                       if (isset($error_cpsw)){
                           echo "<br>";
                           echo "{$error_cpsw}
";
                       }
                    ?>
                   <br>
                   <button class="login" type="submit"</pre>
onclick>Change Password</button>
               </form>
                <hr>>
               <h2>Security Details</h2>
```

```
<?php
                    if (isset($success_security)){
                        echo "
{\success_security}";
                ?>
                <form method="post" action="">
                    <input type="hidden" name="secc"</pre>
value="true">
                    <label for="npsw">Security Question</label>
                    <br>
                    <input type="text" name="secq"</pre>
placeholder="New Security Question">
                    <br>
                    <label for="cpsw">Security Answer</label>
                    <input type="text" name="seca"</pre>
placeholder="New Security Answer">
                    <button class="login" type="submit"</pre>
onclick>Change Security Details/button>
                </form>
            </div>
        </div>
    </body>
</html>
```

1.11 manage.php

```
Black, and is a predecessor of Project Eclipse. Read license
notice for information on copyrights.">
        <title>Midnight: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"</pre>
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"</pre>
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"</pre>
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"</pre>
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"</pre>
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/basic.css">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/onboard.css">
    </head>
    <body>
        <l
            <img class="banner" src="../resources/images/banner</pre>
logo medium.png" alt="Project Midnight Banner Logo Medium">
            <a href="profile.php">Manage Profile</a>
            <a class="active" href="">Manage Ciphers</a>
<a href="live.php">Live Cipher</a>
            <?php
                if ($ SESSION["luas"] == 1){
                    echo "<a class='adminoff'
href=db.php>Database Server</a>";
                }
            ?>
            <a href="../.sys/logic/logout.php"</li>
class="logout">Log Out</a>
            <a href="../../docs/Enthereon Cipher">
</a>
Projects.pdf">About: Enthereon Cipher Projects</a>
            <a href="../../docs/Project"> <a href="../../docs/Project"> </a>
Midnight.pdf">About: Project Midnight</a>
            <a href="../../LICENSE">License</a>
        <div class="general">
            <div class="content">
                <h1>Cipher Management<h2>
            </div>
        </div>
```

```
</body>
</html>
```

1.12 live.php

```
<?php
    session_start();
    include_once("../.sys/logic/session.php");
    pageloadProtocol();
    timeoutProtocol();
    pageendProtocol();
?>
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Manage Profile page of Project Midnight.</pre>
Project Midnight is a part of Enthereon Cipher Projects by S.
Black, and is a predecessor of Project Eclipse. Read license
notice for information on copyrights.">
        <title>Midnight: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"</pre>
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"</pre>
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"</pre>
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"</pre>
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"</pre>
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/basic.css">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/onboard.css">
    </head>
    <body>
        <l
            <img class="banner" src="../resources/images/banner</pre>
logo medium.png" alt="Project Midnight Banner Logo Medium">
            <a href="profile.php">Manage Profile</a>
            <a href="manage.php">Manage Ciphers</a>
```

```
<a class="active" href="">Live Cipher</a>
            <?php
               if ($ SESSION["luas"] == 1){
                    echo "<a class='adminoff'
href=db.php>Database Server</a>";
            ?>
            <a href="../.sys/logic/logout.php"</li>
class="logout">Log Out</a>
            <a href="../../docs/Enthereon Cipher">
</a>
Projects.pdf">About: Enthereon Cipher Projects</a>
            <a href="../../docs/Project"> <a href="../../docs/Project"> </a>
Midnight.pdf">About: Project Midnight</a>
            <a href="../../LICENSE">License</a>
        <div class="general">
            <div class="content">
                <h1>Live Cipher Engine<h2>
            </div>
       </div>
    </body>
</html>
```

1.13 db.php

