

Documentation

This document shows the documentation of Project Midnight.

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0.0 Meta Information

0.1 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
|   |   +----+ System Design
|   |   |   +----> ... <system design files> ...
|   |   +----> Enthereon Cipher Projects.md
|   |   +----> Enthereon Cipher Projects.pdf
|   |   +----> LICENSE
|   |   +----> Project Midnight.md
|   |   +----> Project Midnight.pdf
|   |   +----> System Design.vsd
|   +----+ 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

```

0.2 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](#)

0.3 Version Information

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

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0.5 Developer Notes

- Due to XAMPP not properly working (installation problems).
 - PHP workaround is made through a separate installation of PHP and Windows Batch Scripts.
 - `launchserver.bat` launches the PHP (8.0.1) Development Server 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. Exporting to PDF is done through an [extension](#).

0.6 Development Status

- 2020 December 23 - System designed **[0.0.0]**.
- 2021 January 8 - Development Started **[0.0.0]**.
- 2021 January 9 - Database set up, including default user **[0.0.1]**.
- 2021 January 12 - Log In/Sign Up pages developed **[0.0.1]**.
- 2021 January 16 - Administrator rights implemented **[0.0.1]**.
- 2021 January 19 - Repository launched **[0.0.1]**.
- 2021 January 20 - Protocols implemented **[0.0.2]**.
- 2021 January 22 - First Packaging attempt, and submission **[0.0.2]**.
- 2021 February 4 - Open Launch **[1.0.0]**.

1.0 Source files and Code Works

1.1 `db_config.php`

```
<?php
$dbserver = "localhost";
$dbuser = "user";
$dbpassword = "";
```

```

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

```

1.2 requiries.php

```

<?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) $result .= "0";
    elseif ($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>";
    }
?>

```

1.3 protocols.php

```

<?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("Location: 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){
        $_SESSION["alert"] = "Administrator-only Page: Log
in with an administrator account to access.";
        logoutProtocol();
        header("Location: login.php", true, 301);
    }
}
function accessProtocol(){
    if (isset($_SESSION["alert"])){
        alert($_SESSION["alert"]);
        unset($_SESSION["alert"]);
    }
}
function pageendProtocol(){
    $_SESSION["lact"] = hrtime(true);
}
?>

```

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 PRIVILEGES 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 lattice of Enthereon?", "Midnight Sky", 1);

```

1.7 login.php

```

<?php
    session_start();
    include_once("../.sys/logic/session.php");
    accessProtocol();
    $error_uname = "";
    $error_pword = "";
    if (isset($_POST["uname"])) {
        $localResults;
        try {
            $localResults = retrieveMatches();
        }
        catch (Exception $e){
            $uname = $_POST["uname"];
            $error_uname = "Username [{ $uname}] not found on
database!";
            header("Location: ", true, 301);
        }
        if (is_null($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"] + 0;
            }
        }
    }
}

```

```

        $_SESSION["luas"] = $localResults["ASTAT"];
        $_SESSION["lact"] = hrttime(true);
        unset($_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();
?>
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Log In page of Project Midnight. Project
Midnight is a part of Enthreon 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"
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"
href="../scripts/css/basic.css">
    </head>
    <body>
        <ul>
            
            <li><a class="active" href="">Log In</a></li>

```



```

        <li><a href="signup.php">Sign Up</a></li>
        <li><a href="../../../docs/Enthereon Cipher
Projects.pdf">About: Enthereon Cipher Projects</a></li>
        <li><a href="../../../docs/Project
Midnight.pdf">About: Project Midnight</a></li>
        <li><a href="../../../docs/LICENSE">License</a></li>
    </ul>
    <div class="general">
        <div class="content">
            <h1>Log In</h1>
            <h2>Welcome to Project Midnight </h2>
            <p>Login to continue.</p>
            <form method="post" action="">
                <label for="uname"><b>Username</b></label>
                <br>
                <input type="text" placeholder="Enter
Username" name="uname" required>
                <?php
                    echo ("<p class=error>{$error_uname}
</p>");
                ?>
                <br>
                <label for="psw"><b>Password</b></label>
                <br>
                <input type="password" placeholder="Enter
Password" name="psw" required>
                <?php
                    echo ("<p class=error>{$error_pword}
</p>");
                ?>
                <br>
                <button class="login" type="submit"
onclick>Login</button>
                <label>
                <input type="checkbox" checked="checked"
name="remember"> Remember me
                </label>
            </form>
            <p>Not yet registered? <a
href="signup.php">Sign up here.</a></p>
            <p>Lost your account? <a
href="retrieve.php">Retrieve here.</a></p>
        </div>
    </div>

```

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

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"];
            $error_uname = "Username [{username}] already exists
in database! Consider changing.";
        }
        else {
            if (strlen($_POST["uname"]) > 20){
                $error_uname = "Username must be a maximum of
20 characters";
            }
            elseif (!(verifyPassWord($_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.
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"
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"
href="../scripts/css/basic.css">
    </head>
    <body>
        <ul>
            
            <li><a href="login.php">Log In</a></li>
            <li><a class="active" href="">Sign Up</a></li>
            <li><a href="../../docs/Enthereon Cipher
Projects.pdf">About: Enthereon Cipher Projects</a></li>
            <li><a href="../../docs/Project
Midnight.pdf">About: Project Midnight</a></li>
            <li><a href="../../docs/LICENSE">License</a></li>
        </ul>
        <div class="general">
            <div class="content">
                <h1>Sign Up</h1>
                <h2>Welcome to Project Midnight </h2>
                <p>Welcome! We're glad to have you here!</p>

```

