A Project Report

on

"National Geographic Website"

carried out as part of the lab IT2232 Web Technologies Submitted

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Bachelor of Technology

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School of Information, Security, and Data Science

Department of Information Technology

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RAJASTHAN, INDIA

April 2024

CERTIFICATE

Date: 15th April, 2024

This is to certify that the project titled **National Geographic** is a record of the bonafide work done by **LAKSHYA PAWAR** 229302177 and by **NAVODIT KAPOOR** 229302204 submitted in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology (B.Tech) in **(Discipline)** of Manipal University Jaipur, during the academic year 2023-24.

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ABSTRACT

Welcome to "Exploring Our World," a minor project showcasing the wonders of our planet through the lens of National Geographic. In this web experience, we invite you on a journey to delve into the diverse landscapes, fascinating wildlife, and rich cultures that make Earth such a remarkable place.

The methodology employed in the development of this platform involved meticulous research into the needs and preferences of university tech undergraduates. User-centric design principles were applied to ensure intuitive navigation and seamless user experience. Robust backend systems were implemented to manage user authentication, event registration, and course enrollment processes efficiently

The key results obtained from the project showcase a significant enhancement in user's accessibility to various articles. Users can easily explore and engage with various learning and networking opportunities. Moreover, the platform's user-friendly interface fosters greater participation and engagement. Ultimately contributing to a more vibrant and dynamic community among nature lovers.

Our project aims to provide users with an immersive and educational experience inspired by National Geographic's mission to explore and protect the planet.

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Introduction.

1.1 Introduction:

Our project aims to provide users with an immersive and educational experience inspired by National Geographic's mission to explore and protect the planet. Through a combination of captivating visuals, engaging articles, and interactive features, users will have the opportunity to:

Discover Stunning Photography: Journey through breathtaking photo galleries featuring iconic imagery captured by National Geographic photographers from around the globe.

Learn from Expert Articles: Delve into informative articles written by National Geographic experts, covering topics ranging from environmental conservation to cultural heritage preservation.

Engage with Multimedia: Watch captivating videos, listen to audio recordings, and interact with multimedia presentations that bring the stories of our planet to life.

Connect with the Community: Join discussions, share your own experiences, and connect with fellow explorers who share a passion for understanding and preserving the natural world.

Pros and Cons of Existing Methods:

Aspect	Pros	Cons
User Engagement	High-quality content with stunning visuals	Limited interactivity and engagement features
Accessibility	Compliance with basic accessibility standards	Potential issues with screen reader compatibility
Navigation	Clear categorization of content	Complex navigation structure may confuse some users
Mobile Responsiveness	Basic mobile optimization	Lack of advanced features for mobile users

1.2 Motivation:

Inspiring Exploration and Conservation Through Technology

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In today's digital age, technology serves as a powerful tool for fostering awareness, education, and advocacy. Our collaboration with National Geographic in this minor project is driven by a shared commitment to leveraging technology's potential to inspire exploration and promote conservation efforts worldwide.

At the forefront of our motivation is the desire to ignite curiosity and cultivate a deeper appreciation for the natural world. Through innovative digital experiences, captivating imagery, and immersive storytelling, we aim to transport users to the farthest reaches of our planet, fostering a sense of wonder and awe.

Moreover, our project seeks to empower individuals with knowledge about Earth's diverse ecosystems, wildlife, and cultures. By providing accessible and engaging educational resources, we hope to equip users with the tools and insights needed to become informed advocates for environmental conservation.

We are motivated by the pressing need to address urgent environmental challenges, such as climate change, habitat loss, and species extinction. Through our platform, we aim to raise awareness about these issues, inspiring individuals to take meaningful action to protect and preserve our planet for future generations.

Furthermore, our project celebrates the rich tapestry of global diversity, highlighting the interconnectedness of humanity and the natural world. By showcasing the beauty of diverse cultures and ecosystems, we strive to foster mutual understanding, respect, and collaboration across borders.

In essence, our motivation is rooted in the belief that technology can catalyze positive change, inspiring individuals to explore, learn, and act in the pursuit of a more sustainable and harmonious relationship with our planet. Together, let us harness the power of technology to inspire exploration and conservation, shaping a brighter future for generations to come.

Background Overview

1.3 Objectives of the Project :

Enhancing User Engagement and Accessibility on the National Geographic Website.

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The National Geographic website serves as a valuable platform for sharing exploration, education, and conservation efforts with a global audience. However, despite its numerous strengths, there are areas where improvements can be made to enhance user engagement and accessibility.

While the National Geographic website offers a wealth of captivating content, including articles, photos, and videos, several challenges need to be addressed:

User Engagement: The current website layout may not fully optimize user engagement, leading to potential issues with retention and interaction.

Accessibility: Ensuring that the website is accessible to users, is crucial for providing an inclusive experience.

