

Software Engineering Department  
ORT Braude College

Capstone Project Phase A – 61998

**Miracle of Luck**

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**Abstract**

The growing participation within the lottery, in addition to the more accessibility and reputation of online structures, highlights the need for an innovative approach to enhance the lottery experience and revolutionize the way people engage with lotteries, leveraging the power of online platforms to create a more seamless, interactive, and enjoyable experience for both organizers and participants alike.

Currently, organizing and taking part in a lottery can be complicated and time-consuming, with growing potential barriers to entry and possibilities, however, character participation and the shortage of inner and social connections in conventional lottery systems limits the potential for creating a feel of belonging and camaraderie among participants, consequently detracting from the general experience and potential for shared excitement and entertainment.

One of the particular competencies of our website is the potential to create lotteries primarily based on social media like Facebook pages. Using Facebook’s huge achievement and engagement, customers can participate in the lottery draw without problems by means of actually sharing and liking posts on genuine pages. This new method not only simplifies the lottery manner but also increases the extent of interplay and engagement amongst individuals.

In addition to standard lottery price ticket purchases, our platform empowers customers to without trouble create their very own lottery. Whether it is fundraising, network activities, or non-public tasks, clients have the choice to tailor their lottery experience to their particular dreams and opportunities.

**Introduction**

The world of lotteries is expanding fast and online platforms are now the most favorite ways for people to take part in the lotteries. While in this change of operative process, some tools are being replaced by others, the development of a new strategy comes as a necessity to make the lottery appealing and accessible to different categories of customers.

Although incorporating lottery participation has been a trend for a long time, social media may be another dynamic ground to bring this activity to a whole new level, where engaging on Facebook through liking and sharing could be as easy as participating in a Facebook-integrated lottery. This platform not only makes it easy to participate in the lottery but also connects people through social networks to work together and become a community.

Furthermore, our site has Facebook-based lotteries along with many lottery kinds catering to both traditional preferences and the necessity to customize as some users use them to increase funds or to cover local events or private businesses. Same users can as well personalize their lottery experience with their preferences and objectives.

Our open platform comes with an intuitive browser-based application that allows you to query and analyze data in real time as well as deliver meaningful analytics. The users can also be provided with the details on the past drawings, the number of participants, and the lottery results, thereby enabling them to make informed decisions and plan for future lotteries.

By adopting innovation and social interaction, we will create a platform where people will conduct activities together thereby recreating the whole lottery experience in a new way where they will be able to participate, interact, and have the joy of winning great prizes. It doesn't matter if you are a lottery fanatic or have started to play casual games, just this game can conquer all stars thus letting you know that the more you play the more you know.

The achievement of the project will be seen through the increase in the number of new users, user happiness, the number of customers, and the transactions the website helps customers make. Besides, it is necessary to measure the influence of the website on reduced waste, the promotion of green consumption practices, and the formation of an informal community.

**Related Work**

For an insightful approach and better assessment of this competing market, it is crucial to research the lottery platforms in the market with similar functionalities.

Here are some examples we examined:

RandomPicker: Like RandomPicker, the service allows users to conduct random drawings and competitions. RandomPicker is a tool that can be used across different industries and for a variety of purposes, such as academic research, event management, and charitable fundraising. This technology is equipped with features like developing forms of entry that can be tailored to the requirements of an organization, algorithms for the selection of winners, and processes of verification of results that ensure transparency of the system.  Consequently, RandomPicker is a perfect solution for an organization that is looking to run the event in a fair and transparent manner online.

https://www.randompicker.com

Lotto247: Lotto247 is a lottery gaming platform where you can play global lotteries from different countries of the world using the internet. It is the place for lotteries with so many of them there like Powerball and Mega Millions. The platform can help them to buy tickets, check results, and control their accounts.

https://www.lotto247.com

The Lotter: Offering a multitude of lotteries from all over the world, The Lotter is among many other online lottery platforms that provide access to such activities. It is also a convenient way to order tickets, synthesize plays, and subscribe to services. The platform includes lottery results, jackpot information, customer services, and other relevant features.

https://www.thelotter.com

Social networks such as Facebook and Instagram are frequently used as social media for hosting giveaways and contests. They use the ability of social media to connect millions in a short time as well as encourage joining efforts and sharing of ideas. Nevertheless, they usually do not have the specialized features and security measures that are necessary for a legal and practical raffle, and this becomes a legal and logistical problem for the organizers.

Through the scrutiny of the working processes of platforms and technologies that are already prevalent, it becomes possible to acquire useful pieces of information regarding the functionality, the user has experience, and the challenges that come with online raffles. We recognize the significance of this research in our website’s development. This will aid us in building a competitive site that will be in line with the needs of lottery enthusiasts, giving participants an enjoyable and seamless experience online.

**Background**

The introductory part of an online raffle platform implies the creation of an environment that allows a large number of users to join by resolving technical, organizational, and legal issues. Before we start talking about our project, it is important to explain the basic information that will help us to decide on the design and development of our project.

