WAPH-Web Application Programming and Hacking

Instructor: Dr. Phu Phung

Mini-Facebook

Team members

1. Sai Kumar Gadde, gaddesr@mail.uc.edu
2. Dilip Kumar Sanipina, sanipidr@mail.uc.edu
3. Uma Satwik Meka, mekauk@mail.uc.edu
4. Siva Sai Manoj Korlepara, korlepsj@mail.uc.edu

Project Management Information

Source code repository (private access): https://github.com/waph-team10/waphteamproject/

Project homepage (public): https://github.com/waph-team24/waph-team24.github.io

Revision History

Date	Version	Description
21/03/2024	0.0	Init draft
04/04/2024	0.1	Filling Document

Overview

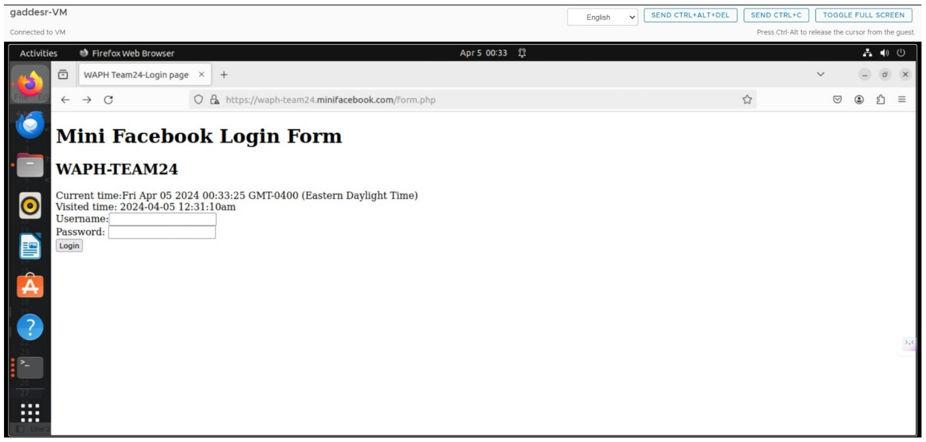
System Analysis

(Start from Sprint 0, keep updating)

Demo (screenshots)

Software Process Management

(Start from Sprint 0, keep updating)

