# DIGITAL BOUNCER

[1]Mohd Ali Askari , [2]Mohd Suleman , [3]Nimish Chaturvedi , [4]Yogita Shukla , [5]Shubhangi Misra , [6]Mr.Kapil Verma

[1]Student , [2]Student , [3]Student , [4]Student , [5]Student ,
[6]Professor
Computer Science and Engineering ,
Babu Banarasi Das Northern India Institute of Technology , Lucknow , Uttar Pradesh , India
nimish17112002@gmail.com , misrashubhangi08@gmail.com

*Abstract* - Digital Bouncer presents an innovative solution, amalgamating an integrated platform for streamlined mass messaging and e-commerce capabilities. This comprehensive platform empowers users with efficient message dissemination to diverse audiences, comprising two pivotal components: a feature-rich e-commerce website and specialized software for message/email dissemination. The user-friendly website interface facilitates tailored messaging preferences and seamless product purchases. Key features include "Number Harbour," facilitating access to a large volume of numbers pertinent to specific location-based requirements following with dissemination of message according to user preference. Additionally, the integration of Telegram Automator and WhatsApp Automator software enriches communication avenues. Furthermore, the provision of a secure payment gateway enables hassle-free transactions, elevating Digital Bouncer as an all-encompassing solution catering to large-scale communication and e-commerce needs.

Index Terms - Integrated Platform, Mass Messaging, E-commerce, User Empowerment, Tailored Messaging, Product Purchases, Number Harbour , Automatic Replies, Telegram Automator, WhatsApp Automator, Payment Gateway, Secure Transactions.

## I.INTRODUCTION

In an ever-evolving digital landscape, the fusion of communication and commerce has become indispensable for businesses and individuals alike. Digital Bouncer emerges as a pioneering solution, seamlessly integrating mass messaging and e-commerce functionalities into a unified platform. This introduction delves into the transformative potential of Digital Bouncer, elucidating its pivotal role in reshaping how users engage with their audiences and conduct online transactions . Digital Bouncer represents a paradigm shift in the way communication and commerce intersect in the digital realm. By amalgamating mass messaging and e-commerce capabilities, Digital Bouncer offers users a comprehensive solution to their diverse needs. At its core, the platform comprises two integral components: a feature-rich e-commerce website and specialized software tailored for message and email dissemination. The e-commerce website provided by Digital Bouncer stands out for its user-friendly interface, empowering users to customize messaging preferences and navigate seamlessly through product purchases. This intuitive interface not only enhances user experience but also streamlines the process of engaging with audiences and facilitating transactions. A standout feature of the platform is "Number Harbour," which grants users access to a vast repository of numbers tailored to specific location-based requirements according to the user preferences of what they want to search out for . This feature enables targeted communication with relevant audiences as well as also creating a more connecting business environment with the customers, thereby maximizing the effectiveness of messaging efforts.

In addition to its e-commerce functionalities, Digital Bouncer integrates advanced technologies such as Telegram Automator and WhatsApp Automator. These software's  are revolutionary components integrated into the Digital Bouncer platform, designed to enhance communication avenues by automating message dissemination processes. Traditionally, sending messages to multiple groups or individuals can be a time-consuming and tedious task, requiring manual input for each recipient. However, with the introduction of Telegram Automator and WhatsApp Automator, this process is streamlined and simplified, eliminating the need for manual intervention . These automator tools leverage advanced algorithms to automate the distribution of messages across Telegram and WhatsApp platforms,

respectively. Users can simply compose a message once and specify the desired recipients or groups. The automator software then takes care of the rest, ensuring that the message is efficiently delivered to all designated recipients without the need for manual intervention.