```

        <p>Complete the form to register and sign up.
    </p>
    <form method="post" action="">
        <label for="uname">Username</label>
        <br>
        <input type="text" placeholder="Enter
Username" name="uname" required>
        <br>
        <?php
            echo ("<p class=error>{$error_uname}
        </p>");
        ?>
        <br>
        <label for="psw">Password</label>
        <br>
        <input type="password" placeholder="Enter
Password" name="psw" required>
        <br>
        <?php
            echo ("<p class=error>{$error_pword}
        </p>");
        ?>
        <br>
        <label for="secq">Security Question</label>
        <br>
        <input type="text" placeholder="Security
Question" name="secq" style="width: 100%">
        <br>
        <p class="notice">The security question
[optional] would be used later to retrieve your log in
credentials in case they are lost.</p>
        <br>
        <label for="seca">Security Question
Answer</label>
        <br>
        <input type="text" placeholder="Security
Answer" name="seca" style="width: 100%">
        <br>
        <p class="notice">Take note of your
security question and answer! Both must match to retrieve an
account.</p>
        <br>
        <button class="login" type="submit"
onclick>Sign Up</button>
        <label>

```

```

☒

```

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));
        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
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"
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"
href="../scripts/css/basic.css">
    </head>
    <body>
        <ul>

```

```

        
        <li><a href="login.php">Log In</a></li>
        <li><a href="signup.php">Sign Up</a></li>
        <li><a href="../../docs/Enthereon Cipher
Projects.pdf">About: Enthereon Cipher Projects</a></li>
        <li><a href="../../docs/Project
Midnight.pdf">About: Project Midnight</a></li>
        <li><a href="../../docs/LICENSE">License</a></li>
    </ul>
    <div class="general">
        <div class="content">
            <h1>Account Retrieval</h1>
            <p>Retreive your account here!</p>
            <p>Complete the form to attempt retrieving your
account.</p>
            <form method="post" action="">
                <input type="hidden" name="ret"
value="true">
                <label for="uid">User ID</label>
                <br>
                <input type="number" name="uid"
placeholder="User ID" required>
                <br>
                <p>The User ID (UID) is the first three
digits of your User Tag ("#xxxx").</p>
                <br>
                <label for="secq">Security Question</label>
                <br>
                <input type="text" name="secq"
placeholder="Security Question" required>
                <br>
                <label for="seca">Security Question
Answer</label>
                <br>
                <input type="text" name="seca"
placeholder="Security Answer" required>
                <br>
                <button class="login"
type="submit">Retrieve</button>
            </form>
            <p>Remember your credentials? <a
href="login.php">Log in here.</a></p>
            <p>Do you want to sign up? <a
href="signup.php">Sign up here.</a></p>

```

```

        <?php
            if (isset($retrieve_stat)){
                echo "<hr>";
                echo "<h2>Results</h2>";
                if (isset($error_ret)){
                    echo "<p class=error>{$error_ret}
        </p>";
                }
                else {
                    echo "<p class=success>
        {$ret_success}</p>";
                    echo "<p class=warning>Quickly take
        note of your credentials. We are not liable for any leak of
        information.</p>";
                    echo "<form>";
                    echo "<label>User Name</label>
        <br>";
                    echo "<input type=text type=value
        value='{$ret_uname}' readonly><br>";
                    echo "<label>Password</label><br>";
                    echo "<input type=text
        value='{$ret_pword}' readonly>";
                    unset($retrieve_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,
        "SELECT *
        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="Profile Management page of Project
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: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"
href="../../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"
href="../../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"

```

```

href="../../../resources/images/icon-64.png">
    <link rel="icon" type="images/png" sizes="32x32"
href="../../../resources/images/icon-32.png">
    <link rel="icon" type="images/png" sizes="16x16"
href="../../../resources/images/icon-16.png">
    <link rel="stylesheet" type="text/css"
href="../../../scripts/css/basic.css">
    <link rel="stylesheet" type="text/css"
href="../../../scripts/css/onboard.css">
    </head>
    <body>
        <ul>
            
            <li><a class="active" href="">Manage Profile</a>
        </li>
            <li><a href="manage.php">Manage Ciphers</a></li>
            <li><a href="live.php">Live Cipher</a></li>
        <?php
            if ($_SESSION["luas"] == 1){
                echo "<li><a class='adminoff'
href=db.php>Database Server</a></li>";
            }
        ?>
            <li><a href="../../../sys/logic/logout.php"
class="logout">Log Out</a></li>
            <li><a href="../../../docs/Enthereon Cipher
Projects.pdf">About: Enthereon Cipher Projects</a></li>
            <li><a href="../../../docs/Project
Midnight.pdf">About: Project Midnight</a></li>
            <li><a href="../../../docs/LICENSE">License</a></li>
        </ul>
        <div class="general">
            <div class="content">
                <h1>Profile Management</h1>
                <p>Hi <b><?php echo $_SESSION["uname"]; ?></b>!
You can change usernames, passwords and others here!</p>
                <hr>
                <h2>User Name</h2>
                <?php
                    if (isset($success_uname)){
                        echo "<p class=success>{$success_uname}
        </p>";
                    }
                ?>

```

```

        <form method="post" action="">
            <input type="hidden" name="unc"
value="true">
            <label for="uname">New User Name</label>
            <br>
            <input type="text" name="uname"
placeholder="New User Name" value="<?php echo
$_SESSION["lusr"]; ?>" required>
            <?php
                if (isset($error_cname)){
                    echo "<br>";
                    echo "<p class=error>{$error_cname}
</p>";
                }
            ?>
            <br>
            <button class="login" type="submit"
onclick>Change User Name</button>
        </form>
        <hr>
        <h2>Password</h2>
        <?php
            if (isset($success_pword)){
                echo "<p class=success>{$success_pword}
</p>";
            }
            if ($_SESSION["luas"] == 1){
                echo "<p class=notice>It is advised to
keep administrator credentials constant.</p>";
            }
        ?>
        <form method="post" action="">
            <input type="hidden" name="pwc"
value="true">
            <label for="opsw">Old Password</label>
            <br>
            <input type="password" name="opsw"
placeholder="Old Password" required>
            <?php
                if (isset($error_opsw)){
                    echo "<br>";
                    echo "<p class=error>{$error_opsw}
</p>";
                }
            ?>