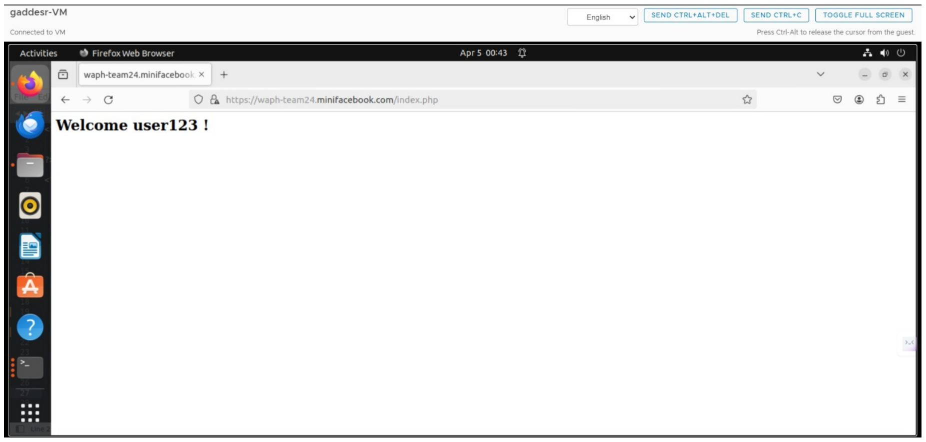


Mini Facebook Login Form

WAPH-TEAM24

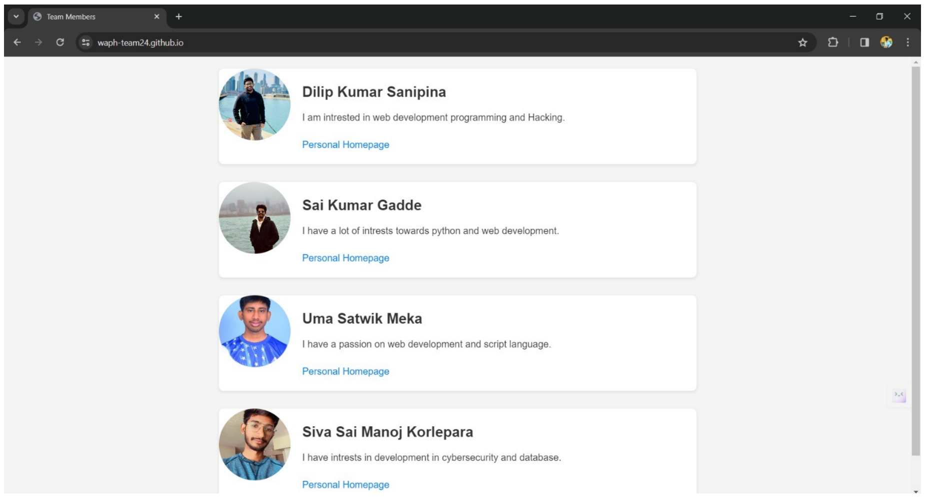
Current time:Fri Apr 05 2024 00:33:25 GMT-0400 (Eastern Daylight Time)
Visited time: 2024-04-05 12:31:10am
Username:
Password:
Login

Figure 1: Login_Form



Welcome user123 !

Figure 2: sucessful_Login



Dilip Kumar Sanipina

I am intrested in web development programming and Hacking.

Personal Homepage

Sai Kumar Gadde

I have a lot of intrests towards python and web development.

Personal Homepage

Uma Satwik Meka

I have a passion on web development and script language.

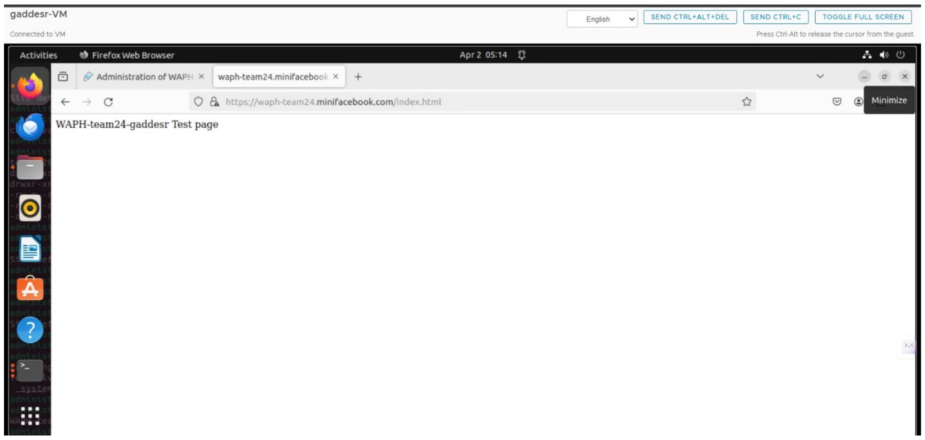
Personal Homepage

Siva Sai Manoj Korlepara

I have intrests in development in cybersecurity and database.