Furthermore, Digital Bouncer prioritizes the security and reliability of online transactions by providing a secure payment gateway. This ensures that users can conduct transactions with confidence, alleviating concerns related to data security and privacy.  [1]  The  payment gateway is  a system  that authorizes  the payment  process from the buyer  to the seller. Usually, the  payment gateway is  used by  trusted online  stores. Because to use  a payment gateway service would require special conditions that cannot be fulfilled by any online store. Thus, online stores that use payment gateway facilities can be ascertained to be trusted online stores, so buyers do not have to worry about transacting as this discovery has an electronic payment handling method, including receiving electronic payment requests for transactions from users on the payment device and directing payment requests to the payment gateway, identifying users at the payment gateway, and routing payment requests to one of several payment networks . The provision of a secure payment gateway further solidifies Digital Bouncer's position as an all-encompassing solution for large-scale communication and e-commerce needs.

In summary, Digital Bouncer heralds a new era of digital communication and commerce, offering users an innovative platform to navigate the complexities of online engagement with ease. Through its user-centric approach and array of features, Digital Bouncer emerges as a transformative solution, empowering users to forge meaningful connections and drive business growth in the digital age.

## II.METHODOLOGY

### 1.     Research and Requirement Analysis:

Conducting  thorough research on existing mass messaging and e-commerce platforms to understand their features, limitations, and user feedback. Analyzing the requirements of potential users, including businesses, organizations, and individuals, regarding mass messaging and e-commerce needs. There are several existing platforms and software solutions that offer mass messaging capabilities on platforms like Twilio , MessageBird , Zapier , etc; but Digital Bouncer offers more security and privacy as authorization of accessing messages being sended is only in hands of admin which is actually the User who has purchased the software .

### 2.     Platform Design and Development:

Design a comprehensive platform architecture integrating mass messaging and e-commerce functionalities.Develop a user-friendly e-commerce website with customizable messaging preferences and seamless product purchasing capabilities.Implement specialized software for message and email dissemination, incorporating features like "Number Harbour," "Telegram Automator", and "WhatsApp Automator" .Integrate a secure payment gateway to facilitate hassle-free transactions and ensure data security.

In the process of platform design and development, particular attention was given to crafting a dynamic admin panel that serves as the central hub for managing messaging and e-commerce functionalities. Extensive research and requirement analysis informed the creation of an intuitive interface, ensuring administrators could navigate seamlessly while maintaining real-time control and customization options. The admin panel was meticulously designed to offer administrators the ability to monitor and manage activities as they unfold, facilitating swift adjustments and optimizations. Moreover, it incorporated features for showcasing product functionalities effectively, enabling administrators to present products in a compelling manner. Critically, access to the software was exclusively controlled through the admin panel, enhancing security and ensuring authorized management. Integral to the platform's functionality was the seamless integration of a payment gateway within the admin panel, enabling secure transactions and revenue management. Rigorous testing and iterative refinement were conducted to guarantee functionality, usability, and security. Following deployment, ongoing monitoring and maintenance ensured optimal performance and user satisfaction, reinforcing the platform's position as a comprehensive solution for efficient messaging and e-commerce management.

## 3.     Technology Integration:

For the comprehensive development of the e-commerce website and Digital Bouncer software, a meticulous integration of full-stack technologies was undertaken. Front-end technologies such as HTML, React, JavaScript, and Redux were strategically employed to construct an engaging and responsive user interface for the website. Leveraging the capabilities of these technologies facilitated the creation of dynamic web pages, ensuring a seamless browsing experience for users. Meanwhile, for the server-side logic and database management, back-end technologies including Node.js were utilized here  Node.js is used because [2] it is a runtime javascript environment  that works outside the  web  page.  It is  mainly  used for server-side applications and is open source and free of cost. . This allowed for efficient handling of data processing and storage, enabling robust functionality and scalability. Moreover, to develop the Digital Bouncer software, Python, Selenium, Tkinter, and Beautiful Soup were chosen and integrated. Python served as the core programming language, offering versatility and efficiency in software development. Selenium was employed for automated testing and web scraping functionalities, enhancing the software's reliability and data extraction capabilities. Tkinter facilitated the creation of a user-friendly graphical user interface (GUI), ensuring ease of interaction for users managing the software. Beautiful Soup played a crucial role in parsing HTML and XML documents, enabling seamless extraction of relevant data for messaging and e-commerce operations. Through the strategic integration of these full-stack technologies, the e-commerce website and Digital Bouncer software were developed with robust functionality, optimal performance, and enhanced user experience at the forefront.