```

```

        <br>
        <label for="npsw">New Password</label>
        <br>
        <input type="password" name="npsw"
placeholder="New Password" required>
        <?php
            if (isset($error_npsw)){
                echo "<br>";
                echo "<p class=error>{$error_npsw}
</p>";
            }
        ?>
        <br>
        <label for="cpsw">Confirm Password</label>
        <br>
        <input type="password" name="cpsw"
placeholder="Confirm Password" required>
        <?php
            if (isset($error_cpsw)){
                echo "<br>";
                echo "<p class=error>{$error_cpsw}
</p>";
            }
        ?>
        <br>
        <button class="login" type="submit"
onclick>Change Password</button>
    </form>
    <hr>
    <h2>Security Details</h2>
    <?php
        if (isset($success_security)){
            echo "<p class=success>
{$success_security}</p>";
        }
    ?>
    <form method="post" action="">
        <input type="hidden" name="secc"
value="true">
        <label for="npsw">Security Question</label>
        <br>
        <input type="text" name="secq"
placeholder="New Security Question">
        <br>
        <label for="cpsw">Security Answer</label>

```

```

        <br>
        <input type="text" name="seca"
placeholder="New Security Answer">
        <br>
        <button class="login" type="submit"
onclick>Change Security Details</button>
    </form>
</div>
</div>
</body>
</html>

```

1.11 manage.php

```

<?php
    session_start();
    include_once("../sys/logic/session.php");
    pageloadProtocol();
    timeoutProtocol();
    alert("Page Under Construction: This page is still in
development, all/multiple functionalities may be missing.");
    $luid = $_SESSION["luid"] + 0;
    $result = mysqli_query($dbconfig,
        "SELECT *
        FROM CIPHER
        WHERE UID={$luid}")
    or die("Database Error: " . mysqli_error($dbconfig));
    $copy = $result;
    $total = 0;
    $counter = 0;
    while($rows = mysqli_fetch_assoc($result)){
        $total += 1;
        $counter = $rows["ID"] + 0;
    }
    if (isset($_POST["ncn"])){
        $lcin = "" . $_POST . "";
        $lcid = ($luid * 1000) + $counter;
        $result = mysqli_query($dbconfig,
            "INSERT INTO
            CIPHER(ID, NAME, UID)
            VALUES ({ $lcid}, { $lcin}, { $luid});")
        or die("Database Error" . mysqli_error($dbconfig));
    }
}

```

```

        if (isset($_POST["ccn"])){

        }

        else {
            $options = "";

        }
        pageendProtocol();
    ?>
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Cipher Management page of Project
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: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"
href="../scripts/css/basic.css">
        <link rel="stylesheet" type="text/css"
href="../scripts/css/onboard.css">
    </head>
    <body>
        <ul>
            
            <li><a href="profile.php">Manage Profile</a></li>
            <li><a class="active" href="">Manage Ciphers</a>
</li>

            <li><a href="live.php">Live Cipher</a></li>
        <?php
            if ($_SESSION["luas"] == 1){
                echo "<li><a class='adminoff'

```

```

href=db.php>Database Server</a></li>";
    }
    ?>
    <li><a href="../../../sys/logic/logout.php"
class="logout">Log Out</a></li>
    <li><a href="../../../docs/Enthereon Cipher
Projects.pdf">About: Enthereon Cipher Projects</a></li>
    <li><a href="../../../docs/Project
Midnight.pdf">About: Project Midnight</a></li>
    <li><a href="../../../docs/LICENSE">License</a></li>
</ul>
<div class="general">
    <div class="content">
        <h1>Cipher Management<h2>
        <p>Manage your ciphers here!</p>
        <hr>
        <h2>Create New Cipher<h2>
        <form method="POST" action="">
            <input type="hidden" name="cnp">
            <label for="ncn">New Cipher Name</label>
            <br>
            <input type="text" name="ncn"
placeholder="Cipher Name" required>
            <button type="submit" class="login">&rArr;
</button>

            <?php
                if(isset($error_ncn)){
                    echo "<br><p class='error'>{$ncn}
</p>";
                }
            ?>
        </form>
        <hr>
        <h2>Configure Cipher</h2>
        <p>Select a cipher &rArr; Select a
configuration method &rArr; Do configuration</p>
        <form>
            <label for="ccn">Cipher Name</label>
            <br>
            <?php
                if(isset($cur_cipher)){
                    echo "<input type='text' name='ccn'
value='{$cur_cipher}' readonly>";
                }
                else {

```



```

                                echo "<select name='ccn'
required>";
                                echo $options;
                                echo "</select>";
                                echo "<button type='submit'
class='login'>&rArr;</button>\n";
                                }
                                ?>
                                <br>
                                </form>
                                </div>
                                </div>
                                </body>
                                </html>

```

1.12 live.php

```

<?php
    session_start();
    include_once("../sys/logic/session.php");
    pageloadProtocol();
    timeoutProtocol();
    alert("Page Under Construction: This page is still in
development, all/multiple functionalities may be missing.");
    pageendProtocol();
?>
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Live Cipher Engine page of Project
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: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"

