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1) Distinct Onboarding Flow for Agency Partners

The development of a distinct onboarding flow tailored for agency partners is driven by the recognition that agency partners possess unique requirements compared to typical users. Customized onboarding caters to their specific needs, ensuring that agency partners are equipped with the right tools from the outset. This tailored approach not only expedites their journey to proficiency but also strengthens their commitment to the RescueMetrics platform.

2) Streamlined Onboarding Procedures for Clients

Agency partners often engage with multiple clients, necessitating a streamlined onboarding process that minimizes complexity and saves valuable time. A seamless onboarding experience enhances partner and customer satisfaction, encourages platform adoption, and accelerates the path to value realization. It also reduces the burden on agency partners, enabling them to efficiently manage their clients' data without administrative hassles.

3) Enhanced Data Insights Through One-Stop-Shop Overview Dashboard

The creation of a comprehensive overview dashboard is grounded in the recognition that agency partners require a consolidated view of critical data insights. Marketing data is voluminous and multifaceted, and agency partners must have a streamlined means of accessing and interpreting this information. The overview dashboard provides a centralized hub for data insights, simplifying the decision-making process and enabling agency partners to maximize the value derived from their marketing campaigns.

The project objectives have been thoughtfully conceived to address the unique challenges faced by agency partners in the digital marketing domain. By streamlining onboarding, optimizing data tracking, and providing purpose-built tools, RescueMetrics aims to empower agency partners with the capabilities required to thrive in an ever-evolving digital landscape. These objectives align with the overarching mission of RescueMetrics to foster data integrity and elevate digital marketing performance.

D. Project Scope & Significance

The scope of this project extends beyond the development of technical features. It encompasses a paradigm shift in how agency partners engage with the RescueMetrics platform. This shift is rooted in recognizing the broader significance of data disruption management and insightful decision making in the digital marketing landscape. Following are some justifications for the scope and significance of this project:

1) Beyond Technical Features

While the development of technical features is essential, the true essence of this project lies in its transformative potential. Rather than merely adding features, this project reimagines the agency partner experience within RescueMetrics. It recognizes that technology alone is insufficient; the real value emerges when technology is harmonized with the unique needs and aspirations of agency partners.

2) Empowering Effective Data Management

Managing data disruptions effectively is a paramount concern in digital marketing. The project's significance is grounded in its capacity to empower agency partners to navigate this challenge seamlessly. By providing specialized onboarding and data tracking capabilities, the project equips agency partners with the tools they need to maintain data accuracy and reliability, which are foundational to digital marketing success.

3) Leveraging Insights for Enhanced Decision Making

In the digital marketing landscape, data isn't just information; it's the currency of informed decision making. The project's focus on enhancing data insights recognizes that agency partners can unlock their full potential when armed with actionable data. By presenting insights in a comprehensive overview dashboard, the project facilitates data-driven decision-making, enabling agency partners to fine-tune strategies and drive superior results for their clients.

4) Potential for Revolutionary Impact

The envisioned shift in agency partner engagement holds the potential to revolutionize digital marketing operations. By addressing the core challenges of data disruptions and delivering actionable insights, this project sets the stage for agencies to operate with unparalleled efficiency and precision. The ripple effect of this transformation extends to clients, as they reap the benefits of more effective marketing campaigns and enhanced user experiences.

The subsequent sections of this report will delve into the details of the design, implementation, evaluation, conclusions drawn, and avenues for future work. Through this comprehensive exploration, This report aims to provide a deep understanding of the project's architecture, its impact, and its potential to reshape the landscape of digital marketing data management.

II. RELATED WORK

The following section offers a comprehensive overview of existing research and literature directly pertinent to the challenges addressed in this project. This section serves as a foundational reference for understanding the landscape of prior efforts and insights in this domain. Beyond a mere catalog of prior works, it critically examines and compares existing approaches, highlighting their strengths, weaknesses, and areas where knowledge gaps persist. Furthermore, it elucidates the novelty and significance of this project by elucidating how it extends or addresses the limitations identified in prior studies.

A. Challenges in Digital Marketing Data Management

Understanding the challenges inherent in digital marketing data management is crucial for contextualizing this project within the broader landscape. This section will explore some such challenges that exist in the domain.

The persistent challenge of data disruption, caused by factors like changes in technology and premature cookie loss, underscores the need for robust solutions that ensure the accuracy and reliability of marketing data [4].