## 4.     Testing and Iteration:

During the testing and iteration phase, rigorous measures were implemented to guarantee the platform's functionality, usability, and security. Extensive testing protocols were employed to scrutinize every aspect of the platform, ensuring seamless operation across all functionalities. This encompassed rigorous functionality testing to validate features such as messaging dissemination, e-commerce transactions, and administrative controls. Additionally, usability testing was conducted to assess user experience, interface intuitiveness, and navigation efficiency, ensuring a user-friendly interaction with the platform.

Furthermore, security was paramount throughout the testing process. Measures were taken to secure the payment gateway integrated into the website, implementing industry-standard encryption protocols to safeguard sensitive transaction data. This involved stringent adherence to PCI DSS (Payment Card Industry Data Security Standard) compliance which is [3]  In order to improve the security of customer data, the credit card companies have come together to create a security standard, called Payment Card Industry - Data Security Standard
(PCI DSS), which involve mandatory requirements for merchants that use credit card

transactions., ensuring that user payment information remained protected against unauthorized access or breaches. Moreover, within the software messaging system, robust encryption mechanisms were implemented to fortify data security and confidentiality. By encrypting communications, unauthorized access by third parties was effectively mitigated, preserving the integrity and privacy of user messages. Through the seamless integration of testing, and iterative refinement processes, the platform emerged as a robust solution that not only meets users' needs effectively but also upholds stringent standards of functionality, usability, and security.

**5.       Ongoing Maintenance and Updates:**

For the ongoing maintenance and updates of the Digital Bouncer platform, a comprehensive plan has been established to ensure continuous alignment with evolving user needs and technological advancements. This plan encompasses various methods for updating, deleting, and creating products within both the e-commerce website and the Digital Bouncer software. Regular maintenance tasks include monitoring platform performance, identifying bugs or issues, and implementing fixes and optimizations as needed. Additionally, user feedback channels have been integrated to gather insights and suggestions for improving platform functionality and user experience. Updates to the platform are rolled out systematically, with careful consideration given to minimizing disruption to users while maximizing the benefits of new features and enhancements. Furthermore, the Digital Bouncer team remains vigilant in monitoring technological trends and industry developments to proactively incorporate innovative solutions and stay ahead of the curve. Through these ongoing maintenance and update efforts, Digital Bouncer continues to evolve as a dynamic and responsive platform, delivering value to users by providing efficient mass messaging and e-commerce capabilities tailored to their evolving needs.

**6.       Evaluation and Feedback Incorporation:**

In the phase of evaluation and feedback incorporation, the effectiveness and impact of the Digital Bouncer platform on user communication and e-commerce activities are systematically assessed. This evaluation process involves analyzing key metrics such as user engagement, messaging effectiveness, and transaction volumes to gauge the platform's performance. Additionally, feedback from users is actively solicited through various channels, including surveys, reviews, and direct communication channels. User reviews play a pivotal role in this process, as they provide valuable insights into user satisfaction, pain points, and suggestions for improvement. Following here is code for feedback which is also shown as reviews on website of Digital Bouncer :