```

```

href="../../../resources/images/icon-32.png">
    <link rel="icon" type="images/png" sizes="16x16"
href="../../../resources/images/icon-16.png">
    <link rel="stylesheet" type="text/css"
href="../../../scripts/css/basic.css">
    <link rel="stylesheet" type="text/css"
href="../../../scripts/css/onboard.css">
</head>
<body>
    <ul>
        
        <li><a href="profile.php">Manage Profile</a></li>
        <li><a href="manage.php">Manage Ciphers</a></li>
        <li><a class="active" href="">Live Cipher</a></li>
    <?php
        if ($_SESSION["luas"] == 1){
            echo "<li><a class='adminoff'
href=db.php>Database Server</a></li>";
        }
    ?>
        <li><a href="../../../sys/logic/logout.php"
class="logout">Log Out</a></li>
        <li><a href="../../../docs/Enthereon Cipher
Projects.pdf">About: Enthereon Cipher Projects</a></li>
        <li><a href="../../../docs/Project
Midnight.pdf">About: Project Midnight</a></li>
        <li><a href="../../../docs/LICENSE">License</a></li>
    </ul>
    <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"];
    $to_print = "<p class=notice><b>Received query: </b>
{$query}</p>";
    $result = mysqli_query($dbconfig, $query);
    if (!$result){
        $dberror = "Database Error: " .
mysqli_error($dbconfig);
        $to_print .= "<p class=error>$dberror</p>";
    }
    else {
        $to_print .= "<p class=success>Query accepted.
</p>";
        $key = explode(" ", $query)[0];
        if (!$result){
            $to_print .= "<p class=notice>No result
buffer</p>";
        }
        else {
            if ($key == "SELECT" || $key == "SHOW" || $key
== "DESCRIBE"){
                $to_print .= "<hr><table>";
                $rows = mysqli_num_rows($result);
                if (!$rows) {
                    $to_print .= "<tr><td>No Data</td>
</tr>";
                }
                else {
                    $assoc = mysqli_fetch_assoc($result);
                    $headers = array_keys($assoc);
                    $to_print .= "<tr>";
                    foreach($headers as $head){
                        $to_print .= "<th>{$head}</th>";
                    }
                    $to_print .= "</tr>";
                    $to_print .= "<tr>";
                    foreach($headers as $key){
                        $dat = $assoc["$key"];
                        $to_print .= "<td>{$dat}</td>";
                    }
                    $to_print .= "</tr>";
                    while ($row =
mysqli_fetch_assoc($result)){

```

```

        $to_print .= "<tr>";
        foreach($headers as $key){
            $dat = $row["$key"];
            $to_print .= "<td>{$dat}</td>";
        }
        $to_print .= "</tr>";
    }
}
$to_print .= "</table>";
}
}
}
}
}
unset($_POST);
pageendProtocol();
?>
<!DOCTYPE html>
<html>
    <head>
        <meta author="Silverous Black">
        <meta charset="utf-8">
        <meta summary="Database Server page of Project
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: Log In</title>
        <link rel="icon" type="images/png" sizes="256x256"
href="../resources/images/icon-256.png">
        <link rel="icon" type="images/png" sizes="128x128"
href="../resources/images/icon-128.png">
        <link rel="icon" type="images/png" sizes="64x64"
href="../resources/images/icon-64.png">
        <link rel="icon" type="images/png" sizes="32x32"
href="../resources/images/icon-32.png">
        <link rel="icon" type="images/png" sizes="16x16"
href="../resources/images/icon-16.png">
        <link rel="stylesheet" type="text/css"
href="../scripts/css/basic.css">
        <link rel="stylesheet" type="text/css"
href="../scripts/css/onboard.css">
    </head>
    <body>
        <ul>
            