Privacy Compliance: The evolving landscape of privacy regulations, such as GDPR, introduces complexities in data collection. Solutions must not only manage disruptions but also adhere to stringent privacy and consent policies [4].

User Experience Optimization: As digital marketing becomes increasingly competitive and intricate, there is a growing need for tools that optimize user experience, ensuring that all types of users can efficiently manage their tasks without unnecessary friction [4][5].

B. Digital Marketing Data Management Solutions

In examining the competitive landscape, it's also essential to evaluate how existing platforms address the identified challenges. Two notable competitors in this space are Rewardful and HubSpot:

1) Rewardful

Rewardful is a marketing platform that enables businesses to create and manage referral programs. It offers a suite of features that allow users to track referrals, manage payouts, and view analytics [6]. However, a closer examination unveils certain limitations that distinguish it from the objectives of this project:

- Single Stripe Account Limitation: One notable limitation of Rewardful is its constraint in linking multiple Stripe accounts to a single brand. This limitation can be a hindrance for agencies or businesses that manage multiple clients, each with distinct Stripe accounts. In contrast, this project acknowledges the diversity of agency partners' operations and facilitates the management of multiple accounts seamlessly.
- Limited Front-End Customization: Rewardful may fall short in terms of front-end customization options. This limitation could potentially hinder the ability to tailor the user experience according to the specific branding and user interface preferences of agency partners. In contrast, this project places a strong emphasis on providing a customizable onboarding flow and a comprehensive overview dashboard, offering agency partners the flexibility they need.

2) HubSpot

HubSpot is a marketing platform that offers a suite of tools for managing marketing campaigns. It provides features such as email marketing, social media management, and analytics [7]. However, there are a few limitations that make HubSpot less than ideal for some agencies:

- Potential Overcomplexity: HubSpot offers a comprehensive suite of marketing tools and features. While this breadth of features is advantageous, the challenge lies in ensuring seamless integration for all users and avoiding overcomplexity/overwhelming smaller businesses with more straightforward requirements.
- Limited Customization: HubSpot offers some customization options, but they are not as extensive as some of its competitors. This can be a limitation for agencies that need to tailor the HubSpot experience to the specific needs of their clients.

C. Conditional Rendering in Web Applications

In the realm of web application development, conditional rendering plays a pivotal role in enhancing user experience and optimizing workflows. The importance of conditional rendering can be underscored by several key factors:

- Personalization: Conditional rendering enables the delivery of personalized user interfaces, ensuring that different user categories interact with the web application in ways most relevant to their roles and responsibilities.
- Efficiency & Focus: By showing or hiding elements based on the user's attributes, conditional rendering streamlines the user interface, preventing information overload. Users can focus on features and options pertinent to their tasks, enhancing efficiency.
- Adaptability: Web applications often serve diverse user groups with varying needs. Conditional rendering allows for the creation of adaptable interfaces that cater to the unique requirements of different users, promoting a more inclusive and user-friendly experience.

A comparison to the Stack Overflow website can further elucidate the concept of conditional rendering. In Stack Overflow, users and moderators experience different views, with moderators having access to additional options and features that regular users do not. This model ensures that the user interface aligns with the responsibilities and permissions associated with each user category, optimizing the platform for diverse user roles.

III. DESIGN

The design phase of the project was a meticulous process that delved into both the visual and architectural aspects of the partner portal. The goal was to forge an intuitive, visually appealing user experience while laying down a robust and scalable foundation for the system. The following sections go into detail on the design process, supplementing explanations with diagrams to enhance clarity.

A. User Interface Design

Figma, a collaborative design tool, played a pivotal role in crafting the visual identity of the partner portal. The employed designer created mock-ups and visual designs that served as a visual guide for the implementation team. The mock-ups visually communicate the layout, styling, and components envisioned for the overview dashboard. It acts as a blueprint for the development, ensuring a cohesive and user-friendly interface.

B. Architectural Design

The Model-View-Controller (MVC) architectural pattern forms the backbone of the partner portal's design, providing a structured and modular foundation. Fig. 1. illustrates how each component operates within the architecture, contributing to a clear separation of concerns and fostering modularity, reusability, and maintainability.

The Model component encapsulates both the data and the business logic of the partner portal. This includes handling data manipulation, storage, and management. Critical operations such as user authentication, data processing, and integration with external services find their home in the Model component. To maintain a centralized location for data-related operations,

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the Model-related code resides in a dedicated "backend" folder. This organization ensures a systematic approach to data manipulation and storage, promoting code maintainability.