Navigation: The navigation structure of the website may be complex or unintuitive, making it difficult for users to find the content they are interested in.

Pros and Cons of Existing Methods:

Aspect	Pros	Cons
User Engagement	High-quality content with stunning visuals	Limited interactivity and engagement features
Accessibility	Compliance with basic accessibility standards	Potential issues with screen reader compatibility
Navigation	Clear categorization of content	Complex navigation structure may confuse some users
Mobile Responsiveness	Basic mobile optimization	Lack of advanced features for mobile users

1.3. Organization of the report

1. **Introduction to work done**
    - Overview
    - Applications
    - Advantages

2. **Project Statement**
    - Objective
    - Scope
    - Methodology
    - Deliverables
    - Expected Outcomes

3. **Conceptual Overview**

4. **Technologies involved**
    - HTML
    - CSS
    - JavaScript
    - MySQL
    - PHP

5. **Methodology**
    - Objective
    - Scope
    - Methodology
    - Deliverables
    - Expected Outcomes
    - Module Description
    - Data Flow Diagram

6. **Implementation and Results**
    - Modules
    - Code Description
    - Prototype
    - Results

7. **Future Work & Conclusion**
    - Progress Chart
    - Future Work
    - Conclusion

2.1 Conceptual Overview (*Concepts/ Theory used*)

Our web technology project encompasses a blend of foundational concepts and modern. The conceptual framework of our project draws upon the following key elements:

1. Client-Side Scripting with JavaScript:

JavaScript serves as the backbone of our website's client-side scripting, enabling dynamic interactions and functionalities. Through event handling, DOM manipulation, and asynchronous requests, JavaScript enhances user engagement and interactivity, elevating the overall browsing experience.

2. Server-Side Scripting with PHP:

PHP plays a crucial role in implementing server-side functionalities and dynamic content generation. By processing user requests, managing sessions, and interacting with databases, PHP empowers our website with personalized features, secure authentication mechanisms, and seamless data retrieval.

3. Structured Markup with HTML:

HTML forms the structural foundation of our website, defining the layout, content hierarchy, and semantic structure. By adhering to best practices in HTML markup, we ensure accessibility, search engine optimization, and maintainability, thereby enhancing the overall usability and navigability of the website.

4. Styling with CSS:

CSS contributes to the visual aesthetics and presentation layer of our website, dictating styles, layouts, and visual enhancements.

5. Database Management with MySQL:

MySQL serves as the backend database management system, facilitating secure data storage, retrieval, and manipulation.

2.2 Technologies Involved:

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HTML:

• HTML forms are utilized to create essential user interaction points, including the login, signup, and registration pages.

• Dedicated HTML pages are developed for the homepage, providing structured content presentation and navigation.

CSS:

• CSS plays a crucial role in enhancing the visual appeal and user experience of the platform.

• Detailed CSS stylesheets are crafted for each page, focusing on layout, typography, colors, and overall design consistency to create a visually pleasing interface.

JavaScript:

• JavaScript is integrated into all pages to add dynamic functionality and interactivity to the platform.
• Dynamic form validation, interactive elements, and event handling are implemented using JavaScript to provide real-time feedback and improve user engagement.

MySQL:

• MySQL databases are employed to store essential user data and information securely.

• Separate databases are created for user signup, login credentials, and registration details, ensuring efficient data management and retrieval.

PHP:

• PHP serves as the backend scripting language, facilitating seamless communication between the MySQL databases and the website.

• PHP scripts connect the databases to the website's backend, enabling dynamic content generation, user authentication, and personalized experiences.

Methodologies

3.1 Methodology

Research and Design Phase:

Define project objectives, scope, and deliverables. Conduct a comprehensive analysis of the current National Geographic website to identify areas for improvement in user engagement and accessibility. Gather requirements from stakeholders, including users, designers, developers, and content creators.

Collaborate with content creators and information architects to develop a content strategy aligned with user preferences and project objectives in a more interactive way using HTML and CSS for styling. Design an intuitive information architecture that organizes content logically and interactively facilitates easy navigation for users.

Development:

Develop user personas representing different segments of the target audience, considering factors such as demographics, interests, and accessibility needs. Select appropriate technologies and frameworks for website development, considering factors such as scalability, performance, and accessibility compliance.

Integrate accessibility features, including alt text for images, keyboard navigation support, and semantic HTML markup. Integrate register and login features using a server-side scripting language (PHP).

Connected database to store user details and authenticate login details. Conduct thorough testing of the website's functionality, usability, and accessibility compliance.

Testing and Quality Assurance:

Address any issues identified during testing and make necessary refinements to improve user experience and accessibility. Continuously monitor website performance and user feedback to identify areas for further optimization. Iterate on design and content based on data-driven insights to enhance user experience and achieve project objectives.