```

```

<li><a href="profile.php">Manage Profile</a></li>
<li><a href="manage.php">Manage Ciphers</a></li>
<li><a href="live.php">Live Cipher</a></li>
<?php
    if ($_SESSION["luas"] == 1){
        echo "<li><a class='adminon'
href=''>Database Server</a></li>";
    }
?>
<li><a href="../../../sys/logic/logout.php"
class="logout">Log Out</a></li>
<li><a href="../../../docs/Enthereon Cipher
Projects.pdf">About: Enthereon Cipher Projects</a></li>
<li><a href="../../../docs/Project
Midnight.pdf">About: Project Midnight</a></li>
<li><a href="../../../docs/LICENSE">License</a></li>
</ul>
<div class="general">
    <div class="content">
        <h1>Database Server</h1>
        <p><b>[Administrator Privelege]</b> Directly
communicate with the database here.</p>
        <form method="post" action="">
            <input type="hidden" name="pque"
value="true">
            <label for="query">Query</label>
            <br>
            <input type="text" name="query"
placeholder="Database Query" required>
            <button type="submit" class="login">&rArr;
        </button>
        </form>
    <?php
        if(isset($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

The screenshot shows the 'Log In' page for Project Midnight. On the left is a sidebar with the Project Midnight logo (a blue and orange sphere with a crescent moon) and the text 'MIDNIGHT'. Below the logo is a 'Log In' button, followed by links for 'Sign Up', 'About: Enthereon Cipher Projects', 'About: Project Midnight', and 'License'. The main content area is titled 'Log In' and 'Welcome to Project Midnight'. It includes a 'Login to continue.' message, a 'Username' field with a placeholder 'Enter Username', a 'Password' field with a placeholder 'Enter Password', a 'Login' button, and a 'Remember me' checkbox. At the bottom, there are links for 'Not yet registered? Sign up here.' and 'Lost your account? Retrieve here.'

Log In

Welcome to Project Midnight 🌙

Login to continue.

Username

Enter Username

Password

Enter Password

Login ☐ Remember me

Not yet registered? [Sign up here.](#)

Lost your account? [Retrieve here.](#)

2.2 Sign Up Page

The screenshot shows the 'Sign Up' page for Project Midnight. The sidebar is identical to the Log In page. The main content area is titled 'Sign Up' and 'Welcome to Project Midnight'. It includes a 'Welcome! We're glad to have you here!' message, a 'Complete the form to register and sign up.' instruction, a 'Username' field with a placeholder 'Enter Username', a 'Password' field with a placeholder 'Enter Password', a 'Security Question' field with a placeholder 'Security Question', a 'Security Question Answer' field with a placeholder 'Security Answer', a 'Sign Up' button, and a 'Remember me' checkbox. Below the fields, there is a note: 'The security question [optional] would be used later to retrieve your log in credentials in case they are lost.' and another note: 'Take note of your security question and answer! Both must match to retrieve an account.' At the bottom, there are links for 'By registering, you agree to our privacy statement.' and 'Already registered? Log in here.'

Sign Up

Welcome to Project Midnight 🌙

Welcome! We're glad to have you here!

Complete the form to register and sign up.

Username

Enter Username

Password

Enter Password

Security Question

Security Question

The security question [optional] would be used later to retrieve your log in credentials in case they are lost.