```
<?php
   session_start();
   include_once("../.sys/logic/session.php");
   pageloadProtocol();
   adminProtocol();
   timeoutProtocol();
   if (isset($_POST["pque"])){
       $query = $_POST["query"];
       $to print = "<b>Received query: </b>
{$query}";
       $result = mysqli_query($dbconfig, $query);
       if (!($result)){
          $dberror = "Database Error: " .
mysqli_error($dbconfig);
          $to_print .= "$dberror";
       }
       else {
          $to_print .= "Query accepted.
```

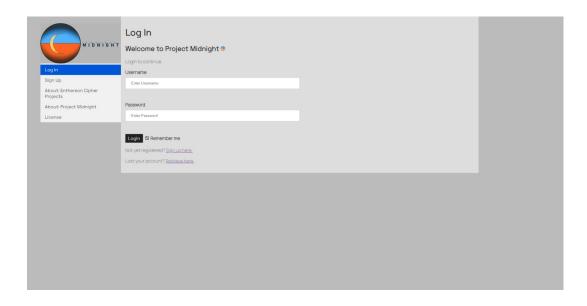
```
";
          $key = explode(" ", $query)[0];
          if (!($result)){
              $to_print .= "No result
buffer";
          }
          else {
              if ($key == "SELECT" || $key == "SHOW" || $key
== "DESCRIBE"){
                 $to_print .= "<hr>";
                  $rows = mysqli_num_rows($result);
                  if (!($rows)) {
                     $to_print .= "No Data</rr>
";
                 }
                  else {
                     $assoc = mysqli_fetch_assoc($result);
                     $headers = array_keys($assoc);
                     $to_print .= "";
                     foreach($headers as $head){
                         $to_print .= "{$head}";
                     }
                     $to print .= "";
                     $to_print .= "";
                     foreach($headers as $key){
                         $dat = $assoc["$key"];
                         $to_print .= "{$dat}";
                     }
                     $to_print .= "";
                     while ($row =
mysqli fetch assoc($result)){
                         $to_print .= "";
                         foreach($headers as $key){
                            $dat = $row["$key"];
                            $to_print .= "{$dat}";
                         $to_print .= "";
                     }
                  }
                 $to_print .= "";
              }
          }
       }
   }
   unset($_POST);
```