3.2 Module Descriptions:

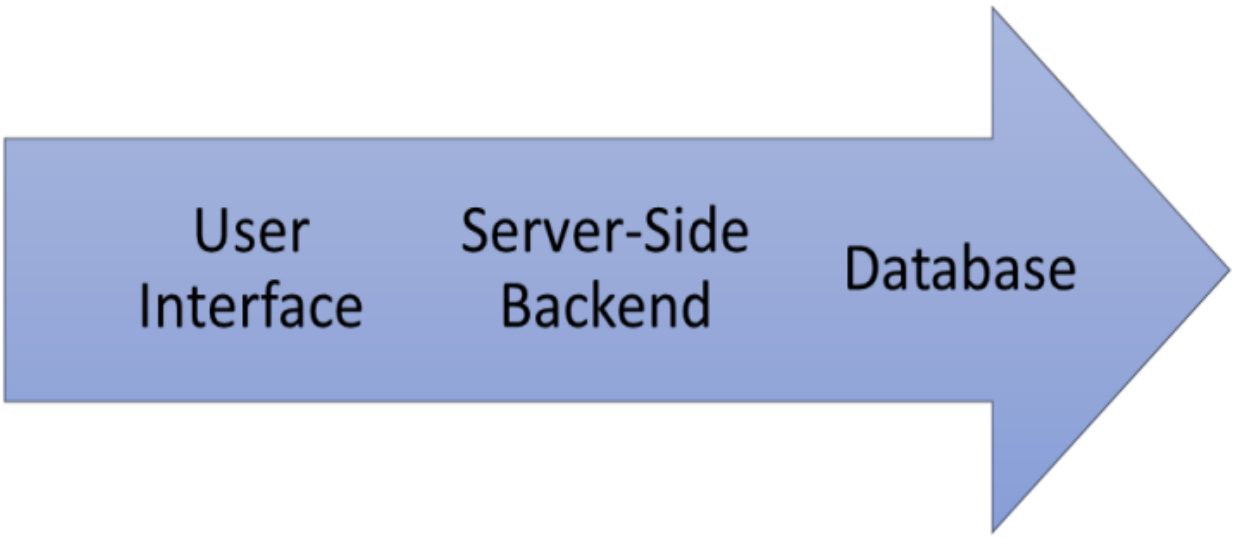
The website consists of several key modules, each responsible for specific functionalities:

1. **User Authentication and Authorization Module:**
    - This module handles user authentication and authorization processes.

2. **User Registration Module:**
    - Users can browse, login, and register for services through this module

3.3 Data Flow Diagram (*DFD*)

Below is a simplified data flow diagram illustrating the flow of data within the website:



Implementations & Results

4.1 PROTOTYPE

website.html > html > body > nav#navbar

```html
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>National Geographic</title>
  <link rel="stylesheet" href="./styles.css">
  <script src="./script.js"></script>

</head>

<body>

  <nav id="navbar">
    <ul>

      <li><a href="https://www.nationalgeographic.com/animals">Animals</a></li>
      <li><a href="https://www.nationalgeographic.com/science">Science</a></li>
      <li><a href="https://www.nationalgeographic.com/travel">Travel</a></li>
      <li><a href="https://www.nationalgeographic.com/history">History</a></li>
      <li><a href="https://www.nationalgeographic.com/environment">Environment</a></li>

      <nav id="user">
        <ul id="user">
          <li><a href="./login.html">Login</a></li>
          <li><a href="./subscribe.html">Subscribe</a></li>
        </ul>
      </nav>

    </ul>
  </nav>


  <header>
    <img src="./images/National-Geographic-logo.png" alt="National Geographic Logo">
  </header>

  <main>

    <section class="articles">

      <article class="animals">
        <br><br>
        <h3>ANIMALS SPOTLIGHT</h3>
        <div class="line"></div><br><br><br>
```

styles.css

styles.css > button

```css
body {
    font-family: Arial, sans-serif;
    margin: 0;
    background-color: black;
}

header {
    background-color: black;
    text-align: center;
    padding: 235px 0;
    background-image: url(./images/astro.png);
    background-size: cover;
    background-repeat: no-repeat;
    background-position: center;
}
header img {
    max-width: 400px;
}

nav ul {
    list-style-type: none;
    margin: 0;
    padding: 0;
    overflow: hidden;
    background-color: #28282B;
}
nav li {
    float: left;
}
nav li a {
    display: block;
```