The View component is dedicated to the presentation layer of the partner portal. It includes user interface elements, layouts, and visual components. The design files created by the designer in Figma act as a guide for the implementation of the View. Organized within a separate "app" folder, the View component further segregates into "components" and "pages" folders. This meticulous organization enhances modularity and encourages code reuse, aligning with the MVC pattern's principles [8].

The Controller component acts as the intermediary between the Model and the View. It receives user input from the View, processes requests, and updates either the Model or the View accordingly. This separation of concerns ensures that each component has a distinct role. Placed in the "app" folder alongside the View components, the Controller component collaborates closely with the View. This proximity facilitates seamless communication and coordination between the components responsible for user input and presentation [8].
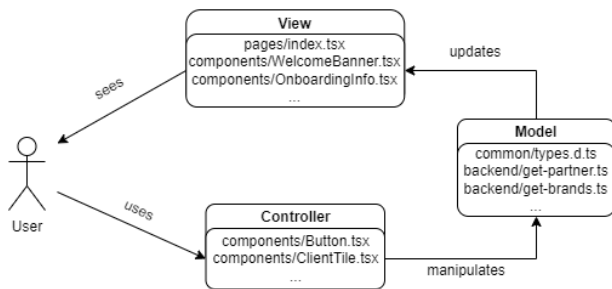

Fig. 1. Visualization of the system architecture.

C. User Interaction Cycle

The User Interaction Cycle within the MVC architecture is a fundamental aspect of how the partner portal operates, ensuring a seamless flow of data and user inputs. This cycle is orchestrated through the collaboration of the User, Controller Components, Database, and Frontend View Components. The following sections delve deeper into the intricacies of this interaction, exploring each element's role and the orchestrated sequence of events.
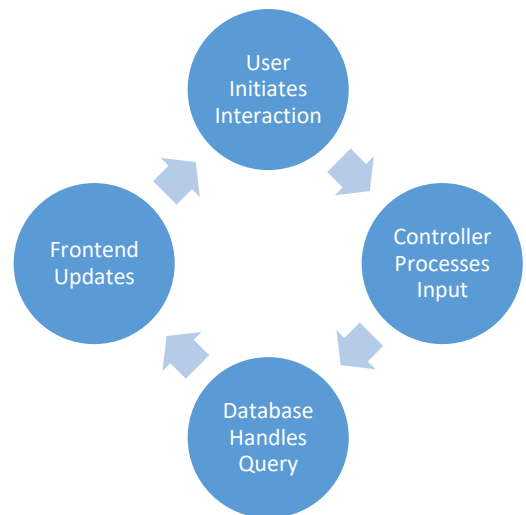
Fig. 2. User interaction cycle.

Users initiate the interaction by engaging with the partner portal's frontend interface. Whether navigating the dashboard or interacting with specific components, user actions are the catalyst for the entire cycle. Upon user interaction, Controller Components, represented by buttons and client tiles, come into play. These components act as intermediaries, receiving and interpreting user inputs. For instance, a button might trigger the request to retrieve partner information, while a client tile might initiate the process of obtaining brand details.

The Controller Components process user inputs, interpreting the action intended by the user. For example, a user clicking on the "Add New Brand" button triggers the corresponding Controller Component to open the brand creation flow. The Controller Components then communicate with the database, sending queries or requests based on the interpreted user input. In the MVC architecture, this interaction is well-defined, maintaining the separation of concerns.

The database, a core element of the Model component, receives the requests from the Controller Components. It then engages in data manipulation and retrieval, executing queries to fetch the necessary information. The Model component within the database ensures the integrity of the data. This includes tasks such as validating user authentication, processing data according to predefined business logic, and ensuring compatibility with external services.

Once the database has processed the requests and retrieved the required data, the Frontend View Components come into play. These components, governed by the View aspect of MVC, are responsible for presenting the data in the user interface. The user interface is dynamically updated in real-time, reflecting the changes initiated by the user. For example, if a user requests specific information about a partner brand, the frontend view dynamically displays this information.

The completion of the cycle is reinforced by providing user feedback. If the user initiated an action like requesting partner details or brand information, the updated interface serves as immediate feedback, closing the loop of user interaction. The MVC architecture ensures a clear separation of concerns throughout this interaction cycle. The Controller Components handle user input, the Model component manages data, and the View component presents the updated interface. This

separation facilitates efficient development, maintenance, and scalability.