```
pageendProtocol();
?>
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Manage Profile page of Project Midnight.</pre>
Project Midnight is a part of Enthereon Cipher Projects by S.
Black, and is a predecessor of Project Eclipse. Read license
notice for information on copyrights.">
        <title>Midnight: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"</pre>
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"</pre>
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"</pre>
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"</pre>
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"</pre>
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/basic.css">
        <link rel="stylesheet" type="text/css"</pre>
href="../scripts/css/onboard.css">
    </head>
    <body>
        <l
            <img class="banner" src="../resources/images/banner</pre>
logo medium.png" alt="Project Midnight Banner Logo Medium">
            <a href="profile.php">Manage Profile</a>
            <a href="manage.php">Manage Ciphers</a>
            <a href="live.php">Live Cipher</a>
            <?php
                if ($_SESSION["luas"] == 1){
                    echo "<a class='adminon'
href=''>Database Server</a>";
            2>
            <a href="../.sys/logic/logout.php"</li>
class="logout">Log Out</a>
            <a href="../../docs/Enthereon Cipher">
</a>
Projects.pdf">About: Enthereon Cipher Projects</a>
            <a href="../../docs/Project">-</a>
```

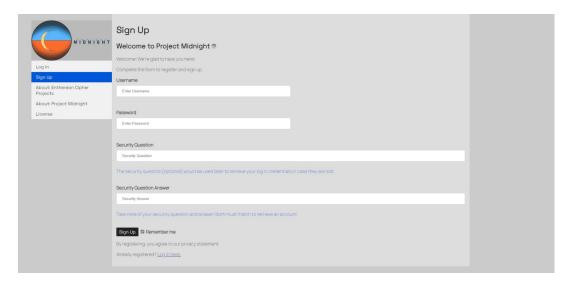
```
Midnight.pdf">About: Project Midnight</a>
            <a href="../../LICENSE">License</a>
        <div class="general">
            <div class="content">
                <h1>Database Server</h1>
                <b>[Administrator Privelege]</b> Directly
communicate with the database here.
               <form method="post" action="">
                    <input type="hidden" name="pque"</pre>
value="true">
                   <label for="query">Query</label>
                    <input type="text" name="query"</pre>
placeholder="Database Query" required>
                    <button type="submit" class="login">&rarr;
</button>
               </form>
                <?php
                    if(isset($to_print)){
                        echo "<hr><h2>Results</h2>";
                        echo "{$to_print}";
                    }
                ?>
            </div>
        </div>
    </body>
</html>
```

2.0 Runtime and Technical Captures

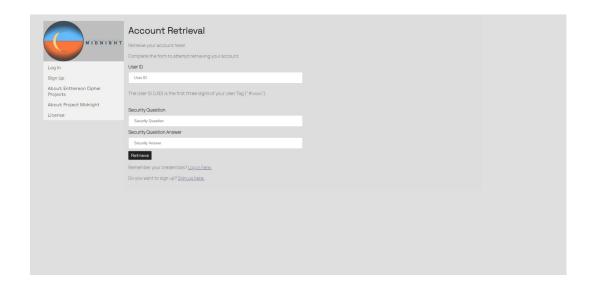
2.1 Log In Page



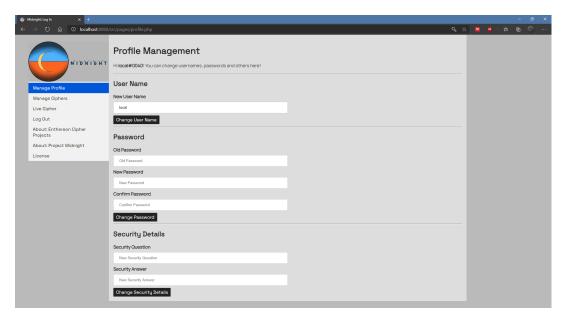
2.2 Sign Up Page



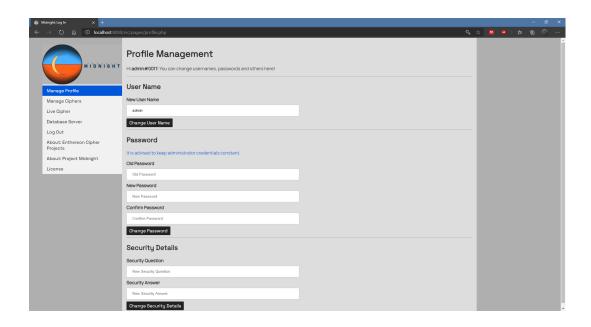
2.3 Account Retrieval Page



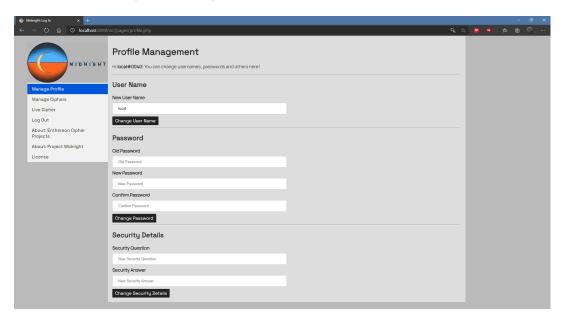
2.4 Profile Management Page [Local]



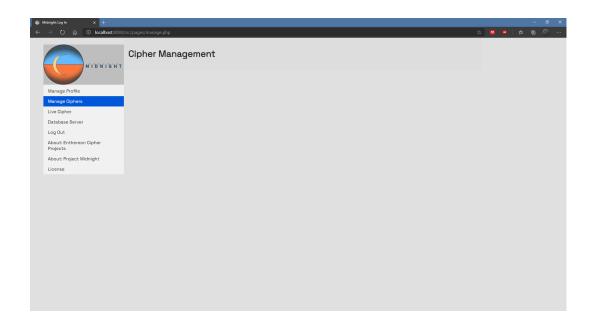
2.5 Profile Management Page [Admin]



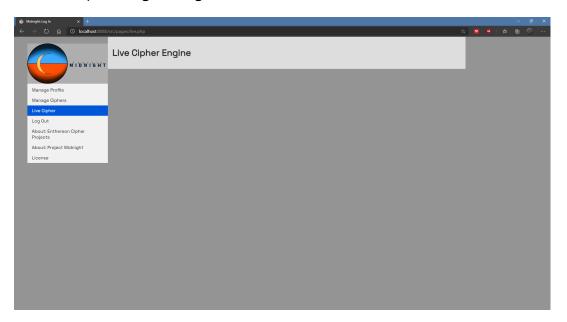
2.6 Cipher Management Page [Local]



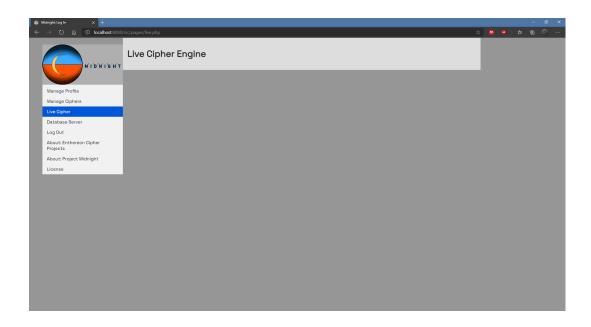
2.7 Cipher Management Page [Admin]



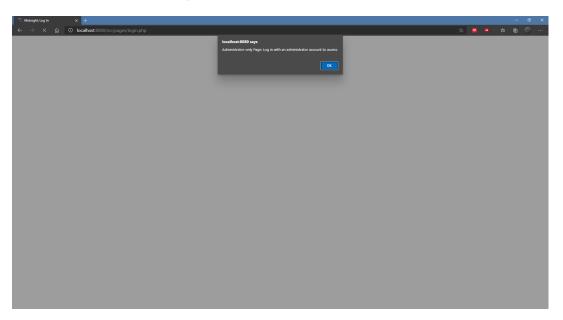
2.8 Live Cipher Engine Page [Local]



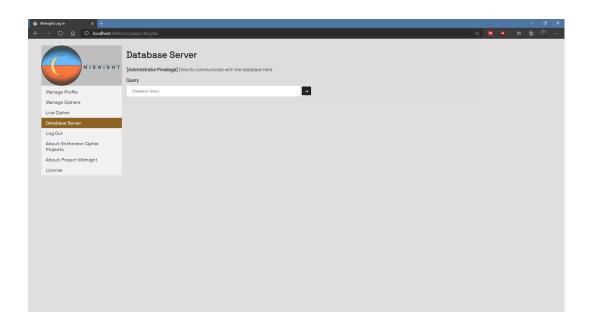
2.9 Live Cipher Engine Page [Admin]



2.10 Database Server Page [Local]



2.11 Database Server Page [Admin]



2.12 Database Structure