Ln 79, Col 18 Spaces: 4 UTF-8 CRLF CSS Port: 3000 Go Live Prettier

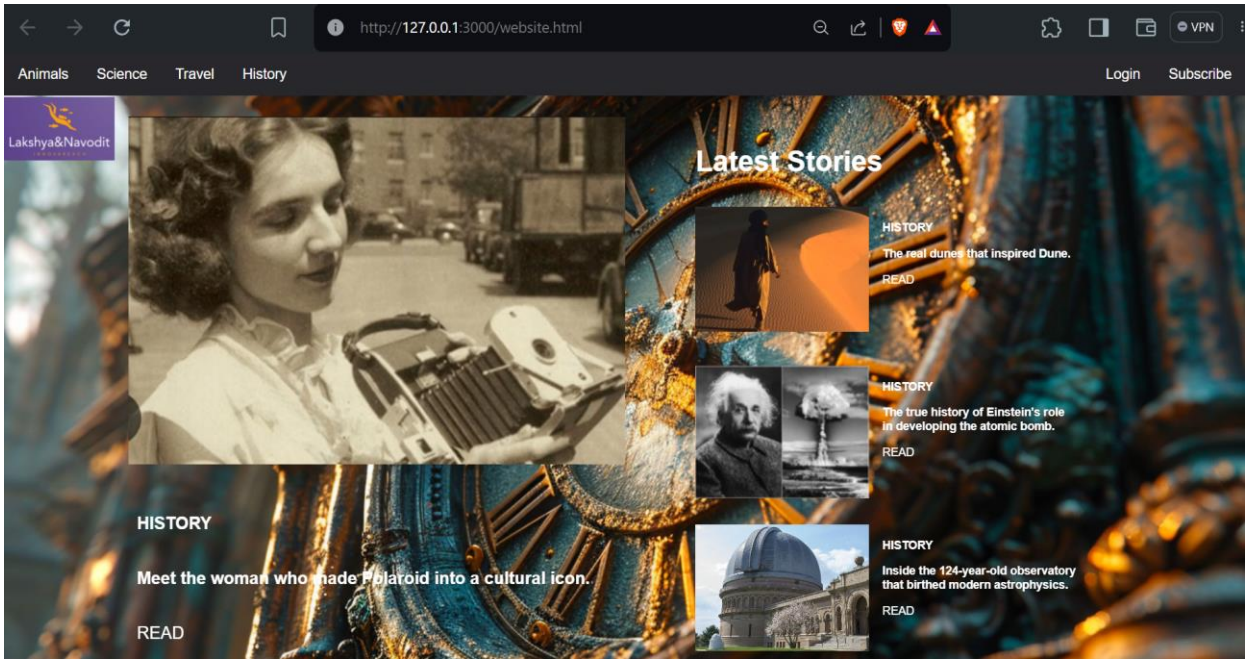
```php
<?php
if ($_SERVER["REQUEST_METHOD"] == "POST") {
  $name = $_POST['username'];
  $password = $_POST['password'];

  $sql = "SELECT * FROM subscribe WHERE Name = '$name' AND Password = '$password'";
  $result = $conn->query($sql);

  if ($result->num_rows == 1) {

    header("location: suc.html");

    exit();
  } else {

    header("location: error.html");

    exit();
  }
}

mysqli_close($conn);
?>
```

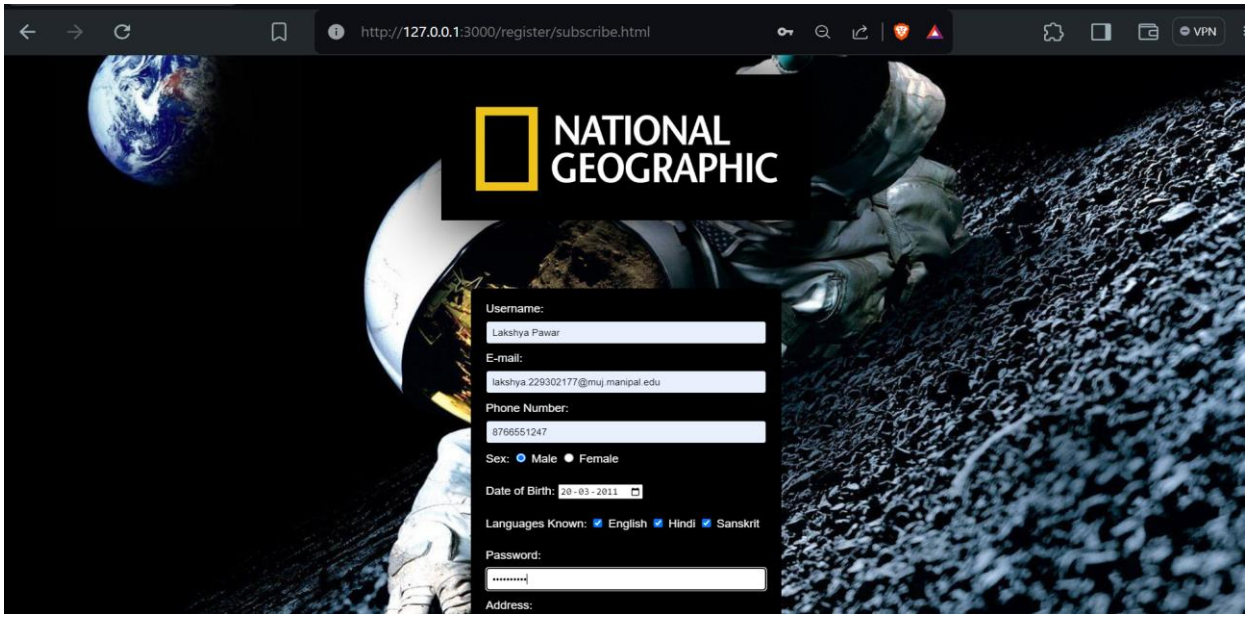
```php
<?php

$username = $_POST["name"];
$password = $_POST["password"];

// $hash = password_hash($password, PASSWORD_DEFAULT);
$sql = "INSERT INTO subscribe (Name, Password)
        VALUES('$username', '$password')";
mysqli_query($conn, $sql);

mysqli_close($conn);
?>
```