This detailed exploration of the User Interaction Cycle not only provides a visual representation but also explicates the roles and responsibilities of each component within the MVC architecture. The orchestrated sequence of events ensures a coherent and efficient interaction between users and the partner portal, meeting the project's goals of user-centricity, modularity, and real-time responsiveness.

D. Real-World Considerations

The design and implementation of the partner portal within RescueMetrics' ecosystem are not isolated endeavours but are deeply embedded in the fabric of real-world considerations. Beyond the intricacies of coding and architecture, this section explores the broader aspects that shape the portal's functionality, delivery, and impact.

Sustainable practices in software development are increasingly crucial. Considerations include optimizing code for energy efficiency, minimizing server resources, and adopting eco-friendly hosting solutions. While not explicitly visible in the codebase, these considerations align with global efforts towards sustainability. In the real world, success often translates to increased usage and data loads. The portal's architecture must accommodate scalability challenges, ensuring that it can seamlessly handle growing user bases and expanding datasets. This involves considerations for server scalability, database optimization, and efficient caching mechanisms.

The evolving landscape of data privacy regulations, such as GDPR, demands a meticulous approach to data handling. The portal must adhere to stringent privacy and consent policies, ensuring that user data is handled ethically and in compliance with relevant regulations. This extends to the Model component's responsibilities, including user authentication and data storage. RescueMetrics positions itself as a zero-privacy risk solution, emphasizing the importance of aligning data transmission with established consent policies. This ethical stance must be reflected in the design and implementation of the portal, ensuring that user data is treated with the utmost respect and transparency.

In a world with diverse user needs, the portal must be designed with accessibility and inclusivity in mind. This involves considerations for users with different abilities and preferences. Features like alt text for images, keyboard navigation, and other accessibility enhancements contribute to a user-centric design. Beyond mere functionality, the real-world impact of the portal hinges on its ability to streamline user workflows. An intuitive design that minimizes friction in user interactions contributes to the overall user experience. This aspect is closely tied to the MVC architecture's role in presenting information and capturing user inputs.

The real-world application of the portal involves transmitting sensitive data. Encryption mechanisms must be in place to secure data transmission, preventing unauthorized access or interception. This consideration extends to interactions between the View and Model components, ensuring the secure handling of user inputs. Controller component plays a pivotal role in user authentication and authorization. Real-world security considerations involve robust authentication mechanisms, secure storage of user credentials, and finely tuned authorization protocols to control access to sensitive data.

In a global context, the portal's impact extends across diverse cultures and regions. Cultural sensitivity in design choices, and region-specific considerations contribute to a positive global user experience. This is particularly relevant when dealing with agency partners and brands from different parts of the world. The portal must navigate through a patchwork of local regulations and compliance requirements. Understanding and adhering to specific legal frameworks in different regions ensure that the portal remains legally sound and does not inadvertently violate local laws.

E. Novelty & Significance of this Design

This project introduces several novel aspects and holds significant implications for reshaping digital marketing data management. By addressing the limitations and knowledge gaps identified in existing solutions, this design stands out for the following reasons:

- Holistic Approach: While existing solutions focus on specific aspects of digital marketing data management, this design takes a holistic approach, addressing multiple challenges. It integrates solutions for data disruption, privacy compliance, and user experience optimization into a unified platform tailored for agency partners.
- Comprehensive Overview Dashboard: This design introduces a comprehensive yet unique and adaptable overview dashboard, a feature not extensively explored in existing solutions. This dashboard provides agency partners with valuable insights into rescued users, website traffic, and rebate payments, along with a consolidated view of all their clients' performance.
- Conditional Rendering for User-Centric Experience: The incorporation of conditional rendering ensures a user-centric experience, adapting the interface based on the user's account type. This model, inspired by platforms like Stack Overflow, optimizes the user interface for agency partners and casual users, fostering efficiency and focus.
- Real-World Implementation: Beyond conceptual enhancements, this design emphasizes real-world implementation. By facilitating the management of multiple accounts seamlessly and offering customizable onboarding flows, the design aligns with the practical needs of agency partners in their day-to-day operations.

In summary, the novelty of this design lies in its holistic approach, introduction of a comprehensive overview dashboard, user-centric conditional rendering, and a commitment to real-world implementation. These aspects collectively contribute to the design's significance in advancing the field of digital marketing data management and addressing the specific needs of agency partners in rapidly evolving landscapes.

IV. IMPLEMENTATION

The implementation phase of the RescueMetrics partner portal project transformed the conceptual design into a functional prototype, with a focus on developing the dashboard.