Security Question Answer

Security Answer


Take note of your security question and answer! Both must match to retrieve an account.

Sign Up ☐ Remember me

By registering, you agree to our privacy statement.

Already registered? [Log in here.](#)

2.3 Account Retrieval Page



MIDNIGHT

[Log In](#)
[Sign Up](#)
[About: Enthereon Cipher Projects](#)
[About: Project Midnight](#)
[License](#)

Account Retrieval

Retrieve your account here!

Complete the form to attempt retrieving your account.

User ID

The User ID (UID) is the first three digits of your User Tag ("#xxxx").

Security Question


Security Question Answer

Retrieve

Remember your credentials? [Log in here.](#)

Do you want to sign up? [Sign up here.](#)

2.4 Profile Management Page [Local]



MIDNIGHT

[Manage Profile](#)
[Manage Ciphers](#)
[Live Cipher](#)
[Log Out](#)
[About: Enthereon Cipher Projects](#)
[About: Project Midnight](#)
[License](#)

Profile Management

Hi local#0040! You can change usernames, passwords and others here!

User Name
New User Name

Change User Name

Password
Old Password

New Password

Confirm Password

Change Password

Security Details
Security Question

Security Answer

Change Security Details

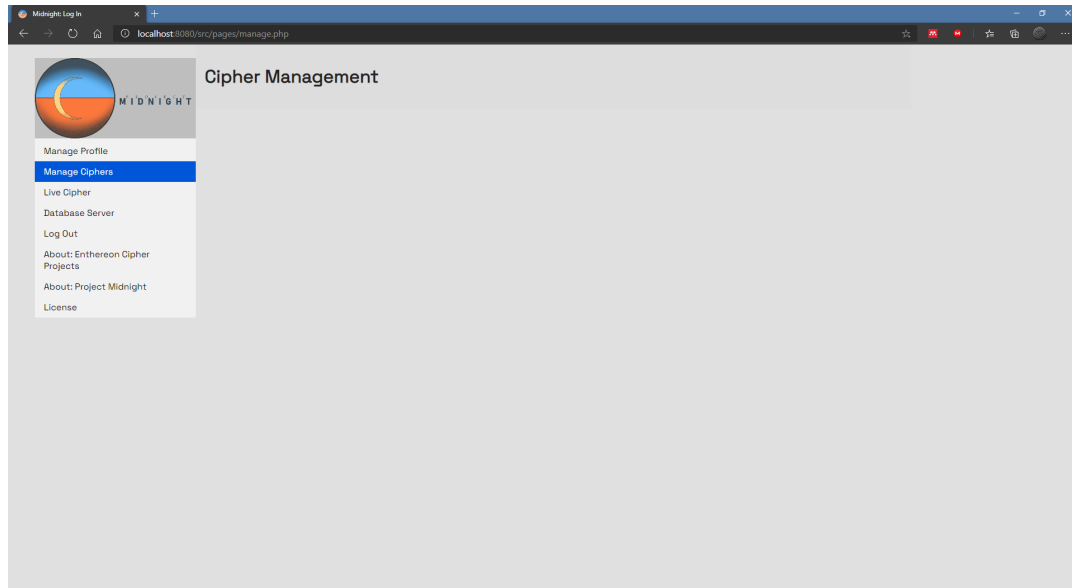
2.5 Profile Management Page [Admin]

A screenshot of a web browser showing the 'Profile Management' page for a user named 'admin'. The browser's address bar shows 'localhost:3030/src/pages/profile.php'. On the left, a sidebar contains a 'MIDNIGHT' logo and a menu with items: 'Manage Profile' (highlighted), 'Manage Ciphers', 'Live Cipher', 'Database Server', 'Log Out', 'About: Enthereon Cipher Projects', 'About: Project Midnight', and 'License'. The main content area is titled 'Profile Management' and includes a greeting: 'Hi admin#001! You can change usernames, passwords and others here!'. It is divided into three sections: 'User Name' with a 'New User Name' field containing 'admin' and a 'Change User Name' button; 'Password' with a blue advisory link 'It is advised to keep administrator credentials constant.', and fields for 'Old Password', 'New Password', and 'Confirm Password', followed by a 'Change Password' button; and 'Security Details' with fields for 'New Security Question' and 'New Security Answer', followed by a 'Change Security Details' button.

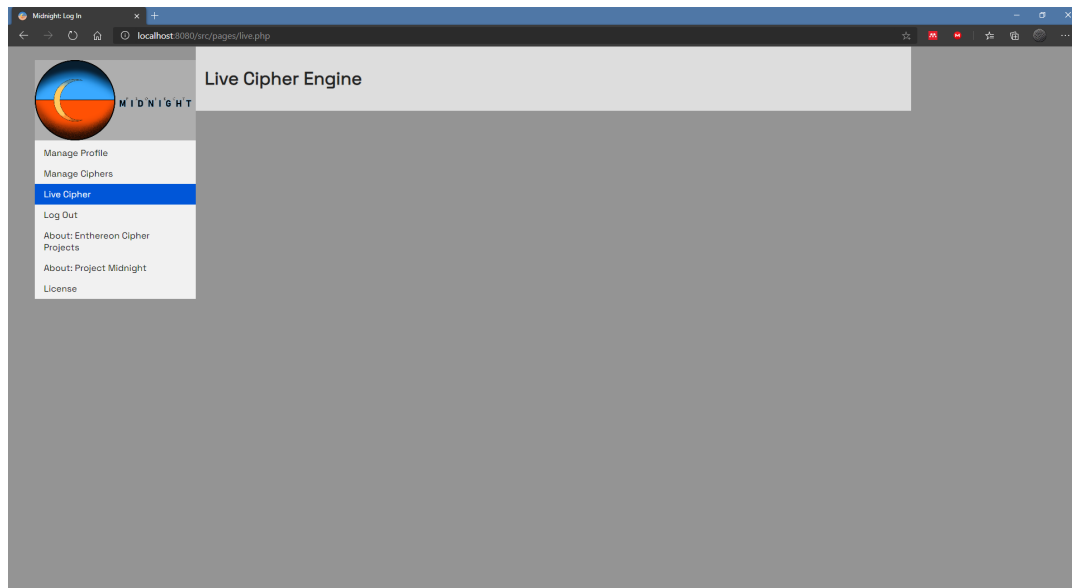
2.6 Cipher Management Page [Local]

A screenshot of the same 'Profile Management' page, but for a user named 'local'. The browser's address bar shows 'localhost:3030/src/pages/profile.php'. The sidebar menu is identical to the previous screenshot. The main content area greets the user: 'Hi local#0040! You can change usernames, passwords and others here!'. The 'User Name' section has a 'New User Name' field containing 'local' and a 'Change User Name' button. The 'Password' section includes the same advisory link and fields for 'Old Password', 'New Password', and 'Confirm Password', with a 'Change Password' button. The 'Security Details' section has fields for 'New Security Question' and 'New Security Answer', with a 'Change Security Details' button.

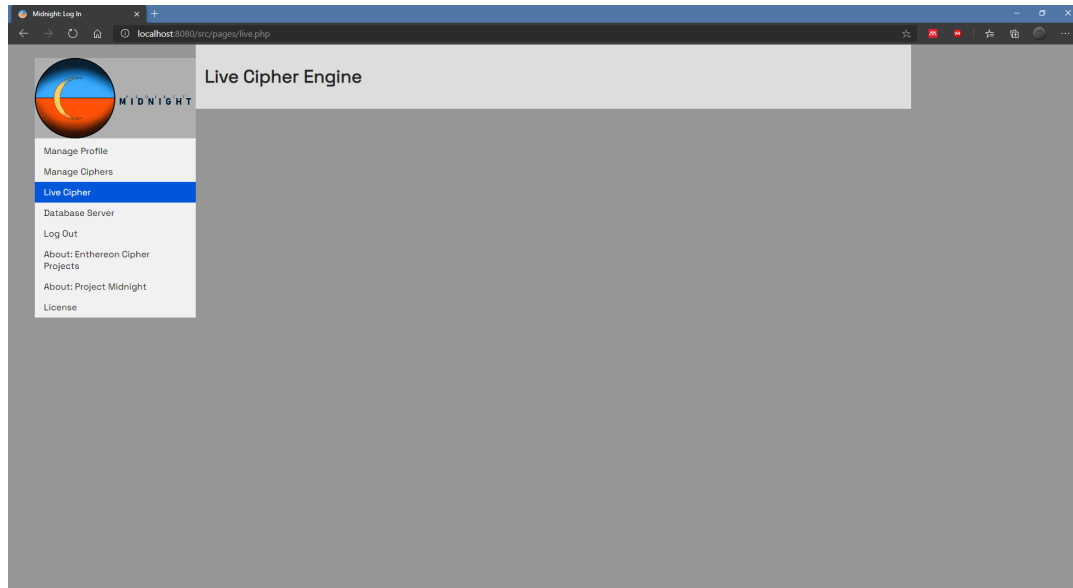
2.7 Cipher Management Page [Admin]



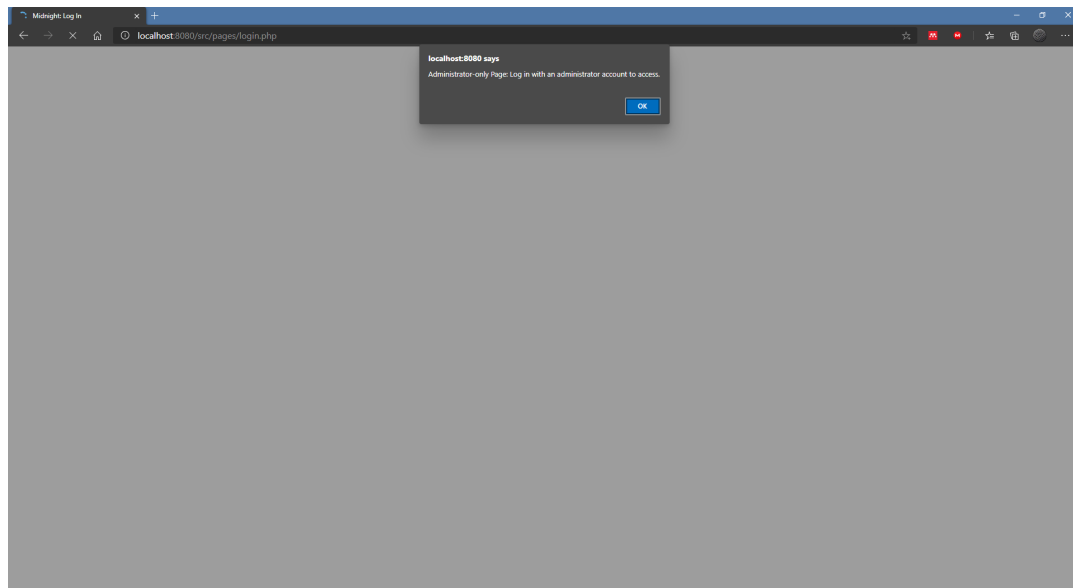
2.8 Live Cipher Engine Page [Local]



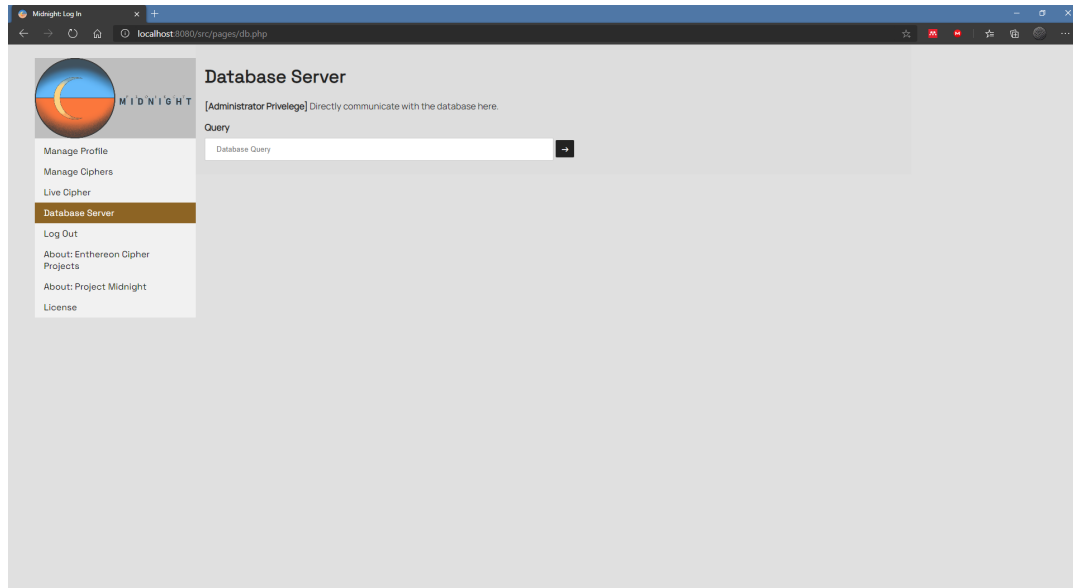
2.9 Live Cipher Engine Page [Admin]



2.10 Database Server Page [Local]



2.11 Database Server Page [Admin]



2.12 Database Structure

