**CIS 435 - Project 4**

**By: Athira Nakkara Radhakrishnan**

**Title: Find the Winner – Christmas Raffle Project**

**Date: 12/15/2024**

**Roles/responsibilities**

Name: Athira Nakkara Radhakrishnan

Role: Full-stack Developer

Responsibilities: Designed the frontend interface, implemented backend functionality using PHP, created and managed MySQL database, and tested the application.

**Design Considerations**

**Objective:**

The goal of this project is to create a cheerful, engaging, and user-friendly Christmas-themed raffle ticket system that spreads the festive spirit and brings a little extra holiday excitement. This system allows users to easily register by filling out a simple form and, in return, receive a unique raffle ticket number. Each ticket number is carefully generated to ensure it’s one of a kind, making the process fair and thrilling as participants eagerly await the announcement of the lucky winner.

To make things even more fun, the system includes a dedicated admin dashboard where the admin can track ticket sales and select the winner through a random draw. The winning moment is made special with a personalized congratulatory email sent to the winner, announcing their big holiday surprise.

The entire application prioritizes simplicity, accessibility, and a visually festive theme to make the experience enjoyable for both users and administrators.

**Requirements:**

* A full-stack web application combining HTML, CSS, JavaScript, and PHP for user interface and backend functionalities, with MySQL for database management.
* Unique raffle tickets for each user, ensuring no duplicate numbers are generated.
* A random winner selection process, allowing the admin to pick a winner from the pool of ticket holders
* Email notification system to inform the lucky winner of their prize, enhancing user experience and excitement.
* A Christmas-themed design, featuring festive colors, decorations, and imagery, to enhance user engagement and add a cheerful vibe.

**Challenges:**

* Ensuring unique ticket allocation.
* Sending email notifications to the winner.

**User Interface Design**

**A screenshot of a login screen

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**A black sign with red and white text and small boxes on a white surface

Description automatically generated**

**A black rectangular object with text and trees

Description automatically generated with medium confidence**

**A screenshot of a raffle

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**System Components and Functions**

* Frontend:
  + HTML, CSS, and JavaScript for the user interface, styled for a Christmas vibe
* Backend:
  + PHP for server-side scripting, XAMPP for local hosting
* Database:
  + MySQL tables:
    - **“contestants”** for storing user data and assigned ticket numbers.
    - **“winner”** for storing the winner's details, including date.
    - **“users”** for saving user’s username and password
* UML Diagrams:

1. Use Case Diagram

A diagram of a christmas raffle system

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1. Activity Diagram for the Christmas Raffle Ticket System

**A screenshot of a computer

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**Conclusion**

In this project, I learned a lot about full-stack development, including how to build both the front-end and back-end of a web application. I gained hands-on experience with PHP and MySQL to handle the backend, focusing on ensuring the database operates smoothly and data remains accurate. A key lesson was the importance of creating a user-friendly design, ensuring that the website is easy to navigate and engaging for users. The project also allowed me to explore how to implement a fair random winner selection process. Additionally, I learned how to integrate an email system to notify the winner, which added an extra layer of excitement and engagement to the project. As a result, I successfully built a functional raffle system with a festive, user-friendly interface. Moving forward, there are opportunities for improvement, such as implementing better error handling and security measures.