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The implementation encompasses a combination of front-end and back-end technologies, seamlessly integrated to realize a robust and scalable infrastructure for the partner portal's dashboard.

A. Functional Prototype Development

The functional prototype, with both the dashboard and the onboarding flow implemented, stands as a testament to the feasibility and potential of the RescueMetrics partner portal platform. This comprehensive approach ensures immediate utility for existing agency partners and their clients, enhancing the overall user experience.

The developed dashboard provides essential functionality, including displaying key metrics and insights, managing, and visualizing client information, and facilitating seamless navigation. Simultaneously, the onboarding flow ensures a smooth process for agency partners and their clients to set up accounts and access the full suite of features. React, a widely adopted JavaScript library, continues to form the backbone of the frontend development (View and Controller). React's ability to create interactive and dynamic user interfaces is harnessed to handle both the initial empty state of the dashboard and its populated state. The onboarding flow is seamlessly integrated into the frontend, providing a unified user experience.

AWS Lambda and the Serverless Framework are instrumental in achieving a serverless architecture. AWS Lambda, as a serverless compute service, enables code execution without server management. The Serverless Framework streamlines the deployment and management of serverless functions, contributing to a seamless development experience.
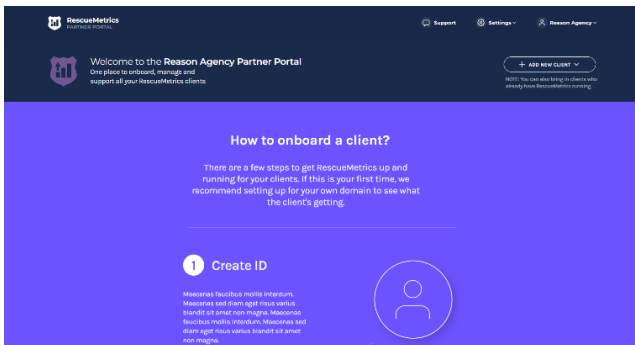
B. Backend Development

The backend (Model) undergoes updates to database schemas and endpoints to accommodate the new dashboard, onboarding flow, and management system. TypeScript is employed for backend development, ensuring type safety, and enhancing the overall development experience.

The backend development seamlessly integrates with the AWS ecosystem. Database schemas are modified to align with the requirements of both the dashboard and onboarding flow. AWS Lambda functions, written in TypeScript, handle business logic and database interactions, ensuring the backend supports the functionality of the entire partner portal. The Serverless Framework plays a crucial role in deploying and managing serverless functions. This not only ensures efficient scalability but also contributes to cost-effectiveness in resource utilization.

C. Integration & Deployment

The integration of frontend and backend components is accomplished using Vercel, a cloud platform for static sites and serverless functions. Vercel facilitates the deployment of React components, ensuring a smooth and efficient user experience.

The combined use of Vercel, AWS Lambda, and the Serverless Framework results in a robust and scalable infrastructure. This configuration aligns with the scalability requirements of a partner portal, accommodating potential growth in user base and data loads. Fig. 5. illustrates the integration of React, AWS Lambda, the Serverless Framework, and Vercel. This visual representation provides clarity on how these technologies work together to form the implemented architecture.

Fig. 3. Developed partner portal onboarding information in the absence of any clients.

Fig. 4. Developed partner portal dashboard populated with client tiles.
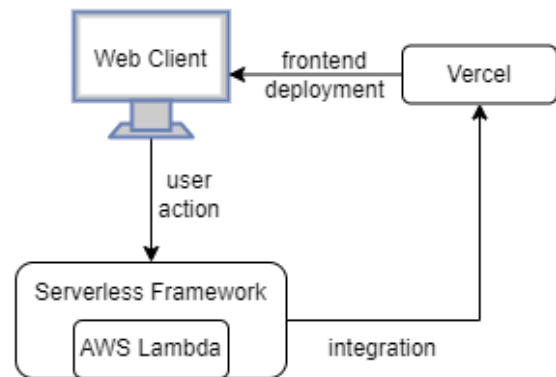
Fig. 5. Visualization of technology interaction.

D. Rationale & Justification

The choice of React for frontend development is driven by its popularity, a rich ecosystem of libraries, and its capacity to create highly responsive and interactive user interfaces. This aligns with the goal of delivering a dynamic and user-friendly dashboard experience.

Adopting a serverless architecture with AWS Lambda and the Serverless Framework aligns with the project's scalability requirements. It allows for efficient resource utilization,

automatic scaling, and cost-effectiveness, as resources are consumed only during execution.