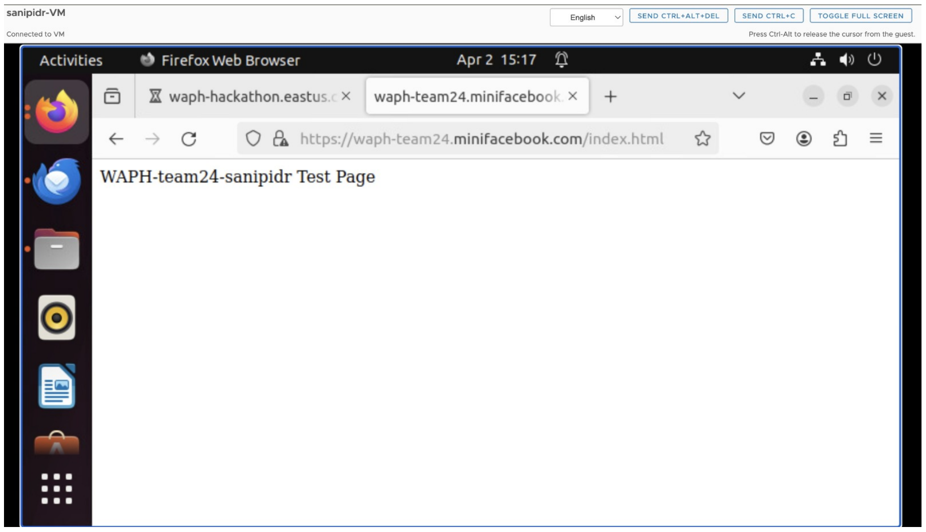
Personal Homepage

Figure 3: Team_members_personalPage



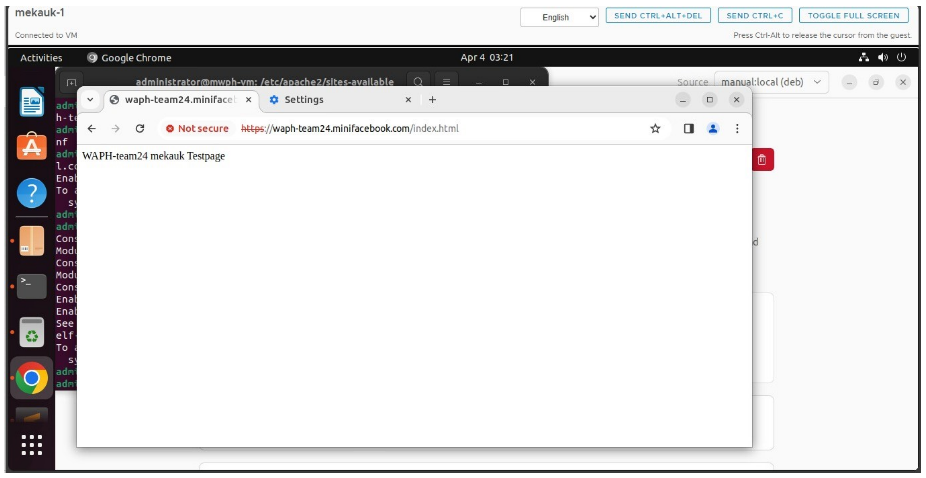
WAPH-team24-gaddesr Test page

Figure 4: Test_page_gaddesr



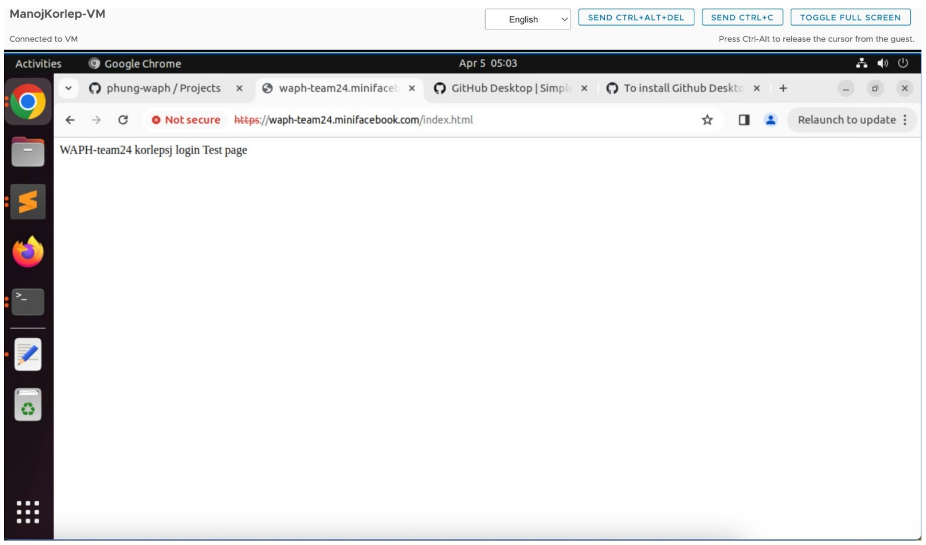
WAPH-team24-sanipidr Test Page

Figure 5: Test_page_sanipidr



WAPH-team24 mekauk Testpage

Figure 6: Test_page_mekauk



WAPH-team24 korlepsj login Test page

Figure 7: Test__page__korlepsj

Scrum process

All of our teammates uses Google Meet and Discord to communicate efficiently. We have a stand-up meeting on Google Meet every day to go over tasks and make sure everyone is informed of their responsibilities. With the help of this conference, we can identify any dependencies or hurdles so that we may tackle challenges head-on. Throughout the day, we exchange questions, quick updates, and quick cooperation via Discord. We speak often. At the conclusion of the day, we meet together to talk about what happened, evaluate our progress, and establish plans for the next day. This comprehensive approach to communication promotes accountability, transparency, and fruitful teamwork among our members.

Sprint 0

Duration: 21/03/2024-27/03/2024

Completed Tasks:

1. In sprint 0 we have created public and private repositories and name them as "Waph-teamproject" and " Waph-team24.github.io".
2. We have generated ssl keys and certificates for the team project and configure the https for the local domain.
3. We have develop the database for team project.
4. We also developed a individual home page for all of them and we have satisfied the requirements based on lab3 & lab4 for the team project.