The environment of online platforms has been a trending topic for some time already, being affected by technological developments, growing consumer habits, and new regulatory requirements. The appearance of digital commerce, social media, and digital marketing markets has brought new prospects for businesses to get in touch with their consumers, conduct promotions, and attract their clients to interact with them.

In this context, online raffles are becoming a very popular way of depicting user engagement, the promotion of products and services, and the fundraising of charitable causes. In contrast to physical ticket-based raffles which are often limited by the geographical factor and dozens of logistical challenges, online raffles offer a proven scalable solution that is valid for a global audience and requires no or little overhead.

Nevertheless, while switching to online drawings may provide a powerful benefit it also has specific issues concerning security, fairness, and compliance. The building of the trustworthiness of drawings of the raffle, the security of the user data, and compliance with the regulations and legal requirements are crucial aspects that any online raffle platform has to take into account. Besides, users' experience as well as the generation of and processing of payments and scalability of the whole platform have to be properly designed in a way for users to engage in the process and organizers to run their activities smoothly.

To address these challenges properly, our project proposes a holistic approach to uniting the best usual practices of software engineering, cyber security, and regulatory compliance. With the help of proven methods and technologies, we are working to develop a secure and reliable online raffle platform that satisfies the requirements of organizers and participants while maintaining compliance with the relevant laws and regulations.

**Key components of our approach include:**

1. Technologies that we will use: The stack of technologies which is a collection of tools and languages deployed at the front end as well as the back end to ensure that the platform is reliable, scalable, and secure.

2. Setting up a Client-Server Architecture: The creation of a client-server architecture to support the communication between the users and the platform is the way to bring about smooth interaction and data exchange.

3. Data Management: Organizing data in such a way using databases, data checks, and encryption techniques will be needed to guarantee user information security and retain the integrity of data.

4. Security Measures: Involvement of industry standards approaches security architectures like authentication, authorization, encryption, and rate limiting to prevent malicious breaches to data and attacks.

5. Regulatory Compliance: Use of relevant laws and regulations that apply to online raffles, such as those on gambling, consumer protection, privacy, and data security, to avoid legal risks and conduct ethically.

Our goal is to take care of the fundamental points in the background of our project to mark the beginning of a process to build an online raffle site that would be well-researched and prepared. The next chapters will incorporate the detailed technologies, methodologies in the next chapters, and strategies that will be used to implement the vision and to cover the challenges that exist in this task.

**Technologies that we will use:**

1. Building a Secure Full Stack Web Application, Implementing Protection Measures and Best Practices, Full Stack Web Development:

1.1 **Front-end:**

For front-end development, React is a suitable technology to use. React offers such conveniences as fast and reactive user interfaces making development simple. among HTML, CSS alongside All JavaScript, is employed to develop all Front-End components and handle user interactions; the consist dutifully of code editors like Visual Studio Code, build tools such as webpack and even Parcel, which deal with code bundling, optimization, and package managers like npm or yarn, which are meant to manage dependencies as well as browser developer tools for debugging and testing.

1.2 **Back-end:**

For the back-end development: The word "node." js with Express: Node. The language such as js, a JavaScript runtime, can be utilized for multi-purpose development, however, it can be used for server-client-development areas. An Express web application is largely a system of libraries and different technologies that aim at empowering web developers. js, which is a backend programming language that is easy to use and flexible to handle HTTP requests, routing, and data manipulation on the server side. Using Node. Having node.js + Express extend our capacity to apply JavaScript as a full stack one is very much possible. Besides HTTP and HTTPS, we apply RESTful APIs (or GraphQL) to facilitate the sending of requests from the client side to the server side and then the server sends back responses.

**1.3 Testing:**

Quality testing is one of the pillars of every development process to achieve the mission-critical reliability of the software system in every layer.

**Unit Testing:**

Unit testing is focused on the validation of the individual components or modules of our platform, which are independent of each other. We employ frameworks such as Jest as well as Enzyme to produce test cases representing functions, methods, and classes in our backend code base to ensure their correctness. Unit tests eliminate the chances of bugs during the coding process as they enable developers to address bugs in the initial stage of designing and it ensures high caliber and dependable code.

**GUI Testing:**

GUI testing, which is graphical user interface testing, is the process of evaluating the user interface of our platform to ensure that it is usable and consistent. Through things like Selenium WebDriver, we do browser testing automatically and simulate a user's graphical stuff of the application. In GUI tests, user interface validation covers the usability of the app by verifying the responsiveness, layout, and program functions across several browsers and devices, which gives the app a perfect user experience**.**

**Backend Testing:**

The backend testing is aimed at verifying the working and the performance of the server-side components of our platform. Integration testing is run to ensure the correctness of the interaction between different service layer modules and the consistency of the data. We adopt command line tools such as Postman to test the APIs and check if the RESTful endpoints perform as expected and whether data transferring between the front and backend is correct as well. Back-end testing also includes security testing, which is aimed at uncovering and resolving such vulnerabilities as injections and data leaks.

Thorough testing helps us to achieve a complete coverage of our online giveaway point that ensures its functioning, usability, and security as well as its backend on various layers of the application. To deliver a platform that has high quality and reliability, we keep testing and updating. We encourage users to utilize the platform as we do our best to meet their needs.