```

MariaDB [(none)]> USE MIDNIGHT;
Database changed
MariaDB [MIDNIGHT]> DESCRIBE USER;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default        | Extra          |
+-----+-----+-----+-----+-----+-----+
| ID     | int(3)        | NO   | PRI | NULL           | auto_increment |
| NAME   | varchar(20)   | NO   |     | NULL           |                |
| WORD   | varchar(20)   | NO   |     | 00000000       |                |
| ASTAT  | bit(1)        | NO   |     | b'0'           |                |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.018 sec)

MariaDB [MIDNIGHT]> DESCRIBE CIPHER;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default        | Extra          |
+-----+-----+-----+-----+-----+-----+
| ID     | int(6)        | NO   | PRI | NULL           |                |
| NAME   | varchar(20)   | NO   |     | NULL           |                |
| UID    | int(3)        | YES  | MUL | NULL           |                |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.016 sec)

MariaDB [MIDNIGHT]> DESCRIBE SYMBOL;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default        | Extra          |
+-----+-----+-----+-----+-----+-----+
| ID     | int(13)       | NO   | PRI | NULL           |                |
| SYM    | varchar(1)    | NO   |     | NULL           |                |
| CID    | int(6)        | YES  | MUL | NULL           |                |
| UID    | int(3)        | YES  | MUL | NULL           |                |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.014 sec)

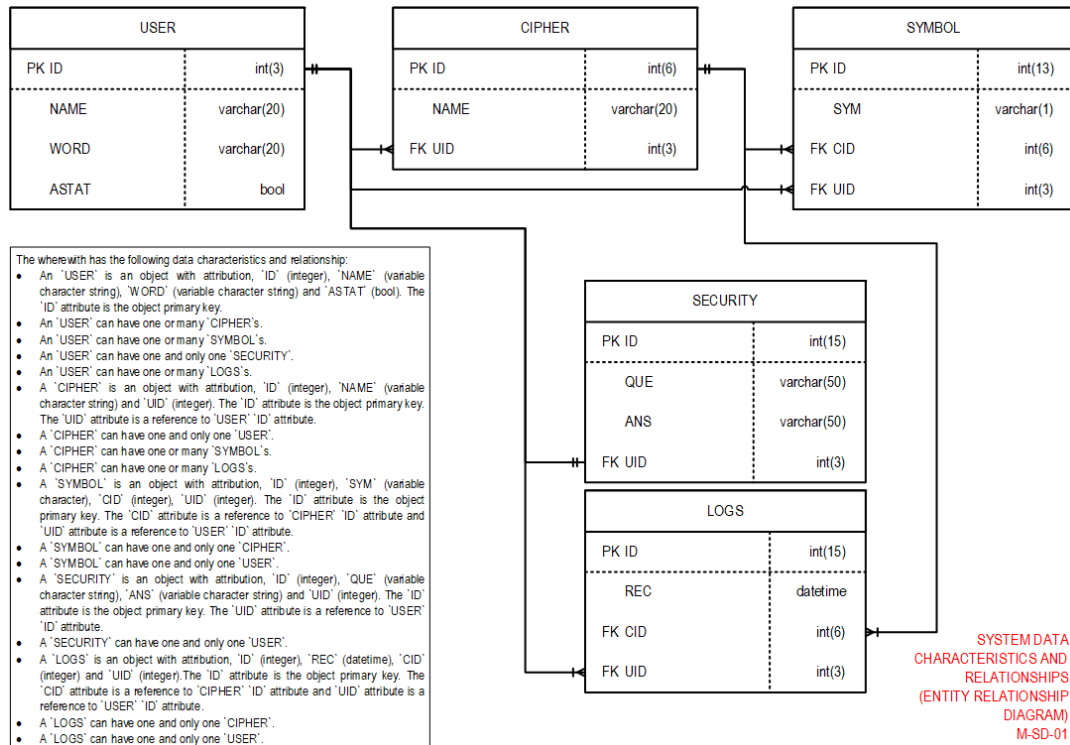
MariaDB [MIDNIGHT]> DESCRIBE SECURITY;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default        | Extra          |
+-----+-----+-----+-----+-----+-----+
| ID     | int(15)       | NO   | PRI | NULL           | auto_increment |
| QUE    | varchar(50)   | NO   |     | NULL           |                |
| ANS    | varchar(50)   | NO   |     | NULL           |                |
| UID    | int(3)        | YES  | MUL | NULL           |                |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.015 sec)