5. We have tested the functionality using using index.html.

Contributions:

1. Saikumar Gadde has done 7 commits over 5 hours and contributed in creating ssl keys and certificates for the team project amd creation of team personal home page.
2. Dilip Kumar Sanipina has done 4 commits over 4 hours and contributed in creating team repo's and public repo and database creation and contirbuted in developing form and index .php files.
3. Uma Satwik Meka has done 2 commits over 3 hours contributed in creation of setup database structure and index.html.
4. Manoj Kumar Korelpara has done 2 commits over 3 hours contributed in readme file and database setup.

Sprint 1

Duration: 28/03/2024-07/03/2024

Completed Tasks:

1. In sprint 1 we have completed designing the database and created the user-table,host tables and also created database-data.sql file.
2. we also created the user registration and login and change passwords

Contributions:

1. Saikumar Gadde has done 5 commits over 6 hours and contributed in creating database design and developing database-data.sql
2. Dilip Kumar Sanipina has done 3 commits over 5 hours and contributed in creating registration form and other php files.
3. Uma Satwik Meka has done 2 commits over 4 hours contributed in modificarion of userregistrationform and index files.
4. Manoj Kumar Korelpara has done 2 commits over 3 hours contributed in dealing with change password and creating readme file.

Appendix

Database-account.sql

```
create database waph_team;
CREATE USER 'waph-team24'@'localhost' IDENTIFIED BY "team@24";
GRANT ALL ON waph_team.* TO 'waph-team24'@'localhost';
```