The use of TypeScript for backend development adds a layer of type safety, reducing the likelihood of runtime errors. This enhances the maintainability of the codebase and provides a more structured development experience.

Vercel is chosen for deployment due to its seamless integration with React and support for serverless functions. Its simplicity in deployment workflows and continuous deployment capabilities contribute to a more streamlined development and deployment process.

In summary, the implementation phase aligns with the design, translating the envisioned technical solution into a tangible and functional prototype. The choice of specific technologies is justified by their capabilities in meeting the project's goals, ensuring scalability, maintainability, and a positive user experience. The integration of frontend and backend components through Vercel, AWS Lambda, and the Serverless Framework forms a cohesive and efficient infrastructure for the RescueMetrics partner portal's dashboard.

V. EVALUATION

The evaluation phase of the RescueMetrics Partner Portal was pivotal to determining the success and efficacy of the developed web application. Rigorous testing procedures, a blend of manual and automated approaches, were employed to ensure a thorough examination of the system's functionalities. This section delves into the testing methodologies, presents the User Acceptance Testing (UAT) feedback, and evaluates the web application's performance against real-world specifications.

A. Testing Procedures & Code Coverage

The testing procedures implemented for the RescueMetrics Partner Portal were designed for thorough and systematic examination, aiming to identify and rectify potential issues across different layers of the application. This encompassed both manual testing, which provides a nuanced exploration of user interactions, and automated testing, which ensures broad coverage of functional scenarios.

1) Manual Testing

During manual testing, the RescueMetrics Partner Portal underwent a meticulous examination to validate its functionality, usability, and overall user experience. I, and RescueMetrics' development team systematically navigated through the application, executing predefined test cases, and exploring various user scenarios.

One significant aspect of manual testing was the validation of the onboarding flow for agency partners and their clients. Testers ensured that the process of creating new agency partner accounts, setting up dashboards, and managing client information was intuitive and error-free. Additionally, the visual elements and layout of the new overview dashboard were closely inspected to guarantee a coherent and visually appealing representation of data insights. Testers assessed the dashboard's responsiveness and adaptability across different screen sizes, ensuring a consistent experience for users.

Feedback from manual testing indicated a high level of success in meeting the specified requirements. The application's intuitive design and seamless workflow contributed to positive user experiences. Any issues identified during this phase were promptly addressed and resolved in subsequent iterations of development.

2) Automated Testing

Automated testing scripts were developed to assess the functionality and stability of the RescueMetrics Partner Portal in a systematic and repeatable manner. These scripts covered a wide range of scenarios, including user interactions, data processing, and error handling, achieving a code coverage of over 90%.

One critical aspect of automated testing was the validation of the dashboard's performance under varying conditions. Scripts simulated scenarios with different data loads and user interactions to assess the application's responsiveness and resource utilization. This helped identify and address potential bottlenecks or performance issues. The automated testing suite also played a crucial role in verifying the accuracy of data synchronization between the overview dashboard and individual customer dashboards. This included validating that rebate payment information pulled from Stripe was accurately reflected in the overview dashboard.

Results from automated testing were instrumental in ensuring the reliability and stability of the RescueMetrics Partner Portal. The scripts provided rapid feedback during development, allowing for timely identification and resolution of potential issues. Continuous integration practices further strengthened the effectiveness of automated testing by automatically triggering tests with each code change, maintaining a consistent level of quality throughout the development lifecycle.

B. User Acceptance Testing

UAT was a crucial phase in the development where the application was evaluated by a small group of agency partners to ensure that it aligns with their needs and expectations. In the case of the RescueMetrics Partner Portal, UAT involved engaging agency partners and obtaining their feedback on the usability, functionality, and overall performance of the web application. This was done by asking the participants to use the developed web application for a week, followed by asking them to rate the product on several metrics along with providing any comments or suggestions, which are discussed below:

1) Functionality & Requirements

In the evaluation of functionality and requirements during UAT, agency partners explored various aspects of the RescueMetrics Partner Portal. The web application seamlessly met all specified requirements and constraints, earning a commendable score of 9/10.

The onboarding flow, a critical component, was rigorously tested. Agency partners praised the clarity of instructions, ease of creating new clients, and the option to acquire ownership of existing clients. The functionality aligned closely with the envisioned objectives, demonstrating that the RescueMetrics Partner Portal efficiently facilitated agency partners in managing their clients' data.