**Pseudocode of reviews** –

```
function ProductReviews():
    // Define necessary hooks
    dispatch = useDispatch()
    navigate = useNavigate()
    alert = useAlert()

    // Destructure state variables
    { deleteError, isDeleted } = useSelector(state => state.review)
    { error, reviews, loading } = useSelector(state => state.productReviews)

    // Define state variables
    productId = useState("")

    // Define functions
    function deleteReviewHandler(reviewId):
        dispatch(deleteReviews(reviewId, productId))
```

```
function productReviewsSubmitHandler(e):
    e.preventDefault()
    dispatch(getAllReviews(productId))

// Side effects using useEffect
useEffect(() => {
    if (productId.length === 24):
        dispatch(getAllReviews(productId))
    if (error):
        alert.error(error)
        dispatch(clearErrors())
    if (deleteError):
        alert.error(deleteError)
        dispatch(clearErrors())
    if (isDeleted):
        alert.success("Review Deleted Successfully")
        navigate("/admin/reviews")
        dispatch({ type: DELETE_REVIEW_RESET })
}, [dispatch, alert, error, deleteError, navigate, isDeleted, productId])

// Define table columns
columns = [
    { field: "id", headerName: "Review ID", minWidth: 200, flex: 0.5 },
    { field: "user", headerName: "User", minWidth: 200, flex: 0.6 },
    { field: "comment", headerName: "Comment", minWidth: 350, flex: 1 },
    {
        field: "rating",
        headerName: "Rating",
        type: "number",
        minWidth: 180,
        flex: 0.4,
        cellClassName: (params) => {
            return params.getValue(params.id, "rating") >= 3 ? "greenColor" : "redColor";
        },
    },
    {
        field: "actions",
        flex: 0.3,
        headerName: "Actions",
        minWidth: 150,
        type: "number",
        sortable: false,
        renderCell: (params) => {
            return (
                <Fragment>