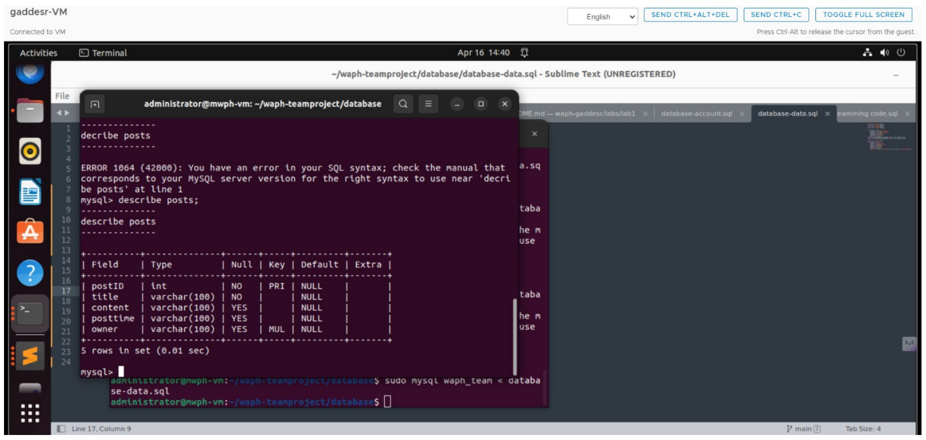
Database-data.sql

```
        drop table if exists users;
drop table if exists messages;
drop table if exists sends;
```

```sql
drop table if exists received;

create table users(
  username varchar(255) PRIMARY KEY,
  password varchar(100) NOT NULL,
  fullname varchar(100),
  otheremail varchar(100),
  phone varchar(10));
INSERT INTO users(username,password) VALUES ('test1',md5('test1'));
INSERT INTO users(username,password) VALUES ('test2',md5('test2'));

drop table if exists posts;
create table posts(
  postID int PRIMARY KEY,
  title varchar(100) NOT NULL,
  content varchar(100),
  posttime varchar(100),
  owner varchar(100),
  FOREIGN KEY (owner) REFERENCES users(username) ON DELETE CASCADE);
```



```
--------------
decribe posts
--------------

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MySQL server version for the right syntax to use near 'decri
be posts' at line 1
mysql> describe posts;
--------------
describe posts
--------------

+----------+--------------+------+-----+---------+-------+
| Field    | Type         | Null | Key | Default | Extra |
+----------+--------------+------+-----+---------+-------+
| postID   | int          | NO   | PRI | NULL    |       |
| title    | varchar(100) | NO   |     | NULL    |       |
| content  | varchar(100) | YES  |     | NULL    |       |
| posttime | varchar(100) | YES  |     | NULL    |       |
| owner    | varchar(100) | YES  | MUL | NULL    |       |
+----------+--------------+------+-----+---------+-------+
5 rows in set (0.01 sec)

mysql>
administrator@mwph-vm:~/waph-teamproject/database$ sudo mysql waph_team < databa
se-data.sql
administrator@mwph-vm:~/waph-teamproject/database$
```

Figure 8: database-data

- The ER (Entity-Relationship) diagram shows the structure and relationships between the “users” and “posts” tables. In the graphic, the “users” table is the primary entity, comprising characteristics such as “username,” “password,” “fullname,” “otheremail,” and “phone,” with “username” serving as the primary key. This table contains information about specific system users, each of whom is recognized by a username.
- In contrast, the “posts” table stores information about user-created postings. It contains attributes such as “postID,” “title,” “content,” “posttime,” and “owner.” Here, “postID” is the primary key. The “owner” field has a link

with the “username” attribute in the “users” table, indicating who created each post. This relationship is represented as a one-to-many association, which means that one user can create several postings.

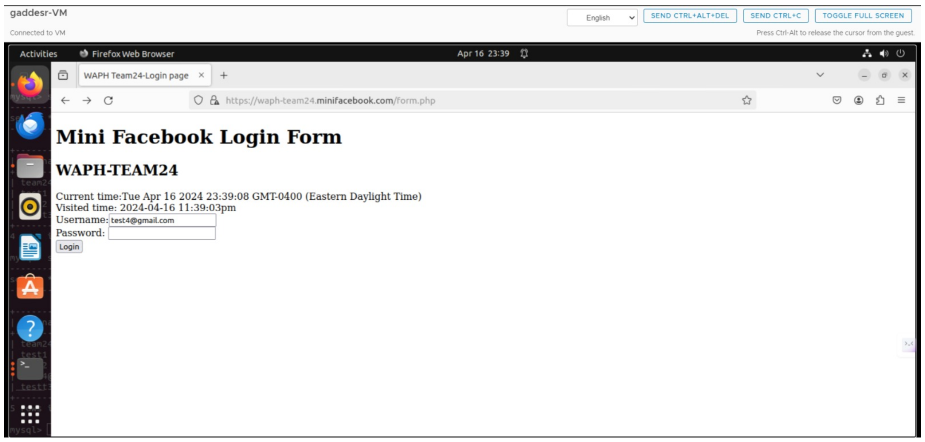
- Furthermore, the ER diagram exhibits referential integrity between the two tables using a foreign key constraint. The “owner” element in the “posts” table refers to the “username” field in the “users” table. This constraint requires a post’s owner to be a genuine user in the system, eliminating orphaned records and maintaining data consistency. Furthermore, the ON DELETE CASCADE constraint given on the foreign key ensures that when a user is deleted from the system, all posts connected with that user are automatically removed, preventing referential integrity issues.