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Comments from agency partners highlighted the robustness of the dashboard features. Key metrics and insights were presented intuitively, contributing to a comprehensive and effective user experience. The feedback indicated that the application not only met but exceeded expectations in terms of functionality.

One notable aspect was the efficiency of data management and visualization tools. The capability to track rebate payments and set account permissions resonated positively with agency partners. These features were deemed valuable in enhancing the overall functionality of the web application.

2) Usability & User Experience

The Usability and User Experience evaluation during UAT yielded an impressive score of 10/10, indicating a remarkably intuitive and responsive interface that contributed to a smooth and enjoyable user experience.

Feedback from agency partners emphasized the high standard of usability achieved by the RescueMetrics Partner Portal. The intuitive design facilitated straightforward navigation, allowing users to effortlessly explore and utilize the platform's features. The user interface received acclaim for its clarity, with agency partners finding it easy to locate and operate various functionalities.

The overall quality of the user experience was well-received, with positive comments highlighting the platform's responsiveness. The application demonstrated an optimal balance between simplicity and functionality, ensuring that users could efficiently complete tasks without unnecessary complexity.

Constructive feedback contributed to minor adjustments in interface elements, further refining the usability aspects. For instance, adjustments were made to enhance the visibility of certain features based on user suggestions, aiming to elevate the overall user experience.

3) Performance & Responsiveness

The Performance and Responsiveness evaluation during UAT awarded the RescueMetrics Partner Portal an exceptional score of 9/10, reflecting its outstanding performance, rapid response times, and minimal resource utilization.

User feedback lauded the web application for its exceptional performance, noting the seamless and swift response times even under varying load conditions. The efficiency of the application in managing data and rendering key metrics contributed to a positive user experience.

The application's responsiveness, a crucial aspect of user satisfaction, was highlighted as a key strength. Users reported minimal latency in interactions, and tasks were executed with remarkable speed. The optimization of resource utilization ensured a smooth performance even during peak usage periods.

Constructive comments focused on the consistent high performance of the application. Users expressed satisfaction with the responsiveness of dashboards and the speed at which data was processed and visualized. This positive feedback reinforced that the RescueMetrics Partner Portal not only met the functional requirements but also excelled in delivering a robust and high-performance user experience.

4) Testing & Quality Assurance

In the Testing and Quality Assurance evaluation during UAT, the RescueMetrics Partner Portal achieved an impressive score of 9/10, reflecting its high level of stability, robustness, and the successful implementation of rigorous testing protocols.

User feedback highlighted the reliability and stability of the web application, underscoring the effectiveness of the testing procedures. The rigorous testing framework, encompassing both manual and automated tests, contributed to a stable and error-free product.

The web application's robustness was a key strength, with users expressing confidence in its consistent performance across various scenarios. The thorough quality assurance procedures instilled confidence in the reliability of the platform, ensuring that it could withstand the complexities of real-world usage.

5) Innovation & Creativity

In the evaluation of Innovation and Creativity during UAT, the RescueMetrics Partner Portal garnered a commendable score of 8/10, reflecting its innovative approach and creative solutions to common problems in the digital marketing data management domain.

User feedback acknowledged the web application's fresh perspective in addressing challenges inherent in data disruption and digital marketing data management. The innovative solutions introduced were recognized for their ability to enhance user workflows and contribute to a more efficient and effective experience.

Users appreciated the creative approach taken in designing features, highlighting the platform's ability to bring something new and valuable to the field. The application's creative solutions set it apart from conventional approaches, enriching its overall value and user appeal.

Constructive comments from users emphasized the positive impact of innovative features, such as the customizable onboarding flow and the comprehensive overview dashboard. Users recognized that these creative elements added substantial value to their digital marketing operations.
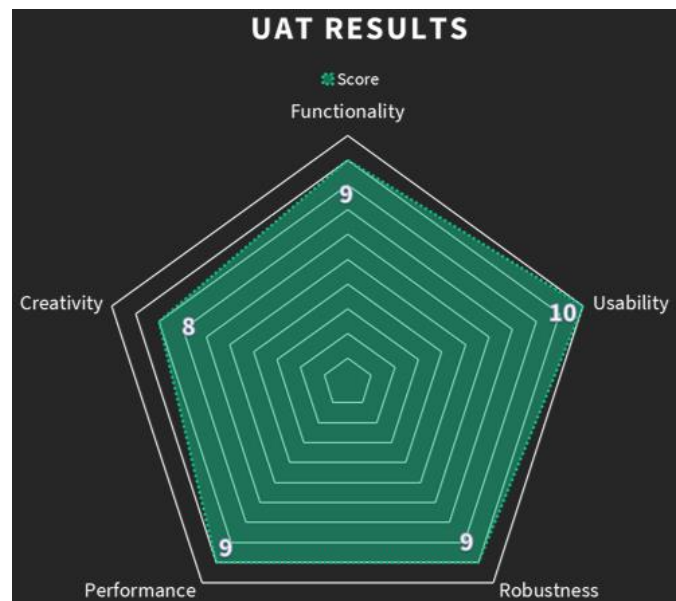