```
MariaDB [(none)]> USE MIDNIGHT;
Database changed
MariaDB [MIDNĬGHT]> DESCRIBE USER;
                          Null | Key |
                                          Default
  Field |
                                                     Extra
          Type
          int(3)
varchar(20)
varchar(20)
                                   PRI
                                          NULL
                                                      auto_increment
                           NO
  NAME
                           NO
                                          NULL
                                          00000000
  WORD
                           NO
           bit(1)
                                          b'0'
  ASTAT
                           NO
 rows in set (0.018 sec)
MariaDB [MIDNIGHT]> DESCRIBE CIPHER;
                           Nu11
  Field | Type
                                          Default | Extra
                                   Key
           int(6)
varchar(20)
                           NO
                                   PRI
                                          NULL
  NAME
                           NO
                                          NULL
           int(3)
                                         NULL
  UID
                           YES
                                   MUL
 rows in set (0.016 sec)
MariaDB [MIDNIGHT]> DESCRIBE SYMBOL;
  Field | Type
                         Null
                                 Key
                                        Default | Extra
           int(13)
  ΙD
                          NO
                                  PRI
                                         NULL
          varchar(1)
int(6)
int(3)
                          NO
  SYM
                                         NULL
  CID
                          YES
                                  MUL
                                        NULL
  UID
                         YES
                                 MUL
                                        NULL
 rows in set (0.014 sec)
MariaDB [MIDNIGHT]> DESCRIBE SECURITY;
 Field | Type
                           Null |
                                   Key
                                          Default | Extra
           int(15)
                                                     auto_increment
                                   PRI
                                          NULL
           varchar (50)
varchar (50)
  QUE
                           NO
                                          NULL
  ANS
                           NO
                                          NULL
 UID
           int(3)
                           YES
                                   MUL
                                          NULL
 rows in set (0.015 sec)
MariaDB [MIDNIGHT]> DESCRIBE LOGS;
 Field | Type
                       Null
                                      Default
                                                               Extra
                               Key
           int(15)
                                                               auto_increment
                       NO
                               PRI
           datetime
                       NO
                                      current_timestamp()
  REC
           int(6)
int(3)
                                      NULL
  CID
                       YES
                               MUL
                       YES
                               MUL
  UID
                                      NULL
4 rows in set (0.026 sec)
```