Form.php

```
        <!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>WAPH Team24-Login page</title>
  <script type="text/javascript">
      function displayTime() {
        document.getElementById('digit-clock').innerHTML = "Current time:" + new Date();
      }
      setInterval(displayTime,500);
  </script>
</head>
<body>
  <h1>Mini Facebook Login Form</h1>
  <h2>WAPH-TEAM24</h2>
  <div id="digit-clock"></div>
<?php
  //some code here
  echo "Visited time: " . date("Y-m-d h:i:sa")
?>
  <form action="index.php" method="POST" class="form login">
    Username:<input type="text" class="text_field" name="username" /> <br>
    Password: <input type="password" class="text_field" name="password" /> <br>
    <button class="button" type="submit">Login</button>
  </form>
</body>
</html>
```

index.php

```
<?php
    session_set_cookie_params(15*60,"/","waph-team24.minifacebook.com",TRUE,TRUE);
```



Mini Facebook Login Form

WAPH-TEAM24

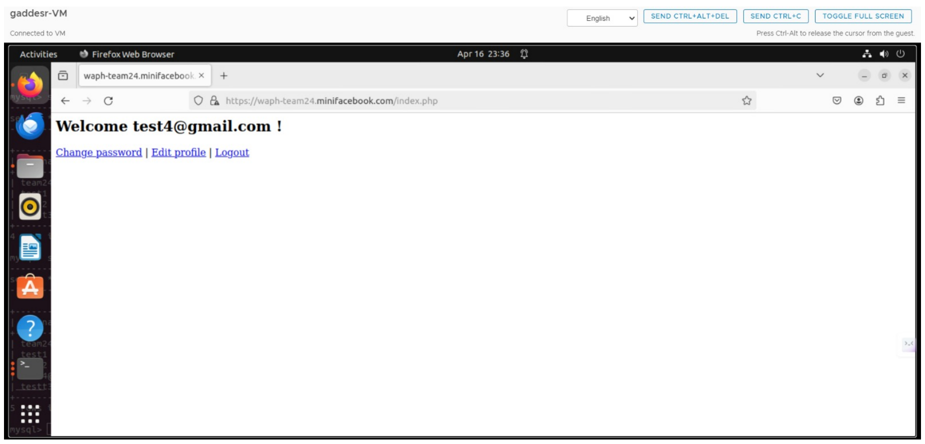
Current time:Tue Apr 16 2024 23:39:08 GMT-0400 (Eastern Daylight Time)
Visited time: 2024-04-16 11:39:03pm
Username: test4@gmail.com
Password:
Login

Figure 9: Login_form

```
    session_start();
    require "database.php";
    if(isset($_POST["username"]) and isset($_POST["password"])){
        if (checklogin_mysql($_POST["username"],$_POST["password"])) {
            $_SESSION['authenticated'] = TRUE;
            $_SESSION['username'] = $_POST["username"];
            $_SESSION["browser"] = $_SERVER["HTTP_USER_AGENT"];
        }else{
            session_destroy();
            echo "<script>alert('Invalid username/password');window.location='form.php';</sc
            die();
        }
    }
    if(!isset($_SESSION['authenticated']) or $_SESSION['authenticated']!= TRUE){
          session_destroy();
          echo "<script>alert('You have not login.Please login first!')</script>";
          header("Refresh: 0; url=form.php");
          die();
    }
    if ($_SESSION["browser"] != $_SERVER["HTTP_USER_AGENT"]){
        session_destroy();
        echo "<script>alert('Session hijacking attack is detected!');</script>";
        header("Refresh:0; url=form.php");
        die();
    }

  ?>
        <h2> Welcome <?php echo htmlentities( $_SESSION['username']); ?> !</h2>
```

```
<a href ="changepasswordform.php">Change password</a> | <a href ="profile.php">Edi
```



Welcome test4@gmail.com !