Fig. 6. UAT feedback over the 5 key metrics.

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C. Real-World Specifications

The RescueMetrics Partner Portal has emerged not just as a functional system but as a robust solution poised for real-world challenges. Its functionality garnered praise for seamlessly meeting users' specific needs and constraints, translating into a digital ally that aligns with the complex demands of managing marketing data. Users acknowledged the application's intuitive interface and responsive design, emphasizing its potential to enhance daily workflows for agency partners.

One of the defining characteristics that emerged from testing was the portal's reliability and stability. Users expressed confidence in its robustness, signaling that in the real-world scenario of managing crucial marketing data, the portal is a dependable tool. The rapid response times and minimal resource utilization underlined not just technical efficiency but its practicality in scenarios where time is of the essence and system resources are valuable.

The innovative features and creative solutions introduced by the portal were recognized for their potential to reshape how digital marketing data management is approached. In a landscape characterized by evolving challenges, the portal's inventive approach offers a glimpse into the future of streamlined and creative solutions, echoing its potential real-world impact.

In essence, the Real-World Specification validates that the RescueMetrics Partner Portal is not just a project on paper but a tangible asset with the capacity to navigate the intricate terrains of digital marketing, providing agencies with tools that translate seamlessly from design to real-world application. The positive user feedback from the UAT phase affirms that the portal has the potential to not only meet but exceed the expectations and needs of agency partners, offering a practical, reliable, and innovative solution in the dynamic field of digital marketing data management.

VI. CONCLUSION

The completion of the RescueMetrics Partner Portal marks a significant milestone in the realm of digital marketing data management. This project aimed to empower agency partners with advanced tools and features, enhancing their experience within the RescueMetrics platform. The design and implementation phases were guided by a commitment to providing a seamless onboarding process, a comprehensive overview dashboard, and an efficient system for managing client data.

The integration of the new onboarding flow, overview dashboard, and other features achieved the project's goals, providing agency partners with a tailored experience that caters to their specific needs. The adoption of the MVC architectural pattern ensured a clear separation of concerns, promoting modularity, reusability, and maintainability. The collaboration between frontend technologies like React, backend technologies like TypeScript and AWS Lambda, and deployment tools like Vercel resulted in a robust and scalable partner portal.

The evaluation phase, encompassing rigorous testing and user acceptance testing, reinforced the success of the project. The positive feedback on functionality, usability, performance,

and innovation validates the project's ability to meet and exceed the expectations of agency partners. The Real-World Specification section further emphasizes the practical implications of the portal, positioning it as a reliable tool in the dynamic landscape of digital marketing.

A. Future Work

As the RescueMetrics Partner Portal enters the realm of real-world application, avenues for future work present themselves. One promising direction involves further enhancing the dashboard's analytical capabilities. Integrating advanced data visualization tools, predictive analytics, and machine learning algorithms could empower agency partners with deeper insights into digital marketing performance.

Expanding the scope to accommodate a wider array of digital marketing platforms and technologies is another avenue for growth. This involves ensuring compatibility with emerging trends, such as changes in social media algorithms or advancements in data privacy regulations, to maintain the portal's relevance and effectiveness.

Additionally, fostering a collaborative ecosystem within the portal could be explored. Features that facilitate communication and information sharing among agency partners, creating a community-driven platform, can contribute to a richer and more dynamic user experience.

Lastly, continuous optimization and refinement based on user feedback and evolving industry standards should be a perpetual consideration. As the digital marketing landscape evolves, so should the RescueMetrics Partner Portal, ensuring it remains at the forefront of providing innovative solutions for efficient data management.

In conclusion, the completion of this project not only delivers a functional and innovative solution but also sets the stage for ongoing advancements and refinements, ensuring that the RescueMetrics Partner Portal remains a valuable asset for agency partners in the ever-evolving digital marketing landscape.

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