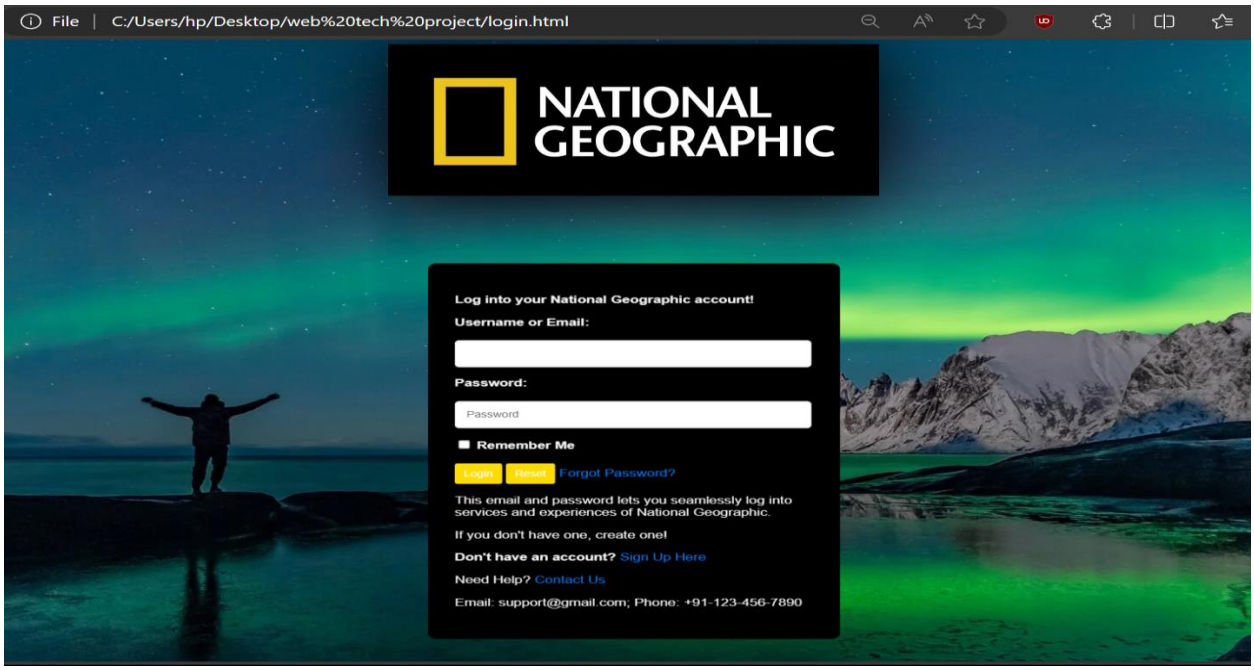
database.php

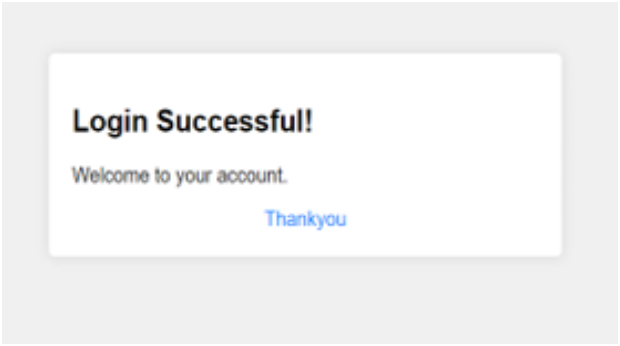
C: > xampp > htdocs > login > database.php > ...