Change password | Edit profile | Logout

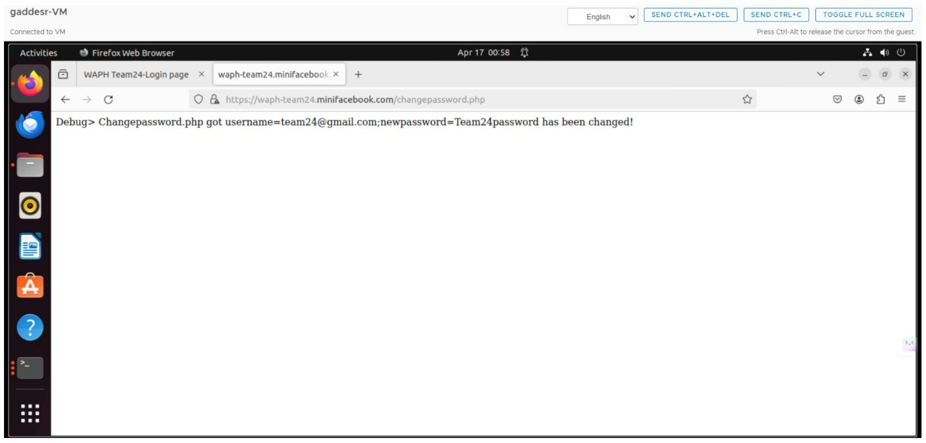
Figure 10: successful_login_page

changepassword.php

```
<?php
  require "session_auth.php";
  require "database.php";
  $token = $_POST['nocsrftoken'];
  if (!isset($token) or $token!=$_SESSION['nocsrftoken']) {
     echo "CSRF Attack is detected!";
     die();
  }
  $username = $_SESSION['username'];
  $password = $_REQUEST['password'];
  if (isset($username) and isset($password)) {
    echo "Debug> Changepassword.php got username=$username;newpassword=$password";
       if(changepassword($username,$password)){
            echo "password has been changed!";
        }else{
            echo " Change password Failed!";
        }
  }else{
     echo " No username/password provided!";
  }

?>
```

session_auth.php



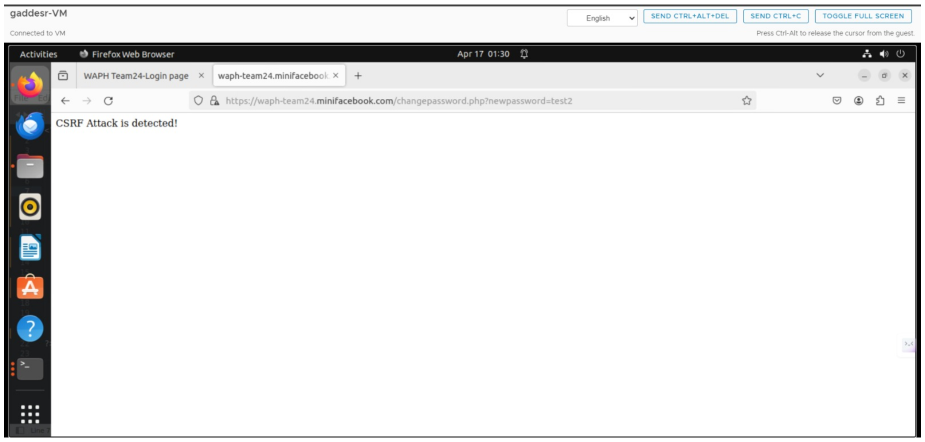
Debug> Changepassword.php got username=team24@gmail.com;newpassword=Team24password has been changed!

Figure 11: Changed_password_page

```
<?php
    session_set_cookie_params(15*60,"/","waph-team24.minifacebook.com",TRUE,TRUE);
  session_start();
  if(!isset($_SESSION['authenticated']) or $_SESSION['authenticated']!= TRUE){
        session_destroy();
        echo "<script>alert('You have not login.Please login first!')</script>";
        header("Refresh: 0; url=form.php");
        die();
  }
  if ($_SESSION["browser"] != $_SERVER["HTTP_USER_AGENT"]){
      session_destroy();
      echo "<script>alert('Session hijacking attack is detected!');</script>";
      header("Refresh:0; url=form.php");
      die();
  }
```