MariaDB [MIDNIGHT]> DESCRIBE LOGS;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default        | Extra          |
+-----+-----+-----+-----+-----+-----+
| ID     | int(15)       | NO   | PRI | NULL           | auto_increment |
| REC    | datetime      | NO   |     | current_timestamp() |                |
| CID    | int(6)        | YES  | MUL | NULL           |                |
| UID    | int(3)        | YES  | MUL | NULL           |                |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.026 sec)

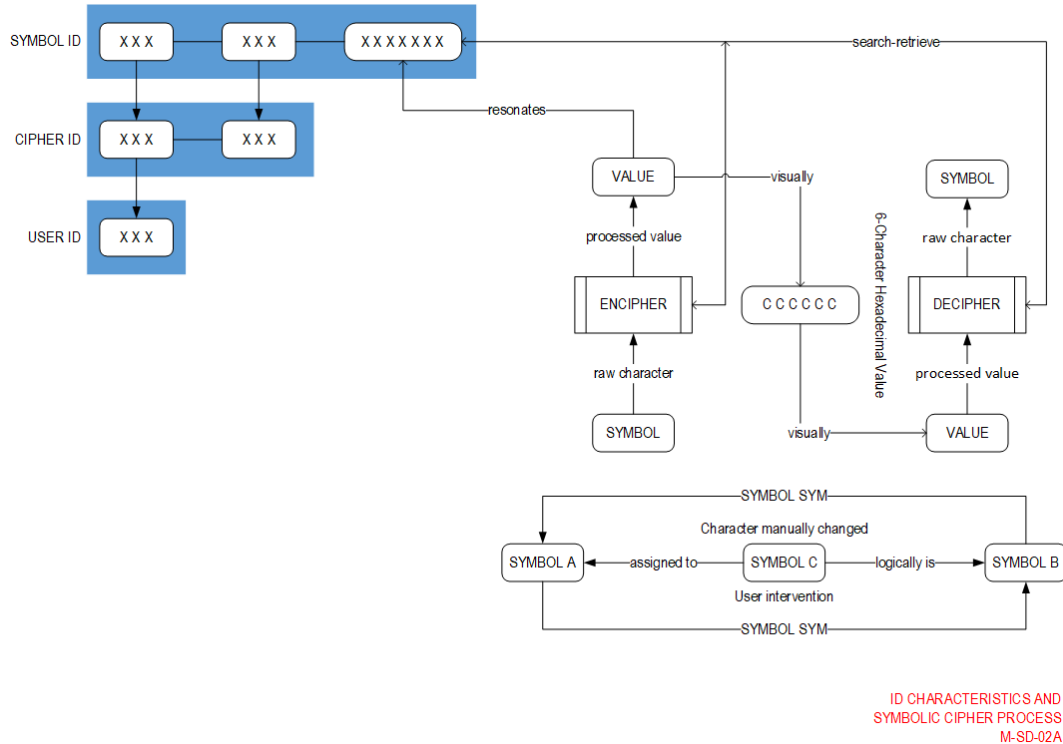
```

3.0 System Design

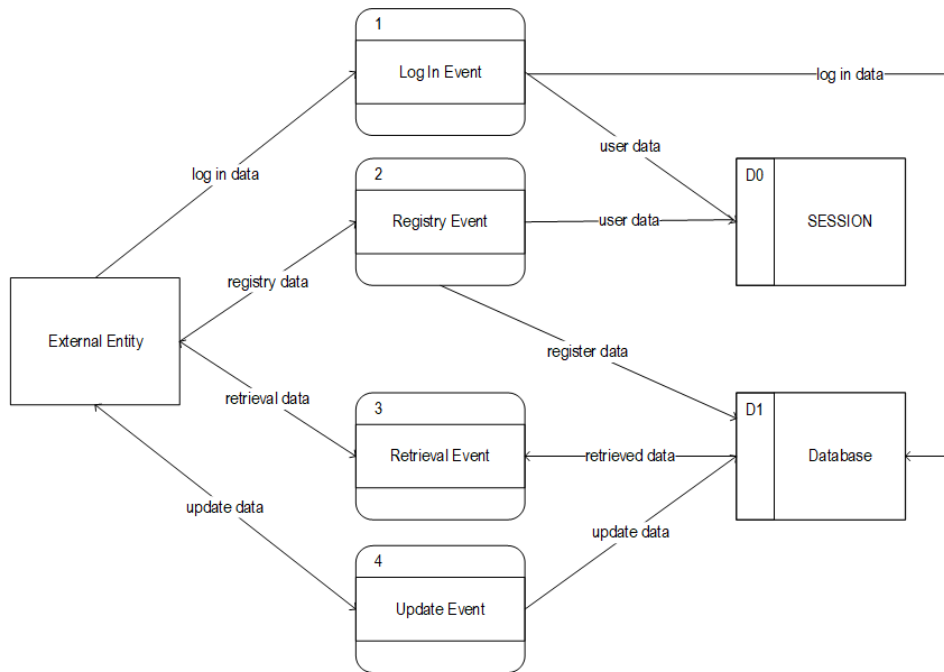
3.1 Entity Relationship Diagram



3.2 ID Characteristics and Symbolic Cipher Process



3.3 Data Flow Diagram (Level 0)



General Events Data
Flow Diagram
M-SD-03G