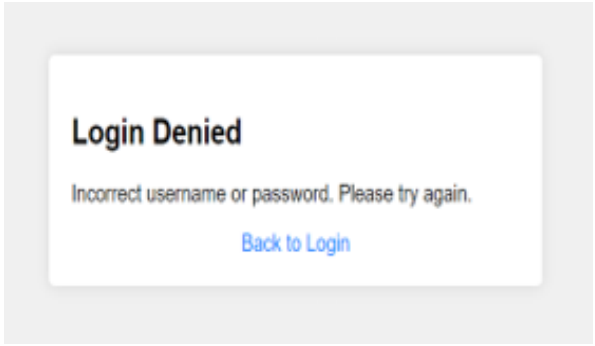
```php
<?php
$db_server="localhost";
$db_user = "root";
$db_pass = "";
$db_name = "mydatabase";

try{
    $conn = mysqli_connect($db_server,$db_user,$db_pass,$db_name);

}
catch(mysqli_sql_exception){
    echo"could not connect";
}
?>
```


http://127.0.0.1:3000/website.html
Animals
Science
Travel
History
Login
Subscribe
Lakshya&Navodit
Latest Stories
HISTORY
The real dunes that inspired Dune.
READ
HISTORY
The true history of Einstein's role in developing the atomic bomb.
READ
HISTORY
Inside the 124-year-old observatory that birthed modern astrophysics.
READ
HISTORY
Meet the woman who made Polaroid into a cultural icon.
READ

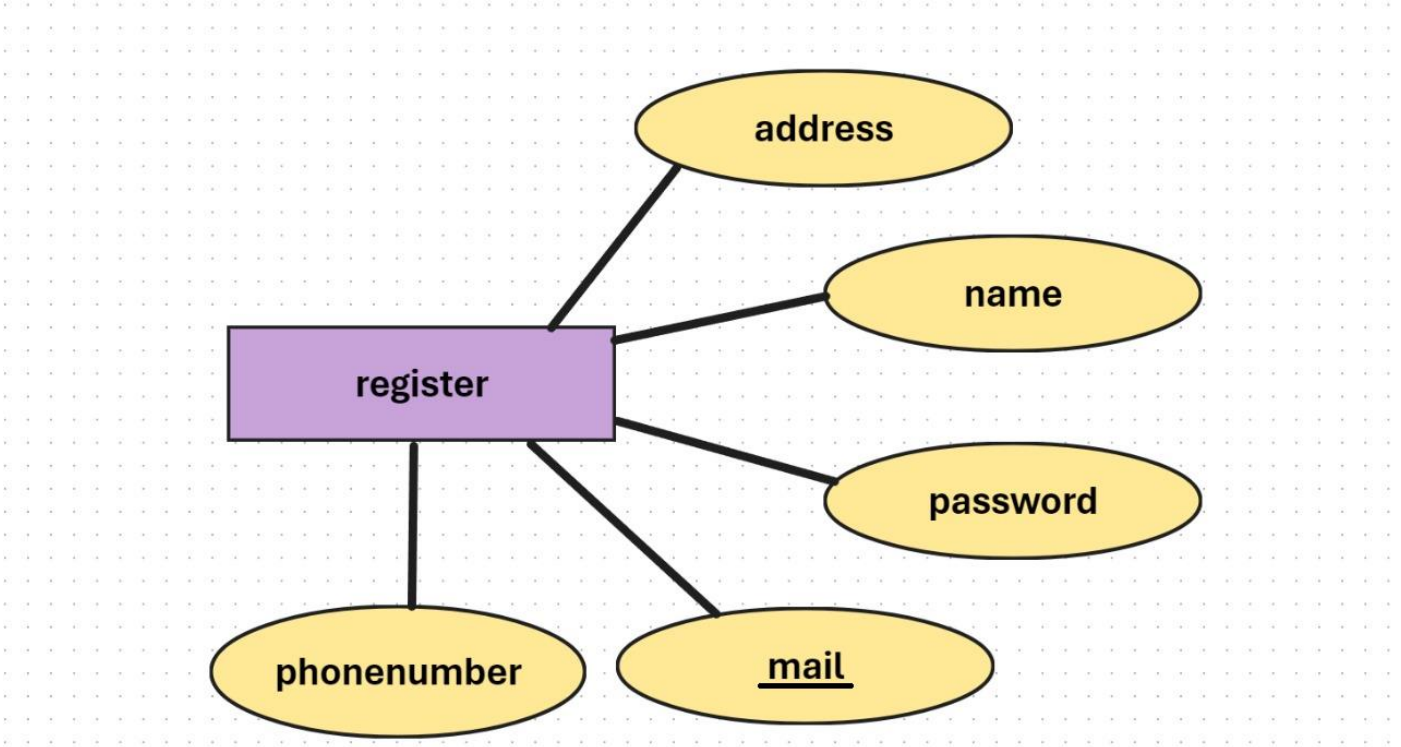

http://127.0.0.1:3000/register/subscribe.html
NATIONAL GEOGRAPHIC
Username:
Lakshya Pawar
E-mail:
lakshya.229302177@muj.manipal.edu
Phone Number:
8766551247
Sex: Male Female
Date of Birth: 20-03-2011
Languages Known: English Hindi Sanskrit
Password:
Address:

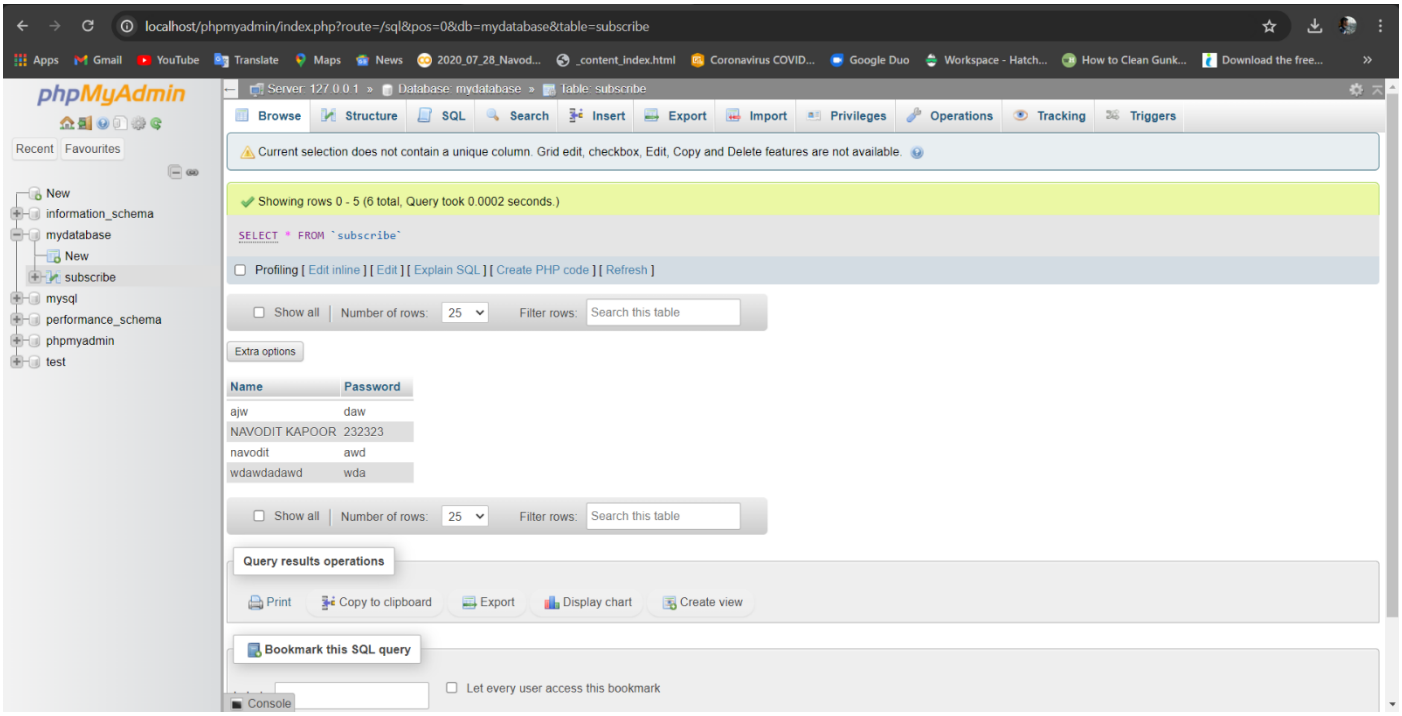

File | C:/Users/hp/Desktop/web%20tech%20project/login.html
NATIONAL GEOGRAPHIC
Log into your National Geographic account!
Username or Email:
Password:
Password
Remember Me
Login
Reset
Forgot Password?
This email and password lets you seamlessly log into services and experiences of National Geographic.
If you don't have one, create one!
Don't have an account? Sign Up Here
Need Help? Contact Us
Email: support@gmail.com; Phone: +91-123-456-7890