Registration_form.php

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <title>WAPH-Login page</title>
  <script type="text/javascript">
      function displayTime() {
        document.getElementById('digit-clock').innerHTML = "Current time:" + new Date();
      }
```

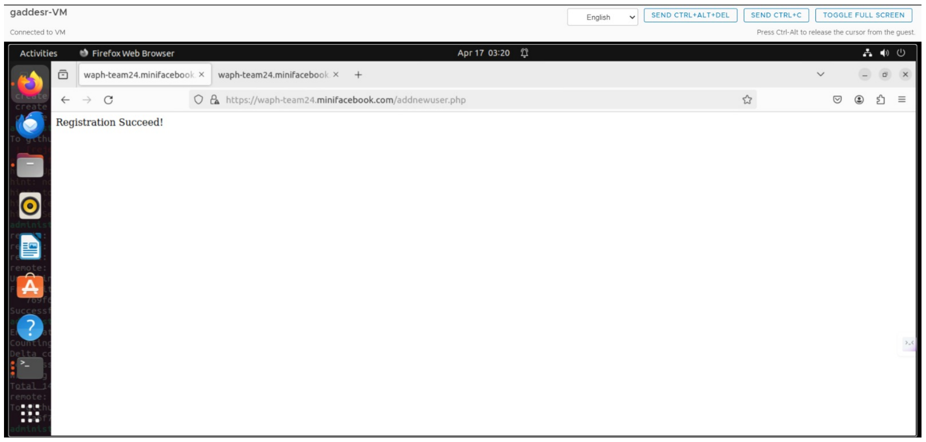


https://waph-team24.minifacebook.com/changepassword.php?newpassword=test2

CSRF Attack is detected!

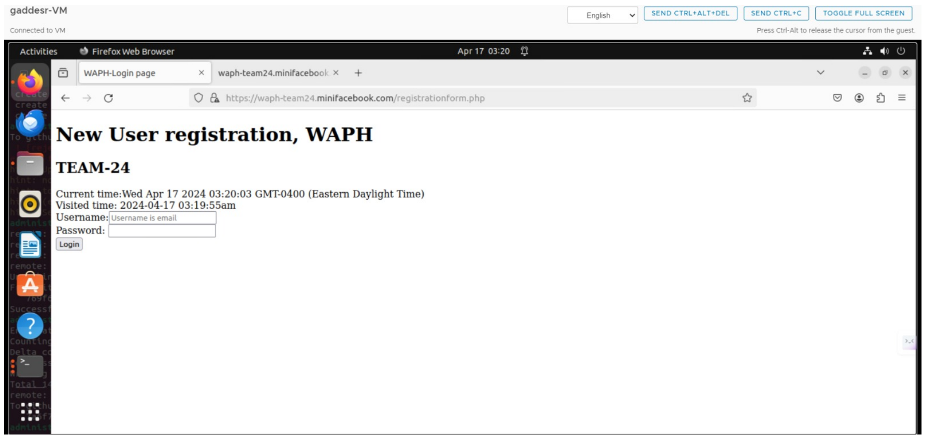
Figure 12: Attack_detected

```
      setInterval(displayTime,500);
  </script>
</head>
<body>
  <h1>New User registration, WAPH</h1>
  <h2>TEAM-24</h2>
  <div id="digit-clock"></div>
<?php
  //some code here
      echo "Visited time: " . date("Y-m-d h:i:sa")
?>
  <form action="addnewuser.php" method="POST" class="form login">
    Username:<input type="text" class="text_field" name="username" required
    pattern="^[\w.-]+@[\w-]+(.[\w-]+)*$"
    title="Email address is required as username"
    placeholder="Username is email"
    onchange="this.setCustomeValidity(this.validity.patternMismatch?this.title: ' ');" /> <
    Password: <input type="password" class="text_field" name="password" /> <br>
    <button class="button" type="submit">Login</button>
  </form>
</body>
</html>
```



Registration Succeed!

Figure 13: Registration_form



New User registration, WAPH

TEAM-24

Current time:Wed Apr 17 2024 03:20:03 GMT-0400 (Eastern Daylight Time)
Visited time: 2024-04-17 03:19:55am
Username: Username is email
Password:
Login

Figure 14: Successful_registration