                    <Button onClick={() => deleteReviewHandler(params.getValue(params.id, "id"))}>
                        <DeleteIcon />
                    </Button>
                </Fragment>
```

```
        );
      },
    },
  ]

// Initialize rows
rows = []

// Map reviews to rows
if reviews is not empty:
  for each item in reviews:
    rows.push({
      id: item._id,
      rating: item.rating,
      comment: item.comment,
      user: item.name,
    })

// Return JSX
return (
  <Fragment>
    <MetaData title={`ALL REVIEWS - Admin`} />
    <div className="dashboard">
      <SideBar />
      <div className="productReviewsContainer">
        <form className="productReviewsForm" onSubmit={productReviewsSubmitHandler}>
          <h1 className="productReviewsFormHeading">ALL REVIEWS</h1>
          <div>
            <Star />
            <input
              type="text"
              placeholder="Product Id"
              required
              value={productId}
              onChange={(e) => setProductId(e.target.value)}
            />
          </div>
          <Button
            id="createProductBtn"
            type="submit"
            disabled={loading ? true : false || productId === "" ? true : false}
          >
            Search
          </Button>
        </form>
        {reviews && reviews.length > 0 ? (
          <DataGrid
            rows={rows}
            columns={columns}
            pageSize={10}
```
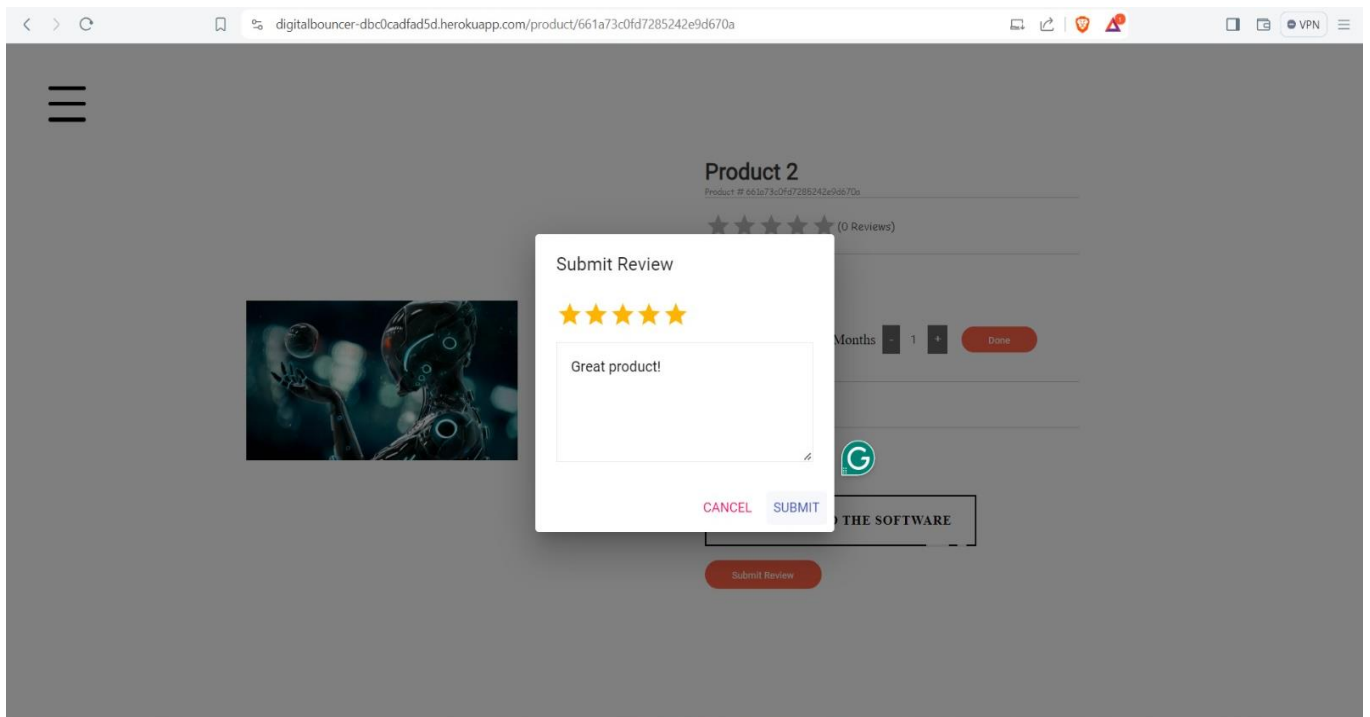
```
                    disableSelectionOnClick
                    className="productListTable"
                    autoHeight
                  />
                ) : (
                    <h1 className="productReviewsFormHeading">No Reviews Found</h1>
                )}
            </div>
        </div>
    </Fragment>
  )
export default ProductReviews;
```
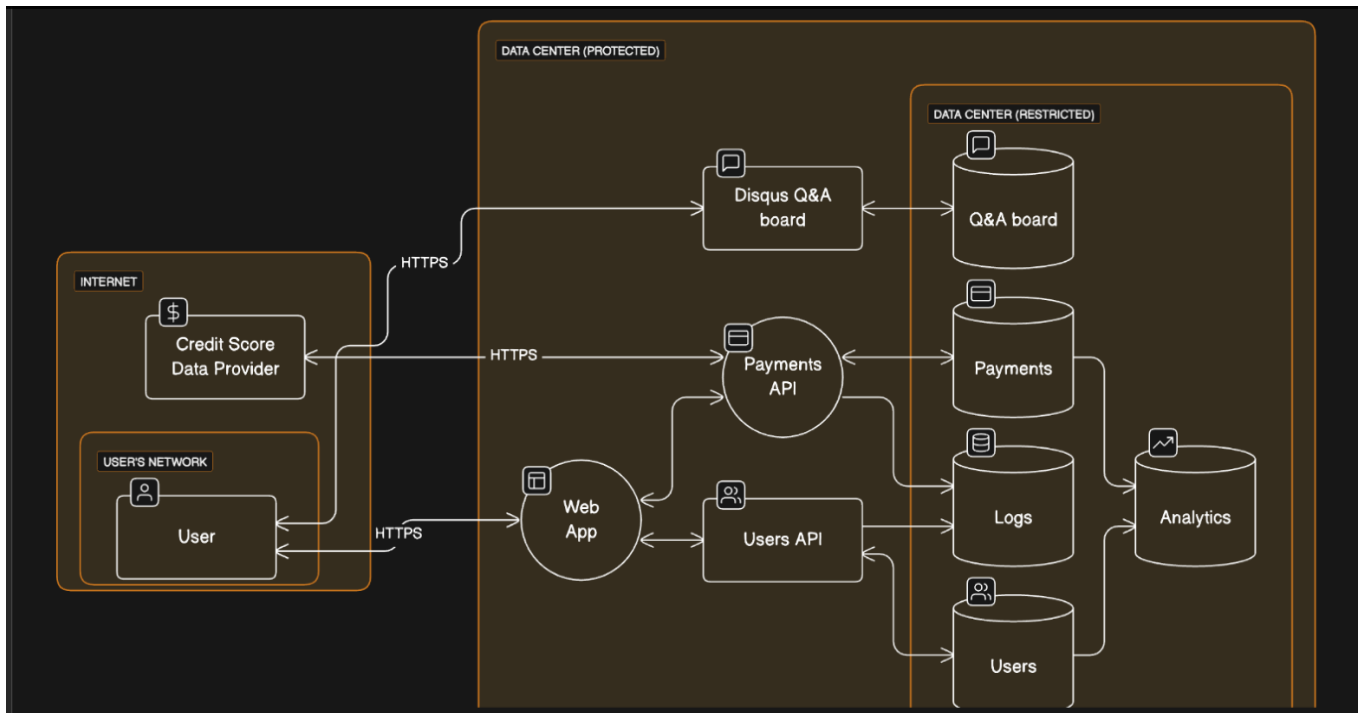
## Representation of website along with the review being submitted:



**Data flow diagram of onine payment gateway :**

## III. RESULTS

In conclusion, Digital Bouncer represents a groundbreaking convergence of mass messaging and e-commerce, offering users unparalleled efficiency and effectiveness in their online endeavors. With its user-friendly e-commerce website and specialized software for message dissemination, Digital Bouncer streamlines communication processes and facilitates seamless transactions. The platform's innovative features, such as "Number Harbour" for targeted messaging and Telegram and WhatsApp Automators for automated message distribution, revolutionize how businesses engage with their audiences. Moreover, the inclusion of a secure payment gateway underscores Digital Bouncer's commitment to ensuring a safe and reliable transaction environment. As businesses and individuals navigate the ever-evolving digital landscape, Digital Bouncer stands out as a comprehensive solution, empowering users to connect, transact, and thrive in the digital age. In summary, Digital Bouncer offers administrators real-time control through its dynamic admin panel and facilitates diverse product purchases via its e-commerce marketplace. Robust encryption and certification ensure data security, garnering positive user feedback for its automation and secure features. It emerges as a versatile communication solution meeting diverse business needs effectively.

## IV. CONCLUSION

In conclusion, Digital Bouncer stands as a pioneering amalgamation of mass communication and e-commerce functionalities, offering users a dynamic platform to navigate the evolving digital sphere. Through its seamless integration of cutting-edge technologies like Telegram Automator and WhatsApp Automator, alongside user-centric features such as "Number Harbour" and a fortified payment gateway, Digital Bouncer redefines how businesses interact with their audiences and conduct online transactions. By prioritizing user empowerment and data integrity, Digital Bouncer emerges as a transformative solution, adeptly meeting the multifaceted demands of modern businesses and individuals. With its innovative approach and comprehensive suite of features, Digital Bouncer sets the stage for enhanced connectivity and sustainable business growth in the digital era.

**REFERENCES**

**[1]**     Supriyati, S., & Nurfiqo, E. (Year). Effectiveness of Payment Gateway in E-Commerce. Department of Computerized Accounting, Department of Accounting, Universitas Komputer Indonesia, Indonesia, 40312. Email: supriyati@email.unikom.ac.id (1), elisyenurfiqo@mahasiswa.unikom.ac.id (2).

**[2]**     Naidu, N. D., Adarsh, P., Reddy, S., Raju, G., Kiran, U. S., & Sharma, V. (2021). E-Commerce web Application by using MERN Technology. International Journal for Modern Trends in Science and Technology, 7, 1–5. Received on 27-March-2021, Revised on 20-April-2021, Accepted on 24-April-2021, Published on 29-April-2021.

**[3]**     Kalkan, K., Kwansa, F., & Cobanoglu, C. (2010). Payment Card Industry Data Security Standards (PCI DSS) Compliance in Restaurants. Journal of Hospitality Financial Management, 16(2), Article 3.