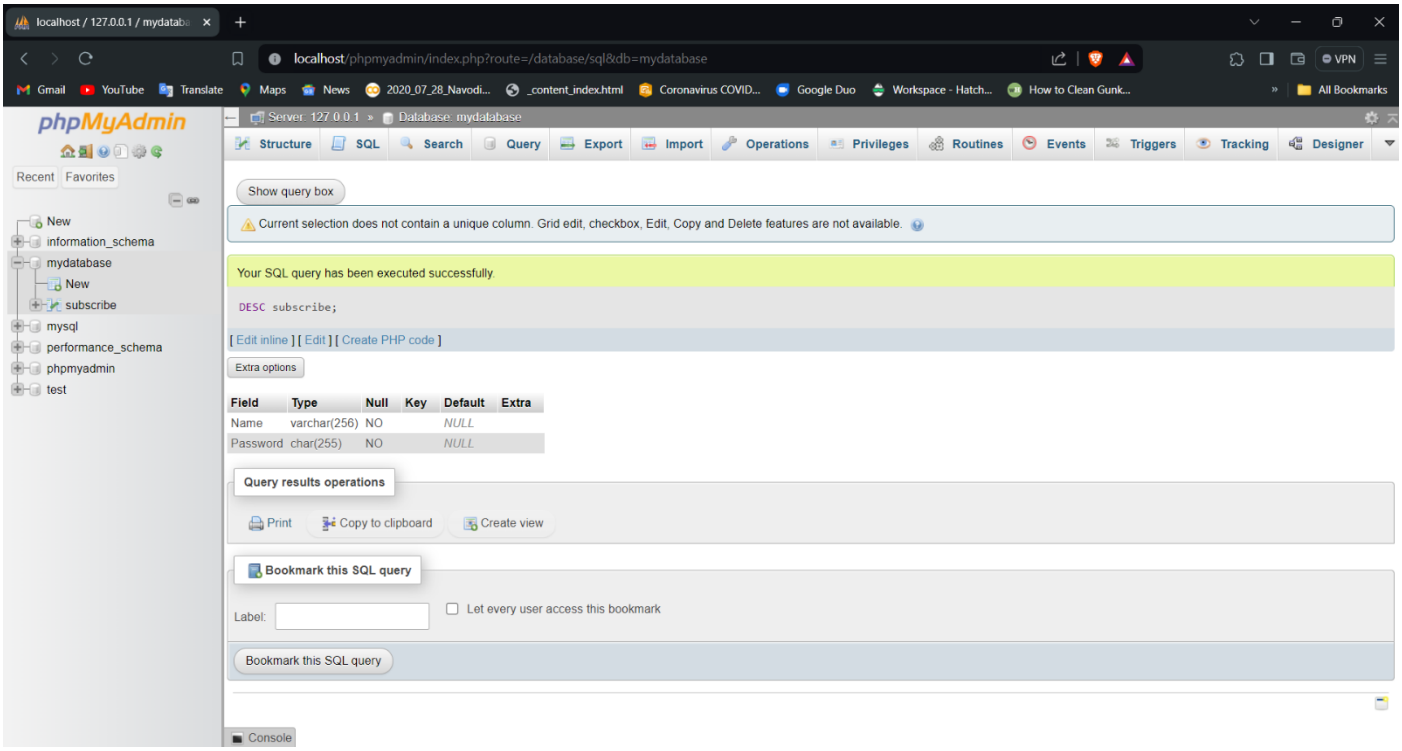


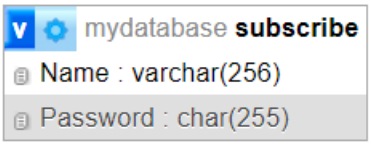


4.2 Relational Database:

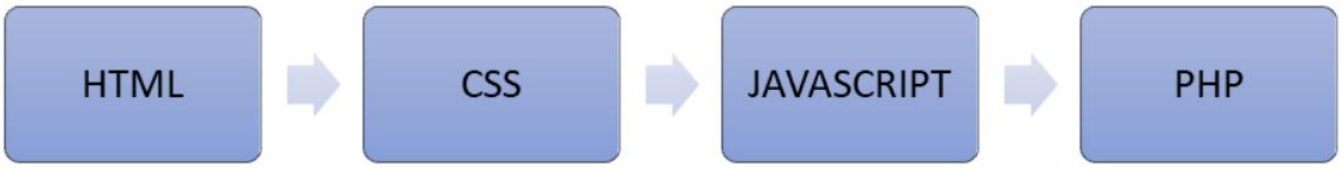








4.3 Progress Chart:



January	Project Initialization
	System Architecture Design
February	Requirement Gathering and Analysis
	Front-end Development

April	Back-end Development
	Database Implementation
	Testing
	Documentation

5.1 Future Work and Conclusion

Future Work:

1. Mobile Application Development.
2. Performance Optimization.
3. Enhanced User Experience.
4. Enhanced Data Analytics.

Implementing advanced analytics tools to gather insights from user interactions and behavior, enabling data-driven decision-making and personalized content delivery.

Incorporating features like user profiles, social sharing functionalities, and personalized recommendations to enrich the user experience and engagement

Conclusion:

Through meticulous planning, robust implementation, and thorough testing, we have successfully achieved our project objectives of creating a user-friendly, secure, and feature-rich website. The integration of user authentication with MySQL ensures a secure login experience for users, while the modular architecture allows for scalability and flexibility to accommodate future enhancements. Moving forward, we envision further refinement and expansion of the website to capitalize on emerging technologies, market trends, and user feedback.

References:

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- Login/Subscribe: https://www.nationalgeographic.com/login
- HTML: HTML: HyperText Markup Language | MDN (mozilla.org)
- CSS: CSS Tutorial (w3schools.com)
- JavaScript: JavaScript Tutorial (w3schools.com)
- Stack Overflow. (n.d.). Where developers learn, share, & build careers. Retrieved from https://stackoverflow.com/

Thank You. . .